

WATER RESOURCES DATA—CALIFORNIA, WATER YEAR 1999
VOLUME 1—SOUTHERN GREAT BASIN FROM MEXICAN BORDER TO MONO LAKE BASIN,
AND PACIFIC SLOPE BASINS FROM TIJUANA RIVER TO SANTA MARIA RIVER

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INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State and Federal 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 database 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 171 streamflow-gaging stations and 14 partial-record stations; (2) stage and content records for 20 lakes and reservoirs; (3) gage-height records for 2 stations; (4) precipitation records for 3 stations; and (5) water-quality records for 26 streamflow-gaging stations and 2 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 include data on quantities of surface water, quality of surface and ground water, and ground-water levels. From the 1985 through the 1993 water years, 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 principal cities of the United States, or if not out of print, they may be purchased from U.S. Geological Survey, Information Services, Box 25286, Denver Federal Center, Denver, CO 80225-0046.

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-99-1." 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 on microfiche, by the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161. For further ordering information, the Customer Inquiries telephone number is (703) 487-4650, between 8:30 a.m. and 5:30 p.m. Eastern Standard Time.

Additional information for ordering specific reports may be obtained from the District Office at the address given on the back of the title page or by telephone at (916) 278-3100.

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, Russell E. Fuller, General Manager.
Borrego Water District, Tom Weber, General Manager.
California Department of Water Resources, David N. Kennedy, Director.
Carpinteria Valley Water District, Charles B. Hamilton, General Manager/Secretary.
Casitas Municipal Water District, John J. Johnson, General Manager.

Chino Basin Water Conservation District, Barrett Kehl, General Manager.
 Coachella Valley Water District, Thomas E. Levy, General Manager-Chief Engineer.
 Desert Water Agency, Dan M. Ainsworth, General Manager.
 Eastern Municipal Water District, John B. Brudin, General Manager.
 Goleta Water District, Kevin D. Walsh, General Manager and Chief Engineer.
 Imperial County Department of Public Works, Timothy B. Jones, Director.
 Imperial Irrigation District, John R. Eckhardt, Manager, Water.
 Irvine Ranch Water District, Paul D. Jones, General Manager.
 Lompoc, city of, Gary Keefe, Utility Director.
 Mojave Water Agency, Norman T. Caouette, Acting General Manager.
 Mono County, Energy Management Department, Daniel L. Lyster, Director.
 Montecito Water District, C. Charles Evans, General Manager/Secretary.
 Oceanside, city of, Peter Weiss, City Engineer.
 Orange County Public Facilities and Resources Department, Vicki L. Wilson, Director.
 Orange County Water District, William R. Mills, Jr., General Manager.
 Padre Dam Municipal Water District, August A. Caires, General Manager.
 Pechanga Indian Reservation, Mark A. Macarro, Tribal Chairman.
 Riverside County Flood Control and Water Conservation District, David P. Zappe, General Manager-Chief Engineer.
 San Bernardino Environmental Public Works Agency-Flood Control District, Ken A. Miller, Director.
 San Bernardino Valley Municipal Water District, G. Louis Fletcher, General Manager-Chief Engineer.
 San Diego, city of, Larry Gardner, Water Utilities Director.
 San Diego County Department of Public Works, John Snyder, Acting Director.
 San Juan Basin Authority, Donald J. Martinson, Administrator.
 Santa Barbara, city of, Department of Public Works, David H. Johnson, Director.
 Santa Barbara County Flood Control and Water Conservation District and Water Agency, Thomas D. Fayram, Deputy Director.
 Santa Margarita River Watershed, James S. Jenks, Watermaster.
 Santa Maria Valley Water Conservation District, Debi Askew, Secretary.
 Santa Ynez River Water Conservation District, Bruce A. Wales, General Manager.
 Sweetwater Authority, Richard A. Reynolds, General Manager.
 United Water Conservation District, Ms. Dana L. Wisheart, General Manager.
 Ventura County Public Works Agency, Arthur E. Goulet, Director.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Bureau of Reclamation, U.S. Department of the Interior; Edwards Air Force Base, U.S. Air Force; and Camp Pendleton Marine Corps Base, U.S. Marine Corps.

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

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 50 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 human activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, the Columbia, the Colorado, and the Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents; (2) to test findings of the National Water-Quality Assessment Program (NAWQA); (3) to characterize processes unique to large-river systems such as storage and re-mobilization of sediments and associated contaminants; and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation chemistry monitoring sites; (2) provide the mechanism to evaluate the effectiveness of the significant reduction in SO₂ emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred; (3) provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO₂ and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the world wide web at:

<http://nadp.nrel.colostate.edu/NADP>

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, State, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, State, and local water resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the world wide web at:

http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html

EXPLANATION OF THE RECORDS

The surface-water records published in this report are for the 1999 water year that began October 1, 1998, and ended September 30, 1999. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and contents data for lakes and reservoirs, and water-quality data for surface water. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station-Identification Numbers

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

Downstream-Order System

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 1119750, which appears just to the left of the station name, includes the two-digit part number "11" plus the six-digit downstream-order number "19750." 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. 1).

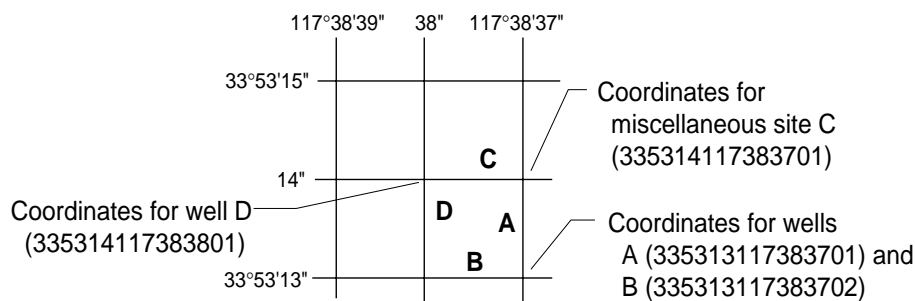


Figure 1. System for numbering miscellaneous sites (latitude and longitude).

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 stations for which data are given in this report are shown, by county, in figures 2 through 12.

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 relation 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 relation 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 digital recorders, data-collection platforms, or data loggers that sample stage values 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, Chapters A1 through A19, and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

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.

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream's velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross-section area. Discharge is computed by multiplying path velocity by the appropriate stage-related coefficient and area.

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

For some gaging stations, there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following records, 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

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; 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 follow to 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 gaging station is given with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name. 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 reasonably can be considered equivalent with records from the present station.

REVISED RECORDS.—Published records, because of new information, occasionally are 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 is given in which the most recently revised figure was published.

GAGE.—The type of gage currently in use, the datum of the current gage referred to sea level (see glossary), 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 paragraph is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph also is 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.

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 gage, 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 that are 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.

REVISIONS.—If a critical error is discovered in published records, 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-gaging stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

Data table of daily mean values

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

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ___-___, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation for tables containing complex data for the current water year. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ___-___," will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (see line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When this occurs, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data also are given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments follow to clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.—The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

ANNUAL MEAN.—The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

HIGHEST ANNUAL MEAN.—The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.—The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.—The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.—The minimum daily mean discharge for the year or for the designated period.

INSTANTANEOUS PEAK FLOW.—The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.—The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.—The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-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.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Inches (IN.) indicates the depth to which the drainage area would be covered if all the runoff for a given period were distributed on it uniformly.

10 PERCENT EXCEEDS.—The discharge that is exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that is exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that is exceeded 90 percent of the time for the designated period.

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 generally are 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 and discharge, and interpretation of records.

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

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

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

Other Records Available

The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 20192, 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 District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District Office.

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape or stored electronically in a data logger. 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 2 through 12.

Arrangement of Records

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

Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

Onsite Measurements and Sample Collection

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

Historical and current (1999) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter (ng/L). If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter ($\mu\text{g/L}$) and could reflect contamination introduced during some phase of the procedure.

Water Temperature

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

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

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations measured immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge. Methods used in the computation of sediment records are described in the TWRI Book 3, Chapters C1 and C3. These methods are consistent with the ASTM standards and generally follow ISO standards.

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 suspended sediment, bed material, and bed load are included for some stations.

Estimates of bed-load and total-sediment discharge are included for some stations. Computations of monthly bed-load discharges are based on the relation between instantaneous water discharge and corresponding bed-load discharge for the station. Values of bed-load discharge used in defining this relation are based on samples obtained by use of the Helley-Smith or BL 84 bed-load samplers or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bed-load-transport relation at a station was made on a daily basis or subdivided-day basis. The bed-load samplers are designed to collect time-weighted samples for the sediment moving within 0.25 ft of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. Calibration of the bed-load samplers has not been completed, and a trap efficiency of 1.0 has been assumed applicable to these devices. Error sources in the theoretical methods, based on analysis of bed-material characteristics, channel geometry, and associated hydraulic factors, are also undefined. In consequence, figures of bed-load discharge must be used with caution. They are estimates, at best, and are subject to revision.

Cross-Sectional Data

Cross-sectional surveys of water temperature, pH, specific conductance, dissolved oxygen, and suspended sediment are done at all NASQAN and Hydrologic Benchmark 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, biochemical-oxygen-demand (BOD) samples, indicator-bacteria samples, and daily specific-conductance samples are analyzed locally. All other samples are analyzed in the U.S. Geological Survey's National Water-Quality Laboratory in Arvada, Colorado. Methods used to analyze sediment samples and to compute sediment records are described in the Techniques of Water-Resources Investigations, Book 5, Chapter C1. Methods used by the U.S. Geological Survey laboratories are given in TWRI Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, A4, and A5. These methods are consistent with ASTM standards and generally follow ISO standards.

Water Quality-Control Data

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental-sample data cannot be interpreted adequately because the errors associated with the sample data are unknown. The various types of QC samples collected by this District are described in the following section. Procedures have been established for the storage of water quality-control data within the U.S. Geological Survey. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples.

Blank Samples

Blank samples are collected and analyzed to ensure the environmental samples have not been contaminated by the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. There are many types of blank samples possible, each designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this District are:

Field blank is a blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank is a blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank is a blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank is a blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank is a blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank is a blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank is a blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory whose composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. There are many types of replicate samples possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this District are:

Sequential sample is a type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample is a type of replicate sample in which a sample is split into subsamples contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

Data Presentation

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

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

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

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

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

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

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

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

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

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

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

ACCESS TO USGS WATER DATA

The U.S. Geological Survey provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be accessed at

<http://water.usgs.gov>.

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on magnetic tape or 3-1/2 inch floppy disk. Information about the availability of specific types of additional data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices. (See address on the back of the title page.)

DEFINITION OF TERMS

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

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

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, 325,851 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 measurement of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter.

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.

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equal to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters.

Cubic foot per second per square mile [CFSM, (ft³/s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inch (IN., in.) as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it.

Aroclor is the registered trademark for a group of polychlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type and the last two digits represent the weight percent of the hydrogen substituted chlorine.

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, while others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestines of warm-blooded animals and those that inhabit soils. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35°C. In the laboratory, these bacteria are defined as all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL 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. In the laboratory, they are defined as all the organisms that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found in the intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria that are capable of growth in brain-heart infusion broth. In the laboratory, they are defined as all the organisms that produce red or pink colonies within 48 hours at 35°C plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Enterococcus bacteria are commonly found in the feces of humans and other warm-blooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies

with black or reddish-brown precipitate after incubation at 41°C on mE agar and subsequent transfer to EIA medium. Enterococci include *Streptococcus faecalis*, *Streptococcus faecium*, *Streptococcus avium*, and their variants.

Escherichia coli (*E. coli*) are bacteria present in the intestine and feces of warm-blooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory, they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5 °C on mTEC medium. Their concentrations are expressed as number of colonies per 100 mL of sample.

Base flow is flow in a channel sustained by ground-water discharge in the absence of direct runoff.

Bed load is the sediment which moves along in essentially continuous contact with the streambed by rolling, sliding, and making brief excursions into the flow a few diameters above the bed.

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

Benthic organisms (invertebrates) are the group of animals inhabiting 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. They are useful as indicators of water quality.

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 microorganisms, 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. 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.

Biomass pigment ratio is an indicator of the total proportion of periphyton which are autotrophic (plants). This is also called the Autotrophic Index.

Bottom material: See Bed material.

Cells/volume (cells per volume) refers to the number of plankton cells or natural units counted using a microscope and grid or counting cell. Results are generally reported as cells or units per milliliter.

Cells volume (biovolume) 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 (for example, 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 (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

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

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

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 BOD 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 green pigments in plants.

Colloid is any substance with particles in such a fine state of subdivision dispersed in a medium (for example, water) that they do not settle out; but not in so fine a state of subdivision that they can be said to be truly dissolved.

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.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site that meets either of the following conditions:

1. Stage or streamflow are recorded at some interval on a continuous basis. The recording interval is usually 15 minutes, but may be less or more frequent.
2. Water-quality, sediment, or other hydrologic measurements are recorded at least daily.

Control designates a feature in the channel downstream from a gaging station that physically influences the water-surface elevation and thereby determines the stage-discharge relation at the station. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, 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 (CFS, cfs, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Cubic foot per second per day (CFS-DAY, cfs-day, cfs/d, or [(ft³/s)/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, 1.9835 acre-feet, 646,317 gallons, or 2,447 cubic meters.

Daily record is a summary of streamflow, sediment, or water-quality values computed from data collected with sufficient frequency to obtain reliable estimates of daily mean values.

Daily record station is a site for which daily records of streamflow, sediment, or water-quality values are computed.

Datum, as used in this report, is an elevation above mean sea level to which all gage height readings are referenced.

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the volume of water (or more broadly, volume of fluid including solid- and dissolved-phase material), that passes a given point in a given period of time.

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days in a year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1–March 31). The date shown in the summary-statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

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

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

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.

Dissolved oxygen (DO) content of water in equilibrium with air is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved solids, with small temperature changes having the more significant offset. Photosynthesis and respiration may cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During that 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 0.4926 to reflect the change. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

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 site on a stream is that area, measured in a horizontal plane, that has a common outlet at the site for its surface runoff. Figures of drainage area given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that is occupied by a drainage system with a common outlet for its surface runoff (see "Drainage area").

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65°C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue.

Extractable-organic halides (EOX) are organic compounds which contain halogen atoms such as chlorine. These organic compounds are semi-volatile and extractable by ethyl acetate from air-dried stream-bottom sediments. The ethyl-acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the stream-bottom sediments.

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is the elevation of the zero point of the reference gage from which gage height is determined as compared to sea level (see "Datum"). This elevation is established by a system of levels from known benchmarks, by approximation from topographic maps, or by geographical positioning system.

Gage height (G.H.) is the water-surface elevation referenced to the 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 site on a stream, canal, lake, or reservoir where systematic observations of stage, discharge, or other hydrologic data are obtained. When used in connection with a discharge record, the term is applied only to those gaging stations where a continuous record of discharge is computed.

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Ground-water level is the elevation of the water table or another potentiometric surface at a particular location.

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

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. *See NOAA web site:*

<http://www.co-ops.nos.noaa.gov/tideglos.html>

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

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as defined by the former Office of Water Data Coordination and delineated on the State Hydrologic Unit Maps by the U.S. Geological Survey. Each hydrologic unit is identified by an 8-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

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

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

where I_0 is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

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

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. *See NOAA web site:*

<http://www.co-ops.nos.noaa.gov/tideglos.html>

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.

Mean high tide is the average of all high tides over a specified period.

Mean lower low water (MLLW) is the average of the lower low water height of each tidal day observed over the National Tidal Datum Epoch. The National Tidal Datum Epoch is the specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values.

Mean low tide is the average of all low tides over a specified period.

Mean water level is the average of all tides over a specified period.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to water surface in a well is measured to obtain water level.

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental 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-adult or egg-nymph-adult.

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

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the element per unit mass (gram) of material analyzed.

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

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

Miscellaneous site, or miscellaneous station, is a site where streamflow, sediment, and/or water-quality data are collected once, or more often on a random or discontinuous basis.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic-invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) 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. *See NOAA web site:*

<http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>

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

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of Formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediments. May be reported as dissolved organic carbon (DOC), suspended organic carbon (SOC), or total organic carbon (TOC).

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area of 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.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter Code is a 5-digit number used in the U.S. Geological Survey's computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes Law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, Sedigraph) determine fall diameter of particles in either 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 the 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
Silt004–.062	Sedimentation
Sand062–2.0	Sedimentation/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.

Periodic station is a site where stage, discharge, sediment, chemical, or other hydrologic measurements are made one or more times during a year, but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they 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.

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 is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Phytoplankton is the plant part of the plankton. They are usually microscopic, and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to 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 (*Cyanophyta*) are a group of 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.

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark.

Fire algae (*Pyrrhophyta*) are a group of algae that are free-swimming unicells characterized by a red pigment spot.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae 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 (PCB's) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCN's) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCB's) and have been identified in commercial PCB preparations.

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 oxygen released (oxygen method) or the amount of carbon assimilated (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. Carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. Oxygen method defines 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.

Radioisotopes are isotopic forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

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 and 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.

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or non-exceedance of a specified low flow). The terms "return period" and "recurrence interval" do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the non-exceedances of the $7Q_{10}$ occur less than 10 years after the previous non-exceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous non-exceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

River mile is the distance of a point on a river measured in miles from the river's mouth along the low-water channel.

River mileage is the linear distance along the meandering path of a stream channel determined in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council.

Runoff in inches (IN., in.) is the depth, in inches, to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929. *See:*

http://www.co-ops.nos.noaa.gov/glossary/gloss_n.html#NGVD

Sediment is solid material that is transported by, suspended in, or deposited from water. It originates mostly from disintegrated rocks; it also includes chemical and biochemical precipitates and decomposed organic material, such as humus. The quantity, characteristics, and cause of the 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.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along or very close to the bed. In this report, bed load is considered to consist of particles in transit from the bed to an elevation equal to the top of the bed-load sampler nozzle (usually within 0.25 ft of the streambed).

Bed-load discharge (tons per day) is the quantity of sediment moving as bed load, reported as dry weight, that passes a cross section in a given time.

Suspended sediment is the sediment that 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). The entire sample is used for the analysis.

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

Suspended-sediment discharge (tons/day) is the quantity of sediment moving in suspension, reported as dry weight, that passes a cross section in a given time. It is calculated in units of tons per day as follows:

$$\text{concentration (mg/L)} \times \text{discharge (ft}^3/\text{s)} \times 0.0027.$$

Suspended-sediment load is a term that refers to material in suspension. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with either suspended-sediment discharge or concentration.

Suspended total residue at 105°C concentration is the concentration of suspended sediment in the sampled zone expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). A small aliquot of the sample is used for the analysis.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, reported as dry weight, that passes a cross section in a given time.

Total sediment load or total load is a term that refers to the total sediment (bed load plus suspended-sediment load) that is in transport. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with total sediment discharge.

Seven-day 10-year low flow (7Q10, 7Q₁₀) is the minimum flow averaged over 7 consecutive days that is expected to occur on average, once in any 10-year period. The 7Q10 has a 10-percent chance of occurring in any given year.

Sodium adsorption ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Water ranges 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 a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MILL/MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific waters, to evaluate mixing of different waters, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage: See “Gage height.”

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

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” as 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.

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.

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

Surface area of a lake or impoundment is that area encompassed by the boundary of the lake or impoundment as shown on U.S. Geological Survey topographic maps, or on other available maps or photographs. The computed surface areas reflect the water levels of the lakes or impoundments at the times when the information for the maps or photographs was obtained.

Surficial bed material is the top 0.1 to 0.2 ft of the bed material that is sampled 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. It is associated with 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 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 and 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 are 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 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. 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.

Synoptic Studies are short-term investigations of specific water-quality conditions during selected seasonal or hydrologic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

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	<i>Hexagenia</i>
Species	<i>Hexagenia limbata</i>

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

Tons per day (T/DAY, tons/d) is the rate representing a mass of 1 ton of a constituent in streamflow passing a cross section in 1 day. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the total amount of a given constituent in a representative 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 both the dissolved and suspended phases of the sample. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, 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 suspended-sediment mixture and that the analytical method determines all the constituent in the sample.)

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. Knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total length (fish) is the straight-line distance from the anterior point of a fish specimen's snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total, recoverable is the amount of a given constituent that is in solution after a representative 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 and 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 are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Turbidity is a measurement of the collective optical properties of a water sample that cause light to be scattered and absorbed rather than transmitted in straight lines; the higher the intensity of scattered light, the higher the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU) or Formazin turbidity units (FTU) depending on the method and equipment used.

Volatile organic compounds (VOC's) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOC's are man-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens (U.S. Environmental Protection Agency, 1996).

Water level is the water-surface elevation or stage of the free surface of a body of water above or below any datum (see "Gage height"), or the surface of water standing in a well, usually indicative of the position of the water table or other potentiometric surface.

Water table is the surface of a ground-water body at which the water is at atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which is found the water table.

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, 1999, is called the "1999 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976.)

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.

Well is an excavation (pit, hole, tunnel), generally cylindrical in form and often walled in, drilled, dug, driven, bored, or jetted into the ground to such a depth as to penetrate water-yielding geologic material and allow the water to flow or to be pumped to the surface.

Wet weight refers to the weight of animal tissue or other substance including its contained water.

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, Branch of Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. 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."

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 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 p.
- 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 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 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 p.
- 2-D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI Book 2, Chapter D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 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 p.
- 2-E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI Book 2, Chapter E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W.E. Teasdale: USGS–TWRI Book 2, Chapter F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 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 p.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI Book 3, Chapter A2. 1967. 12 p.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI Book 3, Chapter A3. 1968. 60 p.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI Book 3, Chapter A4. 1967. 44 p.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI Book 3. Chapter A5. 1967. 29 p.
- 3-A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI Book 3, Chapter A6. 1968. 13 p.

- 3-A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A7. 1968. 28 p.
- 3-A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI Book 3, Chapter A8. 1969. 65 p.
- 3-A9. *Measurement of time of travel in streams by dye tracing*, by F.A. Kilpatrick and J.F. Wilson, Jr.: USGS–TWRI Book 3, Chapter A9. 1989. 27 p.
- 3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A10. 1984. 59 p.
- 3-A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI Book 3, Chapter A11. 1969. 22 p.
- 3-A12. *Fluorometric procedures for dye tracing, Revised*, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A12. 1986. 41 p.
- 3-A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A13. 1983. 53 p.
- 3-A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI Book 3, Chapter A14. 1983. 46 p.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI Book 3, Chapter A15. 1984. 48 p.
- 3-A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI Book 3, Chapter A16. 1985. 52 p.
- 3-A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI Book 3, Chapter A17. 1985. 38 p.
- 3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, Nobuhiro Yotsukura, G.W. Parker, and L.L. DeLong: USGS–TWRI Book 3, Chapter A18. 1989. 52 p.
- 3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI Book 3, Chapter A19. 1990. 31 p.
- 3-A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI Book 3, Chapter A20. 1993. 38 p.
- 3-A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI Book 3, Chapter A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3-B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI Book 3, Chapter B1. 1971. 26 p.
- 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 p.
- 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 p.
- 3-B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI Book 3, Chapter B4. 1990. 232 p.
- 3-B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI Book 3, Chapter B4. 1993. 8 p.
- 3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI Book 3, Chapter B5. 1987. 15 p.
- 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 p.
- 3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI Book 3, Chapter B7. 1992. 190 p.

Section C. Sedimentation and Erosion Techniques

- 3-C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI Book 3, Chapter C1. 1970. 55 p.
- 3-C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI Book 3, Chapter C2. 1999. 89 p.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI Book 3, Chapter C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

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

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

Section B. Surface Water

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

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

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

Section D. Interrelated Phases of the Hydrologic Cycle

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

Book 5. Laboratory Analysis

Section A. Water Analysis

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI Book 5, Chapter A1. 1989. 545 p.

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 p.

5-A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI Book 5, Chapter A3. 1987. 80 p.

5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI Book 5, Chapter A4. 1989. 363 p.

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

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 p.

Section C. Sediment Analysis

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

Book 6. Modeling Techniques

Section A. Ground Water

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 p.

6-A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI Book 6, Chapter A2. 1991. 68 p.

6-A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI Book 6, Chapter A3. 1993. 136 p.

6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI Book 6, Chapter A4. 1992. 108 p.

6-A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI Book 6, Chapter A5. 1993. 243 p.

6-A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI Book 6, Chapter A6. 1996. 125 p.

Book 7. Automated Data Processing and Computations

Section C. Computer Programs

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

Book 8. Instrumentation

Section A. Instruments for Measurement of Water Level

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

Section B. Instruments for Measurement of Discharge

- 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 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

- 9-A1. *National Field Manual for the Collection of Water-Quality Data: Preparations for Water Sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A1. 1998. 47 p.
- 9-A2. *National Field Manual for the Collection of Water-Quality Data: Selection of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A2. 1998. 94 p.
- 9-A3. *National Field Manual for the Collection of Water-Quality Data: Cleaning of Equipment for Water Sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A3. 1998. 75 p.
- 9-A5. *National Field Manual for the Collection of Water-Quality Data: Processing of Water Samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI Book 9, Chapter A5. 1999. 149 p.
- 9-A6. *National Field Manual for the Collection of Water-Quality Data: Field Measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI Book 9, Chapter A6. 1998. Variously paginated.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Biological Indicators*, by D.N. Myers and F.D. Wilde: USGS–TWRI Book 9, Chapter A7.1. 1997. 49 p.
- 9-A7. *National Field Manual for the Collection of Water-Quality Data: Five-Day Biological Oxygen Demand*, by G.C. Delzer and S.W. McKenzie: USGS–TWRI Book 9, Chapter A7.2. 1999. 28 p.
- 9-A8. *National Field Manual for the Collection of Water-Quality Data: Bottom-Material Samples*, by D.B. Radtke: USGS–TWRI Book 9, Chapter A8. 1998. 48 p.
- 9-A9. *National Field Manual for the Collection of Water-Quality Data: Safety in Field Activities*, by S.L. Lane and R.G. Fay: USGS–TWRI Book 9, Chapter A9. 1998. 60 p.

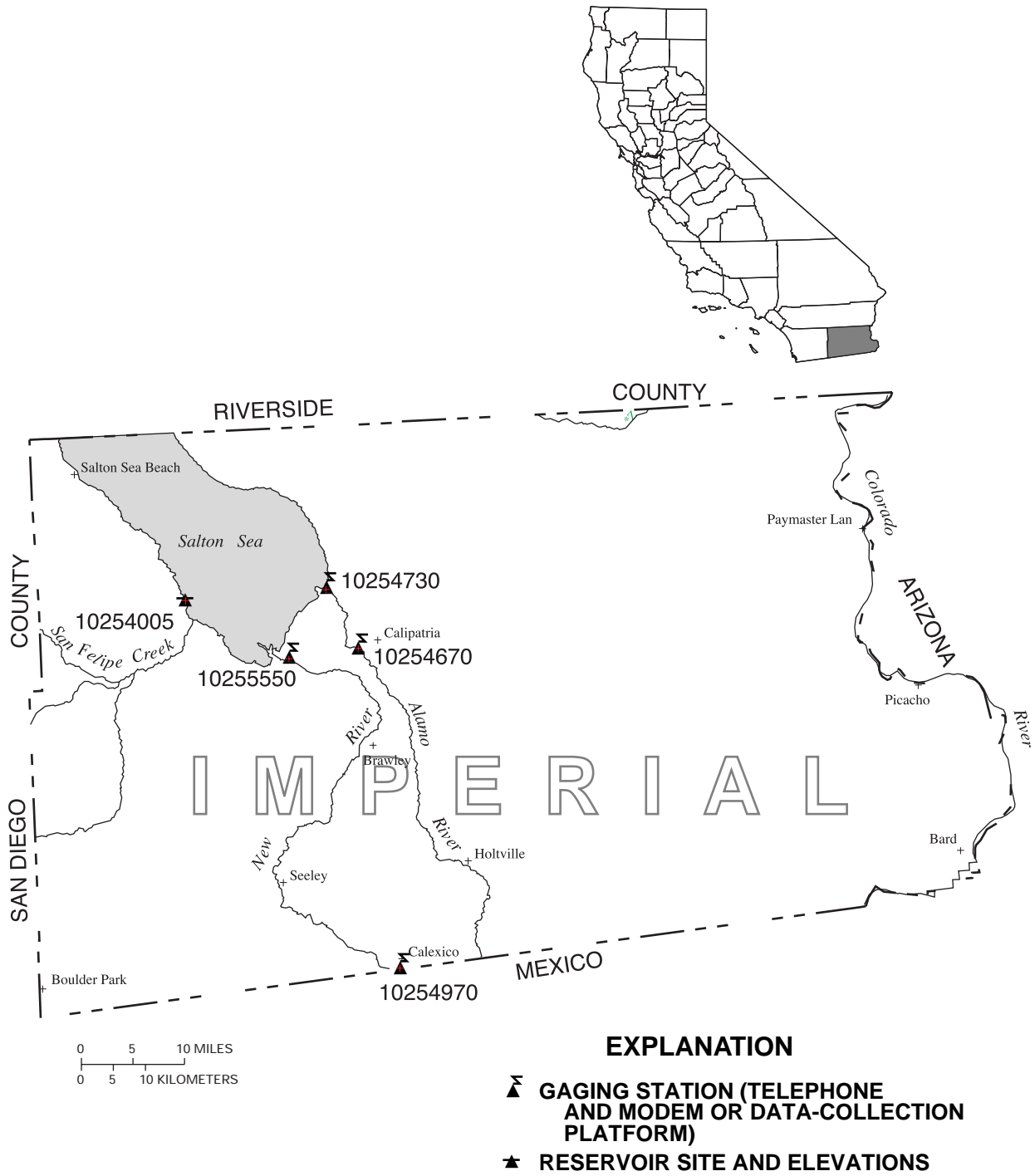


Figure 2. Location of discharge stations in Imperial County.

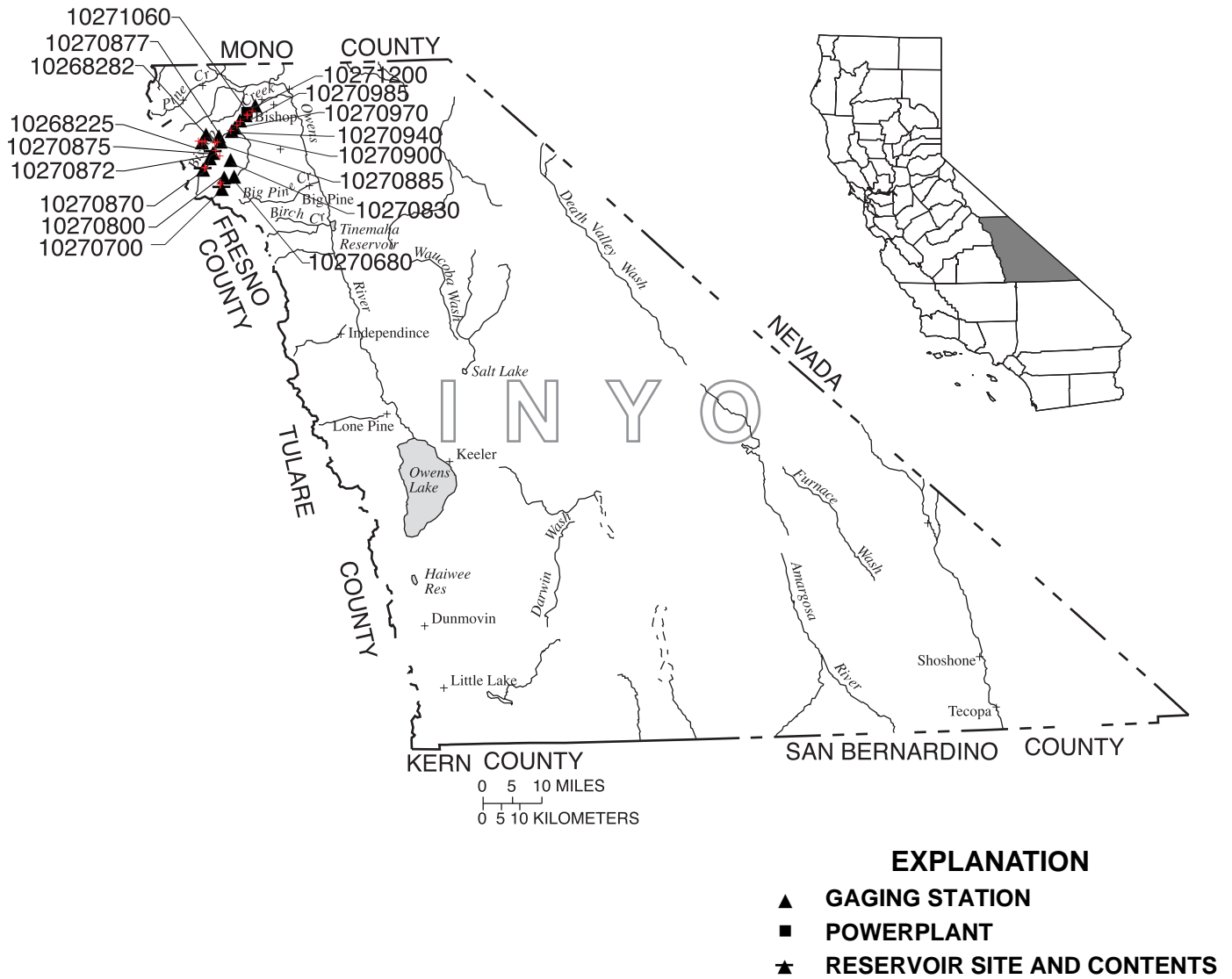
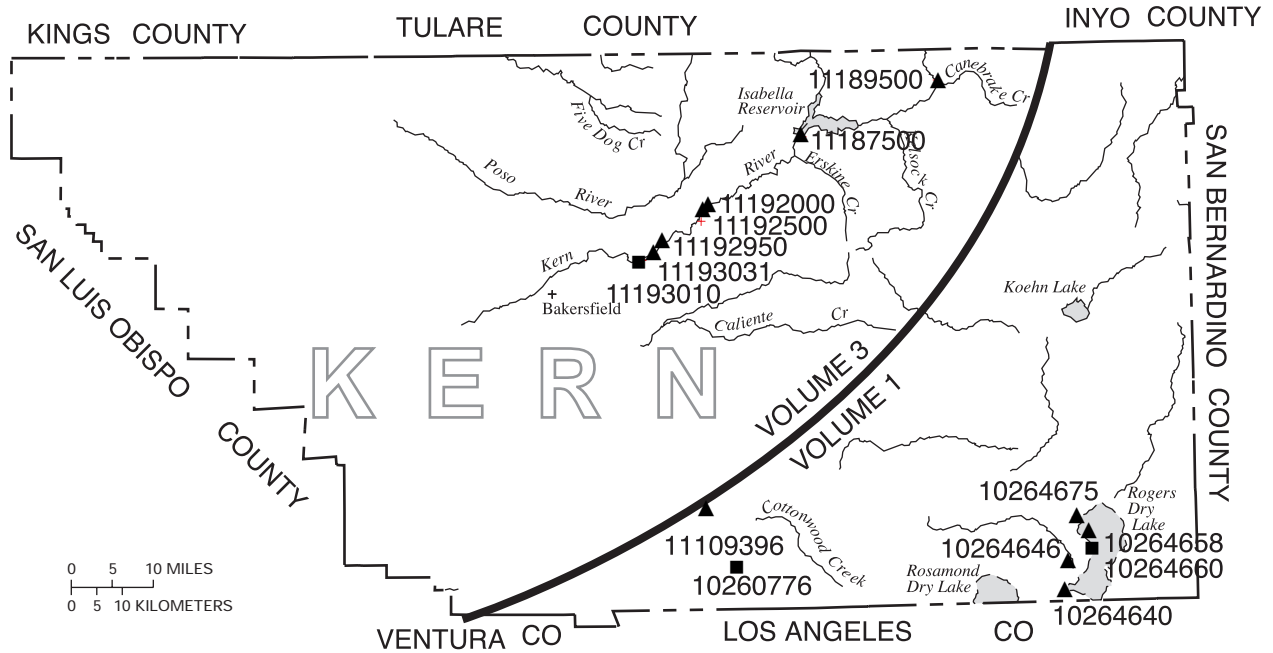


Figure 3. Location of discharge stations in Inyo County.



EXPLANATION

▲ GAGING STATION

■ POWERPLANT

Figure 4. Location of discharge stations in Kern County.
 (NOTE: Records for stations 11187500 through 11193031 published in volume 3.)

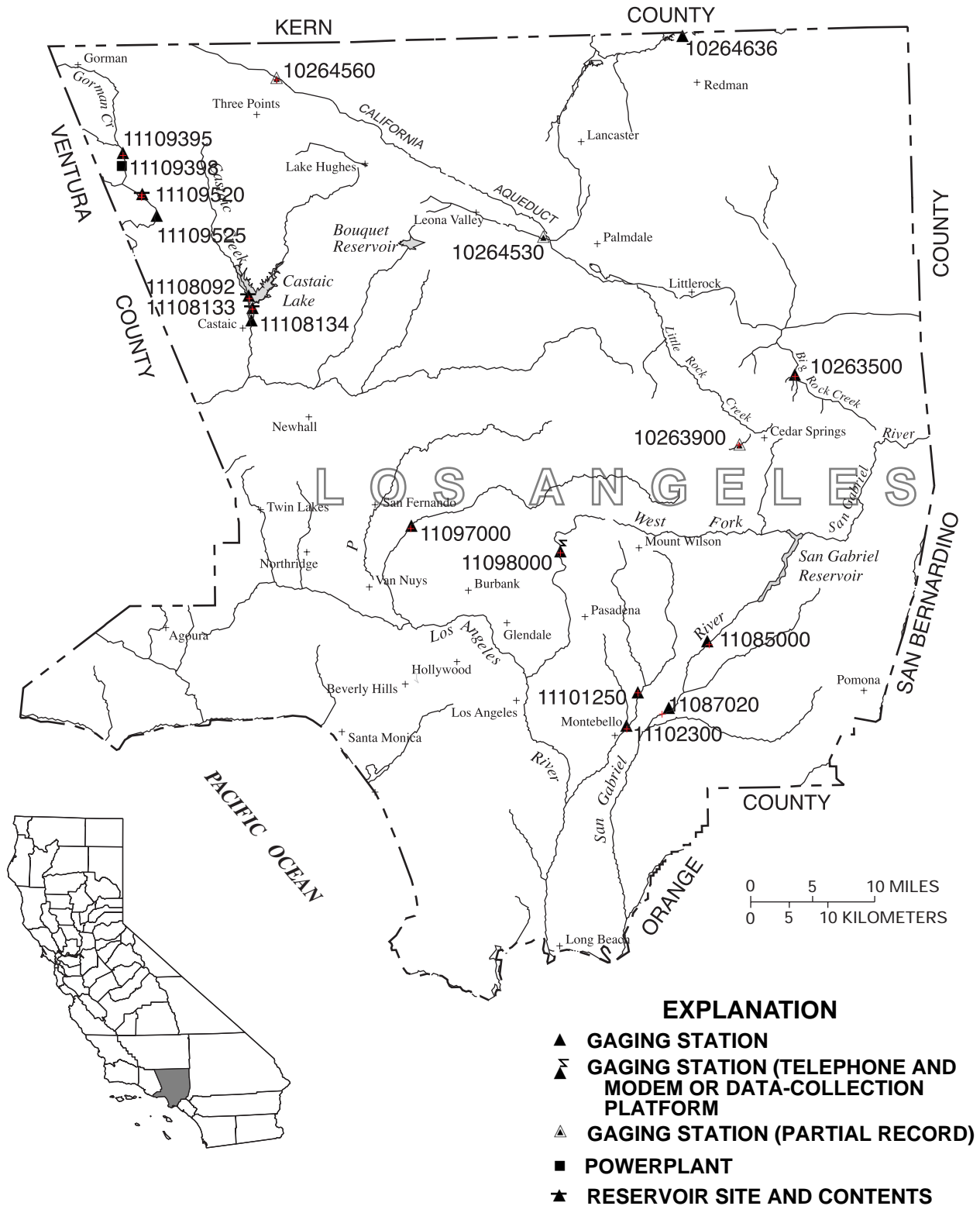


Figure 5. Location of discharge stations in Los Angeles County.

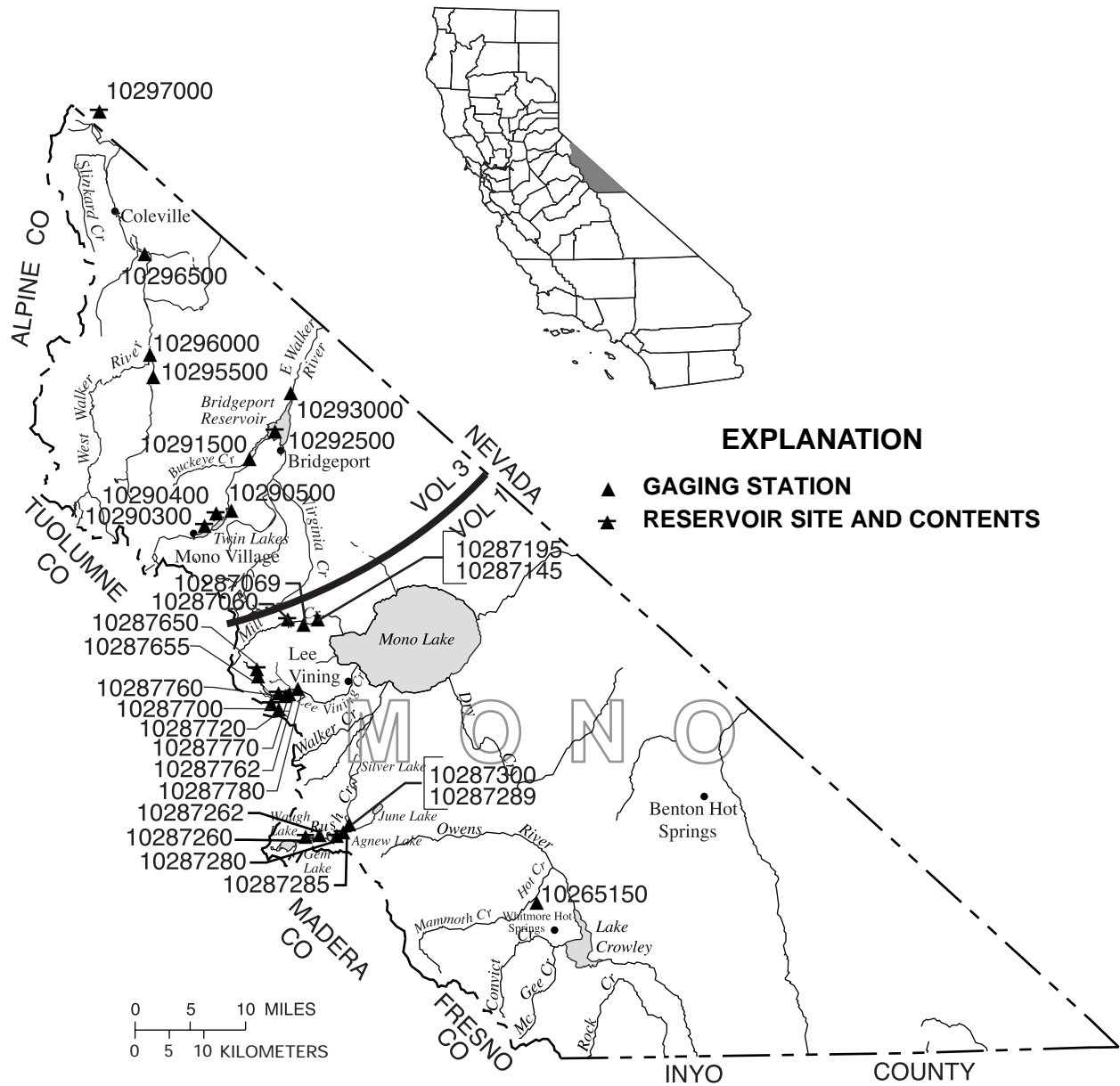


Figure 6. Location of discharge stations in Mono County.
 (NOTE: Records for stations 10290300 through 10297000 published in volume 3.)

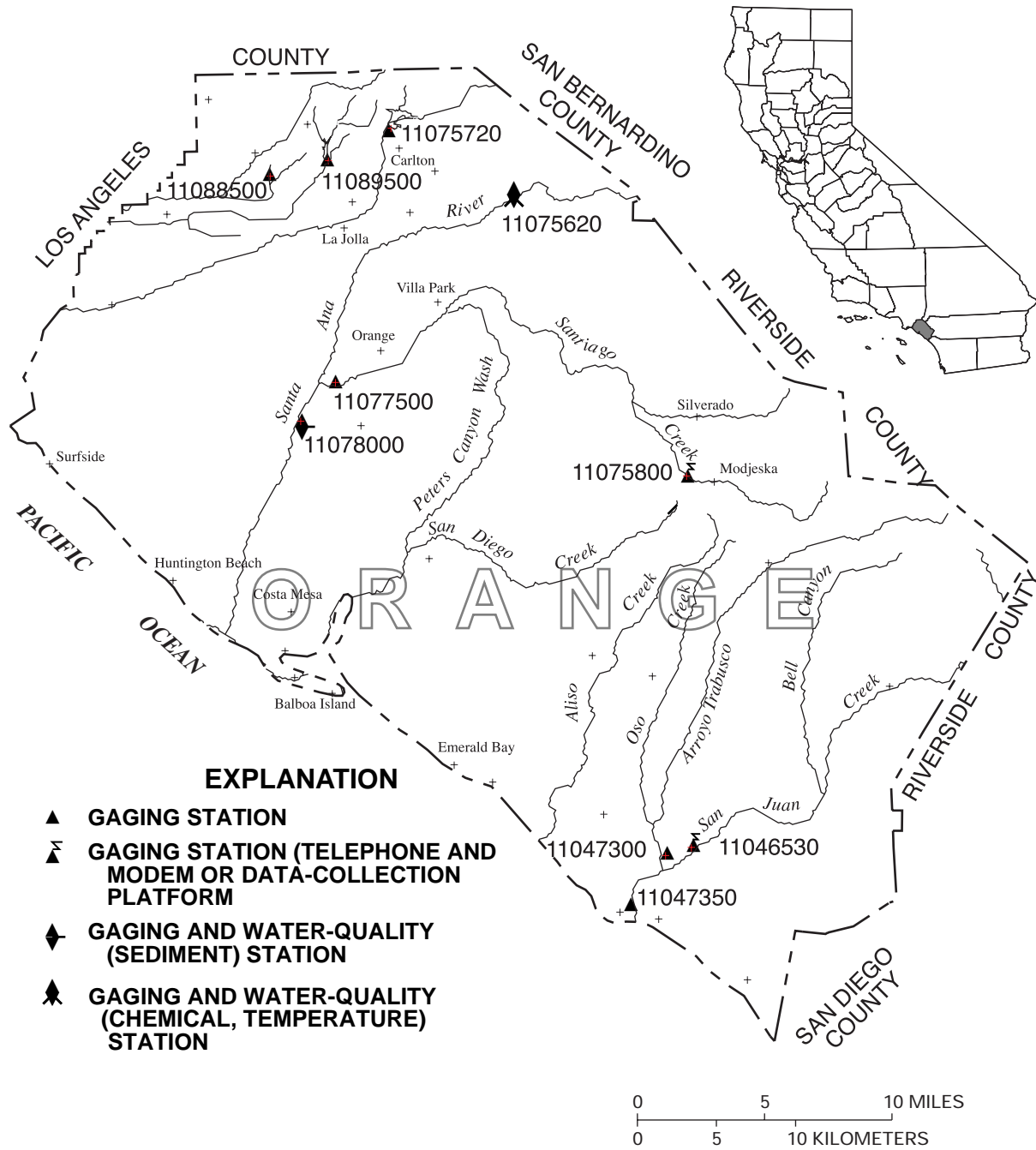


Figure 7. Location of discharge and water-quality stations in Orange County.

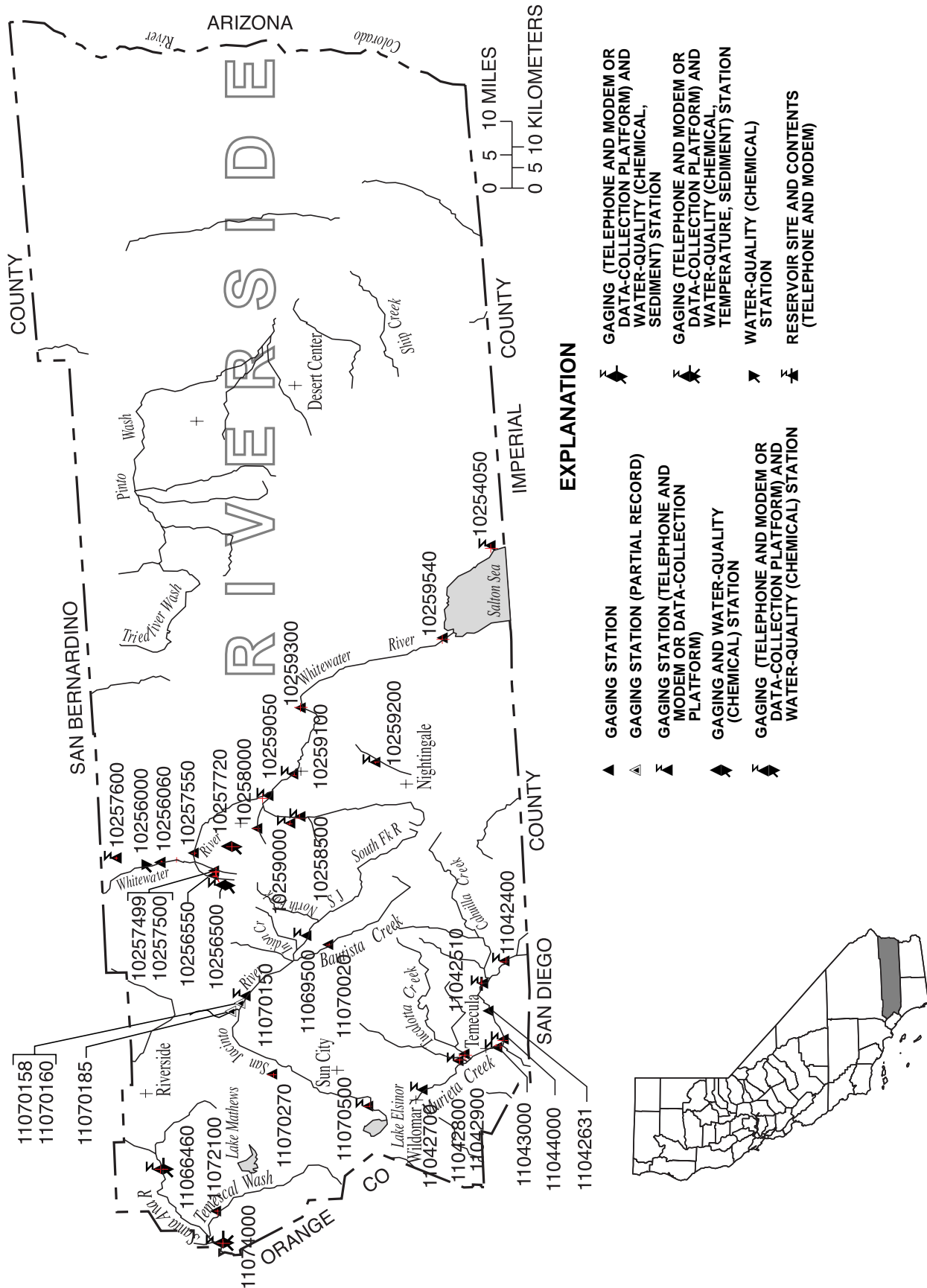


Figure 8. Location of discharge and water-quality stations in Riverside County.

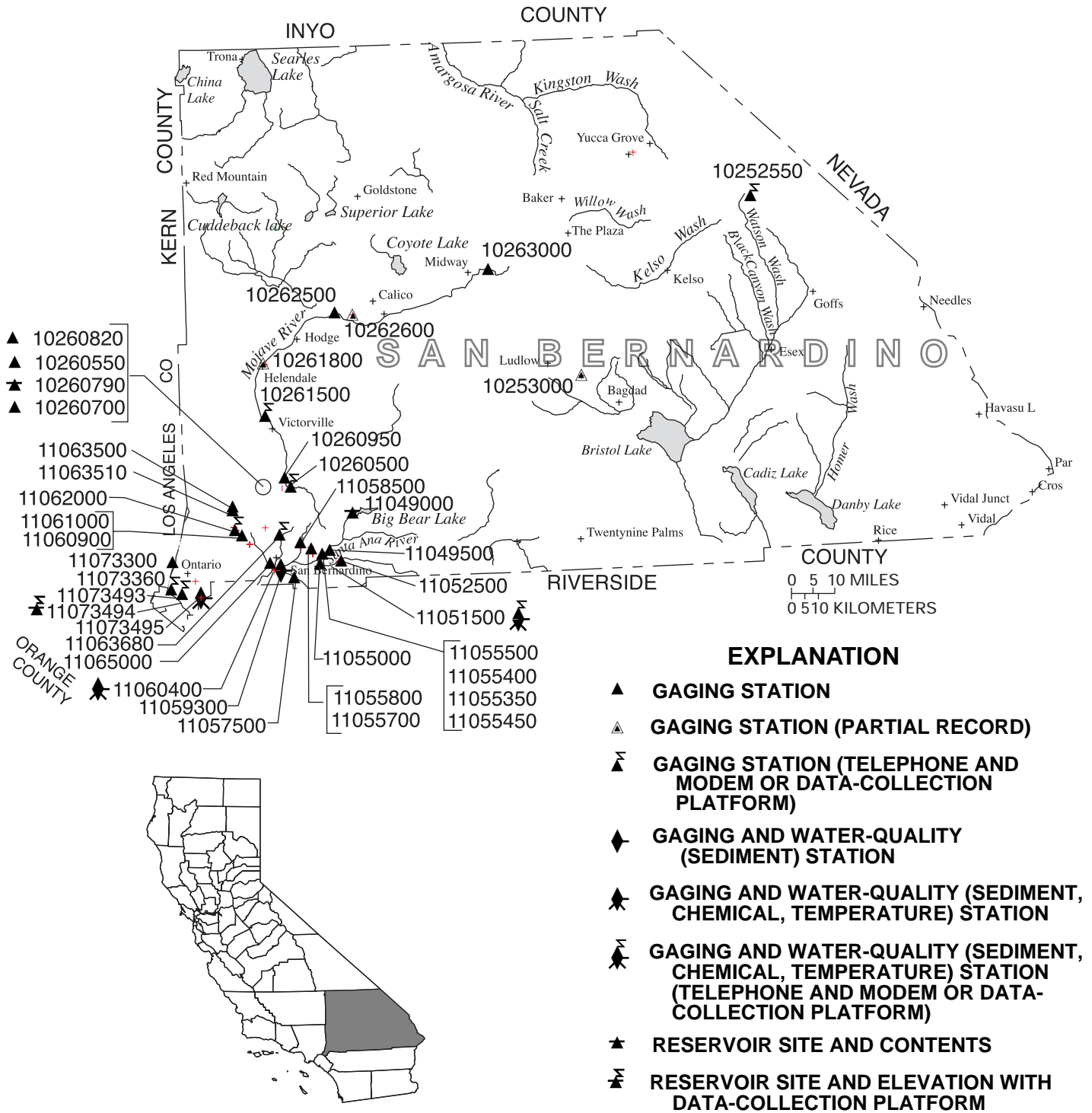


Figure 9. Location of discharge and water-quality stations in San Bernardino County.

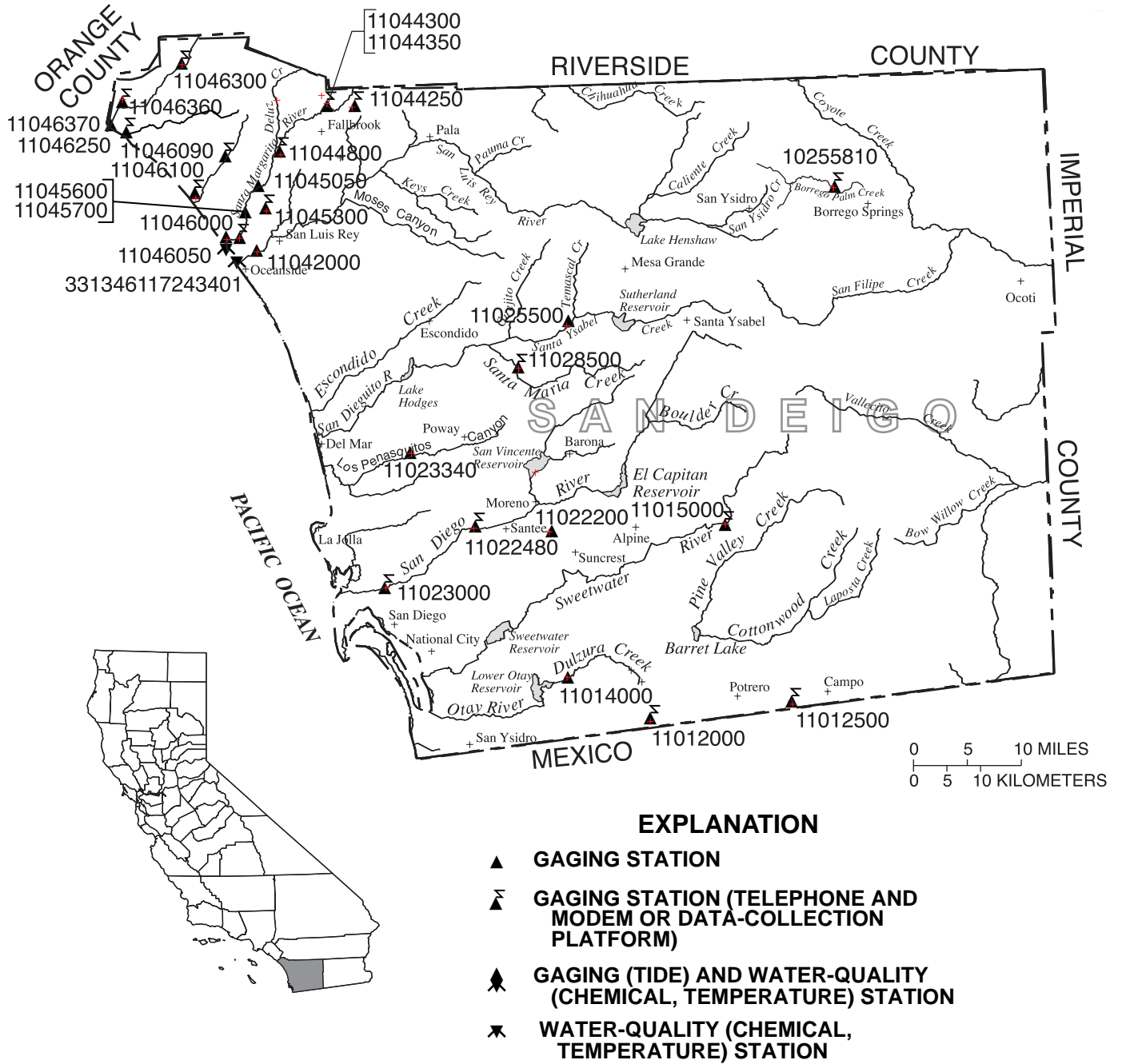


Figure 10. Location of discharge and water-quality stations in San Diego County.

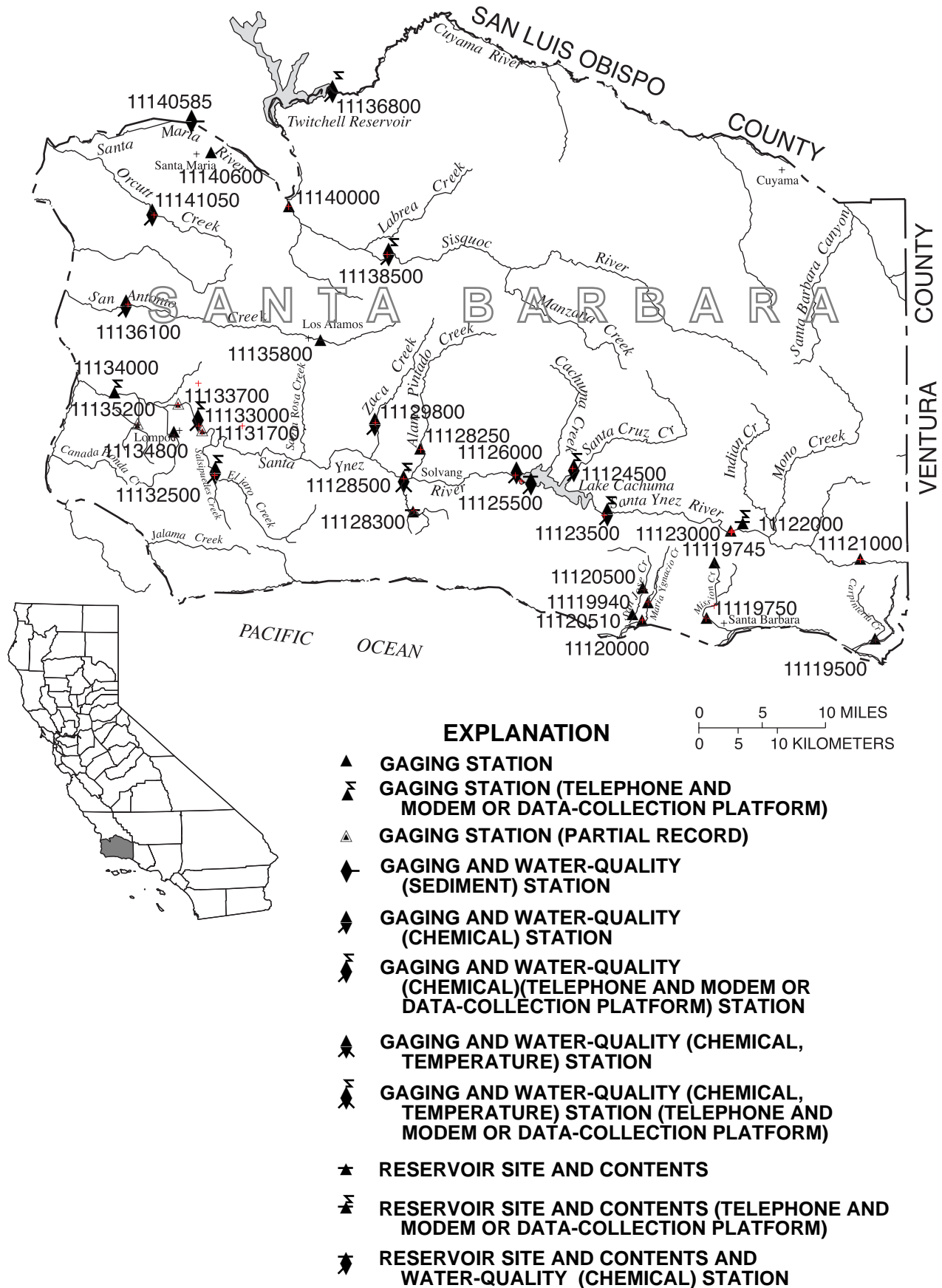


Figure 11. Location of discharge and water-quality stations in Santa Barbara County.

EXPLANATION

- ▲ GAGING STATION
- ▲ GAGING STATION (TELEPHONE AND MODEM OR DATA-COLLECTION PLATFORM)
- ◆ GAGING AND WATER-QUALITY (SEDIMENT) STATION
- ★ RESERVOIR SITE AND CONTENTS

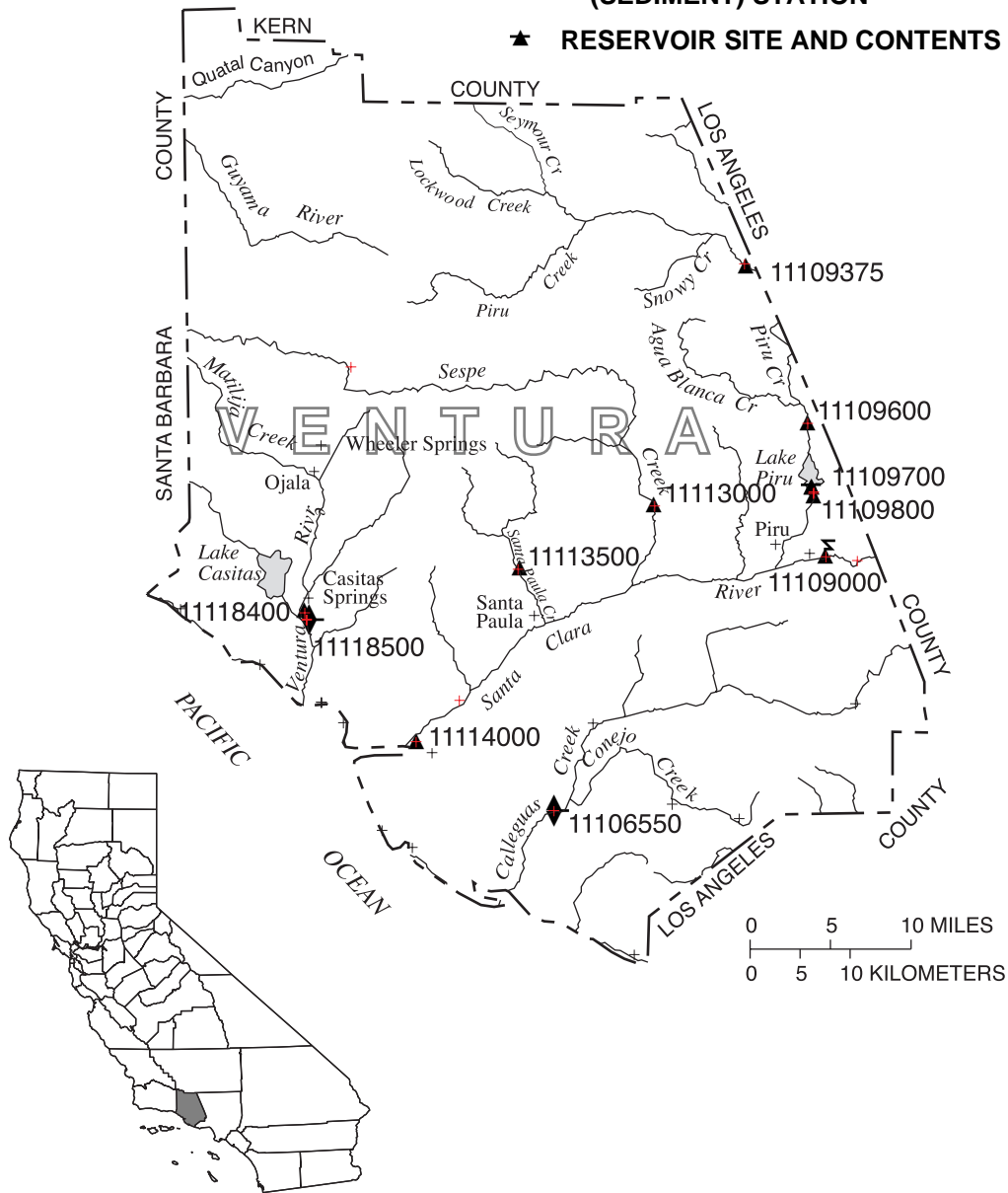


Figure 12. Location of discharge and water-quality stations in Ventura County.

SURFACE-WATER-DISCHARGE AND SURFACE-WATER-QUALITY RECORDS

Remark Codes

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

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
e	Estimated value.
>	Actual value is 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).
ND	Not detected.
&	Biological organism estimated as dominant.
*	Instantaneous streamflow at the time of cross-sectional measurements.
**	Partial sampled width.
1	Laboratory value.
2	Laboratory fixed-end point titration.
A	Samples collected by another agency.
N	Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.
V	Analyte was detected in both the environmental sample and the associated blanks.

Dissolved Trace-Element Concentrations

NOTE: Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter ($\mu\text{g/L}$) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Data above the $\mu\text{g/L}$ level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the U.S. Geological Survey began using new trace-element protocols at some stations in water year 1994.

Change in National Trends Network Procedures

NOTE: Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences, based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

BRISTOL LAKE BASIN

10252550 CARUTHERS CREEK NEAR IVANPAH, CA

LOCATION.—Lat 35°14'42", long 115°17'53", 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.—0.84 mi².

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

REVISED RECORDS.—WDR CA-82-1: 1979(M); WDR CA-96-1: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 5,640 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 814 ft³/s, Aug. 12, 1979, gage height, 5.75 ft, from rating curve extended above 2.5 ft³/s on basis of slope-conveyance studies; maximum gage height, 9.75 ft, July 15, 1996; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 10 ft³/s, from rating curve extended above 2.5 ft³/s on basis of slope-conveyance studies, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 15	2115	12	1.56				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.40	.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	.52	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.27	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.63
23	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.40
24	.00	.00	.00	.00	.00	.00	.44	.00	.00	.00	.00	.22
25	.00	.00	.00	.00	.00	.00	.16	.00	.00	.00	.00	.11
26	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.23	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.85	0.01	0.00	1.19	0.00	1.36
MEAN	.000	.000	.000	.000	.000	.000	.028	.000	.000	.038	.000	.045
MAX	.00	.00	.00	.00	.00	.00	.44	.01	.00	.52	.00	.63
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	1.7	.02	.00	2.4	.00	2.7

THE GREAT BASIN

BRISTOL LAKE BASIN

10252550 CARUTHERS CREEK NEAR IVANPAH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.085	.031	.12	.19	.20	.32	.080	.001	.001	.15	.25	.033
MAX	2.81	.67	1.27	2.22	1.44	2.23	.95	.010	.054	2.45	2.70	.34
(WY)	1977	1966	1966	1993	1980	1992	1965	1983	1972	1984	1979	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1964	1964	1964	1964	1967	1964	1965	1964	1964	1964	1964

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	78.79		3.41			
ANNUAL MEAN	.22		.009		.12	
HIGHEST ANNUAL MEAN					.36 1993	
LOWEST ANNUAL MEAN					.001 1964	
HIGHEST DAILY MEAN	3.4	Apr 2	.63	Sep 22	80	Aug 12 1979
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1963
INSTANTANEOUS PEAK FLOW			12	Jul 15	814	Aug 12 1979
INSTANTANEOUS PEAK STAGE			1.56	Jul 15	9.75	Jul 15 1996
ANNUAL RUNOFF (AC-FT)	156		6.8		87	
10 PERCENT EXCEEDS	.79		.00		.07	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

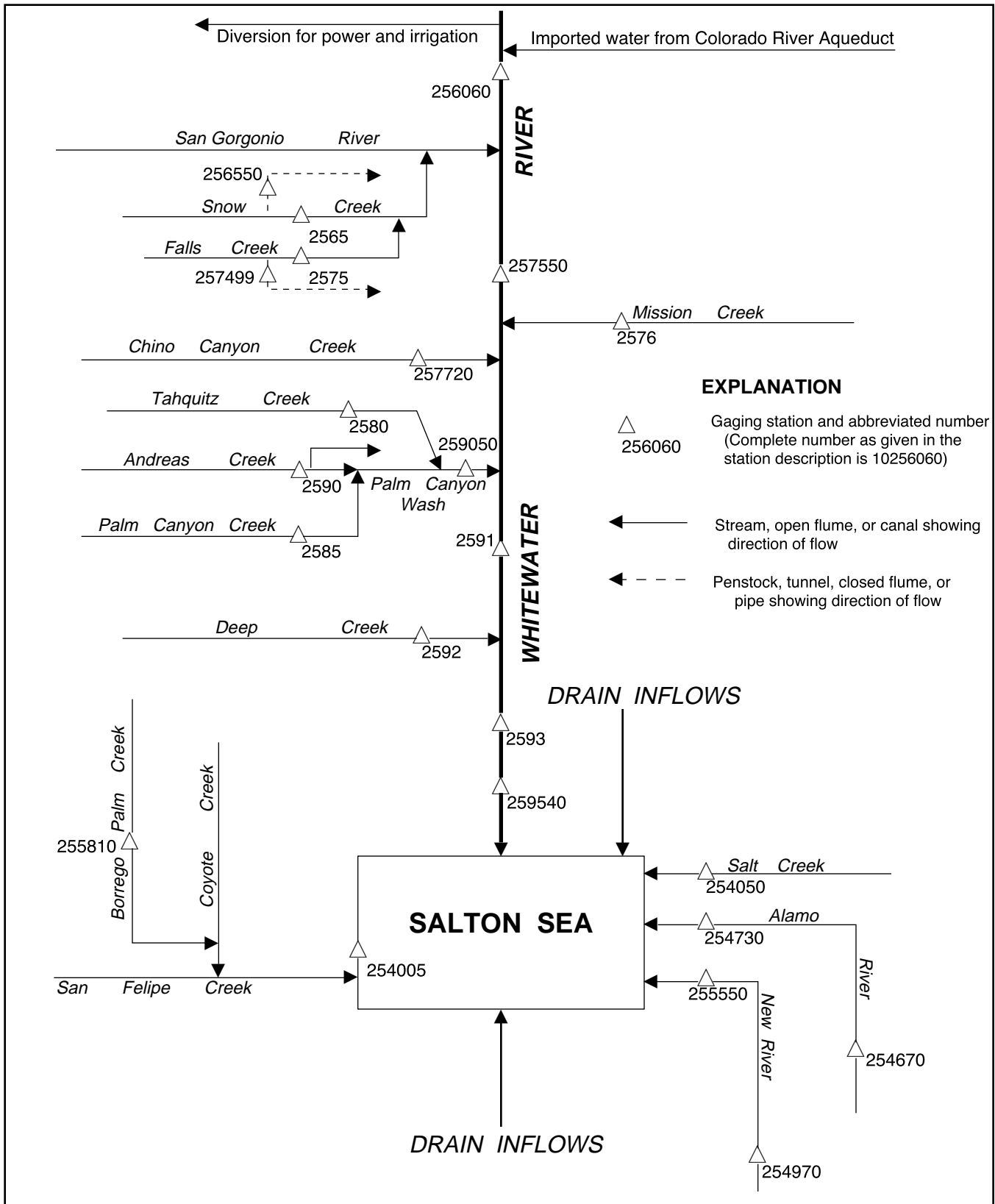


Figure 13. Diversions and storage in Salton Sea Basin.

FLOW FROM MEXICO AT INTERNATIONAL BOUNDARY

The following table lists the monthly and annual flows, in acre-feet, of the Alamo River and the New River (station 10254970) at the United States–Mexico International Boundary. Data for the Alamo River provided by the Imperial Irrigation District and is not reviewed by the U.S. Geological Survey.

	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.
Alamo River	109	131	142	142	134	142	155	153	139	161	106	106
New River	12,250	12,390	13,660	14,640	13,690	17,690	17,790	16,560	14,100	15,540	16,450	12,880
CAL YR 1998:	Alamo River		1,450 acre-ft			WTR YR 1999:		1,620 acre-ft				
CAL YR 1998:	New River		180,300 acre-ft			WTR YR 1999:		177,700 acre-ft				

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 mi².

PERIOD OF RECORD.—January 1961 to current year (since October 1990, low-flow records only).

GAGE.—Water-stage recorder. Elevation of gage is 230 ft below sea level, from topographic map. Prior to Dec. 21, 1984, at same site, at datum 2.50 ft lower.

REMARKS.—Records fair above 1 ft³/s and poor below. No regulation or diversion upstream from station. No discharge records computed above 20 ft³/s since October 1990. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge (January 1961 to September 1990), 9,900 ft³/s, Sept. 24, 1976, gage height, 16.8 ft, present datum, from floodmarks, from rating curve extended above 20 ft³/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); no flow for many days since 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.91	2.0	2.5	2.3	1.9	1.0	.00	.00	.00	.00
2	.00	.00	.96	2.0	2.4	2.4	1.8	1.4	.00	.00	.00	.00
3	.00	.00	1.1	1.9	2.4	2.4	1.9	1.4	.00	.00	.00	.00
4	.00	.00	1.1	1.9	2.5	2.4	2.0	1.2	.00	.00	.00	.00
5	.00	.00	1.2	1.8	2.8	2.4	2.0	1.0	.00	.00	.00	.00
6	.00	.00	1.2	2.0	3.5	2.3	1.9	.89	.00	.00	.00	.00
7	.00	.00	1.3	2.2	3.1	2.2	1.9	.79	.00	.00	.00	.00
8	.00	.00	1.5	2.2	2.9	2.3	1.9	.71	.00	.00	.00	.00
9	.00	.00	1.4	2.2	2.9	2.1	1.9	.63	.00	.00	.00	.00
10	.00	.00	1.4	2.1	2.7	1.9	1.9	.59	.00	.00	.00	.00
11	.00	.00	1.3	2.2	2.6	2.1	1.8	.55	.00	.00	.00	.00
12	.00	.00	1.2	2.3	2.3	2.1	1.8	.52	.00	.00	.00	.00
13	.00	.00	1.4	2.3	2.2	2.0	1.8	.47	.00	.00	.00	.00
14	.00	.00	1.6	2.3	2.4	1.9	1.9	.37	.00	.00	.00	.00
15	.00	.00	1.8	2.3	2.6	2.0	1.8	.27	.00	.00	.00	.00
16	.00	.00	1.8	2.3	2.6	2.2	1.6	.19	.00	.00	.00	.00
17	.00	.00	1.6	2.4	2.5	2.1	1.4	.06	.00	.00	.00	.00
18	.00	.08	1.4	2.4	2.6	1.9	1.2	.00	.00	.00	.00	.00
19	.00	.13	1.5	2.4	2.6	2.0	1.1	.00	.00	.00	.00	.00
20	.00	.17	1.7	2.4	2.7	2.0	1.1	.00	.00	.00	.00	.00
21	.00	.21	1.8	2.6	2.6	2.0	1.0	.00	.00	.00	.00	.00
22	.00	.25	1.7	2.4	2.4	2.1	.96	.00	.00	.00	.00	.00
23	.00	.33	1.6	2.3	2.4	2.0	.90	.00	.00	.00	.00	.00
24	.00	.42	1.7	2.3	2.2	2.0	.88	.00	.00	.00	.00	.00
25	.00	.50	1.7	2.5	2.3	1.8	.86	.00	.00	.00	.00	.00
26	.00	.55	1.8	2.6	2.4	1.8	.91	.00	.00	.00	.00	.00
27	.00	.64	2.0	2.6	2.4	1.9	.90	.00	.00	.00	.00	.00
28	.00	.71	2.0	2.5	2.3	1.9	.88	.00	.00	.00	.00	.00
29	.00	.82	2.1	2.6	---	1.9	.85	.00	.00	.00	.00	.00
30	.00	.85	2.1	2.5	---	2.1	.86	.00	.00	.00	.00	.00
31	.00	---	2.2	2.4	---	2.0	---	.00	---	.00	.00	---
TOTAL	0.00	5.66	48.07	70.9	71.8	64.5	43.60	12.04	0.00	0.00	0.00	0.00
MEAN	.000	.19	1.55	2.29	2.56	2.08	1.45	.39	.000	.000	.000	.000
MAX	.00	.85	2.2	2.6	3.5	2.4	2.0	1.4	.00	.00	.00	.00
MIN	.00	.00	.91	1.8	2.2	1.8	.85	.00	.00	.00	.00	.00
AC-FT	.00	11	95	141	142	128	86	24	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.61	7.45	8.05	9.86	11.6	13.5	5.56	3.86	2.85	3.40	5.05	7.02
MAX	12.6	22.1	14.8	18.8	45.5	137	11.9	12.7	7.50	21.0	55.6	76.5
(WY)	1964	1981	1966	1977	1980	1983	1980	1980	1975	1986	1983	1976
MIN	1.55	1.05	1.59	4.13	4.26	3.79	2.37	1.49	.86	.41	.70	.59
(WY)	1990	1979	1979	1990	1990	1990	1986	1986	1989	1989	1989	1978

SUMMARY STATISTICS

WATER YEARS 1962 - 1990

ANNUAL MEAN	6.97
HIGHEST ANNUAL MEAN	23.7
LOWEST ANNUAL MEAN	2.57
HIGHEST DAILY MEAN	2830
LOWEST DAILY MEAN	.06
ANNUAL SEVEN-DAY MINIMUM	.07
INSTANTANEOUS PEAK FLOW	9900
INSTANTANEOUS PEAK STAGE	19.40
ANNUAL RUNOFF (AC-FT)	5050
10 PERCENT EXCEEDS	10
50 PERCENT EXCEEDS	4.6
90 PERCENT EXCEEDS	1.3

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

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 southwest of Calipatria.

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

CHEMICAL DATA: Water years 1969–70, 1975–77, 1979–94.

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 1979–94.

REVISED RECORDS.—WDR CA-95-1: 1993(M).

GAGE.—Water-stage recorder and broad-crested weir. Elevation of gage is 185 ft below sea level, from topographic map.

REMARKS.—Records excellent except for estimated daily discharges, which are poor. Flow is mainly return from irrigated areas. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,980 ft³/s, Mar. 27, 1992, gage height, 6.56 ft, from rating curve extended above 1,000 ft³/s; maximum gage height, 7.20 ft, Jan. 17, 1993 (affected by backwater); minimum daily, 259 ft³/s, Jan. 2, 1985.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	779	739	564	605	557	768	843	968	784	710	589	655
2	783	763	596	533	589	778	962	1010	769	729	566	635
3	780	721	593	537	602	812	880	874	756	728	555	618
4	755	747	549	554	619	801	716	908	772	714	573	627
5	721	765	555	573	712	793	524	853	742	722	630	627
6	731	756	551	592	614	813	628	840	749	744	632	610
7	731	727	516	593	596	788	752	873	739	795	650	602
8	766	704	529	668	548	762	795	886	724	749	658	550
9	815	625	521	720	495	788	826	834	717	826	605	640
10	808	639	515	664	482	803	840	826	692	787	635	677
11	779	639	553	571	479	808	827	848	701	760	600	699
12	769	743	573	573	513	792	804	865	724	662	588	692
13	744	704	605	568	528	782	830	862	741	e1100	643	658
14	771	695	532	592	555	776	846	865	769	796	634	645
15	753	720	569	616	558	767	859	871	778	647	628	683
16	748	636	597	644	595	773	863	846	763	599	606	703
17	738	604	595	689	637	834	881	796	757	574	626	717
18	747	611	605	613	677	883	849	813	772	544	629	733
19	738	624	620	593	735	843	823	825	799	534	640	752
20	746	646	615	604	692	830	862	842	760	563	616	680
21	756	633	625	572	719	812	869	865	757	646	691	710
22	771	615	671	591	738	812	852	835	725	671	673	790
23	772	591	694	597	726	842	864	832	754	673	639	893
24	756	603	701	599	763	854	872	808	759	712	650	837
25	755	637	552	601	786	844	894	804	769	720	658	748
26	664	628	398	612	793	875	905	792	753	702	664	671
27	697	562	474	648	798	840	928	783	712	640	654	661
28	710	557	567	613	793	826	897	758	697	684	592	681
29	722	531	588	593	---	820	909	764	725	726	581	691
30	766	508	594	646	---	778	914	723	744	725	590	692
31	744	---	641	679	---	766	---	754	---	658	614	---
TOTAL	23315	19673	17858	18853	17899	25063	25114	26023	22403	21840	19309	20577
MEAN	752	656	576	608	639	808	837	839	747	705	623	686
MAX	815	765	701	720	798	883	962	1010	799	1100	691	893
MIN	664	508	398	533	479	762	524	723	692	534	555	550
AC-FT	46250	39020	35420	37390	35500	49710	49810	51620	44440	43320	38300	40810

e Estimated.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	779	667	549	528	601	824	954	842	704	700	705	726
MAX	895	809	666	640	718	947	1208	1000	888	888	846	847
(WY)	1992	1991	1991	1993	1991	1995	1994	1994	1994	1994	1994	1994
MIN	655	569	379	392	445	697	812	706	515	556	593	632
(WY)	1982	1982	1986	1995	1980	1987	1986	1982	1982	1982	1982	1986

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1980 - 1999	
ANNUAL TOTAL	262077		257927			
ANNUAL MEAN	718		707		715	
HIGHEST ANNUAL MEAN					833	
LOWEST ANNUAL MEAN					628	
HIGHEST DAILY MEAN	1030	Mar 26	1100	Jul 13	4670	Mar 27 1992
LOWEST DAILY MEAN	336	Feb 23	398	Dec 26	259	Jan 2 1985
ANNUAL SEVEN-DAY MINIMUM	351	Feb 19	514	Feb 8	277	Dec 31 1984
INSTANTANEOUS PEAK FLOW			(a)1400	Jul 13	5980	Mar 27 1992
INSTANTANEOUS PEAK STAGE			(a)3.45	Jul 13	(a)7.20	Jan 17 1993
ANNUAL RUNOFF (AC-FT)	519800		511600		518200	
10 PERCENT EXCEEDS	913		846		925	
50 PERCENT EXCEEDS	739		717		706	
90 PERCENT EXCEEDS	516		567		511	

(a) Affected by backwater.

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.—Acoustic-velocity meter and water-stage recorder. Elevation of gage is 220 ft below sea level, from topographic map. Prior to Oct. 1, 1986, at site 0.4 mi downstream at different datum.

REMARKS.—Records fair. Discharge mainly represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 4,500 ft³/s, Aug. 17, 1977, estimated by Imperial Irrigation District; minimum daily, 288 ft³/s, Jan. 2, 1966, Dec. 15, 1984.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	974	849	635	707	641	895	1040	1180	990	883	729	755
2	974	883	690	607	695	937	1140	1220	954	893	660	745
3	965	847	666	606	722	1000	1120	1080	927	888	658	740
4	965	846	623	624	748	946	906	1140	954	860	665	745
5	880	908	637	679	806	928	641	1120	927	860	763	753
6	905	890	629	717	728	990	708	1040	879	851	754	734
7	910	868	582	726	667	972	858	1060	853	918	781	719
8	946	834	607	798	612	909	917	1140	868	886	791	649
9	992	723	623	835	570	936	970	1070	876	963	750	759
10	1010	720	576	746	571	979	1020	980	865	954	760	827
11	937	752	614	630	547	979	1010	971	872	900	722	843
12	928	840	637	659	579	961	934	1060	882	816	703	844
13	883	810	671	657	599	926	997	1060	888	1100	753	771
14	919	774	600	678	632	915	1050	1070	936	1060	757	754
15	888	805	637	697	647	879	1060	1080	954	801	770	779
16	889	732	696	714	669	924	1050	1080	900	727	746	841
17	885	694	701	754	750	986	1080	981	909	707	764	850
18	874	700	680	700	775	1070	1050	999	963	669	797	874
19	864	719	705	706	836	1030	988	1020	990	644	797	896
20	830	761	709	758	820	1030	1040	1040	945	664	721	822
21	863	750	723	692	809	994	1070	1050	918	776	781	832
22	910	700	773	691	839	950	1040	1060	881	800	766	963
23	919	642	800	689	841	994	1100	1050	900	805	757	1080
24	876	684	792	669	910	1050	1100	999	889	830	761	1070
25	873	732	653	661	956	1020	1100	981	909	829	763	936
26	755	719	471	691	974	1060	1120	981	918	832	826	834
27	773	644	509	720	983	1020	1100	954	886	770	802	813
28	819	638	636	710	974	1000	1090	918	845	824	731	834
29	831	622	691	676	---	994	1140	945	858	877	707	820
30	890	593	711	716	---	959	1160	900	886	876	681	820
31	905	---	729	740	---	950	---	936	---	806	716	---
TOTAL	27832	22679	20406	21653	20900	30183	30599	32165	27222	26069	23132	24702
MEAN	898	756	658	698	746	974	1020	1038	907	841	746	823
MAX	1010	908	800	835	983	1070	1160	1220	990	1100	826	1080
MIN	755	593	471	606	547	879	641	900	845	644	658	649
AC-FT	55200	44980	40480	42950	41460	59870	60690	63800	53990	51710	45880	49000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	944	761	642	641	756	976	1090	964	827	831	844	900
MAX	1159	851	792	834	970	1144	1272	1182	981	1027	1278	1271
(WY)	1964	1991	1973	1972	1964	1963	1980	1975	1963	1963	1977	1962
MIN	742	616	416	396	495	734	797	684	646	636	656	667
(WY)	1986	1966	1986	1978	1993	1987	1965	1964	1964	1985	1986	1992

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1961 - 1999
ANNUAL TOTAL	316588	307542	
ANNUAL MEAN	867	843	848
HIGHEST ANNUAL MEAN			991
LOWEST ANNUAL MEAN			680
HIGHEST DAILY MEAN	1260	Mar 27	4500
LOWEST DAILY MEAN	393	Feb 23	288
ANNUAL SEVEN-DAY MINIMUM	422	Feb 19	323
ANNUAL RUNOFF (AC-FT)	628000	610000	614300
10 PERCENT EXCEEDS	1130	1050	1110
50 PERCENT EXCEEDS	883	841	841
90 PERCENT EXCEEDS	592	651	606

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, and 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.

CHEMICAL DATA: Water years 1969–71, 1973–85.

BIOLOGICAL DATA: Water years 1973–81.

SPECIFIC CONDUCTANCE: Water years 1974–81.

WATER TEMPERATURE: Water years 1974–81.

SEDIMENT DATA: Water years 1975–85.

GAGE.—Water-stage recorder. Elevation of gage is 35 ft below sea level, from topographic map.

REMARKS.—Records excellent. Discharge represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 833 ft³/s, Dec. 9, 1982, Sept. 25, 1997, gage height, 14.73 ft; minimum daily, 98 ft³/s, Nov. 23, 28–29, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	221	203	237	209	260	264	275	207	208	332	203
2	193	206	219	243	215	273	304	297	208	199	362	202
3	194	206	233	260	222	284	362	367	211	199	353	200
4	196	201	223	278	246	263	441	409	215	200	366	201
5	217	201	214	273	234	242	495	394	216	203	367	200
6	208	210	221	258	238	244	495	375	223	206	329	198
7	188	225	233	249	240	251	475	307	243	215	292	196
8	189	222	231	223	242	259	380	282	270	219	276	195
9	192	209	231	217	254	271	311	267	299	278	297	199
10	193	211	238	215	252	283	286	272	298	235	305	206
11	202	208	228	218	252	307	271	293	272	232	302	215
12	202	224	204	224	253	336	275	312	255	236	286	212
13	197	216	199	237	258	331	274	278	226	285	253	209
14	200	214	233	228	264	303	268	243	225	304	242	204
15	202	205	219	229	262	287	262	226	234	294	239	212
16	197	205	200	238	246	295	255	218	237	276	244	211
17	190	216	199	233	245	321	254	244	241	274	241	205
18	192	225	192	238	248	326	246	290	253	263	257	209
19	197	227	193	271	249	320	258	268	261	269	249	212
20	198	227	221	271	240	308	260	249	264	279	261	209
21	188	211	208	276	233	295	253	241	272	275	240	211
22	195	206	213	278	243	289	245	247	259	253	225	224
23	198	209	205	261	259	304	233	221	234	231	225	265
24	198	202	202	234	258	306	229	222	218	219	228	254
25	200	195	211	226	259	289	229	232	208	213	234	238
26	200	192	229	222	261	271	254	231	203	240	237	236
27	202	187	246	218	260	272	284	228	202	254	226	245
28	201	187	264	213	260	281	274	226	219	356	210	251
29	208	183	266	206	---	290	265	219	219	340	200	245
30	217	198	259	201	---	284	267	206	215	285	206	229
31	232	---	252	208	---	273	---	212	---	296	208	---
TOTAL	6177	6249	6889	7383	6902	8918	8969	8351	7107	7836	8292	6496
MEAN	199	208	222	238	246	288	299	269	237	253	267	217
MAX	232	227	266	278	264	336	495	409	299	356	367	265
MIN	188	183	192	201	209	242	229	206	202	199	200	195
AC-FT	12250	12390	13660	14640	13690	17690	17790	16560	14100	15540	16450	12880

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1980 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	222	212	255	258	266	282	290	265	223	232	265	244
MAX	370	334	374	366	375	395	452	389	321	394	441	399
(WY)	1984	1985	1987	1987	1987	1986	1986	1984	1984	1984	1984	1983
MIN	126	108	112	162	179	190	188	177	154	139	139	152
(WY)	1997	1997	1997	1996	1991	1995	1996	1990	1992	1994	1996	1992

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1980 - 1999

ANNUAL TOTAL	90888	89569										
ANNUAL MEAN	249	245								251		
HIGHEST ANNUAL MEAN										362		1986
LOWEST ANNUAL MEAN										181		1996
HIGHEST DAILY MEAN				440	Mar 19		495	Apr 5		735	Dec 9	1982
LOWEST DAILY MEAN				175	Sep 26		183	Nov 29		98	Nov 23	1996
ANNUAL SEVEN-DAY MINIMUM				184	Sep 16		192	Nov 24		99	Nov 23	1996
INSTANTANEOUS PEAK FLOW							716	Jul 28		833	Dec 9	1982
INSTANTANEOUS PEAK STAGE							13.86	Jul 28		14.73	Dec 9	1982
ANNUAL RUNOFF (AC-FT)	180300	177700								181900		
10 PERCENT EXCEEDS		342					298			365		
50 PERCENT EXCEEDS		227					235			233		
90 PERCENT EXCEEDS		197					200			159		

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 current year. (Monthly discharge only, January 1943 to September 1960 published in WSP 1734; daily discharge available in files of the U.S. Geological Survey.)

GAGE.—Water-stage recorder. Elevation of gage is 220 ft below sea level, from topographic map.

REMARKS.—Records good. Discharge mainly represents seepage and return flow from irrigated areas. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 3,000 ft³/s, Aug. 17, 18, 1977, estimated by Imperial Irrigation District; minimum daily, 150 ft³/s, Mar. 7, 1945.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	655	628	509	573	552	738	867	811	658	648	679	562
2	657	632	521	541	570	722	937	800	671	635	636	549
3	638	623	534	562	580	728	895	837	703	628	695	544
4	614	628	522	572	594	766	813	852	704	616	734	555
5	587	622	559	610	632	793	758	891	685	627	721	553
6	601	619	560	648	627	755	799	889	674	654	773	532
7	638	621	561	636	594	738	845	897	697	642	771	544
8	662	617	556	631	540	693	927	873	677	613	749	551
9	669	611	567	623	547	724	942	821	674	663	713	573
10	680	605	579	619	571	723	901	789	698	718	717	586
11	641	618	593	580	578	769	799	793	726	725	665	621
12	623	634	620	573	570	835	722	804	743	647	668	618
13	647	601	597	585	579	852	738	812	737	670	716	613
14	647	616	576	598	590	867	737	830	713	682	709	616
15	654	599	569	611	587	837	782	820	695	738	686	563
16	658	576	603	590	600	803	806	802	688	669	655	573
17	658	578	605	552	658	757	819	757	697	607	650	642
18	656	572	568	551	683	749	777	791	697	590	661	645
19	644	607	569	546	691	796	765	776	696	630	654	618
20	628	610	550	572	689	823	791	779	727	638	671	643
21	630	592	566	572	697	816	811	769	731	635	664	622
22	645	567	601	594	613	838	793	758	707	629	624	610
23	694	547	609	640	621	841	755	756	724	654	577	662
24	742	566	617	636	639	812	784	718	721	654	568	706
25	830	586	537	623	666	883	764	697	744	653	613	711
26	747	561	493	609	646	891	773	698	693	623	658	655
27	644	520	518	607	668	863	773	720	701	647	680	635
28	689	527	553	594	678	856	763	723	675	671	663	633
29	641	521	574	582	---	802	769	728	665	697	633	606
30	601	507	598	570	---	804	819	732	666	764	591	627
31	617	---	599	571	---	821	---	689	---	760	553	---
TOTAL	20337	17711	17583	18371	17260	24695	24224	24412	20987	20427	20747	18168
MEAN	656	590	567	593	616	797	807	787	700	659	669	606
MAX	830	634	620	648	697	891	942	897	744	764	773	711
MIN	587	507	493	541	540	693	722	689	658	590	553	532
AC-FT	40340	35130	34880	36440	34240	48980	48050	48420	41630	40520	41150	36040

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	641	563	547	563	598	680	728	663	592	596	614	619
MAX	837	760	707	795	789	829	953	853	763	808	913	807
(WY)	1953	1954	1963	1944	1944	1998	1993	1953	1953	1979	1977	1963
MIN	471	408	386	387	458	516	541	485	436	442	460	486
(WY)	1978	1965	1968	1978	1965	1965	1965	1964	1964	1964	1964	1970

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1943 - 1999	
ANNUAL TOTAL	246738		244922			
ANNUAL MEAN	676		671		617	
HIGHEST ANNUAL MEAN					741	
LOWEST ANNUAL MEAN					484	
HIGHEST DAILY MEAN	949	Mar 22	942	Apr 9	3000	Aug 17 1977
LOWEST DAILY MEAN	493	Dec 26	493	Dec 26	150	Mar 7 1945
ANNUAL SEVEN-DAY MINIMUM	520	Nov 27	520	Nov 27	284	Mar 4 1945
ANNUAL RUNOFF (AC-FT)	489400		485800		446700	
10 PERCENT EXCEEDS	843		811		763	
50 PERCENT EXCEEDS	647		654		607	
90 PERCENT EXCEEDS	567		563		483	

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 mi².

PERIOD OF RECORD.—October 1950 to September 1993, October 1994 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 sea level, from topographic map.

REMARKS.—Records fair. No regulation or diversion upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,640 ft³/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 ft³/s, or maximum, from rating curve extended above 72 ft³/s on basis of slope-area measurements at gage heights 7.50 and 9.80 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 5	0115	2.8	2.41				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.80	.79	1.0	.87	1.1	.95	.02	.00	.00	.00
2	.00	.00	.74	.82	.96	.88	1.2	.75	.02	.00	.00	.00
3	.00	.00	.78	.81	.93	.83	1.5	.75	.02	.00	.00	.00
4	.00	.00	.80	.86	1.2	.82	1.8	.79	.02	.00	.00	.00
5	.00	.00	.87	.86	1.8	.83	1.9	.63	.02	.00	.00	.00
6	.00	.00	1.5	.86	1.3	.81	1.3	.52	.02	.00	.00	.00
7	.00	.00	1.2	.90	1.1	.91	1.7	.42	.02	.00	.00	.00
8	.00	.00	.96	.83	1.1	1.0	1.9	.35	.01	.00	.00	.00
9	.00	.00	.89	.83	1.0	.96	1.6	.33	.01	.00	.00	.00
10	.00	.00	.82	.84	1.0	.92	1.3	.32	.01	.00	.00	.00
11	.00	.00	.82	.86	.90	.96	1.1	.28	.02	.00	.00	.00
12	.00	.00	.83	.91	.88	.95	1.4	.26	.02	.00	.00	.00
13	.00	.00	.82	.91	.87	.87	1.2	.22	.02	.00	.00	.00
14	.00	.00	.84	.96	.86	.86	.94	.19	.01	.00	.00	.00
15	.00	.00	.83	1.0	.89	.95	.77	.17	.01	.00	.00	.00
16	.00	.00	.83	.94	.92	1.3	.69	.15	.01	.00	.00	.00
17	.00	.00	.81	.99	.95	1.1	.63	.13	.01	.00	.00	.00
18	.00	.00	.80	1.0	.95	.95	.56	.11	.01	.00	.00	.00
19	.00	.21	.77	1.0	.91	.85	.50	.11	.00	.00	.00	.00
20	.00	.35	.86	1.1	.91	.80	.46	.09	.00	.00	.00	.00
21	.00	.39	.88	1.1	.91	.79	.44	.08	.00	.00	.00	.00
22	.00	.46	.93	1.1	.94	.73	.55	.07	.00	.00	.00	.00
23	.00	.48	.91	1.1	1.0	.76	.68	.06	.00	.00	.00	.00
24	.00	.51	.86	1.1	.95	.75	.78	.06	.00	.00	.00	.00
25	.00	.52	.85	1.1	.94	.76	.72	.05	.00	.00	.00	.00
26	.00	.55	.86	1.2	.94	.75	.57	.05	.00	.00	.00	.00
27	.00	.56	.87	1.3	.93	.74	.46	.04	.00	.00	.00	.00
28	.00	.62	.84	1.2	.88	.69	.53	.04	.00	.00	.00	.00
29	.00	.96	.84	1.1	---	.64	1.1	.03	.00	.00	.00	.00
30	.00	.91	.83	1.1	---	.60	1.1	.03	.00	.00	.00	.00
31	.00	---	.82	1.0	---	.67	---	.03	---	.00	.00	---
TOTAL	0.00	6.52	27.06	30.47	27.92	26.30	30.48	8.06	0.28	0.00	0.00	0.00
MEAN	.000	.22	.87	.98	1.00	.85	1.02	.26	.009	.000	.000	.000
MAX	.00	.96	1.5	1.3	1.8	1.3	1.9	.95	.02	.00	.00	.00
MIN	.00	.00	.74	.79	.86	.60	.44	.03	.00	.00	.00	.00
AC-FT	.00	13	54	60	55	52	60	16	.6	.00	.00	.00

10255810 BORREGO PALM CREEK NEAR BORREGO SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.17	.34	.81	1.74	2.93	3.12	1.69	.71	.24	.20	.47	.15
MAX	2.83	2.97	5.29	27.4	32.5	29.3	11.2	7.55	3.96	4.46	10.6	3.27
(WY)	1984	1984	1984	1993	1980	1983	1980	1980	1980	1979	1979	1983
MIN	.000	.000	.000	.000	.030	.073	.007	.000	.000	.000	.000	.000
(WY)	1951	1951	1963	1972	1972	1972	1972	1961	1954	1952	1951	1951

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1951 - 1999	
ANNUAL TOTAL	777.98		157.09			
ANNUAL MEAN	2.13		.43		1.04	
HIGHEST ANNUAL MEAN					7.61	
LOWEST ANNUAL MEAN					.009	
HIGHEST DAILY MEAN	31	Feb 15	1.9	Apr 5	277	Aug 16 1979
LOWEST DAILY MEAN	.00	Jul 15	.00	Oct 1	.00	Oct 1 1950
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 15	.00	Oct 1	.00	Oct 1 1950
INSTANTANEOUS PEAK FLOW			2.8		2640	
INSTANTANEOUS PEAK STAGE			2.41		9.80	
ANNUAL RUNOFF (AC-FT)	1540		312		752	
10 PERCENT EXCEEDS	6.1		1.0		2.1	
50 PERCENT EXCEEDS	.74		.09		.10	
90 PERCENT EXCEEDS	.00		.00		.00	

10256000 WHITEWATER RIVER AT WHITE WATER, CA

LOCATION.—Lat 33°56'48", long 116°38'24", in NW 1/4 NE 1/4 sec.2, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, 1.5 mi north of White Water, and 3.5 mi upstream from San Geronio River.

DRAINAGE AREA.—57.5 mi².

PERIOD OF RECORD.—Water years 1967–1981, October 1996 to current year.

CHEMICAL DATA: Water years 1967–1981, October 1996 to current year.

SEDIMENT DATA: Water year 1972.

REMARKS.—Chemical-quality records for water years 1975–1981 were furnished by California Department of Water Resources. Water discharge records were collected during water years 1949–1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)
NOV 17...	0815	17	358	8.3	12.5	160	1	45	11	12	14	.4
DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L AS) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L AS) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	
NOV 17...	4.1	191	157	25	3.1	.8	.01	16	216	212	.29	
DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	
NOV 17...	.01	.41	.03	<.1	<.05	.01	<1	19	<10	e3	1.6	

e Estimated.

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

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 Geronio River.

DRAINAGE AREA.—59.1 mi².

PERIOD OF RECORD.—October 1985 to September 1987 and October 1988 to September 1990. Discharge measurements for the period October 1984 to September 1985 available in files of the U.S. Geological Survey. Discharge measurements only, October 1987 to September 1988, October 1990 to current year. Station discontinued as continuous-record site effective Sept. 30, 1993.

CHEMICAL DATA: Water years 1972–76, 1978–96.

GAGE.—None. Elevation of station is 1,360 ft above sea level, from topographic map.

REMARKS.—Indeterminate stage-discharge relationship. At times, 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 Geronio River Basin and then to an area north of Banning for irrigation. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD (1986–87 and 1989–90).—Maximum discharge, 2,020 ft³/s, Feb. 15, 1986, gage height, 11.97 ft, from rating curve extended above 900 ft³/s; no flow for many days in some years.

DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Time	Discharge (ft ³ /s)
Oct. 15	1240	638
Nov. 4	1225	23
Dec. 4	0920	256
Jan. 5	1540	14
Feb. 4	1340	18
Mar. 10	1035	281
Apr. 1	1030	216
May 7	1220	473
June 2	1045	319
July 6	1315	0
Aug. 10	1643	2.8
Sept. 8	1000	4.2

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, at upstream side of Desert Water Agency Diversion Dam, 0.1 mi downstream from East Fork, and 4.4 mi southwest of White Water.

DRAINAGE AREA.—10.9 mi².

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 discharges for 1929–31, published in WSP 1314. Discharge records for Snow Creek Diversion (station 10256550) since October 1978, and those for creek only October 1978 through September 1988 available in files of the U.S. Geological Survey.

REVISED RECORDS.—WDR CA-89-1: Drainage area. WDR CA-90-1: 1980 Combined discharge. WDR CA-93-1: 1991. WDR CA-96-1: 1969(M), 1976(M).

GAGE.—Water-stage recorder, crest-stage gage, and broad-crested weir on creek, nonrecording flow meter on diversion. Elevation of gage is 2,000 ft above sea level, from topographic map. Prior to October 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 from diversion at present datum. Gage moved to present site 10 ft downstream from diversion Oct. 25, 1978.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Diversion (station 10256550) 10 ft upstream, generally taking most of the base flow. For combined record of creek and diversion, see station 10256501. Published record prior to 1989 represents entire flow from basin (combined creek plus diversion prior to March 1927 and October 1978 to September 1988; creek only, upstream from diversion, December 1927 to September 1931, and October 1959 to September 1978). Both creek only and combined flow published beginning October 1989. Statistics for station 10256501 (combined flow) reflect equivalent total flow from basin. See schematic diagram of Salton Sea Basin.

COOPERATION.—Records for diversion provided by Desert Water Agency.

EXTREMES FOR PERIOD OF RECORD (Combined creek and diversion).—Maximum discharge, 9,900 ft³/s, Jan. 25, 1969, gage height, 13.8 ft, from floodmarks, site and datum then in use, from rating curve extended above 55 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 2.1 ft³/s, June 23–27, Sept. 5–11, 1961.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 29.9 ft³/s on basis of broad-crested weir computations:

Date	Time	Creek only Discharge (ft ³ /s)	Gage height (ft)	Combined creek and diversion Discharge (ft ³ /s)
Nov. 8	1700	23	2.94	23

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	.81	6.5	.35	5.1	.28	2.2	5.2	.28	.00	.33	.50
2	.79	.78	6.4	.32	2.3	.26	4.0	5.1	3.1	.00	.39	.49
3	.62	.76	6.2	.30	.43	.18	4.1	4.9	3.8	.00	.32	.40
4	.70	.76	6.4	.30	.97	.14	4.3	3.0	3.7	.00	.32	.37
5	.64	.78	6.3	.29	.83	.18	4.3	.56	3.6	.00	.34	.31
6	1.0	.74	6.3	.29	3.1	.18	4.3	.50	3.5	.00	.41	.29
7	.59	.72	3.7	.27	5.4	.20	4.7	.51	1.5	.00	.42	.27
8	.52	8.9	.70	.26	5.3	.21	4.6	.55	.43	2.3	.43	.25
9	.54	9.4	.65	.28	5.7	.17	3.9	.57	.42	3.4	.42	.28
10	.53	7.1	.58	.27	6.6	.19	4.4	.57	.30	3.1	.41	.30
11	.52	7.2	.63	.27	2.9	.17	4.5	.50	.15	3.1	.42	.30
12	.50	7.4	.64	.23	.86	.18	5.8	.46	.11	3.5	.40	.35
13	.45	3.3	.64	.26	.77	.13	5.3	.48	.08	4.2	.37	.35
14	.44	.81	.61	.25	.68	.13	3.2	.48	.10	4.1	.33	.30
15	.50	.68	.53	.23	.63	2.4	1.7	.44	.12	3.5	.32	.26
16	.57	.95	.51	.21	.59	4.4	1.5	.39	.12	1.7	.31	.34
17	.53	.80	.52	.23	.62	1.9	1.4	.24	.11	.32	.32	.41
18	.53	.83	.53	.23	.62	.20	1.3	.16	.10	.29	.31	3.0
19	.49	.77	.51	.21	.58	.18	1.3	.09	.09	.23	.34	2.9
20	.46	.74	.47	.29	.58	.16	1.4	.12	.07	.21	.43	1.3
21	.45	.72	.40	.16	.56	.15	1.5	.21	.07	.19	.36	1.3
22	.46	.69	.36	.26	.51	.10	1.5	2.1	.07	.18	.36	3.6
23	.48	.68	.38	.26	.50	.07	3.5	3.7	.08	.23	1.5	3.4
24	.50	.56	.38	.26	.45	.08	5.8	1.8	.14	.23	2.8	2.1
25	2.1	.63	.38	3.5	.40	1.4	5.4	.66	1.2	.22	1.3	.49
26	3.0	.64	.43	5.2	.40	1.8	2.9	.62	.00	.21	.36	.45
27	1.0	.66	.43	5.0	.39	.21	.99	.49	.00	.21	.37	.45
28	.96	6.0	.42	2.3	.35	.17	1.9	.28	.00	1.4	.59	.42
29	.91	7.5	.39	.51	---	.12	5.4	.22	.00	2.9	2.8	.43
30	.91	6.8	.38	.51	---	.07	5.4	.27	.00	1.4	1.8	.42
31	.89	---	.35	3.2	---	.20	---	.23	---	.33	.44	---
TOTAL	23.47	79.11	53.62	26.50	48.12	16.21	102.49	35.40	23.24	37.45	20.02	26.03
MEAN	.76	2.64	1.73	.85	1.72	.52	3.42	1.14	.77	1.21	.65	.87
MAX	3.0	9.4	6.5	5.2	6.6	4.4	5.8	5.2	3.8	4.2	2.8	3.6
MIN	.44	.56	.35	.16	.35	.07	.99	.09	.00	.00	.31	.25
AC-FT	47	157	106	53	95	32	203	70	46	74	40	52

10256500 SNOW CREEK NEAR WHITE WATER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.26	3.63	5.73	14.9	22.8	17.4	11.5	11.9	6.93	3.88	3.04	2.33
MAX	6.55	13.3	24.0	131	173	71.5	28.6	40.8	31.7	14.4	18.0	7.55
(WY)	1993	1984	1984	1993	1980	1995	1983	1983	1983	1983	1983	1983
MIN	.008	.30	.000	.85	1.72	.52	1.09	.29	.14	.000	.001	.17
(WY)	1985	1982	1982	1999	1999	1999	1984	1984	1984	1981	1981	1981

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1979 - 1999	
ANNUAL TOTAL	4759.40		491.66			
ANNUAL MEAN	13.0		1.35		8.78	
HIGHEST ANNUAL MEAN					28.4	
LOWEST ANNUAL MEAN					1.35	
HIGHEST DAILY MEAN	126	Feb 8	9.4	Nov 9	909	Jan 7 1993
LOWEST DAILY MEAN	.35	Dec 31	.00	Jun 26	.00	Nov 8 1978
ANNUAL SEVEN-DAY MINIMUM	.39	Dec 21	.00	Jun 26	.00	Oct 5 1979
INSTANTANEOUS PEAK FLOW			23	Nov 8	1910	Jan 7 1993
INSTANTANEOUS PEAK STAGE			2.94	Nov 8	7.35	Jan 7 1993
ANNUAL RUNOFF (AC-FT)	9440		975		6360	
10 PERCENT EXCEEDS	29		4.3		20	
50 PERCENT EXCEEDS	7.6		.50		3.3	
90 PERCENT EXCEEDS	.57		.15		.20	

10256501 SNOW CREEK NEAR WHITE WATER, CA—Continued

SNOW CREEK AND SNOW CREEK DIVERSION NEAR WHITE WATER

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.3	5.6	6.5	e5.2	5.1	4.6	e4.1	5.2	e3.6	2.9	2.9	3.1
2	6.2	5.6	6.4	5.2	5.0	4.6	4.0	5.1	e3.7	2.8	3.0	3.1
3	6.1	5.7	6.2	5.1	4.7	4.5	4.1	4.9	3.8	2.9	2.9	3.0
4	6.2	5.6	6.4	5.2	e4.8	4.4	4.3	4.6	3.7	2.9	2.9	3.0
5	6.0	5.7	6.3	5.2	e5.1	4.5	4.3	4.4	3.6	3.0	2.9	2.9
6	6.0	5.6	6.3	5.2	e5.2	4.5	4.3	4.3	3.5	2.9	3.0	2.9
7	6.0	5.6	6.8	5.2	5.4	4.5	4.7	4.3	e3.5	3.0	3.0	2.9
8	6.0	10	5.6	5.2	e5.7	4.5	4.6	4.3	e3.6	3.6	3.0	2.8
9	6.0	9.4	5.6	5.2	5.7	4.5	e4.4	4.4	e3.6	3.4	3.0	3.0
10	6.0	7.1	5.5	5.2	6.6	4.5	4.4	4.4	e3.5	3.1	3.0	2.9
11	6.0	7.2	5.5	e5.2	5.5	4.6	4.5	4.2	e3.4	3.1	3.0	2.9
12	6.0	7.4	5.5	5.1	5.2	4.3	5.8	4.2	e3.3	3.5	3.0	2.9
13	5.8	6.3	5.5	5.2	5.1	4.4	5.3	4.2	e3.3	4.2	3.0	2.9
14	5.6	5.7	5.5	5.2	5.0	4.4	5.4	4.3	e3.3	4.1	2.9	2.9
15	5.6	5.6	5.4	5.1	4.9	4.4	5.5	4.2	e3.3	3.5	2.9	2.9
16	5.7	5.5	5.4	5.1	4.9	4.4	5.3	4.2	e3.3	2.8	2.9	2.9
17	5.3	5.7	5.4	5.1	4.9	4.4	5.2	4.0	e3.3	3.1	2.9	2.9
18	5.4	5.7	5.4	5.1	4.9	4.5	5.1	4.0	3.3	3.1	2.9	3.0
19	5.4	5.7	5.4	5.1	4.9	4.5	5.1	3.9	3.3	3.0	2.9	2.9
20	5.3	5.6	5.4	5.2	4.9	4.5	5.2	3.9	3.3	3.0	3.0	2.8
21	5.3	5.6	5.3	e5.1	4.9	4.5	5.4	4.0	3.3	2.9	3.0	3.0
22	5.4	5.6	5.3	e5.2	4.8	4.4	5.3	3.9	3.3	2.9	3.0	3.6
23	5.4	5.6	5.3	5.2	4.8	4.4	5.8	3.7	3.3	2.8	3.0	3.4
24	5.4	5.5	5.3	5.2	4.8	4.4	5.8	4.1	3.3	2.8	2.8	3.2
25	5.6	5.5	5.3	5.0	4.7	4.2	5.4	4.0	4.4	2.9	2.9	3.1
26	6.1	5.5	5.3	5.2	4.7	4.3	5.1	3.9	3.2	2.8	3.0	3.0
27	5.9	5.6	5.3	5.0	4.7	e4.2	4.8	3.8	3.2	2.8	3.0	3.0
28	5.9	7.6	5.3	4.9	4.7	e4.1	5.1	e3.6	3.2	3.0	3.1	3.0
29	5.8	7.5	5.3	4.8	---	e4.1	5.4	3.4	2.9	2.9	2.8	3.0
30	5.8	6.8	5.3	4.8	---	e4.0	5.4	e3.6	2.9	3.0	2.9	3.0
31	5.7	---	5.2	5.1	---	e4.1	---	e3.5	---	3.1	3.0	---
TOTAL	179.2	187.1	174.2	158.8	141.6	136.2	149.1	128.5	102.2	95.8	91.5	89.9
MEAN	5.78	6.24	5.62	5.12	5.06	4.39	4.97	4.15	3.41	3.09	2.95	3.00
MAX	6.3	10	6.8	5.2	6.6	4.6	5.8	5.2	4.4	4.2	3.1	3.6
MIN	5.3	5.5	5.2	4.8	4.7	4.0	4.0	3.4	2.9	2.8	2.8	2.8
AC-FT	355	371	346	315	281	270	296	255	203	190	181	178

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.81	7.38	10.5	15.1	16.7	14.4	12.8	13.0	9.42	6.33	5.37	5.37
MAX	10.7	82.5	76.7	178	173	72.0	36.7	45.7	37.6	20.2	20.7	32.5
(WY)	1984	1966	1967	1969	1980	1995	1969	1983	1983	1983	1983	1976
MIN	2.76	2.75	3.11	3.30	3.40	3.39	3.16	2.55	2.35	2.31	2.35	2.40
(WY)	1962	1963	1963	1961	1961	1961	1961	1961	1961	1961	1960	1961

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1921 - 1999

ANNUAL TOTAL	6045.1	1634.1										
ANNUAL MEAN	16.6	4.48								10.2		
HIGHEST ANNUAL MEAN										33.0		1969
LOWEST ANNUAL MEAN										2.96		1961
HIGHEST DAILY MEAN	126	Feb 8					10	Nov 8	3490	2.1	Jan 25	1969
LOWEST DAILY MEAN	4.9	Jan 1					2.8	Jul 2		2.1	Jun 23	1961
ANNUAL SEVEN-DAY MINIMUM	5.3	Dec 25					2.8	Jul 21		2.1	Sep 5	1961
INSTANTANEOUS PEAK FLOW							23	Nov 8	9900		Jan 25	1969
INSTANTANEOUS PEAK STAGE										13.80	Jan 25	1969
ANNUAL RUNOFF (AC-FT)	11990						3240		7400			
10 PERCENT EXCEEDS	33						5.8		17			
50 PERCENT EXCEEDS	9.8						4.5		5.8			
90 PERCENT EXCEEDS	5.5						2.9		3.2			

e Estimated.

10256500 SNOW CREEK NEAR WHITE WATER, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1972–76, 1978 to current year.

CHEMICAL DATA: Water years 1972–76, 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	
NOV 16...	1300	a5.6	96	7.8	11.5	30	11	.91	7.8	34	.6	
DATE	TIME	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD HCO3 (00453)	ALKA- LITY WAT DIS TOT IT FIELD CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)
NOV 16...	1.8	56	46	.8	1.6	<.1	<.01	20	71	71	.10	
DATE	TIME	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 16...	<.01	<.05	<.02	<.1	<.05	<.01	1	16	e6	<3	1	

a Discharge represents total flow (creek plus diversion).
 e Estimated.
 < Actual value is known to be less than the value shown.

10257500 FALLS CREEK NEAR WHITE WATER, CA

LOCATION.—Lat 33°52'10", long 116°40'15", in SW 1/4 NE 1/4 sec.33, T.3 S., R.3 E., Riverside County, Hydrologic Unit 18100200, on right bank, at upstream side of Desert Water Agency Diversion Dam, 0.75 mi upstream from confluence with Snow Creek, and 4.4 mi southwest of White Water.

DRAINAGE AREA.—4.14 mi².

PERIOD OF RECORD.—September 1922 to January 1927, January 1928 to July 1931, and October 1994 to current year. Previous gage destroyed by flood of Aug. 29, 1931. Monthly and yearly discharges for 1922–31, published in WSP 1314. Discharge records for Falls Creek Diversion (station 10257499) since October 1994 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder, broad-crested weir, and crest-stage gage on creek, nonrecording flow meter on diversion. Auxiliary gage 0.25 mi downstream with crest-stage gage and culvert control. Elevation of gage is 1,940 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation upstream from station. Diversion (station 10257499) immediately upstream takes a varying portion of the base flow. For combined record of creek and diversion, see station 10257501. Published record prior to 1995 represents entire flow from basin. Records for the period 1922–1931 (prior to construction of diversion) are equivalent to those for station 10257501. Both creek only and combined flow published beginning October 1994. Statistics for station 10257501 (combined flow) reflect equivalent total flow from basin. See schematic diagram of Salton Sea Basin.

COOPERATION.—Records for diversion provided by Desert Water Agency.

EXTREMES FOR PERIOD OF RECORD (Combined creek and diversion).—Maximum discharge, 154 ft³/s, Jan. 10, 1995, gage height, 6.14 ft (creek gage; no diversion at peak), from rating curve extended above 6.5 ft³/s on basis of critical depth computations; maximum gage height, 6.24 ft, Feb. 14, 1998; minimum daily, 0.10 ft³/s, Sept. 11, 1997.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum, from rating curve extended as noted above:

Date	Time	Creek only Discharge (ft ³ /s)	Creek only Gage height (ft)	Combined creek and diversion Discharge (ft ³ /s)
Nov. 11	2015	2.2	4.38	2.2

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.45	1.3	.53	.90	.09	.50	.89	.05	.25	.32	.34
2	1.4	.44	1.3	.20	.45	.09	.80	.77	.51	.26	.34	.38
3	1.3	.44	1.2	.20	.14	.08	.81	.66	.52	.28	.33	.40
4	1.4	.43	1.2	.20	.73	.16	.89	.40	.50	.29	.30	.38
5	1.4	.47	1.2	.20	1.1	.09	.86	.11	.51	.28	.30	.33
6	1.4	.43	1.3	.22	.99	.10	.84	.09	.44	.28	.33	.31
7	1.3	.41	.88	.20	1.0	.10	.96	.08	.19	.38	.35	.29
8	1.3	1.3	.39	.20	1.0	.10	.90	.09	.03	.73	.35	.28
9	1.3	1.4	.34	.18	.97	.09	.89	.14	.04	.65	.35	.29
10	1.3	1.4	.32	.18	.98	.10	.85	.10	.03	.49	.34	.31
11	1.3	1.6	.35	.28	.43	.09	.87	.08	.03	.49	.34	.31
12	1.3	1.5	.36	.16	.14	.09	1.3	.06	.09	.73	.33	.31
13	1.3	.83	.36	.17	.14	.08	1.1	.06	.23	.74	.30	.31
14	1.3	.49	.35	.17	.12	.08	.65	.06	.23	.80	.29	.27
15	.81	.47	.31	.17	.12	.50	.26	.08	.28	.51	.29	.26
16	.52	.47	.30	.16	.12	.82	.19	.07	.28	.43	.28	.26
17	.49	.45	.35	.16	.13	.38	.17	.04	.29	.37	.28	.29
18	.49	.47	.31	.16	.12	.11	.15	.02	.30	.37	.27	.34
19	.46	.44	.34	.16	.12	.10	.13	.01	.29	.35	.28	.32
20	.45	.42	.26	.14	.13	.09	.13	.02	.28	.33	.32	.30
21	.45	.42	.28	.63	.13	.09	.21	.02	.29	.35	.32	.31
22	.46	.41	.31	.39	.12	.08	.16	.30	.30	.34	.29	.98
23	.48	.40	.29	.14	.12	.07	.54	.51	.29	.33	.35	.77
24	.46	.35	.25	.16	.11	.08	.90	.23	.27	.32	.31	.51
25	.71	.38	.25	.77	.10	.33	.83	.06	.25	.33	.29	.40
26	.89	.37	.26	1.0	.11	.40	.44	.05	.25	.33	.31	.35
27	.51	.36	.24	.99	.11	.09	.13	.03	.27	.32	.31	.33
28	.50	1.3	.23	.48	.10	.07	.28	.14	.27	.45	.35	.31
29	.49	1.4	.23	.16	---	.05	.88	.16	.27	.49	.35	.32
30	.51	1.3	.22	.16	---	.03	.94	.03	.25	.36	.32	.32
31	.49	---	.26	.60	---	.07	---	.04	---	.32	.31	---
TOTAL	27.87	21.00	15.54	9.52	10.73	4.70	18.56	5.40	7.83	12.95	9.80	10.88
MEAN	.90	.70	.50	.31	.38	.15	.62	.17	.26	.42	.32	.36
MAX	1.4	1.6	1.3	1.0	1.1	.82	1.3	.89	.52	.80	.35	.98
MIN	.45	.35	.22	.14	.10	.03	.13	.01	.03	.25	.27	.26
AC-FT	55	42	31	19	21	9.3	37	11	16	26	19	22

10257500 FALLS CREEK NEAR WHITE WATER, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.14	1.38	1.75	1.82	2.26	1.97	2.04	1.87	1.41	1.01	.93	1.05
MAX	2.52	2.81	5.68	4.58	8.08	8.75	7.90	4.25	3.33	2.37	2.67	2.23
(WY)	1923	1923	1927	1995	1998	1995	1926	1926	1998	1926	1926	1926
MIN	.40	.69	.50	.31	.38	.15	.15	.13	.23	.30	.24	.36
(WY)	1995	1998	1999	1999	1999	1997	1997	1997	1996	1996	1997	1999

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1923 - 1999	
ANNUAL TOTAL	833.52		154.78			
ANNUAL MEAN	2.28		.42		1.55	
HIGHEST ANNUAL MEAN					2.77	
LOWEST ANNUAL MEAN					.42	
HIGHEST DAILY MEAN	34	Feb 14	1.6	Nov 11	50	Mar 5 1995
LOWEST DAILY MEAN	.01	Jan 1	.01	May 19	.00	Apr 16 1997
ANNUAL SEVEN-DAY MINIMUM	.24	Dec 24	.04	May 15	.00	Apr 13 1997
INSTANTANEOUS PEAK FLOW			2.2		154	Jan 10 1995
INSTANTANEOUS PEAK STAGE			4.38		6.24	Feb 14 1998
ANNUAL RUNOFF (AC-FT)	1650		307		1120	
10 PERCENT EXCEEDS	3.7		.98		2.8	
50 PERCENT EXCEEDS	1.6		.32		1.2	
90 PERCENT EXCEEDS	.37		.09		.31	

10257501 FALLS CREEK NEAR WHITE WATER, CA—Continued

FALLS CREEK AND FALLS CREEK DIVERSION NEAR WHITE WATER
 COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.2	1.3	.91	.90	.80	.90	.89	.50	.25	.32	.34
2	1.4	1.2	1.3	.91	.85	.80	.80	.77	.65	.26	.34	.38
3	1.3	1.2	1.2	.91	.85	.79	.81	.66	.52	.28	.33	.40
4	1.4	1.2	1.2	.91	1.1	.77	.89	.59	.50	.29	.30	.38
5	1.4	1.2	1.2	.91	1.1	.80	.86	.56	.51	.28	.30	.33
6	1.4	1.2	1.3	.91	.99	.81	.84	.54	.44	.28	.33	.31
7	1.3	1.2	1.1	.91	1.0	.81	.96	.53	.46	.38	.35	.29
8	1.3	1.6	1.1	.91	1.0	.81	.90	.54	.48	.73	.35	.28
9	1.3	1.4	1.0	.89	.97	.80	.89	.56	.49	.65	.35	.29
10	1.3	1.4	1.0	.89	.98	.81	.85	.55	.48	.49	.34	.31
11	1.3	1.6	1.0	.89	.86	.80	.87	.53	.48	.49	.34	.31
12	1.3	1.5	1.1	.87	.85	.80	1.3	.51	.43	.73	.33	.31
13	1.3	1.3	1.1	.88	.85	.79	1.1	.51	.34	.74	.30	.31
14	1.3	1.3	1.1	.88	.83	.79	.99	.51	.29	.80	.29	.27
15	1.3	1.3	1.0	.88	.83	.83	.88	.53	.28	.51	.29	.26
16	1.3	1.3	1.0	.87	.83	.82	.81	.52	.28	.43	.28	.26
17	1.3	1.2	1.0	.87	.84	.79	.79	.49	.29	.37	.28	.29
18	1.3	1.3	1.0	.87	.83	.82	.77	.47	.30	.37	.27	.34
19	1.3	1.2	1.0	.87	.83	.81	.75	.46	.29	.35	.28	.32
20	1.2	1.2	.97	.85	.84	.80	.75	.47	.28	.33	.32	.30
21	1.2	1.2	.99	e .85	.84	.80	.74	.47	.29	.35	.32	.31
22	1.3	1.2	1.0	.83	.83	.79	.78	.55	.30	.34	.29	.98
23	1.3	1.2	1.0	.85	.83	.78	.90	.51	.29	.33	.35	.77
24	1.3	1.1	.96	.87	.82	.79	.90	.50	.27	.32	.31	.51
25	1.3	1.2	.96	.99	.81	.82	.83	.51	.25	.33	.29	.40
26	1.3	1.2	.97	1.0	.82	.82	.78	.50	.25	.33	.31	.35
27	1.3	1.2	.95	.99	.82	.80	.75	.48	.27	.32	.31	.33
28	1.3	1.6	.94	.91	.81	.78	.83	.41	.27	.45	.35	.31
29	1.3	1.4	.94	.87	---	.76	.88	.41	.27	.49	.35	.32
30	1.3	1.3	.93	.87	---	.74	.94	.48	.25	.36	.32	.32
31	1.3	---	.93	.97	---	.77	---	.49	---	.32	.31	---
TOTAL	40.6	38.6	32.54	27.79	24.71	24.70	26.04	16.50	11.00	12.95	9.80	10.88
MEAN	1.31	1.29	1.05	.90	.88	.80	.87	.53	.37	.42	.32	.36
MAX	1.4	1.6	1.3	1.0	1.1	.83	1.3	.89	.65	.80	.35	.98
MIN	1.2	1.1	.93	.83	.81	.74	.74	.41	.25	.25	.27	.26
AC-FT	81	77	65	55	49	49	52	33	22	26	19	22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.85	1.20	1.16	1.93	3.33	2.82	1.57	1.95	1.54	1.16	.89	1.02
MAX	1.40	1.64	1.71	4.58	8.08	8.75	2.92	4.05	3.33	2.32	1.76	1.52
(WY)	1996	1997	1997	1995	1998	1995	1995	1998	1998	1995	1995	1995
MIN	.42	.69	.86	.90	.61	.34	.31	.29	.29	.32	.24	.36
(WY)	1997	1998	1998	1999	1997	1997	1997	1997	1997	1997	1997	1999

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1995 - 1999

ANNUAL TOTAL	928.44	276.11										
ANNUAL MEAN	2.54	.76								1.61		
HIGHEST ANNUAL MEAN										2.99		1995
LOWEST ANNUAL MEAN										.76		1997
HIGHEST DAILY MEAN				34	Feb 14		1.6	Nov 8		50	Mar 5	1995
LOWEST DAILY MEAN				.46	Jan 3		.25	Jun 25		.10	Sep 11	1997
ANNUAL SEVEN-DAY MINIMUM				.58	Jan 1		.26	Jun 25		.13	Sep 8	1997
INSTANTANEOUS PEAK FLOW							2.2	Nov 11		154	Jan 10	1995
ANNUAL RUNOFF (AC-FT)	1840	548								1160		
10 PERCENT EXCEEDS		3.9					1.3			3.1		
50 PERCENT EXCEEDS		1.8					.81			.96		
90 PERCENT EXCEEDS		1.0					.30			.29		

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1984 to September 1987, October 1989 to current year. Discharge measurements only, October 1987 to September 1989. Discharge measurements for the period July 1982 to September 1984 available in files of the U.S. Geological Survey.

REVISED RECORDS.—WDR CA-88-1: Drainage area.

GAGE.—Water-stage recorder and concrete control; auxiliary water-stage recorder on overflow channel since Jan. 23, 1992. Elevation of gage is 1,040 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. 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 Geronio River Basin and then to an area north of Banning for irrigation. See schematic diagram of Salton Sea Basin.

COOPERATION.—Records of diversion out of basin provided by Southern California Edison Co. Records of Colorado River Aqueduct releases provided by Metropolitan Water District.

EXTREMES FOR PERIOD OF RECORD.—Maximum computed discharge, 2,530 ft³/s, Jan. 10, 1995, gage height, 8.32 ft, main channel, from rating curve extended above 400 ft³/s on basis of critical-depth computation (flow in overflow channel at peak); maximum probably exceeded during flood of Jan. 16, 1993, but discharge is unknown; no flow for several days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	.51	231	2.2	4.4	150	140	410	156	.00	e5.0	170
2	384	.34	226	2.3	4.2	148	139	406	273	.00	e4.8	115
3	382	.53	226	2.1	3.8	145	141	407	271	.00	e4.7	.00
4	387	.16	223	2.2	4.7	132	143	403	271	.00	e4.5	.22
5	391	.12	223	2.1	17	146	145	414	272	.00	e4.5	.55
6	390	.24	228	1.6	8.0	145	141	414	270	.00	e4.3	.00
7	386	.47	189	1.2	7.6	144	145	410	300	.00	e4.0	.00
8	381	6.5	165	1.0	5.3	195	142	401	420	.00	e4.0	.00
9	378	17	166	1.2	5.9	238	143	398	488	.00	e3.7	.26
10	382	8.6	168	1.2	14	234	148	408	487	.00	e3.4	1.2
11	387	12	167	.68	8.5	232	146	415	470	20	e3.4	1.5
12	385	10	166	1.3	5.4	234	107	420	473	34	3.4	1.2
13	379	7.1	165	.86	3.2	233	295	408	468	70	4.6	.90
14	379	3.6	69	.68	2.3	229	399	409	474	e27	4.2	.75
15	382	3.5	1.2	1.3	2.2	228	424	409	476	e13	4.2	1.4
16	388	2.7	1.4	1.8	82	227	453	412	478	e14	4.5	.70
17	394	1.9	1.3	1.7	162	225	452	416	470	e10	3.6	.24
18	388	2.5	1.3	1.3	161	226	445	413	468	e9.6	3.1	1.0
19	238	.50	2.9	.87	162	225	430	406	474	e8.9	64	1.3
20	141	.61	4.1	.39	167	224	423	401	463	e7.3	127	2.4
21	141	1.2	13	1.4	162	225	395	400	450	e6.2	163	1.5
22	59	1.4	12	2.0	165	224	418	400	279	e6.9	169	39
23	.00	.02	8.5	1.9	164	169	427	401	.00	e6.7	171	31
24	.00	1.2	4.6	1.7	161	134	420	399	.00	e6.7	170	25
25	.00	2.4	4.0	1.6	155	135	416	402	.00	e6.5	171	20
26	.38	2.5	3.1	6.4	155	134	413	401	.00	e6.3	170	17
27	.24	3.2	1.7	6.5	157	135	407	266	.00	e6.0	169	12
28	.24	11	1.0	4.0	155	136	407	.00	.00	e5.5	166	8.1
29	.17	128	2.5	4.6	---	135	415	.00	.00	e10	166	9.5
30	.23	240	1.2	3.8	---	132	409	.00	.00	e5.7	169	4.1
31	.64	---	.91	4.5	---	131	---	.00	---	e5.2	170	---
TOTAL	7509.90	469.80	2676.71	66.38	2104.5	5650	9128	10849.00	8651.00	285.50	2118.9	465.82
MEAN	242	15.7	86.3	2.14	75.2	182	304	350	288	9.21	68.4	15.5
MAX	394	240	231	6.5	167	238	453	420	488	70	171	170
MIN	.00	.02	.91	.39	2.2	131	107	.00	.00	.00	3.1	.00
AC-FT	14900	932	5310	132	4170	11210	18110	21520	17160	566	4200	924
a	17170	560	5860	0	5170	14350	19850	25050	21180	0	4430	566
b	0	0	0	0	0	0	0	0	0	0	0	0

e Estimated.

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.

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	151	133	107	115	127	128	153	129	152	100	108	127
MAX	596	499	477	598	595	445	316	390	516	417	378	463
(WY)	1987	1987	1987	1987	1987	1987	1986	1998	1998	1986	1986	1986
MIN	.025	.000	.000	.000	3.16	3.97	.026	.000	.000	.000	.000	.000
(WY)	1992	1992	1990	1992	1991	1989	1991	1987	1987	1989	1987	1991

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1985 - 1999

ANNUAL TOTAL	67025.53			49975.51					
ANNUAL MEAN	184			137			135		
HIGHEST ANNUAL MEAN							308		
LOWEST ANNUAL MEAN							11.9		
HIGHEST DAILY MEAN	555			Jun 25			488		
LOWEST DAILY MEAN	.00			Jan 26			.00		
ANNUAL SEVEN-DAY MINIMUM	.00			Aug 14			.00		
INSTANTANEOUS PEAK FLOW							967		
INSTANTANEOUS PEAK STAGE							6.07		
ANNUAL RUNOFF (AC-FT)	132900						99130		
10 PERCENT EXCEEDS	476						409		
50 PERCENT EXCEEDS	141						20		
90 PERCENT EXCEEDS	.24						.24		
							2530		
							8.32		
							2600		
							.00		
							.00		
							.00		
							Jan 10 1995		
							Jan 10 1995		
							Jan 7 1993		
							Mar 4 1985		
							Feb 16 1986		
							Jan 10 1995		
							Jan 10 1995		
							98140		
							356		
							55		
							.00		

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 mi².

PERIOD OF RECORD.—October 1967 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and concrete scour limiter since November 1988. Elevation of gage is 2,400 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are poor. Slight regulation of low flow by two small dams with a combined capacity of about 3 acre-ft, 2 mi upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,750 ft³/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; maximum gage height since November 1988, 5.80 ft, from crest-stage gage, Jan. 16, 1993, discharge not determined; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum, from rating curve extended above 36 ft³/s on basis of critical depth computations:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 12	unknown	142	3.08				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.1	1.0	.89	.89	.53	.52	.44	.15	.00	e.00	e.00
2	1.4	1.1	1.0	.90	.87	.52	.53	.38	.20	.00	e.00	e.00
3	1.3	1.1	1.0	.90	.84	.52	.56	.40	.20	.00	e.00	e.00
4	1.3	1.1	1.0	.91	.93	.53	.66	.40	.22	.00	e.00	e.00
5	1.3	1.1	1.1	.91	.94	.54	.53	.35	.19	.00	e.00	e.00
6	1.3	1.1	1.1	.89	.90	.57	.49	.31	.14	.00	e.00	e.00
7	1.3	1.1	1.1	.88	.84	.60	.55	.28	.10	.00	e.00	e.00
8	1.2	1.1	1.1	.87	.79	.61	.54	.29	.09	.00	e.00	e.00
9	1.1	1.1	1.0	.89	.78	.59	.53	.30	.09	.00	e.00	e.00
10	1.1	1.1	1.0	.89	.83	.59	.51	.30	.08	.00	e.00	e.00
11	1.1	1.2	1.0	.84	.87	.60	.56	.28	.05	e.00	e.00	e.00
12	1.1	1.1	1.0	.82	.84	.59	.65	.26	.02	e12	e.00	e.00
13	1.1	1.1	.99	.81	.77	.53	.53	.25	.00	e.35	e.00	e.00
14	1.1	1.0	.98	.81	.75	.51	.41	.26	.00	e.20	e.00	e.00
15	1.2	1.0	.91	.82	.73	.57	.40	.27	.00	e.09	e.00	e.00
16	1.2	1.0	.88	.81	.72	.64	.41	.26	.00	e.00	e.00	e.00
17	1.2	1.0	.90	.80	.68	.59	.39	.23	.00	e.00	e.00	e.00
18	1.2	1.1	.95	.80	.64	.53	.37	.19	.00	e.00	e.00	e.00
19	1.2	.96	.96	.80	.64	.49	.35	.17	.00	e.00	e.00	e.00
20	1.1	.99	.99	.77	.64	.47	.34	.17	.00	e.00	e.00	e.00
21	1.1	.95	1.0	.82	.65	.49	.35	.17	.00	e.00	e.00	e.00
22	1.1	.94	1.1	.91	.66	.47	.37	.20	.00	e.00	e.00	e.15
23	1.0	.92	1.0	.91	.67	.47	.41	.21	.00	e.00	e.00	e.02
24	1.0	.91	.83	.87	.62	.47	.43	.21	.00	e.00	e.00	e.02
25	1.0	.90	.88	.88	.61	.48	.41	.17	.00	e.00	e.00	e.01
26	1.1	.90	.88	.99	.63	.48	.36	.13	.00	e.00	e.00	e.01
27	1.1	.91	.89	.93	.60	.46	.35	.09	.00	e.00	e.00	e.01
28	1.1	1.0	.89	.92	.56	.43	.44	.10	.00	e.00	e.00	e.01
29	1.1	.99	.89	.90	---	.42	.46	.07	.00	e.00	e.00	e.01
30	1.1	1.0	.89	.87	---	.42	.50	.11	.00	e.00	e.00	e.01
31	1.1	---	.89	.86	---	.45	---	.12	---	e.00	e.00	---
TOTAL	36.0	30.87	30.10	26.87	20.89	16.16	13.91	7.37	1.53	12.64	0.00	0.25
MEAN	1.16	1.03	.97	.87	.75	.52	.46	.24	.051	.41	.000	.008
MAX	1.4	1.2	1.1	.99	.94	.64	.66	.44	.22	.12	.00	.15
MIN	1.0	.90	.83	.77	.56	.42	.34	.07	.00	.00	.00	.00
AC-FT	71	61	60	53	41	32	28	15	3.0	25	.00	.5

e Estimated.

10257600 MISSION CREEK NEAR DESERT HOT SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.88	1.11	1.19	3.52	8.70	6.84	5.56	4.53	2.90	1.94	1.49	.97
MAX	3.83	4.54	4.51	29.2	174	49.6	31.6	25.8	16.4	10.1	5.42	4.74
(WY)	1970	1984	1979	1980	1980	1980	1993	1993	1993	1980	1983	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1968	1969	1969	1968	1968	1989	1968	1968	1968	1972	1968	1968

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1968 - 1999	
ANNUAL TOTAL	775.32		196.59			
ANNUAL MEAN	2.12		.54		3.27	
HIGHEST ANNUAL MEAN					28.3	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	8.7	Feb 24	12	Jul 12	540	Feb 18 1980
LOWEST DAILY MEAN	.45	Jan 1	.00	Jun 13	.00	Oct 1 1967
ANNUAL SEVEN-DAY MINIMUM	.47	Jan 1	.00	Jun 13	.00	Oct 1 1967
INSTANTANEOUS PEAK FLOW			142		1750	
INSTANTANEOUS PEAK STAGE			3.08		6.40	
ANNUAL RUNOFF (AC-FT)	1540		390		2370	
10 PERCENT EXCEEDS	4.2		1.1		6.2	
50 PERCENT EXCEEDS	1.4		.50		.64	
90 PERCENT EXCEEDS	.76		.00		.00	

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

LOCATION.—Lat 33°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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1986 to current year.

REVISED RECORDS.—WDR CA-89-1: 1987(M).

GAGE.—Water-stage recorder and crest-stage gage. Concrete control with low-water v-notch weir since June 25, 1996. Elevation of gage is 2,100 ft above sea level, from topographic map.

REMARKS.—Records good. Two small diversions 2 mi upstream, one for city of Palm Springs and one for Palm Springs aerial tramway. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 153 ft³/s, Jan. 7, 1993, gage height, 10.18 ft, from rating curve extended above 35 ft³/s on basis of critical depth computation; maximum gage height, 10.32 ft, Feb. 14, 1998; no flow for many days in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.57	.51	.23	.00	.06	.02	.00	.00	.02	.02
2	.00	.03	.56	.72	.00	.00	.27	.01	.00	.00	.03	.01
3	.00	.01	.59	.68	.05	.00	.19	.02	.01	.00	.02	.01
4	.00	.00	.60	.59	.23	.00	.14	.00	.01	.00	.02	.01
5	.00	.02	.37	.77	.37	.00	.07	.00	.00	.00	.03	.00
6	.00	.04	.27	1.2	.39	.00	.05	.00	.00	.00	.01	.01
7	.00	.06	.24	.84	.35	.00	.07	.00	.00	.00	.01	.00
8	.00	.12	.19	.69	.30	.00	.03	.00	.00	.11	.00	.01
9	.00	.11	.25	.70	.28	.00	.02	.00	.00	.12	.00	.00
10	.00	.05	.26	.55	.35	.00	.02	.00	.00	.04	.00	.00
11	.00	.17	.12	.48	.12	.00	.01	.00	.00	.03	.00	.00
12	.00	.18	.16	.50	.00	.00	.02	.00	.00	.02	.00	.00
13	.00	.09	.16	.31	.00	.00	.01	.00	.00	.02	.00	.00
14	.00	.09	.17	.00	.00	.00	.00	.00	.00	.01	.00	.00
15	.00	.11	.34	.00	.00	.05	.01	.00	.00	.02	.00	.00
16	.00	.12	.29	.00	.00	.11	.01	.00	.00	.03	.00	.01
17	.00	.10	.31	.13	.00	.00	.01	.00	.00	.03	.00	.00
18	.00	.09	.23	.18	.00	.00	.01	.00	.00	.03	.00	.00
19	.00	.12	.34	.10	.00	.00	.01	.00	.00	.03	.00	.00
20	.00	.32	.20	.32	.00	.00	.05	.00	.00	.00	.01	.03
21	.00	.28	.11	.39	.00	.00	.02	.00	.00	.00	.02	.07
22	.00	.16	.09	.38	.00	.03	.02	.00	.00	.00	.02	.18
23	.00	.13	.00	.38	.00	.22	.05	.00	.00	.00	.02	.05
24	.00	.14	.03	.34	.00	.14	.04	.00	.00	.00	.01	.04
25	.01	.12	.02	.34	.00	.10	.02	.00	.00	.00	.02	.05
26	.03	.18	.21	.55	.00	.04	.01	.00	.00	.00	.02	.05
27	.00	.22	.15	.40	.00	.00	.01	.00	.00	.00	.02	.05
28	.00	.33	.18	.27	.00	.00	.05	.00	.00	.02	.02	.02
29	.02	.33	.16	.39	---	.00	.07	.00	.00	.02	.02	.02
30	.04	.43	.00	.38	---	.00	.05	.00	.00	.02	.03	.01
31	.00	---	.00	.37	---	.00	---	.00	---	.02	.04	---
TOTAL	0.10	4.15	7.17	13.46	2.67	0.69	1.40	0.05	0.02	0.57	0.39	0.65
MEAN	.003	.14	.23	.43	.095	.022	.047	.002	.001	.018	.013	.022
MAX	.04	.43	.60	1.2	.39	.22	.27	.02	.01	.12	.04	.18
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.2	8.2	14	27	5.3	1.4	2.8	.1	.04	1.1	.8	1.3

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.31	.43	.54	1.96	2.76	2.20	1.37	.72	.27	.070	.10	.25
MAX	1.19	1.32	1.49	14.0	17.8	8.82	3.85	2.34	.88	.28	.65	1.38
(WY)	1994	1987	1994	1993	1993	1993	1993	1998	1998	1987	1993	1993
MIN	.000	.000	.000	.031	.095	.022	.047	.002	.000	.000	.000	.000
(WY)	1991	1991	1991	1991	1999	1999	1999	1999	1992	1989	1990	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1987 - 1999	
ANNUAL TOTAL	464.64		31.32			
ANNUAL MEAN	1.27		.086		.90	
HIGHEST ANNUAL MEAN					4.02 1993	
LOWEST ANNUAL MEAN					.086 1999	
HIGHEST DAILY MEAN	8.0	Feb 8	1.2	Jan 6	49	Jan 17 1993
LOWEST DAILY MEAN	.00	Jul 14	.00	Oct 1	.00	Jun 15 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00	Oct 1	.00	Jun 15 1989
INSTANTANEOUS PEAK FLOW			2.0 Jan 26		153	Jan 7 1993
INSTANTANEOUS PEAK STAGE			9.66 Feb 4		10.32	Feb 14 1998
ANNUAL RUNOFF (AC-FT)	922		62		655	
10 PERCENT EXCEEDS	3.6		.32		2.2	
50 PERCENT EXCEEDS	.51		.01		.27	
90 PERCENT EXCEEDS	.00		.00		.00	

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

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)
NOV 17...	1105	.11	215	8.2	11.5	76	26	2.6	10	22	.5
DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED PER (TONS AC-FT) (70303)
NOV 17...	4.9	124	102	4.5	2.9	<.1	<.01	20	135	133	.18
DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ARSENIC DIS-SOLVED (UG/L AS AS) (01000)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 17...	<.01	<.05	<.02	<.1	<.05	<.01	<1	20	<10	<3	1.4

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

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 mi².

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

REVISED RECORDS.—WSP 1244: 1948, 1951. WDR CA-88-1: Drainage area.

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

REMARKS.—Records good. No regulation or diversion upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,900 ft³/s, Nov. 22, 1965, Jan. 25, 1969, gage height, 12.34 ft, from rating curve extended above 70 ft³/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 ft³/s, or maximum, from rating curve extended above 147 ft³/s on basis of slope-area measurements at gage heights 10.45 and 12.34 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	0130	5.2	3.98				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.3	2.1	1.6	1.5	1.2	.75	1.4	.25	.00	.00	.00
2	1.5	1.3	2.0	1.5	1.4	1.2	.83	1.3	.25	.00	.00	.00
3	1.4	1.2	2.0	1.5	1.4	1.2	.84	1.4	.33	.00	.00	.00
4	1.3	1.3	1.9	1.4	1.7	1.2	.92	1.3	.39	.00	.00	.00
5	1.3	1.3	1.9	1.5	2.0	1.2	.89	1.1	.44	.00	.00	.00
6	1.3	1.3	2.0	1.5	1.7	1.1	1.0	1.0	.42	.00	.00	.00
7	1.3	1.3	1.9	1.4	1.7	1.1	1.1	.93	.38	.00	.00	.00
8	1.2	2.0	2.0	1.4	1.9	1.1	1.1	.88	.34	.00	.00	.00
9	1.1	3.8	2.0	1.4	1.8	1.1	1.0	.85	.31	.00	.00	.00
10	1.1	2.5	1.9	1.4	2.9	1.1	1.0	.81	.29	.00	.00	.00
11	1.1	2.4	1.9	1.4	2.6	1.1	1.0	.76	.27	.00	.00	.00
12	1.0	2.5	1.9	1.4	2.9	1.1	1.2	.72	.25	.03	.00	.00
13	1.0	2.3	1.9	1.3	2.9	1.0	1.1	.69	.22	.01	.00	.00
14	.97	2.2	1.9	1.3	2.9	1.0	1.1	.65	.20	.00	.00	.00
15	1.0	2.2	1.8	1.3	2.8	1.0	1.2	.63	.19	.00	.00	.00
16	1.1	2.0	1.8	1.3	2.7	1.1	1.2	.60	.17	.00	.00	.00
17	1.1	2.0	1.8	1.4	2.8	1.1	1.2	.54	.14	.00	.00	.00
18	1.1	1.9	1.8	1.4	2.6	1.1	1.1	.51	.10	.00	.00	.00
19	1.1	1.9	1.8	1.4	2.2	1.1	1.2	.47	.07	.00	.00	.00
20	1.1	1.9	1.8	1.4	2.1	1.0	1.4	.45	.06	.00	.00	.00
21	1.1	1.9	1.6	1.4	2.0	.98	1.4	.43	.05	.00	.00	.00
22	1.0	1.8	1.6	1.4	1.8	.93	1.3	.43	.06	.00	.00	.00
23	1.1	1.8	1.7	1.3	1.7	.90	1.3	.46	.05	.00	.00	.00
24	1.1	1.7	1.7	1.3	1.4	.89	1.4	.46	.02	.00	.00	.00
25	1.1	1.6	1.8	1.3	1.3	.86	1.3	.42	.01	.00	.00	.00
26	1.4	1.6	1.8	1.4	1.3	.86	1.2	.39	.00	.00	.00	.00
27	1.4	1.6	1.7	1.4	1.3	.85	1.1	.35	.00	.00	.00	.00
28	1.4	1.6	1.6	1.4	1.3	.84	1.0	.31	.00	.00	.00	.00
29	1.4	2.1	1.6	1.4	---	.78	1.3	.29	.00	.00	.00	.00
30	1.4	2.1	1.6	1.4	---	.73	1.4	.27	.00	.00	.00	.00
31	1.4	---	1.6	1.5	---	.72	---	.25	---	.00	.00	---
TOTAL	37.37	56.4	56.4	43.4	56.6	31.44	33.83	21.05	5.26	0.04	0.00	0.00
MEAN	1.21	1.88	1.82	1.40	2.02	1.01	1.13	.68	.18	.001	.000	.000
MAX	1.5	3.8	2.1	1.6	2.9	1.2	1.4	1.4	.44	.03	.00	.00
MIN	.97	1.2	1.6	1.3	1.3	.72	.75	.25	.00	.00	.00	.00
AC-FT	74	112	112	86	112	62	67	42	10	.08	.00	.00

10258000 TAHQUITZ CREEK NEAR PALM SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	1.77	3.48	6.22	7.66	8.61	11.1	14.4	7.54	2.42	1.01	.73
MAX	8.64	43.1	72.5	81.3	117	72.0	57.3	78.3	58.0	24.9	6.36	4.88
(WY)	1984	1966	1967	1993	1980	1995	1969	1969	1980	1980	1980	1976
MIN	.000	.000	.000	.000	.21	.17	.063	.000	.000	.000	.000	.000
(WY)	1948	1948	1948	1948	1964	1961	1961	1961	1961	1956	1948	1948

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR			FOR 1999 WATER YEAR		WATER YEARS 1948 - 1999	
ANNUAL TOTAL	4610.77			341.79			
ANNUAL MEAN	12.6			.94		5.44	
HIGHEST ANNUAL MEAN						32.9	
LOWEST ANNUAL MEAN						.088	
HIGHEST DAILY MEAN	58	Jun	3	3.8	Nov	9	1980
LOWEST DAILY MEAN	.97	Oct	14	.00	Jun	26	1969
ANNUAL SEVEN-DAY MINIMUM	1.0	Oct	9	.00	Jun	26	1947
INSTANTANEOUS PEAK FLOW				5.2	Nov	9	1947
INSTANTANEOUS PEAK STAGE				3.98	Nov	9	1965
ANNUAL RUNOFF (AC-FT)	9150			678		3940	
10 PERCENT EXCEEDS	39			1.9		12	
50 PERCENT EXCEEDS	6.2			1.1		1.0	
90 PERCENT EXCEEDS	1.3			.00		.00	

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 mi².

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

REVISED RECORDS.—WSP 1314: 1936(M). WDR CA-88-1: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 700 ft above sea level, from topographic map. Prior to Jan. 14, 1942, at datum 0.2 ft higher.

REMARKS.—Records fair. No regulation or diversion upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,000 ft³/s, Feb. 21, 1980, gage height, 7.29 ft, from rating curve extended above 650 ft³/s on basis of slope-area measurements at gage heights 6.38 ft and 6.81 ft; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 950 ft³/s on basis of slope-area measurement at gage height 6.81 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 12	2300	1,290	5.13				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.49	.43	.49	.00	.00	.17	.00	.00	.00	.00
2	.00	.00	.43	.39	.45	.00	.01	.00	.00	.00	.00	.00
3	.00	.00	.39	.36	.40	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.37	.35	.62	.00	.30	.00	.00	.00	.00	.00
5	.00	.00	.33	.39	1.4	.00	.30	.00	.00	.00	.00	.00
6	.00	.00	.91	.39	1.1	.00	.13	.00	.00	.00	.00	.00
7	.00	.00	.93	.38	.92	.00	.43	.00	.00	.00	.00	.00
8	.00	.00	.64	.32	.77	.00	1.0	.00	.00	.00	.00	.00
9	.00	.00	.52	.28	.62	.00	.76	.00	.00	.00	.00	.00
10	.00	.00	.44	.31	.64	.00	.51	.00	.00	.00	.00	.00
11	.00	.00	.46	.33	.63	.00	.37	.00	.00	.00	.00	.00
12	.00	.09	.46	.29	.56	.00	1.1	.00	.00	28	.00	.00
13	.00	.14	.44	.23	.47	.00	1.3	.00	.00	14	.00	.00
14	.00	.07	.45	.18	.38	.00	.69	.00	.00	.00	.00	.00
15	.00	.03	.43	.21	.28	.00	.23	.00	.00	.00	.00	.00
16	.00	.00	.40	.21	.24	.00	.06	.00	.00	.00	.00	.00
17	.00	.00	.41	.17	.23	.03	.00	.00	.00	.00	.00	.00
18	.00	.02	.44	.18	.23	.00	.00	.00	.00	.00	.00	.00
19	.00	.02	.50	.22	.15	.00	.00	.00	.00	.00	.00	.00
20	.00	.03	.41	.19	.04	.00	.00	.00	.00	.00	.00	.00
21	.00	.07	.36	.09	.02	.00	.00	.00	.00	.00	.00	.00
22	.00	.10	.54	.06	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.10	.62	.15	.01	.00	.00	.00	.00	.00	.00	.00
24	.00	.11	.56	.20	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.09	.55	.22	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.08	.56	.33	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.11	.52	.72	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.18	.45	.58	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.52	.45	.42	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.52	.46	.36	---	.00	.02	.00	.00	.00	.00	.00
31	.00	---	.46	.37	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	2.28	15.38	9.31	10.65	0.03	7.21	0.17	0.00	42.00	0.00	0.00
MEAN	.000	.076	.50	.30	.38	.001	.24	.005	.000	1.35	.000	.000
MAX	.00	.52	.93	.72	1.4	.03	1.3	.17	.00	28	.00	.00
MIN	.00	.00	.33	.06	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	4.5	31	18	21	.06	14	.3	.00	83	.00	.00

10258500 PALM CANYON CREEK NEAR PALM SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.35	.83	3.83	8.81	19.5	19.3	7.47	2.27	.69	.77	.98	.85
MAX	5.95	20.6	39.6	203	318	188	80.8	24.1	9.87	15.1	33.0	19.5
(WY)	1984	1966	1983	1993	1980	1983	1958	1983	1980	1979	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1933	1950	1951	1951	1951	1934	1934	1931	1931	1932	1930

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1930 - 1999

ANNUAL TOTAL	3243.85		87.03		5.43		1980	
ANNUAL MEAN	8.89		.24		47.4		1972	
HIGHEST ANNUAL MEAN					.000		1980	
LOWEST ANNUAL MEAN					2040		Feb 21 1980	
HIGHEST DAILY MEAN	329	Feb 14	28	Jul 12	.00		Jul 16 1930	
LOWEST DAILY MEAN	.00	Jul 9	.00	Oct 1	.00		Jul 16 1930	
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 9	.00	Oct 1	.00		Jul 16 1930	
INSTANTANEOUS PEAK FLOW			1290		Jul 12		7000	
INSTANTANEOUS PEAK STAGE			5.13		Jul 12		7.29	
ANNUAL RUNOFF (AC-FT)	6430		173		3930		6.5	
10 PERCENT EXCEEDS	23		.46		.00		.00	
50 PERCENT EXCEEDS	.52		.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00		.00	

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 upstream from mouth, and 5.1 mi south of Palm Springs.

DRAINAGE AREA.—8.65 mi².

PERIOD OF RECORD.—October 1948 to current year.

REVISED RECORDS.—WDR CA-88-1: Drainage area. WDR CA-91-1: 1986(M), 1988(M).

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

REMARKS.—Records good. No regulation upstream from station. One small diversion for domestic use about 1 mi upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,960 ft³/s, Aug. 31, 1954, gage height, 7.11 ft, from rating curve extended above 80 ft³/s on basis of slope-area measurement of peak flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum, from rating curve extended above 98 ft³/s by theoretical computations of flow over weir:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 8	1230	6.9	2.60				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.2	2.5	2.2	2.1	2.0	1.9	1.9	1.1	.61	.70	.70
2	1.8	2.1	2.5	2.2	2.1	2.0	1.9	1.8	1.2	.60	.77	.76
3	1.8	2.1	2.5	2.2	2.1	2.0	1.9	1.7	1.3	.62	.75	.84
4	1.9	2.1	2.5	2.2	2.4	2.1	2.2	1.8	1.3	.64	.67	.82
5	1.9	2.2	2.4	2.2	2.4	2.1	2.0	1.7	1.3	.60	.67	.73
6	1.9	2.2	2.7	2.2	2.3	2.1	2.0	1.7	1.1	.73	.71	.68
7	1.8	2.2	2.5	2.2	2.2	2.1	2.1	1.6	1.0	1.3	.71	.66
8	1.8	2.8	2.5	2.2	2.2	2.1	1.9	1.6	.98	2.7	.75	.65
9	1.8	2.8	2.4	2.2	2.2	2.1	1.9	1.6	.99	1.3	.76	.75
10	1.8	2.4	2.4	2.2	2.3	2.1	1.9	1.6	.97	.97	.72	.80
11	1.8	2.5	2.4	2.3	2.2	2.1	2.0	1.5	.96	1.0	.74	.75
12	1.8	2.4	2.4	2.3	2.2	2.1	2.2	1.4	.91	1.1	.73	.78
13	1.8	2.3	2.4	2.3	2.2	2.0	2.0	1.4	.85	2.2	.69	.79
14	1.8	2.2	2.4	2.2	2.1	2.0	1.8	1.4	.78	1.7	.66	.69
15	1.9	2.2	2.3	2.2	2.1	2.1	1.7	1.4	.78	1.2	.64	.65
16	1.9	2.2	2.2	2.2	2.1	2.2	1.7	1.4	.78	1.0	.63	.70
17	1.9	2.2	2.1	2.2	2.1	2.1	1.7	1.3	.78	.90	.64	.77
18	1.9	2.3	2.2	2.2	2.1	2.0	1.7	1.2	.76	.90	.64	.82
19	1.9	2.2	2.2	2.2	2.1	2.0	1.7	1.2	.72	.84	.65	.82
20	1.9	2.3	2.2	2.2	2.1	1.9	1.7	1.2	.69	.82	.75	.80
21	2.0	2.3	2.2	2.1	2.1	1.9	1.8	1.2	.70	.81	.73	.87
22	2.0	2.3	2.2	2.0	2.1	1.9	1.8	1.5	.71	.77	.64	1.3
23	2.0	2.4	2.2	2.0	2.1	1.9	1.8	1.5	.73	.76	.73	1.3
24	2.1	2.4	2.2	2.0	2.1	1.9	1.9	1.3	.68	.76	.74	1.1
25	2.1	2.3	2.1	2.0	2.1	1.9	1.9	1.2	.67	.75	.66	.91
26	2.2	2.3	2.2	2.1	2.1	1.8	1.8	1.1	.66	.77	.73	.84
27	2.2	2.3	2.2	2.1	2.1	1.9	1.7	1.0	.65	.74	.76	.80
28	2.2	2.5	2.3	2.1	2.1	1.8	1.8	.98	.65	1.0	.77	.79
29	2.2	2.5	2.3	2.0	---	1.8	2.1	.91	.68	1.2	.84	.75
30	2.2	2.5	2.3	2.0	---	1.7	2.0	.95	.64	.89	.79	.76
31	2.2	---	2.3	2.1	---	1.8	---	.98	---	.74	.67	---
TOTAL	60.4	69.7	72.2	66.8	60.4	61.5	56.5	43.02	26.02	30.92	22.04	24.38
MEAN	1.95	2.32	2.33	2.15	2.16	1.98	1.88	1.39	.87	1.00	.71	.81
MAX	2.2	2.8	2.7	2.3	2.4	2.2	2.2	1.9	1.3	2.7	.84	1.3
MIN	1.8	2.1	2.1	2.0	2.1	1.7	1.7	.91	.64	.60	.63	.65
AC-FT	120	138	143	132	120	122	112	85	52	61	44	48

10259000 ANDREAS CREEK NEAR PALM SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.37	2.19	3.12	4.77	5.75	6.01	4.43	3.08	1.98	1.42	1.39	1.28
MAX	5.60	19.2	30.2	46.5	56.4	33.7	20.0	17.4	12.4	7.51	9.52	6.05
(WY)	1984	1966	1967	1993	1980	1980	1983	1983	1983	1983	1983	1983
MIN	.38	.60	.96	.95	1.02	.99	.68	.51	.23	.087	.14	.24
(WY)	1966	1963	1963	1976	1961	1961	1961	1961	1961	1961	1963	1964

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1949 - 1999

ANNUAL TOTAL	1654.2	593.88		
ANNUAL MEAN	4.53	1.63	3.05	
HIGHEST ANNUAL MEAN			12.4	1983
LOWEST ANNUAL MEAN			.66	1961
HIGHEST DAILY MEAN	42	Feb 14	395	Dec 6 1966
LOWEST DAILY MEAN	1.7	Sep 5	.00	Jun 27 1961
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 16	.00	Jul 13 1963
INSTANTANEOUS PEAK FLOW			6.9	Jul 8 1960
INSTANTANEOUS PEAK STAGE			2.60	Jul 8 1954
ANNUAL RUNOFF (AC-FT)	3280	1180	2210	
10 PERCENT EXCEEDS	7.7	2.3	5.5	
50 PERCENT EXCEEDS	2.8	1.9	1.7	
90 PERCENT EXCEEDS	1.9	.71	.60	

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.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—January 1988 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 330 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation upstream from station. Two diversions for domestic use upstream from station on Andreas Creek. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,280 ft³/s, Jan. 16, 1993, gage height, 8.70 ft, from rating curve extended above 1,350 ft³/s; no flow for most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	1.0	.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	30	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.8	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.80	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.32	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	30	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	81	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.002	.051	19.0	5.18	9.05	.32	1.80	1.84	.16	.41	.27
MAX	.000	.023	.45	202	35.2	93.3	3.81	18.3	22.1	1.32	1.77	2.23
(WY)	1988	1997	1993	1993	1993	1995	1993	1998	1998	1999	1989	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1988	1988	1989	1988	1988	1988	1988	1988	1990	1988

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1988 - 1999

ANNUAL TOTAL	1795.00	40.80	
ANNUAL MEAN	4.92	.11	3.19
HIGHEST ANNUAL MEAN			20.4
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	255	Feb 14	30
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			916
INSTANTANEOUS PEAK STAGE			7.71
ANNUAL RUNOFF (AC-FT)	3560	81	2310
10 PERCENT EXCEEDS	19	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

10259100 WHITEWATER RIVER AT RANCHO MIRAGE, CA

LOCATION.—Lat 33°44'58", long 116°25'19", in NW 1/4 SW 1/4 sec.12, T.5 S., R.5 E., Riverside County, Hydrologic Unit 18100200, on right bank, 0.2 mi upstream from Magnesia Spring Canyon storm channel, and 2.7 mi northwest of the intersection of Highways 111 and 74.

DRAINAGE AREA.—588 mi².

PERIOD OF RECORD.—March 1989 to current year.

REVISED RECORDS.—WDR CA-93-1: 1989–92(M). WDR CA-95-1: 1993, 1993(M).

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 230 ft above sea level, from topographic map. Prior to Dec. 4, 1997, at datum 10.00 ft lower.

REMARKS.—Records good. No regulation upstream from station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs. Water from the Colorado River Basin is imported for ground-water recharge and irrigation. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,060 ft³/s, Jan. 7, 1993, gage height, 5.93 ft, datum then in use, from rating curve extended above 1,460 ft³/s on basis of critical depth computations; maximum gage height, 8.09 ft (present datum), Feb. 14, 1998; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.38	.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	1.5	.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	.01	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	5.7	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.01	.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	.10	.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
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.01	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.04	0.01	0.52	0.01	0.00	0.00	0.00	7.21	0.00	0.00
MEAN	.000	.000	.001	.000	.019	.000	.000	.000	.000	.23	.000	.000
MAX	.00	.00	.04	.01	.38	.01	.00	.00	.00	5.7	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.08	.02	1.0	.02	.00	.00	.00	14	.00	.00

10259100 WHITEWATER RIVER AT RANCHO MIRAGE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.003	.003	.033	32.9	7.39	7.54	.038	.034	.008	.025	.11	.18
MAX	.016	.021	.18	310	52.3	66.0	.21	.27	.051	.23	.78	1.30
(WY)	1993	1990	1993	1993	1993	1995	1993	1993	1998	1999	1989	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1990	1991	1994	1994	1997	1990	1989	1989	1989	1989	1990	1989

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1989 - 1999	
ANNUAL TOTAL	344.08		7.79			
ANNUAL MEAN	.94		.021		4.03	
HIGHEST ANNUAL MEAN					30.4	
LOWEST ANNUAL MEAN					.002	
HIGHEST DAILY MEAN	123	Feb 14	5.7	Jul 13	2950	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Mar 30 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Mar 30 1989
INSTANTANEOUS PEAK FLOW			165	Jul 13	9060	Jan 7 1993
INSTANTANEOUS PEAK STAGE			7.28	Jul 13	8.09	Feb 14 1998
ANNUAL RUNOFF (AC-FT)	682		15		2920	
10 PERCENT EXCEEDS	.00		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 mi².

PERIOD OF RECORD.—May 1962 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 1,440 ft above sea level, from topographic map.

REMARKS.—Records poor. No regulation or diversion upstream from station. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,100 ft³/s, Sept. 10, 1976, gage height, 7.84 ft inside, 11.5 ft from floodmarks, from rating curve extended above 40 ft³/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; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 20 ft³/s, or maximum, from rating curve extended above 52 ft³/s on basis of slope-area measurement at gage heights 5.15 and 10.27 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 4	1715	0.20	1.18				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.10	.10	.07	.06	.02	.00	.00	.00
2	.00	.00	.00	.00	.08	.10	.07	.07	.02	.00	.00	.00
3	.00	.00	.00	.00	.09	.10	.07	.06	.02	.00	.00	.00
4	.00	.00	.00	.00	.11	.09	.07	.07	.02	.00	.00	.00
5	.00	.00	.00	.00	.11	.09	.06	.07	.02	.00	.00	.00
6	.00	.00	.00	.00	.12	.09	.06	.06	.00	.00	.00	.00
7	.00	.00	.00	.00	.15	.09	.07	.06	.00	.00	.00	.00
8	.00	.00	.00	.00	.17	.09	.05	.05	.00	.00	.00	.00
9	.00	.00	.00	.00	.17	.08	.03	.04	.00	.00	.00	.00
10	.00	.00	.00	.00	.16	.08	.03	.03	.00	.00	.00	.00
11	.00	.00	.00	.00	.15	.08	.03	.05	.00	.00	.00	.00
12	.00	.00	.00	.08	.14	.08	.05	.04	.00	.00	.00	.00
13	.00	.00	.00	.13	.14	.08	.05	.03	.00	.00	.00	.00
14	.00	.00	.00	.13	.14	.08	.06	.04	.00	.00	.00	.00
15	.00	.00	.00	.14	.14	.08	.06	.03	.00	.00	.00	.00
16	.00	.00	.00	.13	.13	.08	.07	.03	.00	.00	.00	.00
17	.00	.00	.00	.13	.14	.08	.08	.03	.00	.00	.00	.00
18	.00	.00	.00	.14	.13	.08	.09	.03	.00	.00	.00	.00
19	.00	.00	.00	.13	.14	.08	.09	.03	.00	.00	.00	.00
20	.00	.00	.00	.14	.13	.08	.08	.02	.00	.00	.00	.00
21	.00	.00	.00	.14	.12	.08	.08	.02	.00	.00	.00	.00
22	.00	.00	.00	.12	.12	.08	.08	.03	.00	.00	.00	.00
23	.00	.00	.00	.12	.11	.09	.08	.03	.00	.00	.00	.00
24	.00	.00	.00	.12	.10	.09	.08	.02	.00	.00	.00	.00
25	.00	.00	.00	.12	.10	.09	.08	.03	.00	.00	.00	.00
26	.00	.00	.00	.11	.10	.07	.07	.03	.00	.00	.00	.00
27	.00	.00	.00	.11	.10	.06	.07	.03	.00	.00	.00	.00
28	.00	.00	.00	.10	.10	.06	.07	.02	.00	.00	.00	.00
29	.00	.00	.00	.10	---	.07	.06	.02	.00	.00	.00	.00
30	.00	.00	.00	.10	---	.07	.06	.02	.00	.00	.00	.00
31	.00	---	.00	.10	---	.07	---	.02	---	.00	.00	---
TOTAL	0.00	0.00	0.00	2.39	3.49	2.54	1.97	1.17	0.10	0.00	0.00	0.00
MEAN	.000	.000	.000	.077	.12	.082	.066	.038	.003	.000	.000	.000
MAX	.00	.00	.00	.14	.17	.10	.09	.07	.02	.00	.00	.00
MIN	.00	.00	.00	.00	.08	.06	.03	.02	.00	.00	.00	.00
AC-FT	.00	.00	.00	4.7	6.9	5.0	3.9	2.3	.2	.00	.00	.00

10259200 DEEP CREEK NEAR PALM DESERT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.24	.88	1.95	4.60	8.10	6.20	2.18	.87	.34	.80	1.01	1.29
MAX	4.62	16.3	23.5	88.6	101	49.3	12.4	7.15	3.97	11.8	15.3	38.1
(WY)	1984	1966	1983	1993	1980	1983	1983	1983	1983	1979	1984	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1963	1963	1963	1963	1963	1963	1963	1962	1962	1962	1962	1962

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1962 - 1999
ANNUAL TOTAL	807.73	11.66	
ANNUAL MEAN	2.21	.032	2.35
HIGHEST ANNUAL MEAN			15.1 1993
LOWEST ANNUAL MEAN			.002 1963
HIGHEST DAILY MEAN	99 Feb 14	.17 Feb 8	850 Sep 10 1976
LOWEST DAILY MEAN	.00 Jul 24	.00 Oct 1	.00 May 1 1962
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 26	.00 Oct 1	.00 May 1 1962
INSTANTANEOUS PEAK FLOW		.20 Feb 4	7100 Sep 10 1976
INSTANTANEOUS PEAK STAGE		1.18 Feb 4	10.27 Aug 14 1984
ANNUAL RUNOFF (AC-FT)	1600	23	1700
10 PERCENT EXCEEDS	6.5	.10	3.1
50 PERCENT EXCEEDS	.10	.00	.05
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

PERIOD OF RECORD.—March 1966 to current year.

REVISED RECORDS.—WDR CA-72-1: 1971.

GAGE.—Water-stage recorder and crest-stage gage. Concrete control since Oct. 1, 1979. Elevation of gage is 0 ft sea level, 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; and Feb. 18, 1983, to Nov. 18, 1991, at same site at different datums.

REMARKS.—Records good. No regulation upstream from station. Water diverted from tributary streams for municipal supply in vicinity of Palm Springs. Water from the Colorado River Basin is imported for ground-water recharge and irrigation. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,400 ft³/s, Jan. 25, 1969, gage height, 14.41 ft, site and datum then in use, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement at gage height 15.3 ft for flood of Nov. 22, 1965; no flow for all or most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 2 or 3, 1938, reached a discharge of 29,000 ft³/s, on basis of slope-area measurement, at site 5.0 mi upstream. Flood of Nov. 22, 1965, reached a stage of 15.3 ft, from floodmark, at site and datum used prior to Oct. 1, 1979, discharge 14,100 ft³/s, on basis of slope-area measurement of peak flow.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum, from rating curve extended above 480 ft³/s on basis of critical-depth computations:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 4	1915	0.38	7.15				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00	.00	.00

10259300 WHITEWATER RIVER AT INDIO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.008	.082	2.38	22.0	13.6	4.81	.019	.011	.009	1.13	1.12	2.62
MAX	.17	.88	61.3	513	278	56.2	.17	.35	.19	32.1	29.4	86.2
(WY)	1979	1979	1967	1993	1980	1978	1984	1972	1968	1979	1983	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1967	1967	1968	1967	1967	1966	1966	1966	1966	1967	1966	1966

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1966 - 1999

ANNUAL TOTAL	218.91	0.03		
ANNUAL MEAN	.60	.000	3.97	
HIGHEST ANNUAL MEAN			47.4	1993
LOWEST ANNUAL MEAN			.000	1973
HIGHEST DAILY MEAN	139	Feb 15	.03	Feb 4
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1
INSTANTANEOUS PEAK FLOW			.38	Feb 4
INSTANTANEOUS PEAK STAGE			7.15	Feb 4
ANNUAL RUNOFF (AC-FT)	434		.06	
10 PERCENT EXCEEDS	.00		.00	
50 PERCENT EXCEEDS	.00		.00	
90 PERCENT EXCEEDS	.00		.00	

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 mi².

PERIOD OF RECORD.—October 1960 to current year (since October 1992, low-flow records only).

GAGE.—Water-stage recorder. Datum of gage is 221.00 ft below sea level (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.—Records poor. Most flow represents seepage and return flow from irrigated areas. No discharge records computed above 200 ft³/s since October 1992. See schematic diagram of Salton Sea Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 2,500 ft³/s (estimated), Jan. 25, 1969; minimum daily, 37 ft³/s, Nov. 25–29, 1960.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	53	85	79	77	86	87	78	59	72	71	71
2	64	114	84	73	77	78	95	87	58	78	69	83
3	65	63	81	70	83	82	88	67	65	72	67	88
4	65	51	77	67	85	86	83	71	63	69	69	78
5	74	53	74	67	93	72	72	80	65	71	71	88
6	78	55	79	49	99	71	74	76	63	73	72	90
7	76	48	70	52	100	76	67	86	83	62	77	74
8	91	50	63	61	95	79	64	81	83	80	101	58
9	75	64	61	43	94	90	72	74	79	94	104	57
10	83	58	48	70	75	90	70	71	96	91	90	61
11	87	71	51	76	61	86	78	83	83	90	83	66
12	91	63	61	80	82	76	70	83	77	88	74	64
13	76	68	64	77	85	70	79	71	78	84	71	64
14	72	80	78	71	94	77	90	65	78	90	77	70
15	71	88	88	74	80	82	65	66	76	79	69	69
16	73	88	91	76	60	85	62	72	94	78	63	85
17	63	76	78	75	50	97	65	69	98	80	59	75
18	70	72	84	70	63	80	67	62	95	82	54	66
19	73	77	87	69	63	72	69	60	92	85	57	67
20	83	65	90	63	59	70	68	68	102	78	62	67
21	80	65	69	65	63	75	65	78	84	69	61	62
22	72	73	72	57	80	66	63	69	78	67	66	57
23	79	88	86	61	86	68	64	71	80	68	65	80
24	89	81	91	67	83	72	80	65	80	74	75	66
25	83	79	79	65	78	71	80	51	76	104	69	67
26	72	93	78	62	87	82	66	64	71	79	85	72
27	72	83	76	65	75	96	66	58	71	85	87	67
28	71	86	77	69	72	102	68	54	63	92	98	59
29	64	85	77	88	---	90	78	56	68	96	81	51
30	63	88	80	84	---	75	63	78	62	88	86	51
31	52	---	80	84	---	71	---	69	---	79	70	---
TOTAL	2298	2178	2359	2129	2199	2473	2178	2183	2320	2497	2303	2073
MEAN	74.1	72.6	76.1	68.7	78.5	79.8	72.6	70.4	77.3	80.5	74.3	69.1
MAX	91	114	91	88	100	102	95	87	102	104	104	90
MIN	52	48	48	43	50	66	62	51	58	62	54	51
AC-FT	4560	4320	4680	4220	4360	4910	4320	4330	4600	4950	4570	4110

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1992, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	99.9	94.9	95.0	107	125	124	119	118	107	107	120	115
MAX	147	149	141	236	396	222	172	173	145	198	183	220
(WY)	1976	1966	1983	1969	1980	1978	1976	1976	1975	1979	1983	1976
MIN	53.9	44.4	45.4	51.4	56.6	71.8	77.9	80.7	66.9	57.4	80.3	74.1
(WY)	1961	1961	1961	1961	1961	1961	1961	1992	1987	1987	1992	1992

SUMMARY STATISTICS

WATER YEARS 1961 - 1992

ANNUAL MEAN	111
HIGHEST ANNUAL MEAN	156
LOWEST ANNUAL MEAN	68.4
HIGHEST DAILY MEAN	2500
LOWEST DAILY MEAN	37
ANNUAL SEVEN-DAY MINIMUM	37
ANNUAL RUNOFF (AC-FT)	80380
10 PERCENT EXCEEDS	140
50 PERCENT EXCEEDS	108
90 PERCENT EXCEEDS	76

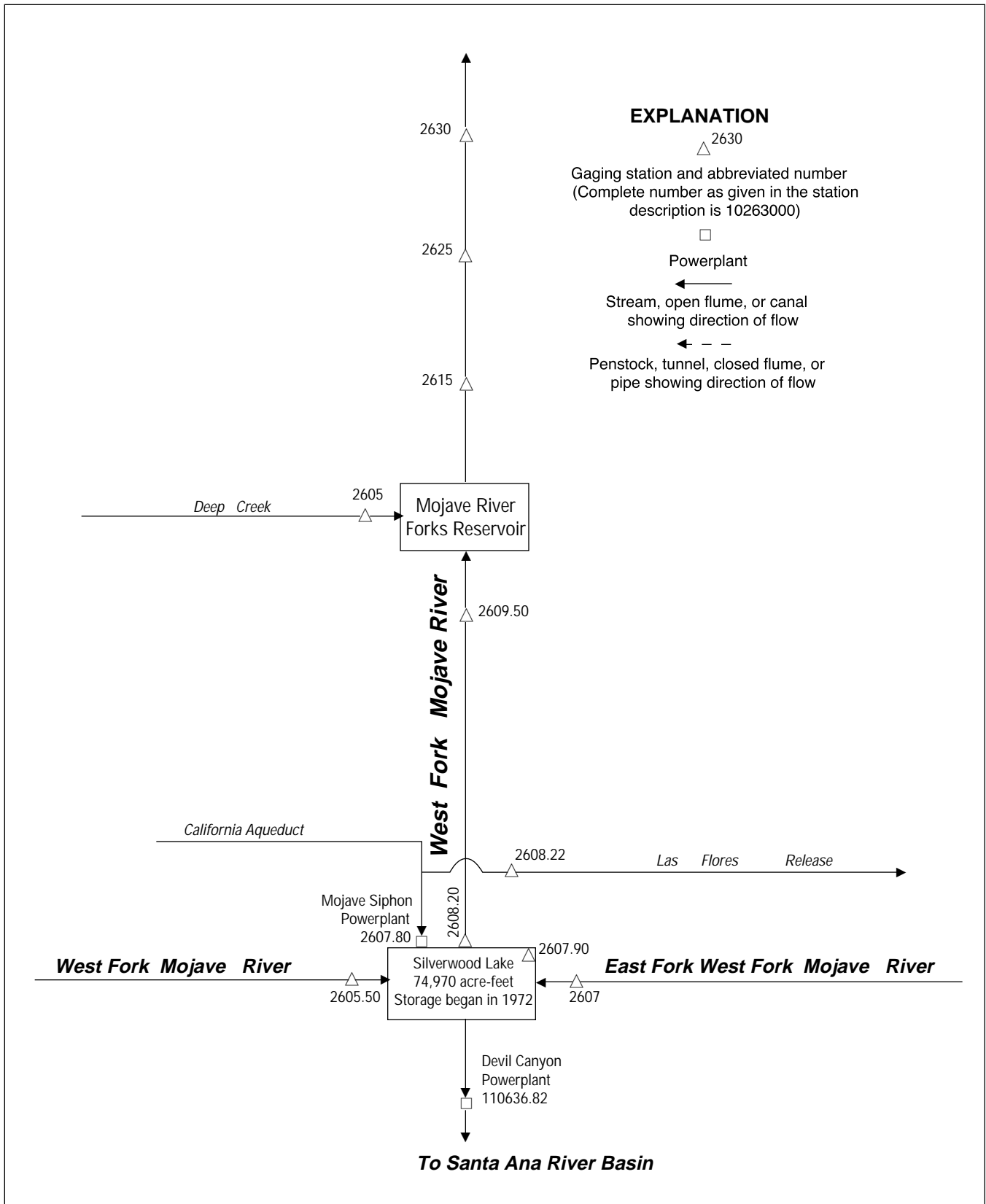


Figure 14. Diversions and storage in Mojave River Basin.

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 mi².

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

REVISED RECORDS.—WSP 1314: 1931(M). WSP 1927: Drainage area.

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

REMARKS.—Records good except for estimated daily discharges, which are fair. Slight regulation by Lake Arrowhead, capacity, 48,000 acre-ft, principally used for recreation. Sewage effluent from Lake Arrowhead area is released above gage at times. See schematic diagram of Mojave River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 46,600 ft³/s, Mar. 2, 1938, gage height unknown, on basis of 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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 15	0800	84	2.13				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	11	16	13	18	13	12	22	5.8	1.7	e.65	e.75
2	8.0	11	15	13	16	13	13	22	6.8	1.7	e.62	e.75
3	7.6	11	14	12	15	13	14	23	11	1.6	e.60	e.74
4	7.0	11	14	12	16	12	14	21	11	e1.4	.58	.74
5	6.9	11	15	12	17	12	15	20	11	e1.4	.54	.74
6	7.0	11	15	12	17	12	16	18	10	e1.4	.58	.76
7	7.3	11	15	12	16	12	23	17	8.5	e1.4	.69	.72
8	7.4	11	14	12	15	12	22	15	7.7	e1.4	.71	.63
9	7.3	12	14	12	16	13	22	15	7.2	1.6	e.85	.66
10	7.3	13	13	12	34	13	22	14	7.2	1.7	e.85	.74
11	7.7	13	13	12	25	12	21	13	7.2	2.3	e.85	.74
12	9.7	14	14	13	19	12	37	12	7.3	2.4	e.84	.74
13	13	14	14	12	17	12	43	11	7.5	3.3	e.84	.82
14	11	13	14	12	17	12	46	11	7.3	3.8	e.83	.84
15	9.1	12	14	12	17	13	68	11	6.9	3.3	e.83	.84
16	8.0	12	14	12	16	15	62	11	6.6	2.7	e.83	.85
17	8.2	12	13	12	16	14	58	11	6.1	2.4	e.82	.90
18	8.3	12	13	12	17	14	55	10	5.7	1.9	e.82	.99
19	8.5	12	13	12	18	15	52	9.7	5.5	1.7	e.81	1.0
20	8.7	12	13	12	17	15	47	9.5	4.4	1.4	e.81	.99
21	8.6	12	13	13	16	15	40	9.3	3.5	1.3	e.80	1.0
22	8.7	12	13	13	15	14	33	9.3	3.4	1.2	e.80	1.3
23	8.6	12	11	13	15	14	28	9.3	3.2	1.0	e.80	1.4
24	8.8	12	12	13	15	13	26	9.1	3.1	.96	e.79	1.5
25	9.0	12	13	14	14	13	25	9.1	2.6	.88	e.79	1.8
26	9.6	12	13	16	14	13	23	8.7	2.2	.76	e.78	1.9
27	10	11	13	18	14	13	21	8.2	2.0	.69	e.78	1.9
28	10	18	13	17	14	12	19	7.8	1.9	.73	e.77	1.8
29	10	32	13	15	---	12	20	7.3	1.8	e.74	e.77	1.6
30	10	19	13	15	---	12	20	6.6	1.7	.74	e.76	1.6
31	11	---	13	16	---	12	---	6.1	---	.68	e.76	---
TOTAL	270.5	391	420	406	476	402	917	387.0	176.1	50.18	23.55	31.74
MEAN	8.73	13.0	13.5	13.1	17.0	13.0	30.6	12.5	5.87	1.62	.76	1.06
MAX	13	32	16	18	34	15	68	23	11	3.8	.85	1.9
MIN	6.9	11	11	12	14	12	12	6.1	1.7	.68	.54	.63
AC-FT	537	776	833	805	944	797	1820	768	349	100	47	63

e Estimated.

10260500 DEEP CREEK NEAR HESPERIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1905 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.27	19.5	56.1	135	214	217	145	65.7	17.8	5.74	3.23	3.61
MAX	42.0	606	843	2062	2028	1539	747	456	80.4	25.9	29.2	54.3
(WY)	1984	1966	1922	1993	1993	1978	1958	1998	1998	1969	1983	1976
MIN	.23	1.14	2.53	4.56	6.07	4.87	3.20	2.37	1.14	.14	.13	.10
(WY)	1934	1957	1905	1951	1951	1956	1951	1934	1956	1961	1933	1933

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1905 - 1999	
ANNUAL TOTAL	62800.7		3951.07			
ANNUAL MEAN	172		10.8		73.2	
HIGHEST ANNUAL MEAN					411	
LOWEST ANNUAL MEAN					3.06	
HIGHEST DAILY MEAN	5090	Feb 23	68	Apr 15	14700	Jan 25 1969
LOWEST DAILY MEAN	6.6	Aug 29	.54	Aug 5	.00	Jul 17 1961
ANNUAL SEVEN-DAY MINIMUM	7.1	Aug 24	.61	Jul 31	.07	Jul 12 1961
INSTANTANEOUS PEAK FLOW			84	Apr 15	46600	Mar 2 1938
INSTANTANEOUS PEAK STAGE			2.13	Apr 15	23.81	Feb 10 1978
ANNUAL RUNOFF (AC-FT)	124600		7840		53000	
10 PERCENT EXCEEDS	347		18		142	
50 PERCENT EXCEEDS	19		12		10	
90 PERCENT EXCEEDS	8.0		.80		1.0	

10260550 WEST FORK MOJAVE RIVER ABOVE SILVERWOOD LAKE, NEAR HESPERIA, CA

LOCATION.—Lat 34°17'06", long 117°22'16", in NW 1/4 SE 1/4 sec.2, T.2 N., R.5 W., San Bernardino County, Hydrologic Unit 18090208, San Bernardino National Forest, on left bank, 1.5 mi upstream from Silverwood Lake, and 10.6 mi southwest of Hesperia.

DRAINAGE AREA.—3.22 mi².

PERIOD OF RECORD.—October 1995 to current year. Unpublished records for water years 1961–95 available in files of the California Department of Water Resources.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 3,550 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of the Mojave River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 584 ft³/s, Feb. 23, 1998, gage height, 3.88 ft; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.31	.48	.48	1.1	.71	.74	1.3	.53	.02	.00	.00
2	.27	.32	.48	.48	.89	.68	.71	1.2	.74	.01	.00	.00
3	.31	.30	.50	.48	.85	.65	.84	1.3	.68	.01	.00	.00
4	.32	.30	.77	.48	.93	.70	.85	1.3	.65	.01	.00	.00
5	.27	.31	.59	.48	1.3	.68	.81	1.2	.60	.01	.00	.00
6	.23	.34	.57	.48	1.3	.65	1.9	1.1	.56	.00	.00	.00
7	.23	.37	.53	.48	1.3	.65	2.6	1.1	.53	.00	.00	.00
8	.21	.45	.53	.48	1.3	.65	2.4	1.1	.53	.00	.00	.00
9	.22	.46	.51	.48	2.5	.65	2.4	1.0	.51	.00	.00	.00
10	.22	.39	.48	.48	2.9	.65	2.0	.98	.47	.00	.00	.00
11	.21	.45	.48	.48	1.7	.65	2.7	.96	.45	.00	.00	.00
12	.21	.47	.48	.48	1.4	.65	8.9	.90	.41	.00	.00	.00
13	.20	.44	.48	.48	1.2	.65	5.3	.89	.37	.00	.00	.00
14	.20	.44	.48	.48	1.1	.63	4.5	.87	.33	.00	.00	.00
15	.25	.42	.48	.47	1.0	1.0	3.6	.86	.29	.00	.00	.00
16	.26	.37	.48	.44	.95	.88	2.8	.82	.27	.00	.00	.00
17	.23	.36	.48	.44	.89	.85	2.4	.80	.25	.00	.00	.00
18	.23	.39	.48	.44	.85	.85	2.1	.80	.23	.00	.00	.00
19	.24	.39	.49	.44	.85	.85	1.8	.85	.21	.00	.00	.00
20	.23	.39	.56	.46	.81	.89	1.7	.82	.19	.00	.00	.00
21	.22	.38	.53	.48	.78	.88	1.5	.82	.18	.00	.00	.00
22	.22	.35	.53	.48	.75	.85	1.5	.84	.17	.00	.00	.00
23	.23	.35	.53	.48	.71	.85	1.4	.81	.15	.00	.00	.00
24	.24	.38	.53	.48	.71	.82	1.4	.81	.12	.00	.00	.00
25	.26	.39	.53	.62	.68	.78	1.3	.74	.11	.00	.00	.00
26	.28	.39	.53	.74	.65	.78	1.2	.65	.10	.00	.00	.00
27	.28	.39	.53	.78	.65	.75	1.2	.64	.08	.00	.00	.00
28	.26	.86	.53	.66	.65	.71	1.4	.60	.06	.00	.00	.00
29	.27	.55	.48	.65	---	.69	1.3	.57	.04	.00	.00	.00
30	.33	.51	.48	.69	---	.66	1.3	.58	.04	.00	.00	.00
31	.31	---	.48	1.3	---	.71	---	.55	---	.00	.00	---
TOTAL	7.75	12.22	16.01	16.77	30.70	23.05	64.55	27.76	9.85	0.06	0.00	0.00
MEAN	.25	.41	.52	.54	1.10	.74	2.15	.90	.33	.002	.000	.000
MAX	.33	.86	.77	1.3	2.9	1.0	8.9	1.3	.74	.02	.00	.00
MIN	.20	.30	.48	.44	.65	.63	.71	.55	.04	.00	.00	.00
AC-FT	15	24	32	33	61	46	128	55	20	.1	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

MEAN	.081	.19	1.46	3.86	10.5	5.42	3.97	4.85	1.67	.46	.11	.065
MAX	.25	.41	4.49	12.8	26.5	12.5	10.5	17.1	5.94	1.81	.44	.26
(WY)	1999	1999	1997	1997	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	.041	.31	.54	1.10	.74	1.03	.48	.13	.000	.000	.000
(WY)	1998	1998	1996	1999	1999	1999	1997	1997	1997	1997	1996	1996

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1996 - 1999
ANNUAL TOTAL	2314.82	208.72	
ANNUAL MEAN	6.34	.57	2.67
HIGHEST ANNUAL MEAN			6.29
LOWEST ANNUAL MEAN			.57
HIGHEST DAILY MEAN	278	Feb 23	278
LOWEST DAILY MEAN	.13	Aug 30	.00
ANNUAL SEVEN-DAY MINIMUM	.15	Sep 14	.00
INSTANTANEOUS PEAK FLOW		11	584
INSTANTANEOUS PEAK STAGE		2.24	3.88
ANNUAL RUNOFF (AC-FT)	4590	414	1940
10 PERCENT EXCEEDS	15	1.2	7.0
50 PERCENT EXCEEDS	1.1	.48	.44
90 PERCENT EXCEEDS	.24	.00	.00

10260700 EAST FORK OF WEST FORK MOJAVE RIVER ABOVE SILVERWOOD LAKE, NEAR HESPERIA, CA

LOCATION.—Lat 34°16'13", long 117°17'31", in NW 1/4 SW 1/4 sec.10, T.2 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, San Bernardino National Forest, on right bank, 0.8 mi downstream from Houston Creek, 1.5 mi upstream from Silverwood Lake, and 10.8 mi south of Hesperia.

DRAINAGE AREA.—11.2 mi².

PERIOD OF RECORD.—October 1995 to current year. Unpublished records for water years 1961–95 available in files of the California Department of Water Resources.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 3,590 ft above sea level, from topographic map.

REMARKS.—Flow slightly regulated by Lake Gregory 3.2 mi upstream. See schematic diagram of the Mojave River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,440 ft³/s, Feb. 23, 1998, gage height, 6.92 ft; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	.56	1.2	1.3	3.9	1.7	1.6	2.7	.82	.07	.00	.00
2	.45	.57	1.1	1.2	3.2	1.7	1.7	2.6	1.8	.05	.00	.00
3	.44	.61	1.1	1.2	2.8	1.6	1.8	2.5	1.3	.04	.00	.00
4	.5	.61	2.9	1.2	3.2	1.6	2.1	2.4	1.2	.03	.00	.00
5	.43	.61	2.6	1.1	4.4	1.6	1.9	2.3	1	.03	.00	.00
6	.39	.61	2.6	1.1	4.4	1.6	4.7	2.1	.91	.02	.00	.00
7	.39	.65	2	1.2	4.1	1.6	5.9	2	.82	.01	.00	.00
8	.38	.83	1.7	1.1	4	1.6	5.1	1.9	.79	.02	.00	.00
9	.37	.8	1.5	1	8.7	1.6	4.8	1.9	.78	.02	.00	.00
10	.38	.74	1.3	1	15	1.6	4.2	1.8	.75	.01	.00	.00
11	.38	.89	1.2	1	8.3	1.6	5.1	1.7	.69	1.4	.00	.00
12	.37	.95	1.2	1	5.8	1.6	12	1.6	.63	.18	.00	.00
13	.36	.81	1.2	1	4.9	1.5	9.3	1.6	.57	.12	.00	.00
14	.36	.81	1.3	1	4.4	1.5	8	1.6	.49	.09	.00	.00
15	.43	.78	1.2	1	3.5	2.3	7.3	1.6	.43	.06	.00	.00
16	.47	.74	1.1	1	3.1	2	6.5	1.5	.39	.05	.00	.00
17	.44	.72	1	1	2.9	1.9	5.8	1.4	.36	.04	.00	.00
18	.46	.74	1	1.1	2.7	1.8	5.3	1.3	.33	.03	.00	.00
19	.46	.78	1.4	1.2	2.6	1.7	5	1.3	.3	.03	.00	.00
20	.43	.81	2.2	1.3	2.5	1.7	4.6	1.3	.26	.02	.00	.00
21	.43	.81	1.7	1.5	5.6	1.7	4.2	1.3	.25	.01	.00	.00
22	.42	.81	1.3	1.3	10	1.6	3.9	1.3	.23	.01	.00	.00
23	.44	.78	1.3	1.3	10	1.6	3.6	1.2	.22	.00	.00	.00
24	.46	.74	1.2	1.4	10	1.6	3.6	1.2	.19	.00	.00	.00
25	.48	.74	1.2	2.1	7.9	1.6	3.3	1.1	.17	.00	.00	.00
26	.52	.77	1.2	4	1.9	1.6	3	1	.15	.00	.00	.00
27	.53	.79	1.2	5	1.7	1.5	2.7	.98	.13	.00	.00	.00
28	.52	5	1.2	3.7	1.6	1.5	2.9	.93	.11	.00	.00	.00
29	.55	2.5	1.2	2.8	---	1.4	2.8	.86	.09	.00	.00	.00
30	.59	1.5	1.2	2.6	---	1.4	3	.87	.08	.00	.00	.00
31	.56	---	1.3	4.5	---	1.4	---	.84	---	.00	.00	---
TOTAL	13.90	29.06	44.8	52.2	143.1	50.7	135.7	48.68	16.24	2.34	0.00	0.00
MEAN	.45	.97	1.45	1.68	5.11	1.64	4.52	1.57	.54	.075	.000	.000
MAX	.59	5.0	2.9	5.0	15	2.3	12	2.7	1.8	1.4	.00	.00
MIN	.36	.56	1.0	1.0	1.6	1.4	1.6	.84	.08	.00	.00	.00
AC-FT	28	58	89	104	284	101	269	97	32	4.6	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

MEAN	.16	.92	3.13	9.43	31.6	15.9	13.4	14.2	4.65	1.32	.28	.64
MAX	.45	2.10	9.36	29.5	84.8	38.0	43.0	53.2	17.5	5.18	1.11	2.56
(WY)	1999	1997	1997	1997	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	.27	.61	1.27	5.11	1.64	1.89	.65	.17	.001	.000	.000
(WY)	1998	1998	1996	1996	1999	1999	1997	1997	1997	1997	1996	1996

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1996 - 1999

ANNUAL TOTAL	7541.31	536.72	
ANNUAL MEAN	20.7	1.47	7.82
HIGHEST ANNUAL MEAN			20.5
LOWEST ANNUAL MEAN			1.47
HIGHEST DAILY MEAN	577	Feb 23	577
LOWEST DAILY MEAN	.36	Oct 13	.00
ANNUAL SEVEN-DAY MINIMUM	.37	Oct 8	.00
INSTANTANEOUS PEAK FLOW		28	1440
INSTANTANEOUS PEAK STAGE		3.47	6.92
ANNUAL RUNOFF (AC-FT)	14960	1060	5670
10 PERCENT EXCEEDS	47	3.9	21
50 PERCENT EXCEEDS	4.2	1.0	.85
90 PERCENT EXCEEDS	.51	.00	.00

10260790 SILVERWOOD LAKE NEAR HESPERIA, CA

LOCATION.—Lat 34°18'15", long 117°19'05", in SW 1/4 NE 1/4 sec.32, T.3 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, San Bernardino National Forest, in control structure, near spillway of Cedar Springs Dam, and 8.7 mi south of Hesperia.

DRAINAGE AREA.—34.0 mi².

PERIOD OF RECORD.—October 1995 to current year. Unpublished records for water years 1972–95 available in files of the California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Lake is formed by earthfill dam completed in 1972. Capacity, 74,970 acre-ft, at spillway crest of 3,355 ft. Dead storage at invert of outlet structure, 3,967 acre-ft, elevation, 3,235 ft. Lake is a holding basin for California Aqueduct. See REMARKS for station 10260820. See schematic diagram of Mojave River Basin.

COOPERATION.—Records were collected by California Department of Water Resources under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400 HOURS) FOR PERIOD OF RECORD.—Maximum contents, 74,521 acre-ft, Jan. 18, 1998, elevation, 3,354.54 ft; minimum, 38,006 acre-ft, Mar. 22, 1996, elevation, 3,310.24 ft.

EXTREMES (AT 2400 HOURS) FOR CURRENT YEAR.—Maximum contents, 74,201 acre-ft, Jan. 1, elevation, 3,354.21 ft; minimum, 53,636 acre-ft, Mar. 5, elevation, 3,331.17.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources, dated January 1978)

3,300	31,395	3,335	56,811
3,315	41,311	3,345	65,554
3,325	48,732	3,355	74,970

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71368	72264	72341	74201	62472	58337	70120	72427	69575	69519	71254	69379
2	70998	72561	72063	74007	62146	57453	70497	72782	69491	69360	71368	69117
3	71226	72983	72369	73929	61960	56031	70771	73051	69528	69341	71672	69276
4	71425	72638	72983	73571	61697	54866	71359	72916	69538	69052	71663	69061
5	71302	72772	72609	73311	61477	53636	71511	72666	70280	68567	71406	69192
6	70979	72628	73089	73022	61206	53742	71093	72436	70809	68502	71511	69678
7	70960	72379	73195	72561	61013	54340	71473	72197	70629	67558	71511	70129
8	70799	72408	73003	72245	60917	55199	71235	72092	70752	66832	71501	69847
9	70884	72216	72791	71853	60978	56626	71121	71777	70318	67466	71634	69951
10	71074	72551	72916	71853	60969	58132	71577	71911	70035	68011	71368	69857
11	71235	72810	72810	71691	60760	59056	71815	71530	70676	67863	71093	70148
12	71473	72302	72839	71311	60778	60082	71749	70960	70913	68438	70572	70111
13	71768	72169	72561	71093	60821	61223	71997	70544	70951	67447	70601	70337
14	71892	71777	72580	71017	60961	62587	72025	70535	70979	67438	70233	70365
15	72083	71730	72599	70572	60856	64039	71853	70535	71112	67678	70111	70299
16	72083	71730	72580	69922	60717	65464	71758	69838	70639	67853	69876	70233
17	72102	71787	72590	69145	60577	66997	71634	69660	70073	68029	69482	70393
18	72408	71987	72523	68001	60464	68131	71549	69332	69810	68735	69425	70525
19	72475	72035	72523	66740	60308	69528	71463	69482	69969	69192	69435	70837
20	72054	72331	72551	65273	60195	71197	71045	69641	70158	69397	69435	70884
21	71710	72083	72859	63780	60039	71045	71558	69885	70374	69650	69061	70724
22	71806	71987	72849	63102	59952	71026	71634	69697	70205	69463	68614	70894
23	72178	71968	73032	62871	59771	70970	71473	69904	70280	69397	68698	71112
24	72503	72226	72676	62833	59641	71530	71492	70092	70195	69932	68781	71055
25	72638	72350	72619	62809	59555	71283	71596	69904	69941	70761	68837	71273
26	71882	72341	72264	62862	59339	70714	71949	69650	70082	71463	68753	71672
27	72111	72753	72274	62960	58721	70261	71958	69369	70158	71730	68912	71625
28	72197	73022	72408	62818	58747	70913	71882	69154	70186	71873	68865	71672
29	72302	72887	72791	62809	---	71064	72035	69304	69904	71997	69557	71787
30	72887	72686	73243	62641	---	71008	72102	69061	69603	71672	69500	71511
31	72571	---	73707	62596	---	70308	---	69369	---	71511	69379	---
MAX	72887	73022	73707	74201	62472	71530	72102	73051	71112	71997	71672	71787
MIN	70799	71730	72063	62596	58721	53636	70120	69061	69491	66832	68614	69061
a	3352.52	3352.64	3353.70	3341.70	3337.28	3350.14	3352.03	3349.14	3349.39	3351.41	3349.15	3351.41
b	+1307	+115	+1021	-11111	-3849	+11561	+1794	-2733	+234	+1908	-2132	+2132

CAL YR 1998 b +4478
WTR YR 1999 b +247

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

10260820 WEST FORK MOJAVE RIVER BELOW SILVERWOOD LAKE, NEAR HESPERIA, CA

LOCATION.—Lat 34°18'15", long 117°19'06", in SW 1/4 NE 1/4 sec.32, T.3 N., R.4 W., San Bernardino County, Hydrologic Unit 18090208, San Bernardino National Forest, in control room under spillway at Cedar Springs Dam, and 8.7 mi south of Hesperia.

DRAINAGE AREA.—34.0 mi².

PERIOD OF RECORD.—October 1980 to September 1983, October 1995 to current year. Unpublished records for water years 1973–95 available in files of the California Department of Water Resources.

GAGE.—Flowmeter on release valve and theoretical rating on two slide gates. Elevation of gage is 3,180 ft above sea level, from topographic map. Prior to October 1983, at recording site 0.3 mi downstream, at different datum.

REMARKS.—Flow regulated by Silverwood Lake (station 10260790). Lake stores water received from the California Aqueduct at Mojave Siphon Powerplant (station 10260780) until it is transferred to San Bernardino area through Devil Canyon Powerplant (station 11063682). Las Flores Release from Aqueduct (station 10260822) delivers water to vicinity of West Fork Mojave River. See schematic diagram of Mojave River Basin.

COOPERATION.—Records collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,290 ft³/s, Mar. 2, 1983, gage height, 7.51 ft, site and datum then in use; no flow for most of every year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
a	1810	1550	906	1550	552	1740	87	0	236	0	458	0
b	28740	10790	7320	14910	5250	27830	34330	35950	46050	62380	61870	57300
c	438	160	419	126	0	301	864	533	239	82	48	51

a Flow, in acre-feet, through Mojave Siphon Powerplant, provided by California Department of Water Resources.

b Flow, in acre-feet, through Devil Canyon Powerplant, provided by California Department of Water Resources.

c Flow, in acre-feet, through Las Flores Release, provided by California Department of Water Resources.

10260820 WEST FORK MOJAVE RIVER BELOW SILVERWOOD LAKE, NEAR HESPERIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.051	.77	10.7	21.3	94.2	131	32.2	30.9	5.54	.76	2.14	.18
MAX	.19	4.03	50.8	73.9	403	739	87.8	126	28.9	2.65	14.6	1.18
(WY)	1983	1983	1983	1997	1983	1983	1998	1998	1998	1997	1997	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1996	1996	1996	1999	1999	1999	1997	1997	1981	1996	1996	1996

SUMMARY STATISTICS FOR 1998 CALENDAR YEAR FOR 1999 WATER YEAR WATER YEARS 1981 - 1999

ANNUAL TOTAL	13727.00								
ANNUAL MEAN	37.6						27.2		
HIGHEST ANNUAL MEAN							118		
LOWEST ANNUAL MEAN							.000		
HIGHEST DAILY MEAN	935			Feb 24			1990		
LOWEST DAILY MEAN	.00			Jan 1			.00 Oct 1		
ANNUAL SEVEN-DAY MINIMUM	.00			Jan 1			.00 Oct 1		
INSTANTANEOUS PEAK FLOW							2290		
INSTANTANEOUS PEAK STAGE							7.51		
ANNUAL RUNOFF (AC-FT)	27230						19700		
TOTAL FLOW (AC-FT) a	297500						8880		
TOTAL FLOW (AC-FT) b	356900						392700		
TOTAL FLOW (AC-FT) c	9040						3260		
10 PERCENT EXCEEDS	100						.00		
50 PERCENT EXCEEDS	.00						.00		
90 PERCENT EXCEEDS	.00						.00		

- a Flow, in acre-feet, through Mojave Siphon Powerplant, provided by California Department of Water Resources.
- b Flow, in acre-feet, through Devil Canyon Powerplant, provided by California Department of Water Resources.
- c Flow, in acre-feet, through Las Flores Release, provided by California Department of Water Resources.

10260950 WEST FORK MOJAVE RIVER ABOVE MOJAVE RIVER FORKS RESERVOIR, 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 on Silverwood Lake, and 6.5 mi southeast of Hesperia.

DRAINAGE AREA.—70.3 mi².

PERIOD OF RECORD.—October 1974 to current year. October 1974 to September 1991 published incorrectly as station 10261000. Records for station 10261000 are not equivalent due to difference in drainage area.

REVISED RECORDS.—WDR CA-84: 1983.

GAGE.—Water-stage recorder. Elevation of gage is 3,040 ft above sea level, from topographic map.

REMARKS.—Records poor. Regulated by Silverwood Lake (holding basin for imported water), total capacity, 78,000 acre-ft, 4.5 mi upstream, which releases all natural inflow as soon as possible after a storm. See schematic diagram of Mojave River Basin.

EXTREMES FOR THE PERIOD OF RECORD.—Maximum discharge, 11,300 ft³/s, Feb. 10, 1978, gage height unknown, on basis of slope-area measurement of peak flow; maximum gage height, 23.2 ft, Feb. 10, 1978, backwater from Mojave River Forks Reservoir; no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 26,100 ft³/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow for station 10261000 at site 1.5 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.94	.00	.00	e1.4	.00	.00	5.7	9.4	.00	.00	.00	.00
2	e.92	.00	.00	1.3	.00	.00	5.8	10	.00	.00	.00	.00
3	e.90	.00	.00	e1.4	.00	.00	6.1	9.6	.00	.00	.00	.00
4	e.88	.00	.00	e1.2	.00	.00	6.5	9.2	.00	.00	.00	.00
5	e.86	.00	.72	e1.0	.00	.00	5.9	8.5	.00	.00	.00	.00
6	1.9	.00	3.2	e.90	.00	.00	6.7	7.9	.00	.00	.00	.00
7	1.4	.00	3.5	e.80	.00	.00	8.5	7.7	.00	.00	.00	.00
8	.92	.00	3.5	.73	.00	.00	12	7.3	.00	.00	.00	.00
9	.89	.00	3.5	e.70	.00	.00	13	7.4	.00	.00	.00	.00
10	1.0	.00	3.5	e.65	1.2	.00	13	7.2	.00	.00	.00	.00
11	1.0	.00	3.8	.60	.34	.00	14	7.3	.00	.00	.00	.00
12	1.1	.00	3.8	.60	.00	.00	22	6.9	.00	.00	.00	.00
13	.99	.00	3.6	.43	.00	.00	28	3.4	.00	.00	.00	.00
14	.87	.00	3.6	.00	.00	.51	32	1.3	.00	.00	.00	.00
15	.00	.00	3.7	.00	.00	5.8	29	.84	.00	.00	.00	.00
16	.00	.00	4.6	.00	.00	4.5	26	.51	.00	.00	.00	.00
17	.00	.00	3.8	.00	.00	4.6	24	.21	.00	.00	.00	.00
18	.00	.00	3.8	.00	.00	4.9	23	.00	.00	.00	.00	.00
19	.00	.00	e3.0	.00	.00	4.5	22	.00	.00	.00	.00	.00
20	.00	.00	2.6	.00	.00	5.1	18	.00	.00	.00	.00	.00
21	.00	.00	1.3	.00	.00	5.2	15	.00	.00	.00	.00	.00
22	.00	.00	e2.0	.00	.00	5.9	15	.00	.00	.00	.00	.00
23	.00	.00	3.6	.00	.00	6.2	13	.00	.00	.00	.00	.00
24	.00	.00	3.0	.00	.00	6.0	12	.00	.00	.00	.00	.00
25	.00	.00	3.7	.00	.00	6.0	11	.00	.00	.00	.00	.00
26	.00	.00	1.8	.00	.00	6.2	10	.00	.00	.00	.00	.00
27	.00	.00	1.7	.00	.00	6.2	9.8	.00	.00	.00	.00	.00
28	.00	.00	e1.6	.00	.00	5.9	11	.00	.00	.00	.00	.00
29	.00	.00	e1.6	.00	---	5.7	10	.00	.00	.00	.00	.00
30	.00	.00	e1.5	.00	---	5.6	10	.00	.00	.00	.00	.00
31	.00	---	1.4	.00	---	5.6	---	.00	---	.00	.00	---
TOTAL	14.57	0.00	77.42	11.71	1.54	94.41	438.0	104.66	0.00	0.00	0.00	0.00
MEAN	.47	.000	2.50	.38	.055	3.05	14.6	3.38	.000	.000	.000	.000
MAX	1.9	.00	4.6	1.4	1.2	6.2	32	10	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	5.7	.00	.00	.00	.00	.00
AC-FT	29	.00	154	23	3.1	187	869	208	.00	.00	.00	.00

e Estimated.

10260950 WEST FORK MOJAVE RIVER ABOVE MOJAVE RIVER FORKS RESERVOIR, NEAR HESPERIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.71	4.94	14.5	74.4	162	154	53.2	34.3	14.4	1.46	.57	.69
MAX	41.8	50.4	68.6	810	883	948	253	296	169	10.1	11.4	8.29
(WY)	1994	1993	1984	1993	1993	1983	1980	1978	1978	1998	1997	1993
MIN	.000	.000	.000	.000	.055	.24	.000	.000	.000	.000	.000	.000
(WY)	1975	1975	1976	1975	1999	1977	1987	1984	1975	1975	1975	1975

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1975 - 1999	
ANNUAL TOTAL	22833.20		742.31			
ANNUAL MEAN	62.6		2.03		42.5	
HIGHEST ANNUAL MEAN					183	1978
LOWEST ANNUAL MEAN					.94	1987
HIGHEST DAILY MEAN	2590	Feb 24	32	Apr 14	4900	Feb 10 1978
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 15	.00	Oct 1 1974
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 5	.00	Oct 15	.00	Oct 1 1974
INSTANTANEOUS PEAK FLOW			38	Apr 14	11300	Feb 10 1978
INSTANTANEOUS PEAK STAGE			.58	Apr 14	23.20	Feb 10 1978
ANNUAL RUNOFF (AC-FT)	45290		1470		30770	
10 PERCENT EXCEEDS	125		6.8		67	
50 PERCENT EXCEEDS	7.8		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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, and 3 mi northwest of Victorville.

DRAINAGE AREA.—513 mi².

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.

CHEMICAL DATA: Specific conductance 1975–81.

WATER TEMPERATURE: Water years 1962–80.

REVISED RECORDS.—WSP 1927: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 2,643.01 ft above sea level. 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.—Records fair. Flow regulated by Mojave River Forks Reservoir, capacity, 89,700 acre-ft, since 1971, 17.8 mi upstream; Silverwood Lake, capacity, 78,000 acre-ft, since 1971; and Lake Arrowhead, capacity, 48,000 acre-ft, since 1922. Some water is imported into basin. Diversions and pumping for irrigation and for Mojave State Fish Hatchery upstream from station. See schematic diagram of Mojave River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 70,600 ft³/s, Mar. 2, 1938, gage height, 23.7 ft, present datum, from rating curve extended above 10,000 ft³/s on basis of slope-area measurement of peak flow; no flow Sept. 21–23, 1995.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	10	16	21	24	26	16	15	9.5	3.2	3.0	1.9
2	9.9	12	17	19	23	24	17	13	12	3.2	3.2	1.9
3	e9.5	13	18	16	22	28	21	13	15	2.4	2.9	1.9
4	e9.2	14	26	14	22	27	15	14	12	2.5	2.5	2.0
5	e9.0	14	29	22	22	23	16	13	12	2.7	2.4	2.0
6	8.9	13	31	22	23	20	16	13	10	2.6	2.3	2.0
7	8.9	12	30	20	21	18	17	16	8.9	2.7	2.3	2.0
8	9.0	14	24	17	21	17	18	14	8.2	2.9	2.3	2.0
9	9.8	14	27	17	22	16	19	15	8.4	4.4	2.3	1.9
10	9.2	13	31	e15	23	16	24	15	8.7	4.3	2.2	1.9
11	9.5	13	30	e14	21	15	20	12	8.6	59	2.3	2.0
12	9.8	e12	27	e15	22	16	27	12	9.0	23	2.3	2.0
13	e9.8	e10	23	15	19	16	20	12	7.9	13	2.4	1.8
14	e9.9	11	24	14	19	16	20	11	8.1	6.0	2.6	1.9
15	e10	12	21	14	17	15	23	12	7.6	4.8	2.3	2.0
16	10	14	22	17	17	16	22	11	6.9	4.3	2.2	2.0
17	11	17	23	19	20	15	24	11	6.2	4.4	2.1	2.0
18	10	14	24	18	26	15	25	10	6.2	4.9	2.1	2.0
19	11	14	26	18	26	18	18	9.0	5.5	4.4	2.0	1.9
20	e11	15	22	16	27	19	17	9.4	5.6	3.4	2.0	1.9
21	e11	21	27	13	27	18	22	9.0	5.1	2.7	1.8	1.9
22	e11	18	25	13	28	20	24	9.9	4.7	2.4	1.9	2.0
23	12	17	26	14	25	20	17	10	4.3	2.7	1.8	2.0
24	12	20	26	15	26	20	18	11	4.4	2.6	1.7	2.2
25	12	16	26	22	24	17	21	12	3.6	2.5	1.8	2.3
26	e11	16	25	24	20	15	21	9.8	3.4	3.0	1.8	2.8
27	e11	16	25	27	20	15	19	11	3.2	3.1	1.9	2.8
28	10	15	24	24	21	14	20	11	3.5	2.4	1.8	2.8
29	11	13	20	22	---	15	17	9.4	3.2	2.4	1.7	2.8
30	11	16	21	23	---	15	18	9.4	3.1	2.4	1.8	2.9
31	11	---	21	23	---	16	---	11	---	2.7	1.9	---
TOTAL	316.9	429	757	563	628	561	592	363.9	214.8	187.0	67.6	63.5
MEAN	10.2	14.3	24.4	18.2	22.4	18.1	19.7	11.7	7.16	6.03	2.18	2.12
MAX	12	21	31	27	28	28	27	16	15	59	3.2	2.9
MIN	8.5	10	16	13	17	14	15	9.0	3.1	2.4	1.7	1.8
AC-FT	629	851	1500	1120	1250	1110	1170	722	426	371	134	126

e Estimated.

10261500 MOJAVE RIVER AT LOWER NARROWS, NEAR VICTORVILLE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	24.0	35.5	51.5	98.6	212	224	128	48.9	21.7	14.9	15.0	16.9
MAX	58.2	222	376	1487	2334	2229	1015	312	157	32.5	29.3	41.7
(WY)	1977	1966	1967	1993	1993	1938	1958	1998	1978	1969	1969	1976
MIN	3.19	10.3	13.5	16.0	18.2	12.6	11.6	6.78	3.64	1.90	1.60	1.63
(WY)	1998	1998	1995	1998	1991	1990	1990	1997	1997	1997	1997	1996

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1931 - 1999	
ANNUAL TOTAL	42239.4		4743.7			
ANNUAL MEAN	116		13.0		73.5	
HIGHEST ANNUAL MEAN					402	
LOWEST ANNUAL MEAN					11.3	
HIGHEST DAILY MEAN	8000	Feb 24	59	Jul 11	21000	Feb 25 1969
LOWEST DAILY MEAN	2.2	Aug 4	1.7	Aug 24	.00	Sep 21 1995
ANNUAL SEVEN-DAY MINIMUM	3.3	Jul 30	1.8	Aug 23	.37	Sep 20 1995
INSTANTANEOUS PEAK FLOW			558	Jul 11	70600	Mar 2 1938
INSTANTANEOUS PEAK STAGE			2.96	Jul 11	23.70	Mar 2 1938
ANNUAL RUNOFF (AC-FT)	83780		9410		53260	
10 PERCENT EXCEEDS	272		24		54	
50 PERCENT EXCEEDS	16		13		27	
90 PERCENT EXCEEDS	5.3		2.1		11	

10262500 MOJAVE RIVER AT BARSTOW, CA

LOCATION.—Lat 34°54'25", long 117°01'19", in SW 1/4 SE 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.

DRAINAGE AREA.—1,291 mi².

PERIOD OF RECORD.—October 1930 to current year.

REVISED RECORDS.—WSP 1564: 1932.

GAGE.—Water-stage recorder. Datum of gage is 2,089.34 ft above sea level.

REMARKS.—Flow regulated by Mojave River Forks Reservoir, capacity, 89,700 acre-ft, since 1971, 60 mi upstream; Silverwood Lake, capacity, 78,000 acre-ft, since 1971; and Lake Arrowhead, capacity, 48,000 acre-ft, since 1922. Some water is imported into basin. Diversions and pumping for irrigation of about 15,000 acres upstream from station. See schematic diagram of Mojave River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 64,300 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	e, 17	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.006	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.17	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.3	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1999, BY WATER YEAR (WY)

MEAN	.001	.36	3.41	25.1	97.0	113	41.2	5.44	.001	.004	.021	.017
MAX	.061	20.2	116	747	1640	1962	547	93.5	.080	.090	1.31	.71
(WY)	1959	1966	1967	1969	1993	1938	1941	1941	1972	1958	1979	1984
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931	1931

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1931 - 1999

ANNUAL TOTAL	5300.00	0.17	
ANNUAL MEAN	14.5	.000	
HIGHEST ANNUAL MEAN			23.4
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	4100	Feb 24	18100
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			4.0
INSTANTANEOUS PEAK STAGE			Apr 12
ANNUAL RUNOFF (AC-FT)	10510	.3	16920
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

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 right bank side of right pier of Union Pacific Railroad bridge, 0.3 mi west of Afton, and 63 mi east of Barstow.

DRAINAGE AREA.—2,121 mi².

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.

REVISED RECORDS.—WSP 1564: 1931.

GAGE.—Water-stage recorder. Datum of gage is 1,398.15 ft above sea level. 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.—Records poor. 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). See schematic diagram of Mojave River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 18,000 ft³/s, Jan. 26, 1969, gage height, 12.40 ft (present datum), from rating curve extended above 3,200 ft³/s on basis of slope-area measurement of peak flow; no flow at times during many years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 28	2330	564	4.10				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	e. 37	.52	.74	.64	.64	.74	1.1	.26	.08	.21	.21
2	.20	e. 37	.56	.74	.64	.59	.77	.80	.57	.07	.22	.16
3	.19	e. 39	.56	.74	.64	.64	.77	.68	.44	.07	.22	.17
4	.19	e. 41	.56	.74	.65	.64	.98	.61	.44	.07	.19	.19
5	.17	e. 46	.56	.77	.72	.64	.86	.56	.40	.08	.18	.19
6	.17	e. 46	.62	.84	.64	.64	.79	.55	.37	.08	.17	.17
7	.19	e. 47	.64	.84	.64	.64	.78	.51	.28	.08	.19	.17
8	e. 19	e. 50	.64	.84	.64	.64	.74	.45	.25	.46	.20	.16
9	e. 22	e. 51	.64	.84	.64	.64	.74	.44	.26	.31	.19	.17
10	e. 23	e. 52	.64	.84	.62	.66	.74	.42	.26	.22	.18	.18
11	e. 25	e. 52	.64	.78	.56	.64	.90	.44	.27	.17	.17	.16
12	e. 26	e. 48	.64	.74	.56	.64	1.5	.42	.20	.25	.16	.19
13	e. 27	.42	.67	.74	.59	.64	1.2	.36	.19	.19	.17	.22
14	e. 27	.42	.74	.74	.64	.64	.90	.32	.17	.38	.15	.16
15	e. 27	.42	.74	.74	.64	.67	.78	.36	.16	.28	.14	.16
16	e. 28	.42	.65	.79	.64	.67	.74	.37	.15	.14	.16	.20
17	e. 28	.47	.69	.84	.64	.74	.72	.36	.14	.12	.15	.21
18	e. 28	.49	.74	.84	.64	.74	.68	.34	.14	.11	.15	.20
19	e. 29	.49	.74	.84	.64	.69	.61	.31	.13	.11	.11	.21
20	e. 29	.49	.69	.84	.61	.72	.56	.32	.13	.11	.13	.21
21	e. 31	.49	.64	.74	.60	.78	.52	.35	.12	.12	.14	.23
22	e. 33	.53	.64	.67	.56	.84	.57	.36	.13	.12	.13	.34
23	e. 35	.56	.63	.68	.56	.82	.67	.36	.13	.11	.13	.36
24	e. 38	.56	.62	.74	.56	.80	.71	.43	.12	.10	.13	.31
25	e. 39	.56	.67	.74	.60	.84	.77	.48	.09	.12	.14	.25
26	e. 40	.52	.74	.77	.57	.84	.59	.36	.09	.13	.14	.21
27	e. 39	.49	.74	.82	.59	.81	.53	.30	.10	.12	.13	.24
28	e. 39	.49	.74	.74	.60	.74	.54	.31	.11	27	.13	.24
29	e. 39	.49	.74	.74	---	.74	1.2	.27	.08	87	.15	.26
30	e. 38	.49	.74	.70	---	.74	1.2	.26	.07	.38	4.5	.29
31	e. 38	---	.78	.64	---	.77	---	.26	---	.25	.28	---
TOTAL	8.78	14.26	20.56	23.80	17.27	21.88	23.80	13.46	6.25	118.83	9.44	6.42
MEAN	.28	.48	.66	.77	.62	.71	.79	.43	.21	3.83	.30	.21
MAX	.40	.56	.78	.84	.72	.84	1.5	1.1	.57	.87	4.5	.36
MIN	.17	.37	.52	.64	.56	.59	.52	.26	.07	.07	.11	.16
AC-FT	17	28	41	47	34	43	47	27	12	236	19	13

e Estimated.

MOJAVE RIVER BASIN

10263000 MOJAVE RIVER AT AFTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.76	.95	2.76	13.6	44.2	17.9	2.87	.67	.41	.69	1.35	.88
MAX	2.97	2.29	63.9	347	876	415	56.4	1.80	1.58	3.83	18.0	5.46
(WY)	1993	1981	1966	1969	1993	1978	1969	1931	1981	1999	1984	1998
MIN	.000	.000	.21	.34	.59	.22	.20	.099	.000	.000	.000	.000
(WY)	1967	1969	1978	1976	1975	1975	1977	1977	1976	1966	1966	1966

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1930 - 1999	
ANNUAL TOTAL	635.93		284.75			
ANNUAL MEAN	1.74		.78		7.04	
HIGHEST ANNUAL MEAN					100	1969
LOWEST ANNUAL MEAN					.22	1975
HIGHEST DAILY MEAN	162	Feb 25	87	Jul 29	10000	Feb 20 1993
LOWEST DAILY MEAN	.00	Jul 6	.07	Jun 30	.00	Jun 28 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 6	.07	Jun 29	.00	Jul 14 1961
INSTANTANEOUS PEAK FLOW			564		18000	Jan 26 1969
INSTANTANEOUS PEAK STAGE			4.10		12.40	Jan 26 1969
ANNUAL RUNOFF (AC-FT)	1260		565		5100	
10 PERCENT EXCEEDS	.93		.77		1.6	
50 PERCENT EXCEEDS	.40		.47		.76	
90 PERCENT EXCEEDS	.01		.13		.06	

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 mi².

PERIOD OF RECORD.—January 1923 to current year. Monthly discharge only for June 1938 to January 1939, published in WSP 1314. Prior to October 1954, published as Rock Creek near Valyermo.

REVISED RECORDS.—WSP 1314: 1938–39. WSP 1564: 1932, 1937, 1939(M). WSP 1927: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 4,050 ft above sea level, 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.—Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,300 ft³/s, Mar. 2, 1938, gage height unknown, on basis of slope-area measurement of peak flow; maximum gage height, 7.70 ft, Jan. 25, 1969; minimum daily, 0.70 ft³/s, Nov. 5, 1951.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
June 19	1730	26	2.07				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.1	8.4	8.4	6.3	6.5	6.1	8.4	4.1	2.8	2.7	2.2
2	11	9.5	8.6	8.2	6.3	6.3	6.3	7.8	4.6	3.1	2.7	2.3
3	11	9.4	8.8	7.6	6.1	6.3	6.3	7.6	4.2	3.7	2.7	2.6
4	11	9.2	9.2	7.6	5.9	6.3	6.3	7.5	4.2	3.6	2.7	2.4
5	11	9.2	9.2	7.6	5.9	6.1	6.3	7.9	4.4	3.7	2.6	2.1
6	11	9.5	10	7.6	6.1	5.9	6.4	7.9	5.1	3.8	2.6	2.0
7	11	9.6	9.6	7.6	6.1	5.9	6.6	7.3	5.1	3.6	2.7	2.0
8	11	11	9.6	7.6	5.9	5.9	6.6	e7.4	4.5	3.7	2.9	1.9
9	10	12	9.6	7.6	6.5	5.9	6.6	e7.6	4.5	3.7	2.7	2.0
10	10	12	9.6	7.6	7.4	5.9	6.6	7.8	4.4	3.7	2.6	2.1
11	10	13	9.6	7.6	7.6	5.9	6.6	7.5	4.3	3.6	2.6	2.0
12	9.9	13	9.4	7.6	7.6	5.9	7.6	7.1	4.3	3.4	2.6	e2.0
13	9.8	13	9.2	7.5	7.4	6.0	7.4	7.1	4.1	3.5	2.5	e2.0
14	9.6	12	9.2	7.3	7.1	6.0	6.8	6.9	3.9	3.4	2.5	e2.0
15	9.5	12	9.2	7.3	6.9	6.3	8.7	6.9	3.6	e3.1	2.4	e2.0
16	9.9	12	8.8	7.3	6.9	6.3	9.3	6.5	3.6	2.7	2.4	2.0
17	9.7	12	8.8	7.3	7.5	6.2	9.1	6.2	3.5	2.6	2.3	2.0
18	9.5	11	8.6	7.3	7.8	6.1	9.3	6.0	3.4	2.5	2.3	2.0
19	9.4	11	8.5	7.3	7.7	6.0	9.5	6.0	4.2	2.4	e2.3	e2.2
20	9.1	11	9.1	7.3	7.5	6.2	9.8	5.6	3.5	2.6	e2.2	2.4
21	9.2	11	9.6	6.7	7.3	6.3	9.9	5.6	3.3	2.9	2.2	2.4
22	9.3	10	9.4	6.6	7.3	6.2	9.6	5.7	3.8	2.8	2.2	2.4
23	9.2	9.7	9.2	6.3	7.3	5.9	9.5	6.0	3.7	2.7	2.1	2.6
24	9.2	9.2	9.1	6.0	7.3	5.7	9.3	6.1	e3.9	e2.8	e2.2	2.6
25	9.2	9.1	8.8	6.9	7.3	5.6	8.7	6.1	e4.0	e2.9	e2.3	2.6
26	9.2	8.7	8.6	6.8	7.2	5.7	8.2	5.4	4.1	e2.9	2.3	e2.6
27	9.4	8.4	8.4	6.6	6.9	5.7	8.3	4.9	3.9	e3.0	2.1	e2.6
28	9.4	11	8.4	6.5	6.8	5.7	8.8	4.7	3.6	3.0	e2.1	e2.7
29	9.1	9.4	8.4	6.3	---	5.9	9.0	4.6	3.5	2.6	e2.0	e2.7
30	9.2	8.6	8.4	6.3	---	5.9	8.8	5.2	2.9	2.8	2.0	e2.7
31	9.1	---	8.4	6.3	---	5.9	---	4.7	---	2.8	2.2	---
TOTAL	305.9	315.6	279.7	222.5	193.9	186.4	238.3	202.0	120.2	96.4	74.7	68.1
MEAN	9.87	10.5	9.02	7.18	6.92	6.01	7.94	6.52	4.01	3.11	2.41	2.27
MAX	11	13	10	8.4	7.8	6.5	9.9	8.4	5.1	3.8	2.9	2.7
MIN	9.1	8.4	8.4	6.0	5.9	5.6	6.1	4.6	2.9	2.4	2.0	1.9
AC-FT	607	626	555	441	385	370	473	401	238	191	148	135

e Estimated.

10263500 BIG ROCK CREEK NEAR VALYERMO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.18	7.45	10.4	18.7	31.4	38.1	31.1	28.2	19.2	11.1	7.95	6.29
MAX	19.0	116	67.0	245	303	432	144	120	91.4	42.2	26.5	19.7
(WY)	1984	1966	1947	1969	1980	1978	1978	1941	1978	1983	1983	1983
MIN	1.05	1.09	1.80	2.10	2.39	2.40	2.67	2.35	1.61	1.15	1.09	1.01
(WY)	1952	1952	1991	1951	1951	1951	1951	1951	1961	1961	1961	1961

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1923 - 1999

ANNUAL TOTAL	13846.0	2303.7		
ANNUAL MEAN	37.9	6.31	17.9	
HIGHEST ANNUAL MEAN			90.9	1978
LOWEST ANNUAL MEAN			1.91	1951
HIGHEST DAILY MEAN	730	Feb 23	3300	Mar 2 1938
LOWEST DAILY MEAN	4.8	Jan 1	.70	Nov 5 1951
ANNUAL SEVEN-DAY MINIMUM	4.9	Jan 1	.87	Nov 3 1951
INSTANTANEOUS PEAK FLOW			26	Jun 19 1938
INSTANTANEOUS PEAK STAGE			2.07	Jun 19 1969
ANNUAL RUNOFF (AC-FT)	27460	4570	12980	
10 PERCENT EXCEEDS	86	9.6	38	
50 PERCENT EXCEEDS	24	6.3	7.5	
90 PERCENT EXCEEDS	8.4	2.4	2.6	

10264636 SLED TRACK CANAL AT LANCASTER BOULEVARD, NEAR ROGERS LAKE, CA

LOCATION.—Lat 34°49'19", long 117°52'20", in NE 1/4 NW 1/4 sec.6, T.8 N., R.9 W., Los Angeles County, Hydrologic Unit 18090206, on left bank at culvert under Lancaster Boulevard, 1.1 mi northeast of intersection of East 120th Avenue and Lancaster Boulevard, approximately 0.25 mi south of Rogers Lake.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—July 1996 to current year.

INSTRUMENTATION.—Recording tipping-bucket rain gage since July 1996.

REMARKS.—Data missing Jan. 13 to May 25 and June 2 to July 20.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily rainfall, 1.38 in., Sept. 25, 1997; no rainfall for many days in most years.

EXTREMES FOR CURRENT YEAR.—Maximum daily rainfall recorded, 0.21 in., Sept. 21; no rainfall for many days.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	.00	---	---	---	---	.00	---	.00	.00
2	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
3	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
4	.00	.00	.04	.00	---	---	---	---	---	---	.00	.00
5	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
6	.00	.00	.04	.00	---	---	---	---	---	---	.00	.00
7	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
8	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
9	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
10	.00	.02	.00	.00	---	---	---	---	---	---	.00	.00
11	.00	.05	.00	.00	---	---	---	---	---	---	.00	.00
12	.00	.00	.00	.00	---	---	---	---	---	---	.00	.00
13	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
14	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
15	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
16	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
17	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
18	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
19	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
20	.00	.00	.00	---	---	---	---	---	---	---	.00	.00
21	.00	.00	.00	---	---	---	---	---	---	.00	.00	.21
22	.00	.00	.00	---	---	---	---	---	---	.00	.00	.00
23	.00	.00	.00	---	---	---	---	---	---	.00	.00	.00
24	.00	.00	.00	---	---	---	---	---	---	.00	.00	.00
25	.00	.00	.00	---	---	---	---	---	---	.00	.00	.00
26	.00	.00	.00	---	---	---	---	.00	---	.00	.00	.00
27	.00	.00	.00	---	---	---	---	.00	---	.00	.00	.00
28	.00	.10	.00	---	---	---	---	.00	---	.00	.00	.00
29	.00	.00	.00	---	---	---	---	.00	---	.00	.00	.00
30	.00	.00	.00	---	---	---	---	.00	---	.00	.00	.00
31	.00	---	.00	---	---	---	---	.00	---	.00	.00	---
TOTAL	0.00	0.17	0.09	---	---	---	---	---	---	---	0.00	0.21

10264640 BUCKHORN CREEK AT EAST 120TH AVENUE, NEAR ROGERS LAKE, CA

LOCATION.—Lat 34°50'18", long 117°54'59", in SE 1/4 SW 1/4 sec.27, T.9 N., R.10 W., Kern County, Hydrologic Unit 18090206, on left bank, on west side of 120th Ave., 250 ft south of Lancaster Blvd., and approximately 0.25 mi southwest of Rogers Lake.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—May 1996 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,270 ft above sea level, from topographic map.

REMARKS.—Records poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 118 ft³/s, Feb. 23, 1998, gage-height, 2.81 ft; maximum gage height, 3.63 ft, Apr. 12, 1999, at different datum; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.01	.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
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.011	.000	.000	.000	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.7	.00	.00	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

MEAN	.001	.017	.13	.005	.60	.000	.004	.000	.000	.000	.000	.071
MAX	.003	.050	.32	.014	1.79	.000	.011	.000	.000	.000	.000	.28
(WY)	1997	1997	1998	1997	1998	1997	1999	1997	1996	1996	1996	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1998	1998	1999	1998	1997	1997	1997	1997	1996	1996	1996	1996

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1996 - 1999

ANNUAL TOTAL	50.13	0.33	
ANNUAL MEAN	.14	.001	.067
HIGHEST ANNUAL MEAN			.16 1998
LOWEST ANNUAL MEAN			.001 1999
HIGHEST DAILY MEAN	45 Feb 23	.06 Apr 13	45 Feb 23 1998
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 May 10 1996
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 May 10 1996
INSTANTANEOUS PEAK FLOW		.23 Apr 12	118 Feb 23 1998
INSTANTANEOUS PEAK STAGE		3.63 Apr 12	3.63 Apr 12 1999
ANNUAL RUNOFF (AC-FT)	99	.7	48
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

10264646 SOUTH DRAINAGE BISSELL/ROSAMOND HILLS NEAR EDWARDS AIR FORCE BASE, CA

LOCATION.—Lat 34°53'18", long 117°58'23", in NE 1/4 NW 1/4 sec.7, T.9 N., R.10 W., Kern County, Hydrologic Unit 18090206, 1.8 mi southwest of intersection of Forbes Avenue and Rosamond Boulevard, and 2.3 mi southwest of Edwards Air Force Base.

DRAINAGE AREA.—9.25 mi².

PERIOD OF RECORD.—June 1996 to current year.

INSTRUMENTATION.—Recording tipping-bucket rain gage since June 1996.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily rainfall, 2.39 in., Feb. 23, 1998; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.—Maximum daily rainfall, 0.48 in., Feb. 9; no rainfall for many days.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
4	.00	.00	.04	.00	.00	.00	e.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.04	.00	.00	.00	.12	.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	e.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.48	.00	.00	.00	.00	.00	.00	.00
10	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.05	.00	.00	.00	.00	.07	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.22	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.04
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.07	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.33	.00	.00	.00	.04	.00	.00	.00	.00
26	.00	.00	.00	.07	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.10	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.02	.00	.00	.00	.00	.00
31	.00	---	.00	.08	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.17	0.09	0.59	0.48	0.00	0.44	0.11	0.02	0.02	0.00	0.04

CAL YR 1998 TOTAL 11.92
WTR YR 1999 TOTAL 1.96

e Estimated.

10264660 MOJAVE CREEK AT ROSAMOND BOULEVARD, AT EDWARDS AIR FORCE BASE, CA

LOCATION.—Lat 34°54'51", long 117°55'00", in SE 1/4 SE 1/4 sec.34, T.10 N., R.10 W., Kern County, Hydrologic Unit 18090206, on right bank corner of Rosamond Boulevard and Lancaster Boulevard, and 0.8 mi southeast of Edwards Air Force Base.

DRAINAGE AREA.—174.85 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,310 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 42 ft³/s, July 10, 1999, gage-height, 5.34 ft; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES
(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
2	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
3	e.00	e.00	e.00	e.00	1.3	.00	.00	e.00	e.00	e.00	.00	.00
4	e.00	e.00	e.00	e.00	.02	.00	.00	e.00	e.00	e.00	.00	1.4
5	e.00	e.00	e.00	e.00	.00	.00	.00	e.06	e.00	e.00	.00	.00
6	e.00	e.00	e.16	e.00	1.8	.00	.00	e.00	e.00	e.00	.00	.00
7	e.00	e.00	e.00	e.00	1.3	.00	.00	e.00	e.00	e.00	.00	.00
8	e.00	e.00	e.00	e.00	.97	.00	.00	e.00	e.00	e.00	.00	.00
9	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
10	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
11	e.00	e.00	e.00	e.00	.04	.00	.00	e.00	e.00	e.00	.00	.00
12	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
13	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
14	e.00	e.00	e.00	e.00	.00	1.7	.00	e.00	e.00	e.00	.00	.00
15	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	e.00	.00	.00
16	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
17	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
18	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
19	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
20	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
21	e.00	e.00	e.00	e.00	.00	.00	.00	e.00	e.00	.00	.00	.00
22	e.00	e.00	e.00	e.00	1.0	.00	.00	e.00	e.00	.00	.00	.00
23	e.00	e.00	e.00	e.00	5.7	.00	.00	e.00	e.00	.00	.00	.00
24	e.00	e.00	e.00	e.00	2.4	.00	.00	e.00	e.00	.00	.00	.00
25	e.00	e.00	e.00	e.00	.25	1.9	.00	e.00	e.00	.00	.00	.00
26	e.00	e.00	e.00	e.00	.03	.00	.00	e.00	e.00	.00	.00	.00
27	e.00	e.00	e.00	e.00	.00	.00	e.00	e.00	e.00	.00	.00	.00
28	e.00	e.00	e.00	e.00	.00	.00	e.00	e.00	e.00	.00	.00	.00
29	e.00	e.00	e.00	e.00	---	.00	e.00	e.00	e.00	.00	.00	e.00
30	e.00	e.00	e.00	e.00	---	.00	e.00	e.00	e.00	.00	.00	e.00
31	e.00	---	e.00	.00	---	.00	---	e.00	---	.00	.00	---
TOTAL	0.00	0.00	0.16	0.00	14.81	3.60	0.00	0.06	0.00	0.00	0.00	1.40
MEAN	.000	.000	.005	.000	.53	.12	.000	.002	.000	.000	.000	.047
MAX	.00	.00	.16	.00	5.7	1.9	.00	.06	.00	.00	.00	1.4
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.3	.00	29	7.1	.00	.1	.00	.00	.00	2.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

MEAN	.000	.000	.005	.000	.53	.12	.000	.002	.000	.000	.000	.047
MAX	.000	.000	.005	.000	.53	.12	.000	.002	.000	.000	.000	.047
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.005	.000	.53	.12	.000	.002	.000	.000	.000	.047
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

ANNUAL TOTAL	20.03
ANNUAL MEAN	.055
HIGHEST DAILY MEAN	5.7 Feb 23
LOWEST DAILY MEAN	.00 Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1
INSTANTANEOUS PEAK FLOW	30 Dec 6
INSTANTANEOUS PEAK STAGE	4.90 Dec 6
ANNUAL RUNOFF (AC-FT)	40
10 PERCENT EXCEEDS	.00
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

e Estimated.

10264660 MOJAVE CREEK AT ROSAMOND BOULEVARD, AT EDWARDS AIR FORCE BASE, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00
2	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
3	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
4	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
5	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
6	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
7	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
8	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
9	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
10	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	3.5	e.00	e.00
11	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.01	e.00	e.00
12	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
13	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
14	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	e.00	e.00
15	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
16	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
17	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
18	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
19	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
20	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
21	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
22	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
23	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
24	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
25	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
26	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
27	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
28	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	e.00	e.00	e.00
29	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	e.00	e.00	e.00
30	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	e.00	e.00	e.00
31	e.00	---	e.00	e.00	---	.00	---	.00	---	e.00	e.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.51	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.11	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	3.5	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.0	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1999, BY WATER YEAR (WY)

	1998	1998	1998	1998	1998	1998	1998	1998	1998	1999	1998	1998
MEAN	.000	.000	.003	.000	.26	.058	.000	.001	.000	.057	.000	.023
MAX	.000	.000	.005	.000	.53	.12	.000	.002	.000	.11	.000	.047
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1999	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1998	1998	1999	1998	1999	1999	1998	1999	1998	1998	1998	1999

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1998 - 1999

ANNUAL TOTAL	19.87	3.51	
ANNUAL MEAN	.054	.010	.032
HIGHEST ANNUAL MEAN			.055 1998
LOWEST ANNUAL MEAN			.010 1999
HIGHEST DAILY MEAN	5.7 Feb 23	3.5 Jul 10	5.7 Feb 23 1998
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1997
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1997
INSTANTANEOUS PEAK FLOW		42 Jul 10	42 Jul 10 1999
INSTANTANEOUS PEAK STAGE		5.34 Jul 10	5.34 Jul 10 1999
ANNUAL RUNOFF (AC-FT)	39	7.0	23
10 PERCENT EXCEEDS	.00	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

10264675 ROGERS LAKE TRIBUTARY AT EDWARDS AIR FORCE BASE, CA

LOCATION.—Lat 34°58'06", long 117°53'29", in NE 1/4 NW 1/4 sec.13, T.10 N., R.10 W., Kern County, Hydrologic Unit 18090206, on right bank, at culvert on U.S. Government Railroad, 330 ft east of Rosamond Boulevard, and 0.75 mi west of Rogers Lake.

DRAINAGE AREA.—1.73 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1988 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and culvert control. Elevation of gage is 2,340 ft above sea level, from topographic map.

REMARKS.—Records poor. No regulation or diversion upstream from station. Inflow can occur from artificial ditch 10 ft upstream.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11 ft³/s, Apr. 14, 1989, and Feb. 12, 1992, gage height, 4.82 ft, from rating curve on basis of culvert computations; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
2	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
3	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
4	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
5	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
6	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
7	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
8	e.00	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00
9	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
10	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
11	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
12	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
13	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.03	.00	.00
14	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
15	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
16	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
17	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
18	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
19	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
20	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
21	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
22	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
23	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
24	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
25	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
26	e.00	e.00	e.00	e.00	.00	e.00	.00	.00	.00	.00	.00	.00
27	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
28	e.00	e.00	e.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00
29	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	.00	.00	.00
30	e.00	e.00	e.00	e.00	---	.00	.00	.00	.00	.00	.00	.00
31	e.00	---	e.00	e.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

MEAN	.000	.000	.004	.006	.021	.006	.002	.000	.000	.000	.000	.001
MAX	.003	.000	.028	.052	.13	.029	.018	.004	.001	.001	.002	.010
(WY)	1993	1989	1993	1993	1998	1991	1989	1991	1991	1999	1995	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1989	1989	1989	1990	1990	1989	1989	1989	1989	1989

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1989 - 1999

ANNUAL TOTAL	4.14	0.03		
ANNUAL MEAN	.011	.000	.003	
HIGHEST ANNUAL MEAN			.012	1998
LOWEST ANNUAL MEAN			.000	1990
HIGHEST DAILY MEAN	2.5	Feb 23	.03	Jul 13
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1
INSTANTANEOUS PEAK FLOW			1.4	Jul 13
INSTANTANEOUS PEAK STAGE			3.94	Jul 13
ANNUAL RUNOFF (AC-FT)	8.2	.06	2.5	
10 PERCENT EXCEEDS	.00	.00	.00	
50 PERCENT EXCEEDS	.00	.00	.00	
90 PERCENT EXCEEDS	.00	.00	.00	

e Estimated.

10264675 ROGERS LAKE TRIBUTARY AT EDWARDS AIR FORCE BASE, CA—Continued

PRECIPITATION RECORDS

PERIOD OF RECORD.—January 1989 to current year.

INSTRUMENTATION.—Recording tipping-bucket rain gage since Feb. 21, 1989.

REMARKS.—No data from Oct. 1 to Feb. 8.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily rainfall, 1.03 in., Feb. 12, 1992; no rainfall for many days each year.

EXTREMES FOR CURRENT YEAR.—Maximum daily rainfall recorded, 0.62 in., July 13; no rainfall for many days.

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
2	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
3	---	---	---	---	---	.00	.04	.00	.00	.00	.00	.00
4	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
5	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
6	---	---	---	---	---	.00	.06	.00	.00	.00	.00	.00
7	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
8	---	---	---	---	---	.00	.03	.00	.00	.00	.00	.00
9	---	---	---	---	.08	.00	.00	.00	.00	.00	.00	.00
10	---	---	---	---	.01	.00	.00	.00	.00	.13	.00	.00
11	---	---	---	---	.00	.00	.07	.00	.00	.00	.00	.00
12	---	---	---	---	.00	.00	.13	.00	.00	.00	.00	.00
13	---	---	---	---	.00	.00	.00	.00	.00	.62	.00	.00
14	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
15	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
16	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
17	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
18	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
19	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
20	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
21	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
22	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
23	---	---	---	---	.00	.00	.03	.03	.00	.00	.00	.00
24	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
25	---	---	---	---	.00	.04	.00	.04	.00	.00	.00	.00
26	---	---	---	---	.00	e.00	.00	.00	.00	.00	.00	.00
27	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
28	---	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00
29	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00
30	---	---	---	---	---	.00	.05	.00	.00	.00	.00	.00
31	---	---	---	---	---	.00	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	0.04	0.41	0.07	0.00	0.75	0.00	0.00
MAX	---	---	---	---	---	.04	.13	.04	.00	.62	.00	.00
MIN	---	---	---	---	---	.00	.00	.00	.00	.00	.00	.00

e Estimated.

10265150 HOT CREEK AT FLUME, NEAR MAMMOTH, CA

LOCATION.—Lat 37°40'08", long 118°49'00", in SW 1/4 SE 1/4 sec.19, T.3 S., R.29 E., Mono County, Hydrologic Unit 18090102, on right bank, 2.6 mi north of Whitmore Hot Springs, and 8.4 mi east of Mammoth.

DRAINAGE AREA.—68.3 mi².

PERIOD OF RECORD.—November 1982 to current year. Daily discharges for 1986 published in Water-Resources Investigations Report 89-4033 as "Hot Creek Flume."

SPECIFIC CONDUCTANCE: Water years 1983–88.

WATER TEMPERATURE: Water years 1983–88.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 6,950 ft above sea level, from topographic map.

REMARKS.—Records good. Minor diversions for domestic and agricultural use upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 433 ft³/s, Jan. 2, 1997, gage height, 4.38 ft; minimum daily, 29 ft³/s, several days in 1992.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 80 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
May 30	1130	145	2.28	June 17	1030	165	2.47

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	67	66	54	53	52	48	53	127	97	60	56
2	75	66	65	54	53	52	50	54	120	94	61	56
3	74	66	63	53	54	53	50	56	122	95	63	55
4	72	65	59	53	54	53	50	55	121	96	63	55
5	71	65	56	54	53	53	50	54	112	94	63	54
6	71	64	56	54	53	53	51	55	106	90	61	54
7	71	65	54	54	63	52	52	56	96	86	59	53
8	69	68	57	53	66	52	50	57	78	81	60	53
9	67	67	55	52	60	51	50	58	69	80	60	53
10	66	67	54	53	53	52	50	57	68	84	62	52
11	67	69	56	53	57	53	51	58	72	89	64	51
12	68	67	57	54	59	52	50	60	91	83	63	51
13	68	67	57	54	58	52	50	62	100	78	62	51
14	67	66	58	53	56	52	51	75	120	81	61	51
15	67	66	58	53	54	51	51	73	125	88	60	51
16	66	65	58	53	55	51	51	67	143	83	59	51
17	66	64	58	54	60	52	52	65	160	79	58	51
18	66	63	57	55	57	52	52	64	146	79	58	52
19	66	63	55	57	55	52	54	62	130	77	57	51
20	66	62	49	57	53	52	55	69	131	72	57	51
21	66	62	50	52	53	51	56	82	139	69	57	51
22	66	63	51	59	55	51	56	84	140	69	56	53
23	65	62	52	60	55	52	54	88	132	68	57	52
24	66	62	53	55	55	51	53	94	131	66	57	52
25	68	62	54	58	54	51	52	104	138	62	56	51
26	68	61	55	59	54	51	53	114	136	62	58	51
27	68	61	55	58	54	51	55	123	126	61	58	51
28	68	63	55	55	54	51	54	124	111	61	57	50
29	68	64	55	56	---	51	53	130	87	60	56	50
30	68	65	55	55	---	50	53	142	85	60	56	50
31	67	---	55	54	---	50	---	137	---	61	56	---
TOTAL	2118	1937	1738	1698	1560	1602	1557	2432	3462	2405	1835	1563
MEAN	68.3	64.6	56.1	54.8	55.7	51.7	51.9	78.5	115	77.6	59.2	52.1
MAX	77	69	66	60	66	53	56	142	160	97	64	56
MIN	65	61	49	52	53	50	48	53	68	60	56	50
AC-FT	4200	3840	3450	3370	3090	3180	3090	4820	6870	4770	3640	3100

10265150 HOT CREEK AT FLUME, NEAR MAMMOTH, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	46.4	45.1	42.4	46.5	43.3	44.7	48.3	68.8	101	93.1	65.8	54.6
MAX	68.3	64.6	57.7	94.7	58.2	55.2	60.4	113	159	214	135	92.7
(WY)	1999	1999	1996	1997	1997	1997	1996	1996	1995	1995	1995	1995
MIN	31.8	32.4	29.6	31.9	32.7	35.0	35.4	38.4	44.5	38.4	35.6	32.6
(WY)	1995	1995	1993	1993	1993	1992	1992	1991	1992	1990	1994	1994

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1990 - 1999	
ANNUAL TOTAL	29880		23907			
ANNUAL MEAN	81.9		65.5		58.4	
HIGHEST ANNUAL MEAN					79.1	
LOWEST ANNUAL MEAN					37.5	
HIGHEST DAILY MEAN	238	Jul 11	160	Jun 17	309	Jan 3 1997
LOWEST DAILY MEAN	49	Feb 3	48	Apr 1	29	Nov 23 1992
ANNUAL SEVEN-DAY MINIMUM	49	Mar 7	50	Mar 30	29	Dec 8 1992
INSTANTANEOUS PEAK FLOW			165	Jun 17	433	Jan 2 1997
INSTANTANEOUS PEAK STAGE			2.47	Jun 17	4.38	Jan 2 1997
ANNUAL RUNOFF (AC-FT)	59270		47420		42280	
10 PERCENT EXCEEDS	160		92		99	
50 PERCENT EXCEEDS	64		58		50	
90 PERCENT EXCEEDS	51		51		33	

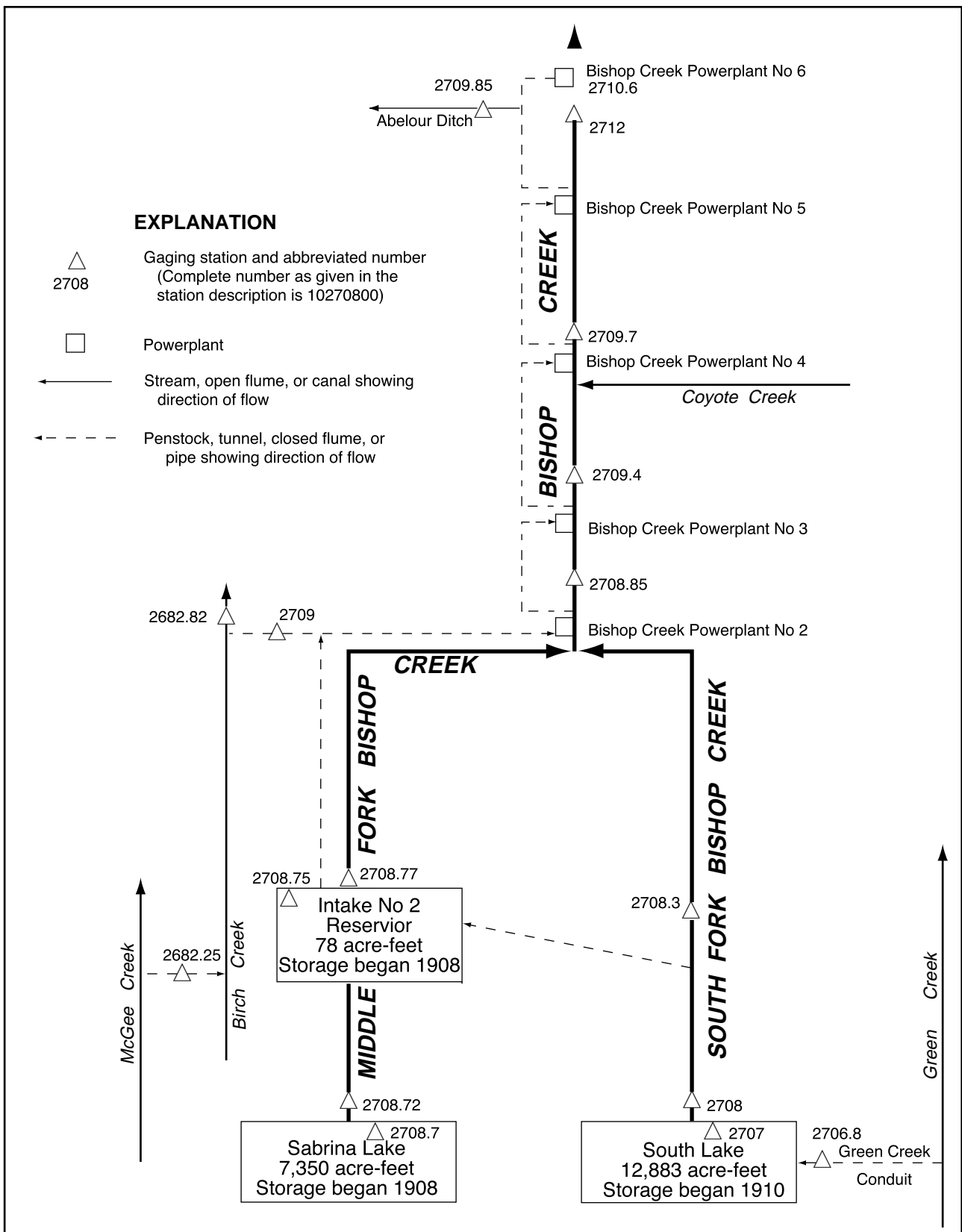


Figure 15. Diversions and storage in Bishop Creek Basin.

10268225 MCGEE CREEK DIVERSION NEAR BISHOP, CA

LOCATION.—Lat 37°16'32", long 118°37'09", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, 5 ft downstream from outlet of diversion pipe, 80 ft upstream from tributary to Birch Creek, and 13.5 mi southwest of Bishop.

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Cipolletti weir. Elevation of gage is 8,630 ft above sea level, from topographic map.

REMARKS.—Records not computed for the winter months. Flow limited by size of diversion pipe from McGee Creek. Water flows down Birch Creek and then is diverted to Bishop Creek Powerplant No. 2 Conduit via Birch–McGee Creek Diversion (station 10270900). See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	.60	---	---	---	---	---	---	8.4	15	7.6	5.1
2	2.4	.62	---	---	---	---	---	---	8.5	15	7.6	4.6
3	2.3	.60	---	---	---	---	---	---	8.5	16	7.5	4.3
4	2.2	.56	---	---	---	---	---	---	8.2	15	7.6	3.9
5	2.0	.46	---	---	---	---	---	---	7.6	14	7.4	3.7
6	1.9	.51	---	---	---	---	---	---	6.9	13	6.9	3.5
7	1.8	.62	---	---	---	---	---	---	6.4	13	6.8	3.4
8	1.7	.58	---	---	---	---	---	---	6.0	14	5.9	3.4
9	1.6	.72	---	---	---	---	---	---	5.7	15	5.4	3.4
10	1.5	---	---	---	---	---	---	---	5.7	14	5.3	3.4
11	1.4	---	---	---	---	---	---	---	5.9	15	5.6	3.4
12	1.4	---	---	---	---	---	---	---	6.3	13	5.2	3.2
13	1.2	---	---	---	---	---	---	---	6.9	12	4.6	3.0
14	1.2	---	---	---	---	---	---	---	7.7	12	4.9	2.9
15	1.3	---	---	---	---	---	---	---	8.5	13	5.1	2.8
16	.99	---	---	---	---	---	---	---	9.2	13	4.9	2.8
17	1.1	---	---	---	---	---	---	---	9.6	12	4.9	2.7
18	.98	---	---	---	---	---	---	---	10	10	5.0	3.0
19	.89	---	---	---	---	---	---	---	10	9.8	5.4	3.4
20	.92	---	---	---	---	---	---	---	11	9.3	5.9	2.8
21	.95	---	---	---	---	---	---	---	11	9.1	6.1	2.5
22	.85	---	---	---	---	---	---	---	11	8.7	6.0	2.3
23	.84	---	---	---	---	---	---	---	11	8.3	6.3	2.6
24	.89	---	---	---	---	---	---	---	9.7	8.0	6.3	2.5
25	.86	---	---	---	---	---	---	---	8.8	8.0	6.2	2.2
26	.81	---	---	---	---	---	---	2.2	10	7.8	6.3	2.0
27	.92	---	---	---	---	---	---	6.1	14	7.7	6.4	1.9
28	.81	---	---	---	---	---	---	6.9	14	7.7	6.8	1.8
29	.79	---	---	---	---	---	---	7.6	14	7.0	6.4	1.8
30	.72	---	---	---	---	---	---	8.0	14	7.2	6.0	1.8
31	.72	---	---	---	---	---	---	8.4	---	7.6	5.6	---
TOTAL	40.64	---	---	---	---	---	---	---	274.5	350.2	187.9	90.1
MEAN	1.31	---	---	---	---	---	---	---	9.15	11.3	6.06	3.00
MAX	2.7	---	---	---	---	---	---	---	14	16	7.6	5.1
MIN	.72	---	---	---	---	---	---	---	5.7	7.0	4.6	1.8
AC-FT	81	---	---	---	---	---	---	---	544	695	373	179

10268282 BIRCH CREEK BELOW DIVERSION DAM, NEAR BISHOP, CA

LOCATION.—Lat 37°16'42", long 118°36'40", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank, below diversion dam at convergence of Birch Creek and tributary to Birch Creek, and 13.9 mi southwest of Bishop.

PERIOD OF RECORD.—October 1995 to current year.

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 8,290 ft above sea level, from topographic map.

REMARKS.—No records computed above 2.5 ft³/s. Water from McGee Creek enters Birch Creek via McGee Creek Diversion (station 10268225) 0.5 mi upstream from Birch Creek Diversion Dam. Most of the water is diverted 15 ft upstream at Birch Creek Diversion Dam to Bishop Creek Powerplant No. 2 for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	---	.42	.39	.38	.41	.54	.36	---	---	---	1.6
2	1.9	---	.43	.39	.38	.41	.38	.36	---	---	---	.57
3	---	---	.44	.39	.38	.42	.37	.36	---	---	.42	.59
4	---	---	.43	.39	.38	.42	.37	.36	.44	---	.42	.57
5	---	---	.43	.39	.37	.42	.36	.36	.45	---	.42	.57
6	---	---	.42	.38	.34	.40	.34	.36	.44	---	.42	.58
7	---	---	.42	.37	.36	.40	.34	.37	.43	---	.42	.58
8	---	2.4	.42	.36	.36	.40	.34	.36	.45	---	.41	.59
9	---	2.4	.42	.34	.63	.41	.34	.37	.47	---	.42	.62
10	---	1.4	.40	.34	.36	.41	.34	.36	.48	---	.44	.62
11	---	.44	.38	.33	.36	.40	.34	.36	.50	---	.44	.65
12	---	.43	.38	.33	.37	.40	.34	.37	1.1	---	.44	.67
13	---	.44	.40	.33	.38	.41	.32	.36	---	---	.43	.69
14	2.1	.43	.39	.34	.38	.40	.32	.36	---	---	.42	.73
15	.38	.44	.37	.34	.38	.40	.32	.37	---	---	.41	.75
16	.43	.48	.38	.34	.38	.40	.32	.38	---	2.1	.42	.75
17	.45	.46	.39	.35	.38	.40	.32	.38	---	2.2	.42	1.0
18	.46	.44	.38	.35	.39	.40	.32	.36	---	2.3	.43	1.3
19	.44	.46	.38	.34	.40	.38	.32	.36	---	1.4	.44	1.1
20	.41	.44	.81	.35	.40	.38	.32	.37	---	1.4	.45	.99
21	.45	.46	1.0	.47	.40	.38	.32	.36	---	1.3	.46	.91
22	.45	.61	.38	.36	.40	.39	.34	.36	---	1.1	.45	2.4
23	1.8	.69	.39	.36	.40	.40	.36	.36	---	1.1	.49	2.0
24	2.2	.88	.39	.38	.40	.39	.36	.37	---	.83	.46	1.7
25	2.2	.42	.39	.38	.44	.38	.36	.46	---	---	.44	1.3
26	---	.43	.36	.38	.40	.38	.36	.51	---	---	.52	.78
27	---	.42	.40	.38	.40	.38	.36	1.0	---	---	.52	.89
28	---	.44	.37	.38	.40	.38	.36	---	---	---	.46	1.2
29	2.5	.43	.36	.38	---	.38	.36	---	---	---	.46	.96
30	2.5	.43	.38	.38	---	.38	.36	---	---	---	.71	.69
31	2.5	---	.39	.38	---	.36	---	---	---	---	2.1	---
TOTAL	---	---	13.30	11.37	11.00	12.27	10.50	---	---	---	---	28.35
MEAN	---	---	.43	.37	.39	.40	.35	---	---	---	---	.94
MAX	---	---	1.0	.47	.63	.42	.54	---	---	---	---	2.4
MIN	---	---	.36	.33	.34	.36	.32	---	---	---	---	.57
AC-FT	---	---	26	23	22	24	21	---	---	---	---	56

10270680 GREEN CREEK CONDUIT OUTLET NEAR BISHOP, CA

LOCATION.—Lat 37°10'14", long 118°33'50", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank, 75 ft downstream from outlet of diversion pipe, 0.1 mi upstream from South Lake, and 16.2 mi southwest of Bishop.

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 9,800 ft above sea level, from topographic map.

REMARKS.—Records not computed for the winter months. Flow limited by size of diversion pipe from Green Creek. Water is used for power development downstream from South Lake. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	---	---	---	---	---	---	---	3.3	1.3	.36	.12
2	1.2	---	---	---	---	---	---	---	3.1	1.3	.30	.13
3	1.1	---	---	---	---	---	---	---	2.8	1.3	.30	.12
4	1.1	---	---	---	---	---	---	---	2.5	1.3	.30	.14
5	1.1	---	---	---	---	---	---	---	2.2	1.1	.30	.13
6	1.1	---	---	---	---	---	---	---	1.9	1.0	.30	.12
7	1.0	---	---	---	---	---	---	---	1.7	.99	.27	.10
8	.93	---	---	---	---	---	---	---	1.8	.99	.24	.10
9	.93	---	---	---	---	---	---	---	1.8	.99	.24	.08
10	.93	---	---	---	---	---	---	---	1.9	.99	.26	.10
11	.93	---	---	---	---	---	---	---	1.9	1.1	.26	.08
12	.35	---	---	---	---	---	---	---	2.1	1.2	.25	.10
13	.00	---	---	---	---	---	---	---	2.6	1.3	.21	.08
14	.00	---	---	---	---	---	---	---	3.1	1.4	.18	.09
15	.00	---	---	---	---	---	---	---	3.3	1.3	.17	.08
16	.00	---	---	---	---	---	---	---	3.2	1.1	.18	.08
17	.00	---	---	---	---	---	---	---	3.1	.99	.18	.08
18	.00	---	---	---	---	---	---	---	3.0	.86	.18	.10
19	.00	---	---	---	---	---	---	---	3.1	.79	.17	.08
20	.00	---	---	---	---	---	---	---	3.1	.68	.16	.10
21	.00	---	---	---	---	---	---	---	2.9	.64	.15	.07
22	---	---	---	---	---	---	---	---	2.7	.59	.13	.11
23	---	---	---	---	---	---	---	---	2.1	.51	.13	.10
24	---	---	---	---	---	---	---	---	1.8	.46	.13	.10
25	---	---	---	---	---	---	---	---	1.7	.45	.16	.10
26	---	---	---	---	---	---	---	---	1.7	.45	.20	.07
27	---	---	---	---	---	---	---	---	e1.3	.43	.21	.06
28	---	---	---	---	---	---	---	---	3.4	1.4	.41	.21
29	---	---	---	---	---	---	---	---	3.9	1.3	.41	.19
30	---	---	---	---	---	---	---	---	3.8	1.3	.41	.14
31	---	---	---	---	---	---	---	---	3.5	---	.40	.13
TOTAL	---	---	---	---	---	---	---	---	69.9	27.14	6.59	2.67
MEAN	---	---	---	---	---	---	---	---	2.33	.88	.21	.089
MAX	---	---	---	---	---	---	---	---	3.3	1.4	.36	.14
MIN	---	---	---	---	---	---	---	---	1.3	.40	.13	.00
AC-FT	---	---	---	---	---	---	---	---	139	54	13	5.3

e Estimated.

10270700 SOUTH LAKE NEAR BISHOP, CA

LOCATION.—Lat 37°10'21", long 118°33'52", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, near spillway, at right abutment of Hillside Dam, on South Fork Bishop Creek, and 16.0 mi southwest of Bishop.

DRAINAGE AREA.—12.9 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1910. Usable capacity, 12,883 acre-ft, between elevations 9,621.20 ft, invert of outlet tunnel, and 9,751.31 ft, crest of spillway. Water is received from Green Creek via Green Creek Conduit (station 10270680). Figures given represent usable contents. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 13,038 acre-ft, Aug. 4, 1993, elevation, 9,752.21 ft; minimum, 280 acre-ft, Apr. 18–25, 1993, elevation, unknown.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 12,620 acre-ft, Aug. 8, elevation, 9,749.79 ft; minimum, 3,368 acre-ft, May 6, elevation, 9,676.83 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 5, 1981)

9,621.2	0	9,690	4,533
9,630	417	9,710	6,654
9,650	1,493	9,730	9,392
9,670	2,820	9,756	13,704

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12089	11060	9167	7425	6313	5661	4624	3495	6015	10492	12587	12255
2	12062	11007	9117	7368	6293	5623	4577	3461	6145	10647	12582	12235
3	12011	10898	9053	7310	6274	5597	4526	3434	6240	10796	12580	12206
4	11972	10775	8989	7261	6249	5562	4488	3403	6318	10905	12589	12189
5	11935	10669	8928	7201	6212	5535	4430	3376	6376	11012	12603	12160
6	11905	10578	8867	7152	6189	5503	4374	3368	6444	11117	12604	12141
7	11865	10531	8831	7091	6177	5472	4320	3373	6492	11239	12611	12111
8	11814	10467	8775	7030	6144	5444	4262	3387	6577	11346	12620	12080
9	11766	10406	8717	6977	6130	5421	4210	3403	6667	11458	12606	12052
10	11729	10361	8668	6924	6111	5397	4160	3426	6782	11558	12589	12028
11	11681	10300	8618	6863	6101	5362	4108	3475	6916	11657	12584	11994
12	11636	10261	8560	6826	6084	5345	4057	3571	7075	11757	12575	11974
13	11589	10208	8504	6789	6061	5323	4006	3660	7255	11881	12556	11944
14	11534	10148	8426	6764	6031	5293	3957	3725	7453	12058	12539	11908
15	11485	10097	8381	6727	6010	5258	3911	3776	7669	12201	12517	11878
16	11428	10040	8332	6703	5995	5231	3866	3826	7883	12299	12474	11856
17	11395	9961	8274	6671	5967	5211	3826	3896	8085	12376	12455	11816
18	11351	9908	8211	6641	5939	5184	3799	3991	8300	12441	12412	11781
19	11295	9854	8145	6613	5903	5155	3780	4099	8515	12491	12393	11761
20	11267	9798	8072	6586	5887	5117	3765	4214	8735	12534	12373	11729
21	11214	9744	8030	6573	5861	5098	3751	4329	8913	12570	12362	11704
22	11178	9683	7962	6548	5837	5070	3732	4441	9080	12604	12351	11684
23	11168	9624	7915	6523	5811	5049	3719	4546	9256	12609	12337	11657
24	11148	9564	7869	6506	5783	5009	3694	4644	9444	12609	12328	11612
25	11130	9512	7818	6490	5752	4958	3665	4772	9626	12608	12318	11571
26	11119	9449	7763	6467	5734	4912	3636	4931	9771	12606	12318	11519
27	11117	9389	7709	6436	5706	4863	3607	5105	9911	12604	12322	11471
28	11109	9330	7652	6417	5684	4816	3568	5303	10038	12599	12323	11417
29	11096	9282	7599	6397	---	e4763	3546	5497	10187	12597	12313	11367
30	11084	9224	7545	6372	---	e4713	3523	5677	10331	12592	12293	11318
31	11079	---	7479	6340	---	4675	---	5845	---	12592	12279	---
MAX	12089	11060	9167	7425	6313	5661	4624	5845	10331	12609	12620	12255
MIN	11079	9224	7479	6340	5684	4675	3523	3368	6015	10492	12279	11318
a	9740.61	9728.91	9716.80	9707.23	9701.23	9691.45	9678.70	9702.72	9735.98	9749.63	9747.80	9742.06
b	-1039	-1855	-1745	-1139	-656	-1009	-1152	+2322	+4486	+2261	-313	-961
CAL YR 1998	MAX 13002	MIN 860	b +1027									
WTR YR 1999	MAX 12620	MIN 3368	b -800									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre feet.

10270800 SOUTH FORK BISHOP CREEK BELOW SOUTH LAKE, NEAR BISHOP, CA

LOCATION.—Lat 37°10'38", long 118°33'44", unsurveyed, T.9 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank, near weir on Weir Lake, 0.3 mi downstream from South Lake, and 15.7 mi southwest of Bishop.

DRAINAGE AREA.—13.4 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 9,580 ft above sea level, from topographic map.

REMARKS.—Flow regulated by South Lake (station 10270700). Green Creek Conduit (station 10270680) diverts water into basin at South Lake. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 142 ft³/s, July 31, 1995, gage height, 1.44 ft; minimum daily, 6.7 ft³/s, Apr. 4, 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	16	36	34	e22	21	34	29	20	14	36	30
2	34	35	36	34	e22	21	33	28	17	14	35	30
3	34	65	36	34	22	20	33	28	18	14	33	30
4	34	65	36	34	22	21	32	28	18	14	27	29
5	34	57	36	34	22	21	36	30	18	15	25	29
6	34	47	36	34	22	21	36	29	18	15	25	29
7	34	40	36	34	22	21	36	29	17	15	25	29
8	33	40	36	34	22	21	36	29	17	15	25	30
9	33	40	36	34	22	21	36	30	17	15	31	29
10	33	39	36	34	23	21	36	30	17	15	33	29
11	33	39	36	34	23	21	36	30	17	15	32	29
12	33	38	36	28	22	21	36	23	17	16	32	29
13	33	37	36	23	22	21	35	20	17	16	31	28
14	33	37	36	23	22	20	34	20	17	16	32	28
15	33	37	36	22	22	20	34	20	17	16	37	28
16	33	37	36	22	22	20	34	20	18	16	37	28
17	33	37	36	22	22	20	30	20	18	16	38	27
18	33	37	35	22	21	20	29	17	18	16	38	28
19	33	37	35	22	21	20	26	16	18	16	38	29
20	33	37	36	e22	22	20	25	16	18	17	38	29
21	33	36	36	e22	22	20	24	16	18	17	33	29
22	26	36	36	e22	22	20	24	16	18	20	30	24
23	16	36	36	e22	22	20	24	16	18	30	30	34
24	15	36	36	e22	21	27	29	16	18	32	30	37
25	15	36	36	e22	21	31	29	17	18	33	30	37
26	15	36	36	e22	21	31	29	17	18	35	30	37
27	15	36	35	e22	21	31	28	16	18	34	30	37
28	15	36	35	e22	21	31	29	16	16	35	30	37
29	15	36	35	e22	---	30	29	16	14	35	30	37
30	15	36	35	e22	---	30	29	21	14	35	30	36
31	16	---	34	e22	---	31	---	22	---	35	30	---
TOTAL	863	1177	1108	822	611	714	941	681	522	647	981	922
MEAN	27.8	39.2	35.7	26.5	21.8	23.0	31.4	22.0	17.4	20.9	31.6	30.7
MAX	34	65	36	34	23	31	36	30	20	35	38	37
MIN	15	16	34	22	21	20	24	16	14	14	25	24
AC-FT	1710	2330	2200	1630	1210	1420	1870	1350	1040	1280	1950	1830

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

MEAN	25.4	22.6	23.4	25.0	31.2	30.7	26.9	22.1	18.4	35.3	43.9	34.3
MAX	41.6	41.1	35.7	35.8	54.2	61.6	57.4	36.7	28.8	61.4	87.7	47.6
(WY)	1998	1998	1999	1993	1993	1997	1996	1996	1996	1995	1995	1998
MIN	10.8	10.6	9.98	7.59	7.45	7.75	7.74	10.6	7.70	9.45	20.5	26.4
(WY)	1991	1991	1991	1991	1991	1991	1992	1994	1991	1991	1991	1991

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1991 - 1999

ANNUAL TOTAL	13311	9989	
ANNUAL MEAN	36.5	27.4	28.3
HIGHEST ANNUAL MEAN			38.7
LOWEST ANNUAL MEAN			12.4
HIGHEST DAILY MEAN	117	Jul 26	139
LOWEST DAILY MEAN	15	Apr 28	6.7
ANNUAL SEVEN-DAY MINIMUM	15	Apr 28	6.9
INSTANTANEOUS PEAK FLOW			142
INSTANTANEOUS PEAK STAGE		.88	1.44
ANNUAL RUNOFF (AC-FT)	26400	19810	20480
10 PERCENT EXCEEDS	65	36	54
50 PERCENT EXCEEDS	34	29	23
90 PERCENT EXCEEDS	16	16	9.4

e Estimated.

10270830 SOUTH FORK BISHOP CREEK BELOW SOUTH FORK DIVERSION DAM, NEAR BISHOP, CA

LOCATION.—Lat 37°14'27", long 118°33'52", in SE 1/4 NW 1/4 sec.22, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, at diversion dam and aqueduct, and 10.5 mi southwest of Bishop.

DRAINAGE AREA.—27.8 mi².

PERIOD OF RECORD.—October 1994 to current year. Unpublished records prior to October 1994 available in files of Southern California Edison Co.

GAGE.—Acoustic-velocity meter. Elevation of gage is 7,130 ft above sea level, from topographic map.

REMARKS.—Flow regulated by South Lake (station 10270700). Most of the water is diverted by South Fork Diversion Dam to Intake No. 2 Reservoir (station 10270875) for power development downstream. South Fork Diversion Dam spill bypasses this station. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	7.6	7.3	7.8	7.6	7.5	7.4	11	10	10	10	10
2	11	7.3	7.3	7.7	7.6	7.9	7.4	10	10	10	10	10
3	11	7.4	7.3	7.6	7.6	8.0	7.4	11	10	10	10	10
4	11	7.4	7.3	7.6	7.6	8.1	7.4	11	10	10	10	10
5	11	7.4	7.3	7.5	7.6	8.0	7.3	11	10	11	10	10
6	11	7.5	7.4	7.5	7.6	8.0	7.2	11	10	11	10	10
7	11	7.4	7.4	7.5	7.5	8.0	7.3	11	10	11	11	10
8	11	7.4	7.5	7.6	7.6	8.0	7.3	11	11	11	11	10
9	11	7.4	7.5	7.6	7.7	7.8	7.3	10	11	10	11	10
10	11	7.4	7.5	7.5	7.7	7.7	7.3	10	11	10	11	10
11	11	7.3	7.5	7.5	7.6	7.9	7.4	11	11	10	10	10
12	11	7.3	7.6	7.7	7.5	7.7	7.4	11	11	10	10	10
13	11	7.4	7.5	7.6	7.5	7.7	7.4	11	11	10	10	10
14	11	7.4	7.5	7.5	7.5	7.9	7.4	10	11	11	10	10
15	11	7.4	7.5	7.6	7.5	7.8	7.3	10	11	11	11	10
16	11	7.4	7.5	7.5	7.5	7.6	7.5	11	11	10	10	11
17	11	7.4	7.5	7.6	7.5	7.6	7.3	11	10	10	10	11
18	11	7.5	7.5	7.8	7.5	7.4	7.5	10	10	10	11	11
19	11	7.5	7.5	7.7	7.5	7.5	7.3	11	10	10	11	11
20	11	7.5	7.5	7.7	7.5	7.3	7.5	11	10	11	11	11
21	11	7.5	e9.5	7.6	7.5	7.4	7.4	11	10	11	11	11
22	11	7.4	12	7.6	7.5	7.5	8.6	10	11	10	11	10
23	11	7.3	11	7.5	7.5	7.4	10	10	10	10	11	11
24	10	7.3	11	7.5	7.5	7.4	10	11	10	11	11	11
25	10	7.3	11	7.5	7.4	7.3	10	10	11	11	10	11
26	11	7.4	11	7.5	7.5	7.3	10	11	11	10	11	11
27	11	7.3	11	7.5	7.5	7.4	10	10	11	11	10	11
28	11	7.3	11	7.6	7.5	7.6	10	10	11	10	10	11
29	11	7.3	9.8	7.5	---	7.5	10	10	10	10	11	11
30	11	7.3	7.5	7.6	---	7.4	10	11	10	10	11	11
31	11	---	7.6	7.6	---	7.4	---	10	---	10	11	---
TOTAL	339	221.7	261.3	235.1	211.1	237.0	243.3	328	314	321	326	314
MEAN	10.9	7.39	8.43	7.58	7.54	7.65	8.11	10.6	10.5	10.4	10.5	10.5
MAX	11	7.6	12	7.8	7.7	8.1	10	11	11	11	11	11
MIN	10	7.3	7.3	7.5	7.4	7.3	7.2	10	10	10	10	10
AC-FT	672	440	518	466	419	470	483	651	623	637	647	623

CAL YR 1998 TOTAL 3648.8 MEAN 10.0 MAX 18 MIN 7.2 AC-FT 7240
WTR YR 1999 TOTAL 3351.5 MEAN 9.18 MAX 12 MIN 7.2 AC-FT 6650

e Estimated.

10270870 LAKE SABRINA NEAR BISHOP, CA

LOCATION.—Lat 38°12'44", long 118°36'42", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in valve house, at base of dam, on Middle Fork Bishop Creek, and 15.8 mi southwest of Bishop.

DRAINAGE AREA.—16.5 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1908. Usable capacity, 7,350 acre-ft, between elevations 9,068.42 ft, invert of outlet, and 9,131.62 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 7,598 acre-ft, July 10, 1995, elevation, 9,132.89 ft; minimum, no storage Apr. 8–14, 1994.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 7,399 acre-ft, July 15, elevation, 9,131.87; minimum, 631 acre-ft, May 5, elevation, 9090.66 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 12, 1981)

9,068.42	0	9,100	1,926
9,070	1	9,110	3,501
9,080	15	9,120	5,196
9,090	558	9,135	7,912

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6899	6031	4422	3084	2118	1512	766	687	3232	7206	7088	6739
2	6884	5958	4382	3038	2094	1492	754	683	3379	7276	7096	6714
3	6859	5802	4339	2991	2074	1459	744	670	3466	7344	7097	6687
4	6834	5681	4292	2943	2048	1409	731	644	3527	7354	7097	6657
5	6725	5601	4260	2901	2042	1382	724	631	3562	7355	7082	6626
6	6727	5549	4207	2854	2024	1353	714	633	3598	7355	7067	6592
7	6748	5492	4165	2791	2011	1324	707	665	3633	7355	7048	6562
8	6718	5451	4125	2747	1988	1297	697	696	3689	7365	7021	6528
9	6680	5404	4084	2696	1982	1269	685	722	3740	7367	7001	6496
10	6634	5363	4042	2653	1944	1242	675	755	3795	7367	7001	6468
11	6581	5319	4002	2607	1927	1215	666	824	3878	7367	6997	6436
12	6505	5275	3959	2557	1909	1190	659	920	3989	7367	6990	6404
13	6505	5229	3927	2531	1896	1165	650	1006	4148	7357	6961	6376
14	6492	5185	3875	2502	1873	1139	644	1078	4344	7369	6936	6346
15	6455	5142	3830	2476	1852	1114	642	1109	4565	7399	6915	6314
16	6415	5096	3795	2445	1833	1088	637	1148	4776	7381	6901	6279
17	6374	5048	3753	2419	1814	1065	636	1210	4984	7355	6882	6249
18	6333	5001	3712	2399	1792	1040	634	1295	5201	7320	6871	6218
19	6292	4954	3669	2373	1763	1010	649	1389	5432	7279	6854	6190
20	6253	4909	3619	2357	1744	985	660	1489	5665	7229	6836	6158
21	6214	4876	e3577	2332	1720	955	672	1589	5871	7186	6821	6132
22	6192	4821	3535	2309	1697	924	685	1694	6046	7146	6808	6120
23	6179	4775	3493	2289	1672	896	692	1792	6227	7107	6796	6092
24	6164	4723	3451	2284	1648	873	697	1909	6413	7076	6781	6079
25	6155	4679	3414	2267	1619	854	700	2030	6592	7051	6775	6063
26	6142	4632	3369	2254	1591	845	710	2182	6739	7032	6777	6042
27	6138	4586	3325	2231	1565	832	711	2346	6854	7040	6783	6020
28	6121	4545	3278	2205	1540	822	709	2542	6957	7049	6785	5995
29	6103	4504	3234	2182	---	811	700	2727	7040	7053	6785	5969
30	6074	4458	3182	2163	---	801	697	2898	7123	7063	6775	5944
31	6053	---	3140	2142	---	781	---	3063	---	7067	6760	---
MAX	6899	6031	4422	3084	2118	1512	766	3063	7123	7399	7097	6739
MIN	6053	4458	3140	2142	1540	781	634	631	3232	7032	6760	5944
a	9124.79	9115.72	9107.79	9101.44	9097.37	9091.83	9091.20	9107.32	9130.45	9130.16	9128.56	9124.19
b	-864	-1595	-1318	-998	-602	-759	-84	+2366	+4060	-56	-307	-816
CAL YR 1998	MAX 7541	MIN 802	b -200									
WTR YR 1999	MAX 7399	MIN 631	b -973									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre feet.

10270872 MIDDLE FORK BISHOP CREEK BELOW LAKE SABRINA, NEAR BISHOP, CA

LOCATION.—Lat 37°12'50", long 118°36'34", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on right bank, 800 ft downstream from Lake Sabrina Dam, and 15.6 mi southwest of Bishop.

DRAINAGE AREA.—16.7 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and sharp-crested weir. Elevation of gage is 9,050 ft above sea level, from topographic map.

REMARKS.—Flow regulated by Lake Sabrina (station 10270870). Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 270 ft³/s, July 10, 1995, gage height, 2.15 ft; minimum daily, 6.5 ft³/s, Mar. 19–27, 1991.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	31	31	21	21	13	20	22	67	39	36
2	25	42	31	31	21	21	13	18	22	74	38	36
3	26	89	31	31	21	21	13	22	26	75	38	36
4	26	72	31	31	21	21	13	26	29	76	42	36
5	26	51	31	31	21	22	13	26	37	77	43	36
6	26	34	31	31	20	22	13	26	34	76	43	36
7	27	34	31	31	20	22	13	24	32	77	43	36
8	30	34	31	30	20	22	13	23	34	80	43	35
9	30	34	31	30	20	22	13	22	34	84	38	35
10	30	34	31	30	20	22	13	22	37	85	33	35
11	30	34	31	30	20	22	13	21	36	86	32	35
12	30	34	31	29	20	22	13	20	34	84	34	35
13	30	34	30	22	20	22	13	19	26	79	39	35
14	30	34	30	22	20	21	13	20	25	83	39	35
15	30	33	30	21	20	21	13	20	23	93	37	35
16	30	33	30	21	20	21	13	20	23	93	36	35
17	31	33	30	21	20	21	13	20	22	82	34	35
18	31	33	30	21	21	21	13	20	21	74	32	35
19	31	33	29	21	22	21	13	21	22	72	36	35
20	31	33	29	21	22	21	13	21	23	71	39	35
21	30	32	29	21	22	22	13	22	24	66	39	34
22	23	32	29	22	22	23	13	22	25	62	39	34
23	16	31	29	22	22	23	13	20	27	57	39	32
24	16	31	29	22	21	21	13	22	31	55	39	30
25	15	32	29	22	21	17	13	20	35	54	37	30
26	16	31	29	22	22	16	13	20	36	48	36	30
27	14	31	29	22	22	14	14	21	37	36	36	30
28	18	31	32	22	21	14	17	19	44	36	36	30
29	22	31	32	22	---	14	22	16	55	39	36	30
30	22	31	32	21	---	14	18	16	63	39	36	30
31	22	---	31	21	---	13	---	21	---	39	36	---
TOTAL	789	1093	940	775	583	620	409	650	939	2119	1167	1017
MEAN	25.5	36.4	30.3	25.0	20.8	20.0	13.6	21.0	31.3	68.4	37.6	33.9
MAX	31	89	32	31	22	23	22	26	63	93	43	36
MIN	14	22	29	21	20	13	13	16	21	36	32	30
AC-FT	1560	2170	1860	1540	1160	1230	811	1290	1860	4200	2310	2020

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

MEAN	21.0	19.0	18.3	23.4	29.3	24.8	23.2	24.4	40.3	81.6	55.6	35.2
MAX	40.9	36.4	30.3	35.2	46.1	41.6	41.1	43.4	91.1	147	107	49.4
(WY)	1998	1999	1999	1994	1997	1995	1996	1996	1997	1995	1995	1995
MIN	11.8	8.56	10.2	7.63	7.11	6.91	10.4	9.28	9.14	30.6	33.8	22.7
(WY)	1991	1993	1993	1991	1991	1991	1993	1994	1994	1994	1992	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	15640		11101			
ANNUAL MEAN	42.8		30.4		33.1	
HIGHEST ANNUAL MEAN					47.8	
LOWEST ANNUAL MEAN					18.4	
HIGHEST DAILY MEAN	244	Jul 21	93	Jul 15	244	Jul 21 1998
LOWEST DAILY MEAN	14	Oct 27	13	Mar 31	6.5	Mar 19 1991
ANNUAL SEVEN-DAY MINIMUM	17	Oct 23	13	Mar 31	6.5	Mar 19 1991
INSTANTANEOUS PEAK FLOW			96		270	
INSTANTANEOUS PEAK STAGE			1.08		2.15	
ANNUAL RUNOFF (AC-FT)	31020		22020		23980	
10 PERCENT EXCEEDS	112		42		65	
50 PERCENT EXCEEDS	30		30		24	
90 PERCENT EXCEEDS	20		16		10	

10270875 INTAKE NO. 2 RESERVOIR NEAR BISHOP, CA

LOCATION.—Lat 38°14'53", long 118°34'53", in SE 1/4 SW 1/4 sec.16, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in outlet structure, 50 ft upstream from Bishop Creek Dam, on Middle Fork Bishop Creek, and 13.0 mi southwest of Bishop.

DRAINAGE AREA.—31.6 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed by rock-fill dam completed in 1908. Capacity, 78 acre-ft, between elevations 8,077 ft, invert of outlet, and 8,098.81 ft, crest of spillway, all of which are available for release. Water is received from South Fork Bishop Creek via conduit on right bank. Most of the water is diverted through conduit to Bishop Creek Powerplant No. 2 for power development on Bishop Creek. Figures given represent total contents. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 101 acre-ft, July 9, 1995, elevation, 8,100.67 ft; minimum, 8.6 acre-ft, Nov. 2, 1998, elevation, 8,088.36 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 86 acre-ft, Nov. 5, July 15, maximum elevation, 8,099.53 ft, July 15; minimum, 8.6 acre-ft, Nov. 2, elevation, 8,088.36 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 12, 1981)

8,077	0	8,094	32
8,082	1	8,098	68
8,086	5	8,102	120
8,090	12		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	77	73	70	71	69	72	70	72	82	72	67
2	67	8.6	72	69	70	68	73	70	70	82	73	68
3	66	79	72	69	70	68	70	71	71	82	70	68
4	67	84	70	69	70	67	67	69	59	81	68	68
5	67	86	69	68	69	67	69	71	63	81	66	66
6	68	75	68	66	69	70	71	64	66	81	68	67
7	68	75	71	66	71	70	71	66	65	81	67	67
8	71	71	71	70	67	70	70	73	70	82	65	68
9	70	73	71	70	66	69	71	73	68	82	67	68
10	69	75	71	69	71	68	72	73	72	82	72	69
11	69	73	72	68	70	66	71	75	69	82	69	69
12	69	74	71	68	70	66	71	64	75	82	66	70
13	68	74	71	69	72	66	71	62	64	82	69	70
14	70	73	71	68	73	65	70	61	72	83	68	70
15	70	74	70	68	74	66	70	61	74	86	72	70
16	70	74	70	69	74	67	71	61	75	85	73	71
17	71	72	72	70	67	69	68	66	73	84	71	70
18	71	71	71	71	67	69	72	70	72	81	70	69
19	71	71	70	72	67	66	73	70	78	79	71	67
20	70	71	71	70	68	65	71	73	79	78	74	66
21	70	74	75	65	68	67	70	70	79	75	72	67
22	69	73	74	67	68	68	66	71	74	75	70	66
23	67	72	71	68	68	69	68	67	73	73	69	72
24	70	72	70	69	67	76	68	74	79	70	68	70
25	70	72	70	75	68	74	69	75	79	66	67	70
26	71	73	69	72	69	73	68	71	78	78	74	70
27	73	73	68	72	71	70	68	64	73	72	72	69
28	75	72	71	70	69	68	65	71	74	67	71	69
29	74	72	70	71	---	68	70	66	79	68	70	69
30	73	72	72	70	---	67	69	58	80	70	68	69
31	72	---	71	69	---	66	---	66	---	72	69	---
MAX	75	86	75	75	74	76	73	75	80	86	74	72
MIN	66	8.6	68	65	66	65	65	58	59	66	65	66
a	8098.33	8098.38	8098.24	8098.06	8098.10	8097.86	8098.07	8097.80	8099.10	8098.37	8098.08	8098.08
b	+2	0	-1	-2	0	-3	+3	-3	+14	-8	-3	0

CAL YR 1998 MAX 99 MIN 8.6 b +1
WTR YR 1999 MAX 86 MIN 8.6 b -1

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

10270877 MIDDLE FORK BISHOP CREEK BELOW INTAKE NO. 2 RESERVOIR, NEAR BISHOP, CA

LOCATION.—Lat 37°15'16", long 118°34'39", unsurveyed, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, 0.1 mi upstream from bridge on South Lake Road, 0.7 mi downstream from Bishop Creek Dam, 0.9 mi upstream from confluence with South Fork Bishop Creek, and 12.6 mi southwest of Bishop.

DRAINAGE AREA.—31.9 mi².

PERIOD OF RECORD.—October 1990 to current year (low-flow records only). Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 7,830 ft above sea level, from topographic map.

REMARKS.—No records computed above 30 ft³/s. Flow regulated by Intake No. 2 Reservoir (station 10270875), where most of the water is diverted to Bishop Creek Powerplant No. 2. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	13	7.2	e7.7	7.8	7.8	7.8	11	10	---	11	11
2	13	---	7.2	7.6	7.9	7.8	7.8	11	10	---	11	11
3	13	---	7.2	7.6	7.8	7.8	7.8	11	10	---	11	11
4	13	---	7.2	7.6	7.8	7.8	7.8	11	10	---	11	11
5	13	---	e7.2	7.6	7.8	7.7	7.6	11	10	---	10	11
6	13	29	e7.2	7.6	7.8	7.6	7.7	11	10	---	10	11
7	13	12	e7.2	7.6	7.9	7.6	7.8	11	10	---	10	11
8	13	12	7.2	7.6	7.8	7.7	7.8	11	10	---	10	11
9	13	12	7.2	7.6	7.8	7.8	e7.8	11	10	---	10	11
10	13	12	7.2	7.6	e7.8	7.8	7.8	11	10	---	10	11
11	13	12	7.2	7.6	e7.8	7.8	7.8	11	10	---	11	11
12	13	9.3	7.2	7.6	7.8	7.7	7.8	11	10	---	11	11
13	13	7.2	7.2	7.7	7.8	7.6	7.8	11	11	---	10	11
14	13	7.2	7.2	7.6	7.8	7.6	7.7	11	10	---	10	11
15	13	7.2	7.2	7.6	7.8	7.6	7.6	10	11	---	10	11
16	13	7.2	7.2	7.6	7.8	7.6	7.6	10	10	---	11	11
17	13	7.2	7.2	7.6	7.8	7.6	7.6	10	11	---	11	11
18	13	7.2	7.2	7.7	7.8	7.6	7.6	10	11	---	11	11
19	13	7.2	7.2	e7.7	7.8	7.6	7.6	10	13	22	11	11
20	13	7.2	e7.4	e7.7	7.6	7.6	7.6	10	19	17	11	11
21	13	7.2	e7.7	7.7	7.6	7.6	7.6	11	29	12	11	11
22	13	7.3	e7.7	7.6	7.6	7.6	9.5	11	11	11	11	11
23	13	7.2	e7.7	7.6	7.6	7.8	11	11	11	13	11	11
24	13	7.2	e7.7	7.6	7.6	7.8	11	11	18	11	11	11
25	13	7.2	e7.7	7.8	7.7	7.8	11	11	20	10	11	11
26	13	7.2	e7.7	7.8	7.8	7.8	11	11	16	16	11	11
27	13	7.2	e7.7	e7.8	7.8	7.8	11	11	11	11	11	11
28	13	7.3	7.6	e7.8	7.8	7.8	11	11	11	11	11	11
29	13	7.2	7.6	7.8	---	7.6	11	11	16	11	11	11
30	13	7.2	7.6	7.8	---	7.6	11	10	29	11	11	11
31	13	---	e7.7	7.8	---	7.6	---	10	---	11	11	---
TOTAL	403	---	228.6	237.6	217.5	238.5	259.5	333	388	---	332	330
MEAN	13.0	---	7.37	7.66	7.77	7.69	8.65	10.7	12.9	---	10.7	11.0
MAX	13	---	7.7	7.8	7.9	7.8	11	11	29	---	11	11
MIN	13	---	7.2	7.6	7.6	7.6	7.6	10	10	---	10	11
AC-FT	799	---	453	471	431	473	515	661	770	---	659	655

e Estimated.

10270885 BISHOP CREEK BELOW INTAKE NO. 3 DIVERSION DAM, NEAR BISHOP, CA

LOCATION.—Lat 37°16'27", long 118°34'17", in NE 1/4 NE 1/4 sec.9, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, 125 ft downstream from dam, 0.7 mi downstream from confluence of South Fork and Middle Fork Bishop Creek, and 9.5 mi southwest of Bishop.

DRAINAGE AREA.—64.5 mi².

PERIOD OF RECORD.—October 1994 to current year (low-flow records only). Unpublished records prior to October 1994 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 7,130 ft above sea level, from topographic map.

REMARKS.—No records computed above 20 ft³/s. Flow regulated by Intake No. 3 Reservoir, where most of the water is diverted to Bishop Creek Powerplant No. 3. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	---	14	14	15	15	15	14	13	14	14	---
2	15	---	14	14	15	15	15	14	13	15	14	16
3	15	---	14	14	15	15	15	14	13	14	14	14
4	15	---	14	14	15	15	15	14	14	14	14	14
5	15	---	14	14	15	15	15	14	14	15	14	14
6	15	---	14	14	15	15	15	14	14	14	14	14
7	15	15	14	14	15	15	15	14	14	15	14	14
8	15	15	14	14	15	15	15	14	14	14	14	14
9	15	15	14	14	15	15	15	14	14	16	14	14
10	15	15	14	14	15	15	15	14	14	16	14	14
11	15	15	14	14	15	15	15	14	14	18	14	14
12	15	15	14	14	15	15	15	14	14	17	14	14
13	15	14	14	14	15	15	15	14	14	14	14	14
14	15	14	14	14	15	15	15	14	14	---	14	14
15	15	14	14	14	15	15	14	14	14	---	14	14
16	15	14	14	14	15	15	14	14	14	---	14	14
17	15	14	14	14	15	15	14	14	14	---	14	14
18	15	14	14	14	15	15	14	14	14	14	14	14
19	15	14	14	14	15	15	14	14	14	14	14	14
20	15	14	14	14	15	15	14	14	14	14	14	14
21	15	14	14	15	15	15	14	14	14	14	14	14
22	15	14	14	15	15	15	14	14	14	14	15	14
23	15	14	14	15	15	15	14	14	14	14	14	14
24	15	14	14	15	15	15	14	14	14	14	14	14
25	14	14	14	15	15	15	14	14	14	14	14	14
26	14	14	14	15	15	15	14	14	14	14	14	14
27	15	14	14	15	15	15	14	14	14	14	19	14
28	---	14	14	15	15	15	14	14	14	14	14	14
29	---	14	14	15	---	15	14	13	14	14	14	14
30	---	14	14	15	---	15	14	13	14	14	14	14
31	---	---	14	15	---	15	---	13	---	14	14	---
TOTAL	---	---	434	445	420	465	434	431	417	---	440	---
MEAN	---	---	14.0	14.4	15.0	15.0	14.5	13.9	13.9	---	14.2	---
MAX	---	---	14	15	15	15	15	14	14	---	19	---
MIN	---	---	14	14	15	15	14	13	13	---	14	---
AC-FT	---	---	861	883	833	922	861	855	827	---	873	---

10270900 BIRCH-MCGEE DIVERSION TO BISHOP CREEK POWERPLANT NO. 2, NEAR BISHOP, CA

LOCATION.—Lat 37°16'26", long 118°34'45", NW 1/4 NE 1/4 sec.9, T.8 S., R.31 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, in conduit, 100 ft upstream from penstock to Bishop Creek Powerplant No. 2, and 11.9 mi southwest of Bishop.

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Acoustic-velocity meter. Elevation of gage is 7,950 ft above sea level, from topographic map.

REMARKS.—Conduit diverts water from Birch Creek and discharges into penstock to Bishop Creek Powerplant No. 2. Birch Creek receives water from McGee Creek via McGee Creek Diversion (station 10268225). See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	6.1	6.9	5.9	5.4	5.1	4.6	4.8	12	20	8.1	12
2	10	5.4	6.8	5.9	5.3	5.1	4.7	4.5	12	18	15	13
3	7.8	5.3	6.9	5.9	5.3	5.2	4.7	4.5	14	12	19	12
4	7.1	5.2	6.7	5.9	5.3	5.1	4.7	4.4	16	19	19	12
5	6.9	5.1	6.7	5.9	5.3	5.0	4.7	4.5	15	28	18	12
6	6.9	5.1	6.7	6.0	5.4	5.0	4.7	4.6	15	29	18	11
7	7.0	5.6	6.6	6.0	5.7	5.0	4.7	4.6	15	31	17	11
8	6.8	5.9	6.6	6.0	5.4	5.0	4.7	4.6	15	27	16	11
9	7.0	5.9	6.6	6.0	5.5	5.0	4.6	4.6	15	23	16	11
10	6.7	6.7	6.6	6.0	5.3	4.9	4.7	4.5	16	20	16	11
11	6.7	7.6	6.6	6.0	5.3	4.9	4.6	4.6	17	20	15	11
12	6.7	7.5	6.5	5.9	5.3	4.9	4.6	4.7	18	25	14	10
13	6.1	7.5	6.5	5.8	5.3	5.0	4.9	4.6	14	27	14	9.9
14	8.3	7.4	6.5	5.8	5.2	5.0	4.9	4.6	12	26	15	9.8
15	9.9	7.3	6.4	5.8	5.2	4.9	4.9	4.6	13	30	14	9.6
16	9.4	7.3	6.4	5.8	5.2	4.9	4.9	4.7	14	31	14	9.5
17	9.0	7.2	6.4	5.8	5.3	5.0	4.9	4.7	16	28	14	9.8
18	9.2	7.2	6.4	5.8	5.3	5.1	5.0	4.8	13	25	14	9.9
19	9.3	7.2	6.4	5.8	5.2	5.0	5.0	4.9	14	24	15	9.4
20	9.2	7.2	6.0	5.7	5.2	4.9	5.0	5.1	15	23	15	9.0
21	9.2	7.2	5.9	5.2	5.2	4.9	4.9	5.3	14	22	15	8.7
22	9.1	6.9	6.2	5.9	5.1	4.9	4.8	5.4	11	21	16	8.3
23	7.4	6.7	6.2	5.9	5.1	4.9	4.7	5.5	14	21	16	8.1
24	7.0	6.5	6.2	5.9	5.2	5.0	4.6	6.0	18	21	16	7.8
25	6.8	6.9	6.2	5.4	5.2	4.9	4.6	9.2	18	12	16	7.8
26	6.3	6.9	6.1	5.8	5.1	5.0	4.6	13	21	7.7	16	8.1
27	6.0	6.9	6.0	5.7	5.1	4.9	4.6	14	20	7.9	17	7.9
28	6.2	7.0	6.1	5.7	5.1	4.9	4.5	14	22	7.2	16	7.7
29	6.4	7.0	6.1	5.6	---	4.9	4.6	13	21	7.4	15	8.0
30	6.4	6.9	6.1	5.7	---	4.7	4.6	13	19	7.8	14	8.0
31	6.1	---	6.0	5.7	---	4.8	---	13	---	8.0	13	---
TOTAL	238.9	198.6	198.3	180.2	147.5	153.8	142.0	204.3	469	629.0	476.1	294.3
MEAN	7.71	6.62	6.40	5.81	5.27	4.96	4.73	6.59	15.6	20.3	15.4	9.81
MAX	12	7.6	6.9	6.0	5.7	5.2	5.0	14	22	31	19	13
MIN	6.0	5.1	5.9	5.2	5.1	4.7	4.5	4.4	11	7.2	8.1	7.7
AC-FT	474	394	393	357	293	305	282	405	930	1250	944	584

10270940 BISHOP CREEK BELOW INTAKE NO. 4 DIVERSION DAM, NEAR BISHOP, CA

LOCATION.—Lat 37°18'10", long 118°31'45", in NW 1/4 NW 1/4 sec.36, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, 300 ft downstream from dam, 1.6 mi upstream from Coyote Creek, and 7.5 mi southwest of Bishop.

DRAINAGE AREA.—72.7 mi².

PERIOD OF RECORD.—October 1994 to current year (low-flow records only). Unpublished records prior to October 1994 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 6,310 ft above sea level, from topographic map.

REMARKS.—No records computed above 20 ft³/s. Flow regulated by Intake No. 4 Reservoir, where most of the water is diverted to Bishop Creek Powerplant No. 4. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	8.4	6.0	6.1	5.7	5.7	e6.1	5.7	5.1	---	5.2	7.7
2	7.6	---	6.0	6.1	5.8	5.7	e6.1	5.7	6.1	---	5.4	8.8
3	7.6	---	6.1	6.1	5.8	5.7	e6.1	5.4	---	---	5.7	7.0
4	7.6	---	6.1	6.1	5.7	5.7	e6.1	5.1	5.1	---	5.8	6.6
5	7.6	---	6.1	6.1	5.7	5.7	e6.1	5.2	5.0	---	5.8	6.5
6	7.6	---	6.2	6.1	5.7	5.7	5.7	5.1	5.0	---	5.8	6.6
7	7.6	9.1	7.1	6.1	5.7	5.7	5.7	5.1	5.0	---	5.8	6.6
8	7.6	9.1	6.1	6.0	5.7	5.7	5.7	5.1	5.1	---	5.9	6.6
9	7.6	9.1	6.1	6.0	5.7	5.7	6.0	5.1	5.1	---	6.0	6.6
10	7.6	9.1	6.1	6.0	6.0	5.7	5.7	5.1	5.1	---	6.0	6.6
11	7.6	9.1	6.1	6.0	6.2	5.7	5.7	5.1	5.1	---	6.0	6.6
12	7.6	7.7	6.1	6.0	5.7	5.7	5.7	5.1	5.1	---	6.0	6.6
13	7.6	6.7	6.1	5.6	5.7	5.7	5.7	5.1	9.3	---	6.1	6.6
14	7.6	6.7	6.1	5.7	5.7	5.7	5.7	5.1	5.2	---	6.1	6.6
15	7.6	6.6	6.1	5.7	5.7	5.7	5.7	5.0	8.5	---	6.1	6.6
16	7.6	6.3	6.1	5.7	5.7	5.7	5.7	5.0	12	---	6.1	6.6
17	7.6	6.1	6.1	5.7	6.0	5.7	5.7	5.0	12	---	6.2	6.6
18	7.5	6.1	6.0	5.8	13	5.7	5.7	5.0	9.9	---	6.3	6.6
19	7.5	6.1	6.2	5.8	16	5.7	5.7	5.0	15	---	6.3	6.6
20	7.5	6.1	6.1	5.8	16	5.7	5.7	5.0	---	---	6.3	6.6
21	7.6	6.1	6.2	5.7	16	5.7	5.7	5.1	---	---	6.3	6.0
22	7.6	6.1	6.1	5.8	15	5.7	5.8	5.1	16	10	6.4	5.7
23	7.6	6.1	6.2	5.8	15	5.7	5.8	5.1	14	---	6.4	5.7
24	7.7	6.1	6.3	5.8	13	5.7	5.8	5.1	---	20	6.4	5.7
25	7.5	6.1	6.1	5.9	e10	5.8	5.7	5.0	---	15	6.4	5.7
26	18	6.1	6.1	e6.2	5.7	5.7	5.7	7.7	---	8.4	6.4	5.7
27	7.8	6.1	6.1	5.7	5.7	5.7	5.7	11	---	5.3	10	5.7
28	---	6.0	6.1	5.9	5.7	5.7	5.8	5.1	---	5.1	6.3	5.7
29	---	6.0	6.1	5.7	---	5.7	5.8	8.5	---	5.1	6.3	5.7
30	---	6.0	6.1	5.7	---	5.7	5.7	5.6	---	5.2	6.4	5.7
31	10	---	6.3	5.7	---	5.7	---	5.1	---	5.2	6.4	---
TOTAL	---	---	190.6	182.4	229.3	176.8	173.8	171.4	---	---	192.6	192.9
MEAN	---	---	6.15	5.88	8.19	5.70	5.79	5.53	---	---	6.21	6.43
MAX	---	---	7.1	6.2	16	5.8	6.1	11	---	---	10	8.8
MIN	---	---	6.0	5.6	5.7	5.7	5.7	5.0	---	---	5.2	5.7
AC-FT	---	---	378	362	455	351	345	340	---	---	382	383

e Estimated.

10270970 BISHOP CREEK BELOW INTAKE NO. 5 DIVERSION DAM, NEAR BISHOP, CA

LOCATION.—Lat 37°19'27", long 118°29'57", in NE 1/4 SE 1/4 sec.9, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, Inyo National Forest, on left bank, 400 ft downstream from dam, 1.0 mi downstream from Coyote Creek, and 6.0 mi southwest of Bishop.

DRAINAGE AREA.—100 mi².

PERIOD OF RECORD.—October 1994 to current year (low-flow records only). Unpublished records prior to October 1994 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 5,280 ft above sea level, from topographic map.

REMARKS.—No records computed above 30 ft³/s. Flow regulated by Intake No. 5 Reservoir, where most of the water is diverted to Bishop Creek Powerplant No. 5. Water is used for power development downstream. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	---	20	20	20	19	20	19	19	19	19	22
2	19	---	20	20	20	19	20	19	19	26	19	29
3	19	---	20	20	20	19	20	19	21	20	19	22
4	19	---	20	19	20	19	20	19	19	18	19	21
5	19	---	20	19	20	19	20	19	19	21	19	20
6	19	---	20	19	20	20	20	19	19	20	19	20
7	19	---	20	19	20	20	20	19	18	19	19	20
8	19	---	20	19	20	20	20	19	18	21	19	20
9	19	---	20	19	20	20	20	19	18	23	19	20
10	19	20	20	19	20	20	20	19	18	25	19	20
11	19	20	20	19	20	20	20	19	18	---	19	20
12	19	20	20	19	20	20	20	19	18	---	19	20
13	19	20	20	19	20	19	19	19	18	27	19	20
14	20	20	20	19	20	19	19	19	18	---	19	20
15	20	20	20	19	20	19	19	26	18	---	19	20
16	20	20	20	19	20	20	19	19	18	---	19	20
17	19	20	20	19	20	19	19	19	18	---	19	20
18	19	20	20	19	20	20	19	19	18	19	19	20
19	20	20	20	19	20	20	19	19	18	18	19	20
20	20	20	20	20	20	20	19	20	18	19	19	20
21	20	20	20	20	20	20	19	25	18	19	19	20
22	20	20	20	19	20	20	19	19	18	19	19	20
23	20	20	20	20	20	20	19	19	18	19	19	20
24	20	20	20	20	20	20	19	19	18	19	20	20
25	20	20	20	20	e20	20	19	19	18	19	20	20
26	---	20	20	21	19	20	19	19	18	19	20	20
27	---	20	20	20	19	20	19	21	18	20	26	20
28	---	20	20	20	19	19	19	19	18	20	25	20
29	---	20	20	20	---	19	19	19	18	20	24	20
30	---	20	20	20	---	19	20	19	18	19	29	20
31	---	---	20	20	---	19	---	19	---	19	23	---
TOTAL	---	---	620	604	557	607	583	605	548	---	624	614
MEAN	---	---	20.0	19.5	19.9	19.6	19.4	19.5	18.3	---	20.1	20.5
MAX	---	---	20	21	20	20	20	26	21	---	29	29
MIN	---	---	20	19	19	19	19	19	18	---	19	20
AC-FT	---	---	1230	1200	1100	1200	1160	1200	1090	---	1240	1220

e Estimated.

10270985 ABELOUR DITCH NEAR BISHOP, CA

LOCATION.—Lat 37°20'30", long 118°28'41", SE 1/4 NE 1/4 sec.17, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, on left bank, 400 ft upstream from Highway 168 road crossing, 0.6 mi downstream from outlet in penstock to Bishop Creek Powerplant No. 6, and 4.8 mi west of Bishop.

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 4,750 ft above sea level, from topographic map.

REMARKS.—Ditch diverts water from Bishop Creek Powerplant No. 6 Penstock for irrigation and domestic use. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 3.3 ft³/s, May 7, 1995; minimum daily, no flow Nov. 3, 4, 1998.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	.02	1.7	2.0	2.1	2.0	1.7	1.7	2.0	2.0	2.1	2.2
2	2.4	.01	1.7	2.0	2.1	2.0	1.7	1.7	2.0	2.0	2.0	2.1
3	2.5	.00	1.7	2.0	2.1	2.0	1.7	1.8	2.2	2.0	1.9	2.1
4	2.5	.00	1.8	2.0	2.1	2.0	1.7	1.8	2.0	2.0	2.0	2.2
5	2.4	.10	1.8	2.0	2.0	2.2	1.8	1.8	2.2	2.0	2.0	2.2
6	2.4	1.3	1.8	2.0	2.1	2.1	1.9	1.7	2.2	2.0	2.1	2.2
7	2.4	2.1	1.8	2.0	2.1	2.0	1.9	1.7	2.2	2.0	2.1	2.2
8	2.4	2.5	1.8	2.0	2.0	2.0	1.9	1.8	2.2	2.0	2.1	2.2
9	2.4	2.3	1.8	2.0	2.0	2.0	1.9	1.7	2.2	2.0	2.1	2.2
10	2.4	1.8	1.8	2.0	2.1	2.0	1.9	1.8	2.1	2.0	2.1	2.2
11	2.4	1.8	1.8	2.0	2.3	2.0	1.9	2.0	2.0	2.0	2.1	2.2
12	2.4	1.8	1.8	2.0	2.2	2.0	1.9	2.2	2.0	2.0	2.1	2.2
13	2.4	1.8	1.8	2.1	2.2	2.0	1.8	2.5	2.1	2.0	2.1	2.2
14	2.4	1.8	1.8	2.1	2.1	2.0	1.8	2.6	2.0	1.8	2.2	2.2
15	2.3	1.8	1.8	2.1	2.0	2.0	1.8	2.5	2.0	1.6	2.1	2.2
16	2.3	1.8	1.8	2.1	2.1	2.0	1.8	2.3	2.2	1.9	2.1	2.2
17	2.3	1.8	1.8	2.1	2.0	1.9	1.8	2.3	2.2	2.0	2.1	2.2
18	2.2	1.8	1.8	2.1	2.0	1.8	1.9	2.3	2.2	2.0	2.1	2.2
19	2.3	1.8	1.7	2.1	2.0	1.8	1.9	2.3	2.2	2.0	2.1	2.2
20	2.4	1.8	1.7	2.1	2.0	1.8	1.9	2.2	2.3	2.0	2.1	2.2
21	2.4	1.8	1.8	2.2	2.0	1.8	1.8	2.2	2.3	2.0	2.1	2.2
22	2.5	1.8	1.8	2.2	2.0	1.8	1.8	2.2	2.3	2.0	2.1	2.2
23	2.7	1.8	1.7	2.2	2.0	1.8	1.9	2.1	2.3	2.0	2.1	2.2
24	2.3	1.8	1.7	2.2	2.0	1.8	1.9	2.1	2.3	2.0	2.1	2.2
25	1.5	1.8	1.7	2.2	2.0	1.8	1.8	2.1	2.3	2.0	2.1	2.2
26	1.4	1.8	1.7	2.1	2.0	1.8	1.8	2.0	2.3	2.0	2.1	2.2
27	.83	1.8	1.7	2.1	1.9	1.8	1.8	2.0	2.3	2.0	2.0	2.2
28	.03	1.7	1.7	2.1	2.0	1.8	1.8	2.0	2.3	2.1	2.1	2.2
29	.03	1.7	1.7	2.0	---	1.8	1.8	1.9	2.2	2.1	2.1	2.2
30	.02	1.7	1.6	2.1	---	1.7	1.8	2.0	2.0	2.1	2.2	2.2
31	.02	---	1.8	2.1	---	1.7	---	2.0	---	2.1	2.1	---
TOTAL	61.33	45.83	54.4	64.3	57.5	59.2	54.8	63.3	65.1	61.7	64.7	65.8
MEAN	1.98	1.53	1.75	2.07	2.05	1.91	1.83	2.04	2.17	1.99	2.09	2.19
MAX	2.7	2.5	1.8	2.2	2.3	2.2	1.9	2.6	2.3	2.1	2.2	2.2
MIN	.02	.00	1.6	2.0	1.9	1.7	1.7	1.7	2.0	1.6	1.9	2.1
AC-FT	122	91	108	128	114	117	109	126	129	122	128	131

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

MEAN	2.01	1.78	1.86	1.94	1.94	1.94	2.01	2.11	2.17	2.18	2.24	2.22
MAX	2.19	2.20	2.01	2.30	2.11	2.06	2.41	2.42	2.47	2.62	2.73	2.52
(WY)	1994	1994	1998	1997	1997	1997	1996	1995	1993	1995	1996	1995
MIN	1.87	1.04	1.75	1.75	1.70	1.70	1.83	1.88	1.90	1.91	1.85	1.89
(WY)	1991	1997	1999	1992	1991	1991	1999	1991	1992	1992	1991	1991

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	724.26		717.96			
ANNUAL MEAN	1.98		1.97		2.04	
HIGHEST ANNUAL MEAN					2.19	
LOWEST ANNUAL MEAN					1.85	
HIGHEST DAILY MEAN	2.7	Oct 23	2.7	Oct 23	3.3	May 7 1995
LOWEST DAILY MEAN	.00	Nov 3	.00	Nov 3	.00	Nov 3 1998
ANNUAL SEVEN-DAY MINIMUM	.01	Oct 29	.01	Oct 29	.01	Oct 29 1998
ANNUAL RUNOFF (AC-FT)	1440		1420		1470	
10 PERCENT EXCEEDS	2.3		2.3		2.4	
50 PERCENT EXCEEDS	2.0		2.0		2.0	
90 PERCENT EXCEEDS	1.7		1.7		1.8	

10271200 BISHOP CREEK ABOVE POWERPLANT NO. 6, NEAR BISHOP, CA

LOCATION.—Lat 37°21'00", long 118°27'42", in SE 1/4 SE 1/4 sec.9, T.7 S., R.32 E., Inyo County, Hydrologic Unit 18090102, on left bank, adjacent to Powerplant No. 6 tailrace, and 3.8 mi west of Bishop.

DRAINAGE AREA.—104 mi².

PERIOD OF RECORD.—October 1990 to current year. If records for Bishop Creek Powerplant No. 6 Conduit (station 10271060) are combined with this record, a record equivalent to that published since October 1936 as Bishop Creek below Powerplant No. 6, near Bishop, discontinued September 1990, can be obtained. Monthly and yearly mean discharge prior to October 1969, published in WSP 2127.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 4,510 ft above sea level, from topographic map.

REMARKS.—Flow regulated for power development by South Lake, Lake Sabrina, and Intake No. 2 Reservoir (stations 10270700, 10270870, and 10270875), combined capacity, 20,311 acre-ft, and five powerplants. Water is diverted into basin via Birch-McGee Diversion (station 10270900). Water is diverted out of basin via Abelour Ditch (station 10270985) for irrigation and domestic use. Diversion to Bishop Creek Powerplant No. 6 (station 10271060) bypasses this station and is published as a line item below. See schematic diagram of Bishop Creek Basin.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 453 ft³/s, July 23, 1998, gage height, 3.77 ft; no flow on many days in July and August 1992.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	74	1.5	.89	.97	3.0	1.7	.84	1.7	33	1.2	.90
2	.66	101	1.5	.88	1.1	2.9	1.5	.74	1.7	44	1.4	.93
3	.61	157	1.3	.89	1.1	2.7	1.4	.74	2.4	38	1.5	.89
4	.61	168	1.4	.89	1.1	2.6	1.5	.74	2.2	38	1.2	.89
5	.52	125	1.5	.89	1.1	55	1.5	.74	1.7	41	1.2	.89
6	.61	17	1.5	.89	1.1	27	1.5	1.3	1.6	39	1.1	.89
7	.61	6.3	e1.5	.89	1.1	1.7	1.5	.70	1.6	40	1.1	.89
8	.61	6.2	1.5	.89	.99	1.7	1.5	.61	1.7	40	1.1	.89
9	.61	6.2	1.5	.89	.95	1.7	1.2	.58	2.0	42	1.1	.92
10	.51	6.3	e1.5	.89	.89	1.7	1.2	.58	2.0	43	1.0	1.0
11	.49	6.2	1.5	1.0	7.3	1.7	1.2	.61	2.0	46	1.1	.98
12	.49	4.8	1.5	1.1	25	1.7	1.2	.57	1.9	44	1.0	.97
13	.57	3.7	1.3	1.1	16	1.7	1.2	.53	8.5	40	1.1	.89
14	.39	3.4	1.1	1.1	1.2	1.7	1.2	.47	2.2	38	1.1	.93
15	.41	3.4	1.1	1.1	1.2	1.7	1.2	1.0	3.4	34	1.0	.89
16	.40	3.2	1.1	1.0	2.1	1.7	1.2	2.3	8.2	30	.99	.93
17	.44	3.0	1.1	.89	2.0	1.7	1.2	2.3	8.7	26	1.1	.89
18	.40	3.0	1.1	1.0	2.8	1.8	1.2	2.3	7.0	22	.98	1.1
19	.50	3.0	1.0	1.1	2.6	2.3	1.4	2.3	9.9	20	.98	.99
20	.39	2.3	e1.0	1.1	2.6	2.2	1.2	2.2	20	17	.95	.94
21	.38	2.2	e1.0	.92	2.9	2.3	.98	2.3	30	15	.98	.94
22	.46	2.0	e1.1	.89	2.9	2.3	.89	2.2	14	10	.97	1.0
23	.49	1.7	e1.1	.89	3.0	2.3	.89	2.3	11	5.2	.97	1.1
24	.47	1.7	e1.2	e.90	3.0	2.3	.89	2.3	23	6.7	.97	1.0
25	.47	1.5	1.2	e.90	3.7	2.3	.89	2.2	27	6.4	.98	.96
26	12	1.5	1.2	e.90	3.4	2.3	.89	2.3	25	1.3	1.0	.99
27	66	1.5	1.1	e.93	3.4	2.3	.89	3.8	18	.36	1.6	.96
28	66	1.5	1.1	e.90	3.4	2.3	.78	2.1	17	.31	.89	1.0
29	81	1.5	1.1	e.90	---	2.3	.74	2.4	21	.29	.89	1.0
30	76	1.6	1.1	.91	---	2.1	.86	2.2	33	.38	3.1	.99
31	78	---	.97	.89	---	1.8	---	1.7	---	1.2	1.0	---
TOTAL	392.40	719.7	38.67	29.31	98.90	142.8	35.40	47.95	309.4	762.14	35.55	28.54
MEAN	12.7	24.0	1.25	.95	3.53	4.61	1.18	1.55	10.3	24.6	1.15	.95
MAX	81	168	1.5	1.1	25	55	1.7	3.8	33	46	3.1	1.1
MIN	.38	1.5	.97	.88	.89	1.7	.74	.47	1.6	.29	.89	.89
AC-FT	778	1430	77	58	196	283	70	95	614	1510	71	57
a	4990	5900	6200	5150	3940	4740	4770	6690	7500	7770	6720	5710

e Estimated.

a Diversion, in acre-feet, to Bishop Creek Powerplant No. 6, provided by Southern California Edison Co.

10271200 BISHOP CREEK ABOVE POWERPLANT NO. 6, NEAR BISHOP, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.87	5.46	1.56	5.95	2.59	2.67	2.72	7.89	32.7	83.3	40.4	7.37
MAX	37.4	24.0	5.34	38.6	10.9	7.54	15.9	29.9	86.7	240	171	37.5
(WY)	1998	1999	1996	1997	1998	1994	1996	1996	1997	1995	1995	1998
MIN	.11	.19	.19	.17	.21	.19	.18	.12	.064	.035	.048	.082
(WY)	1993	1991	1993	1993	1993	1992	1992	1992	1992	1992	1992	1992

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	14094.16		2640.76			
ANNUAL MEAN	38.6		7.23		16.8	
HIGHEST ANNUAL MEAN					43.2	
LOWEST ANNUAL MEAN					.34	
HIGHEST DAILY MEAN	420	Jul 24	168	Nov 4	420	Jul 24 1998
LOWEST DAILY MEAN	.25	Sep 26	.29	Jul 29	.00	Jul 27 1992
ANNUAL SEVEN-DAY MINIMUM	.29	Sep 21	.42	Oct 15	.00	Jul 27 1992
INSTANTANEOUS PEAK FLOW			189	Nov 4	453	Jul 23 1998
INSTANTANEOUS PEAK STAGE			2.35	Nov 4	3.77	Jul 23 1998
ANNUAL RUNOFF (AC-FT)	27960		5240		12150	
ANNUAL DIVERSION (AC-FT) a	79850		70090			
10 PERCENT EXCEEDS	158		21		55	
50 PERCENT EXCEEDS	1.6		1.3		1.5	
90 PERCENT EXCEEDS	.41		.72		.17	

a Diversion, in acre-feet, to Bishop Creek Powerplant No. 6, provided by Southern California Edison Co.

10287060 LUNDY LAKE NEAR LEE VINING, CA

LOCATION.—Lat 38°01'56", long 119°13'11", in NW 1/4 SE 1/4 sec.16, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, near right abutment of spillway of Lundy Lake Dam, on Mill Creek, and 7.6 mi northwest of Lee Vining.

DRAINAGE AREA.—16.3 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1910. Usable capacity, 4,113 acre-ft, between elevations 7,766.43 ft, invert of outlet, and 7,807.81 ft, crest of spillway. Figures given represent usable contents. Water is used for power development and irrigation downstream.

COOPERATION.—Records were collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 4,191 acre-ft, July 22, 1998, elevation, 7,808.40 ft; minimum, 440 acre-ft, Apr. 19, 1993, elevation, 7,773.08 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 4,159 acre-ft, July 9, elevation, 7,808.16 ft; minimum, 966 acre-ft, Feb. 26, elevation, 7,779.32 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 17, 1981)

7,766.43	0	7,790	2,001
7,770	213	7,800	3,126
7,780	1,027	7,810	4,406

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2772	2277	2039	e2024	1940	983	1059	1354	2313	4067	3019	2345
2	e2761	2259	2033	e2015	1939	985	1063	1364	2381	4106	2950	2334
3	e2750	2235	2041	e2017	1946	993	1060	1348	2398	4117	2894	2343
4	e2739	2212	e2037	e2015	1941	973	1071	1326	2397	4119	2875	2342
5	e2728	2183	e2037	e2010	1939	987	1073	1284	2376	4114	2846	2349
6	e2717	2181	e2037	e2007	1938	981	1080	1271	2349	4110	2812	2362
7	e2706	2174	e2037	2005	1959	982	1090	1260	2310	4108	2787	2349
8	e2695	2156	e2040	1993	1953	978	1087	1266	2288	4146	2748	2348
9	e2684	2148	e2042	1990	1966	999	1096	1257	2261	4159	2708	2348
10	e2673	2160	e2044	1983	e1944	991	1085	1256	2236	4154	2678	2359
11	e2650	2146	2048	1979	1923	988	1086	1275	2253	4146	2653	2346
12	e2640	2136	2047	1978	1851	991	1090	1280	2293	4149	2631	2341
13	e2629	2131	2051	1968	1781	994	1077	1322	2359	4133	2603	2340
14	e2618	2122	2045	1966	1705	992	1079	1348	2459	4114	2572	2335
15	2607	2123	e2046	1965	1634	992	1085	1370	2568	4117	2542	2331
16	2590	2123	2049	1957	1576	998	1092	1387	2669	4086	2511	2327
17	2572	2113	2045	1954	1506	999	1098	1365	2776	4042	2495	2322
18	2559	2108	2056	1962	1439	1011	1115	1329	2914	3996	2455	2318
19	2537	2103	2050	1964	1374	1003	1128	1292	3064	3942	2433	2318
20	2519	2090	e2050	1968	1312	1018	1145	1285	3163	3886	2402	2312
21	2496	2092	e2048	1971	1245	1009	1163	1276	3289	3841	2389	2299
22	2480	2093	e2046	1965	1184	1010	1191	1296	3391	3778	2356	2302
23	2457	2083	e2044	1972	1116	1020	1196	1365	3520	3668	2312	2309
24	2439	2093	e2042	1965	1057	1028	1213	1452	3658	3598	2281	2319
25	2423	2071	e2040	1965	1002	1029	1238	1532	3789	3522	2259	2324
26	2405	2067	e2041	1972	966	1037	1268	1642	3842	3462	2268	2324
27	2381	2057	e2041	1960	978	1039	1277	1763	3860	3380	2303	2313
28	2364	2057	e2031	1952	990	1042	1293	1883	3919	3311	2316	2314
29	2346	2047	e2031	1967	---	1051	1312	2012	3964	3224	2314	2322
30	2322	2051	e2027	1962	---	1058	1325	2117	4002	3158	2323	2323
31	2304	---	e2030	1957	---	1055	---	2258	---	3088	2327	---
MAX	2772	2277	2056	2024	1966	1058	1325	2258	4002	4159	3019	2362
MIN	2304	2047	2027	1952	966	973	1059	1256	2236	3088	2259	2299
a	7792.83	7790.47		7789.58	7779.58	7780.31	7783.23	7792.40	7806.97	7799.68	7793.04	7793.00
b	-479	-253	-21	-73	-967	+65	+270	+933	+1744	-914	-761	-4
CAL YR 1998	MAX 4191	MIN 482	b +57									
WTR YR 1999	MAX 4159	MIN 966	b -460									

e Estimated.

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

10287069 MILL CREEK FLUME BELOW LUNDY LAKE, NEAR LEE VINING, CA

LOCATION.—Lat 38°01'59", long 119°12'56", in SE 1/4 NE 1/4 sec.16, T.2 N., R.25 E., Mono County, Hydrologic Unit 18090101, on left bank, 20 ft upstream from Deer Creek, 70 ft downstream from road culvert, 1,400 ft downstream from Lundy Lake Dam, and 7.5 mi northwest of Lee Vining.

DRAINAGE AREA.—18.1 mi².

PERIOD OF RECORD.—October 1990 to current year. If records for Upper Conway Ditch and Lundy Powerplant Tailrace (stations 10287145 and 10287195) are combined with this record, a record equivalent to that published since October 1942 as Mill Creek below Lundy Lake, near Mono Lake can be obtained. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.—Water-stage recorder and 5-ft Cipolletti weir (since May 12, 1992) set in Parshall flume. Elevation of gage is 7,760 ft above sea level, from topographic map.

REMARKS.—Flow regulated by Lundy Lake (station 10287060). Most of the water is diverted at Lundy Lake via Lundy Powerplant to Upper Conway Ditch and Lundy Powerplant Tailrace for power development and irrigation.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 154 ft³/s, July 21, 1998, gage height, 2.65 ft; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.3	.53	.38	.31	.00	.00	.00	.24	7.8	4.3	1.3
2	2.4	1.2	.53	.38	.31	.00	.00	.00	.39	17	3.9	1.3
3	2.4	1.2	.53	.38	.31	.00	.00	.00	.46	34	3.7	1.3
4	2.4	1.1	.53	.38	.31	.00	.00	.00	.58	23	3.5	1.3
5	2.4	1.1	.53	.38	.31	.00	.00	.00	.66	18	3.4	1.3
6	2.4	1.0	.53	.38	.28	.00	.00	.00	.70	17	3.2	1.3
7	2.4	.98	.53	.38	.29	.00	.00	.00	.70	19	3.1	1.3
8	2.3	.98	.53	.38	.31	.00	.00	.00	.70	20	3.0	1.3
9	2.2	.97	.53	.38	.31	.00	.00	.00	.79	20	2.8	1.3
10	2.2	.88	.53	.38	.60	.00	.00	.00	.79	14	2.7	1.3
11	2.1	.88	.53	.38	3.1	.00	.00	.00	.79	14	2.5	1.3
12	2.0	.88	.53	.31	2.1	.00	.00	.00	.79	14	2.4	1.3
13	2.0	.86	.53	.31	1.9	.00	.00	.00	.88	11	2.3	1.3
14	2.1	.79	.53	.31	1.6	.00	.00	.00	.90	15	2.2	1.3
15	2.1	.79	.53	.31	1.2	.00	.00	.00	1.0	13	2.1	1.3
16	2.1	.79	.53	.31	.83	.00	.00	.00	1.1	11	2.0	1.3
17	2.0	.79	.53	.31	.45	.00	.00	.00	1.3	9.5	1.9	3.3
18	2.0	.79	.49	.31	.21	.00	.00	.00	1.5	9.1	1.9	5.4
19	2.0	.79	.45	.31	.11	.00	.00	.00	1.9	8.9	1.8	5.5
20	2.0	.75	.45	.31	.03	.00	.00	.00	2.4	8.6	1.7	5.5
21	1.9	.70	.45	.31	.01	.00	.00	.00	2.8	8.1	1.7	5.4
22	1.8	.70	.45	.31	.00	.00	.00	.00	3.4	7.7	1.6	5.3
23	1.7	.70	.45	.31	.00	.00	.00	.00	3.9	7.4	1.5	5.3
24	1.7	.70	.45	.31	.00	.00	.00	.00	4.8	7.0	1.4	5.3
25	1.6	.70	.45	.31	.00	.00	.00	.00	5.5	6.6	1.4	5.3
26	1.6	.63	.45	.31	.00	.00	.00	.00	6.1	6.2	1.4	5.2
27	1.5	.61	.45	.31	.00	.00	.00	.00	6.5	5.8	1.3	5.1
28	1.4	.61	.45	.31	.00	.00	.00	.00	6.8	5.5	1.3	5.1
29	1.4	.61	.45	.31	---	.00	.00	.00	7.1	5.2	1.3	5.1
30	1.4	.58	.45	.31	---	.00	.00	.01	7.5	4.9	1.3	5.1
31	1.3	---	.39	.31	---	.00	---	.14	---	4.6	1.3	---
TOTAL	61.2	25.36	15.29	10.38	14.88	0.00	0.00	0.15	72.97	372.9	69.9	92.7
MEAN	1.97	.85	.49	.33	.53	.000	.000	.005	2.43	12.0	2.25	3.09
MAX	2.4	1.3	.53	.38	3.1	.00	.00	.14	7.5	34	4.3	5.5
MIN	1.3	.58	.39	.31	.00	.00	.00	.00	.24	4.6	1.3	1.3
AC-FT	121	50	30	21	30	.00	.00	.3	145	740	139	184
a	0	0	0	0	0	0	0	215	415	740	286	0
b	1330	918	647	598	1510	633	595	2390	3520	3490	1780	601

a Diversion, in acre-feet, to Upper Conway Ditch, provided by Southern California Edison Co.

b Diversion, in acre-feet, to Lundy Powerplant Tailrace, provided by Southern California Edison Co.

10287069 MILL CREEK FLUME BELOW LUNDY LAKE, NEAR LEE VINING, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.60	1.04	.61	1.26	.50	.13	.008	.22	11.1	28.1	7.45	3.13
MAX	3.48	2.66	2.17	8.57	1.79	.70	.044	1.23	35.8	98.2	31.4	5.74
(WY)	1996	1996	1996	1997	1997	1996	1994	1997	1997	1995	1995	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.61	1.72	.17	.000
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1993	1994	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	2978.90		735.73			
ANNUAL MEAN	8.16		2.02		4.63	
HIGHEST ANNUAL MEAN					14.1 1995	
LOWEST ANNUAL MEAN					.69 1992	
HIGHEST DAILY MEAN	137	Jul 21	34	Jul 3	137	Jul 21 1998
LOWEST DAILY MEAN	.00	Apr 7	.00	Feb 22	.00	Oct 1 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 7	.00	Feb 22	.00	Oct 1 1990
INSTANTANEOUS PEAK FLOW			56 Jul 3		154	Jul 21 1998
INSTANTANEOUS PEAK STAGE			2.52 Jul 3		2.65	Jul 21 1998
ANNUAL RUNOFF (AC-FT)	5910		1460		3360	
ANNUAL DIVERSION (AC-FT) a	661		1660			
ANNUAL DIVERSION (AC-FT) b	22000		18010			
10 PERCENT EXCEEDS	18		5.4		7.1	
50 PERCENT EXCEEDS	.61		.61		.53	
90 PERCENT EXCEEDS	.00		.00		.00	

a Diversion, in acre-feet, to Upper Conway Ditch, provided by Southern California Edison Co.

b Diversion, in acre-feet, to Lundy Powerplant Tailrace, provided by Southern California Edison Co.

10287260 WAUGH LAKE NEAR JUNE LAKE, CA

LOCATION.—Lat 37°45'04", long 119°10'52", unsurveyed, T.2 S., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, near outlet, at base of Rush Creek Meadows Dam, on Rush Creek, and 6.0 mi southwest of town of June Lake.

DRAINAGE AREA.—15.3 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed by concrete dam completed in 1925. Total capacity, 5,277 acre-ft, between elevations 9,368.60 ft, invert of outlet, and 9,415.61 ft, crest of spillway, all of which are available for release. Figures given represent total contents. Water is used for power development downstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 5,696 acre-ft, July 8, 1995, elevation, 9,417.84 ft; minimum, no storage in each year.

EXTREMES FOR CURRENT YEAR.—Maximum contents, about 5,460 acre-ft, several days during June and July, elevation, unknown; minimum, no storage for many days.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 18, 1981)

9,375	0	9,400	2,670
9,380	148	9,405	3,447
9,385	681	9,410	4,277
9,390	1,283	9,418	5,727
9,395	1,948		

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3502	.00	.00	.00	.00	.00	.00	.00	2220	e5460	4970	4968
2	3503	.00	.00	.00	.00	.00	.00	.00	2149	e5460	4985	4967
3	3487	.00	.00	.00	.00	.00	.00	.00	1928	e5460	5006	4936
4	3461	.00	.00	.00	.00	.00	.00	.00	1661	e5460	5054	4907
5	3432	.00	.00	.00	.00	.00	.00	.00	1415	e5450	5101	4878
6	3405	.00	.00	.00	.00	.00	.00	.00	1261	e5440	5140	4860
7	3367	.00	.00	.00	.00	.00	.00	8.1	1157	e5430	5171	4805
8	3325	.00	.00	.00	.00	.00	.00	16	1113	e5420	5190	4774
9	3285	.00	.00	.00	.00	.00	.00	1.3	e1330	e5410	5208	4737
10	3246	.00	.00	.00	.00	.00	.00	11	e1550	e5400	5219	4677
11	3203	.00	.00	.00	.00	.00	.00	118	e1750	e5390	5269	4606
12	3159	.00	.00	.00	.00	.00	.00	372	e1950	e5380	5225	4513
13	3115	.00	.00	.00	.00	.00	.00	361	e2200	e5370	5197	4442
14	3073	.00	.00	.00	.00	.00	.00	203	e2500	e5360	5164	4373
15	3028	.00	.00	.00	.00	.00	.00	e190	e3000	e5350	5142	4270
16	2983	.00	.00	.00	.00	.00	.00	e180	e3850	e5340	5114	4141
17	2939	.00	.00	.00	.00	.00	.00	173	e4300	5267	5090	4009
18	2894	.00	.00	.00	.00	.00	.00	224	e4750	5232	5065	3902
19	2850	.00	.00	.00	.00	.00	.00	270	e5277	5188	5122	3796
20	2804	.00	.00	.00	.00	.00	.00	357	e5460	5129	5094	3686
21	2763	.00	.00	.00	.00	.00	.00	446	e5460	5069	5078	3567
22	2460	.00	.00	.00	.00	.00	.00	611	e5460	5001	5063	3461
23	2013	.00	.00	.00	.00	.00	.00	855	e5460	4972	5052	3357
24	1612	.00	.00	.00	.00	.00	.00	1054	e5460	4972	5050	3244
25	1231	.00	.00	.00	.00	.00	.00	1273	e5460	4970	5027	3131
26	888	.00	.00	.00	.00	.00	.00	1417	e5460	4967	5048	3016
27	571	.00	.00	.00	.00	.00	.00	1542	e5460	4961	5050	2830
28	286	.00	.00	.00	.00	.00	.00	1750	e5460	4961	5056	2595
29	12	.00	.00	.00	---	.00	.00	1898	e5460	4948	5036	2365
30	.00	.00	.00	.00	---	.00	.00	1981	e5460	4981	5001	2144
31	.00	---	.00	.00	---	.00	---	2087	---	4954	5014	---
MAX	3503	.00	.00	.00	.00	.00	.00	2087	5460	5460	5269	4968
MIN	.00	.00	.00	.00	.00	.00	.00	.00	1113	4948	4970	2144
a	9370.62	9370.57	9370.32	9370.83	9370.79	9370.84	9372.00	9395.99		9413.85	9414.18	9396.40
b	-3476	0	0	0	0	0	0	+2087	+3373	-506	+60	-2870

CAL YR 1998 MAX 5433 MIN .00 b 0
WTR YR 1999 MAX 5460 MIN .00 b -1332

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

10287280 GEM LAKE NEAR JUNE LAKE, CA

LOCATION.—Lat 37°45'07", long 119°08'25", unsurveyed, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in valve house, 100 ft downstream from left abutment of dam, on Rush Creek, and 4.0 mi southwest of town of June Lake.

DRAINAGE AREA.—22.0 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by concrete dam completed in 1916. Usable capacity, 17,798 acre-ft, between elevations 8,964.33 ft, invert of outlet, and 9,053.64 ft, crest of upper spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 17,553 acre-ft, July 29, 1995, elevation, 9,052.78 ft; minimum, 139 acre-ft, Apr. 18, 1999, elevation, 8,970.86 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 17,482 acre-ft, June 29, July 1, elevation, 9,052.53 ft; minimum, 139 acre-ft, Apr. 18, elevation, 8,970.86 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Sept. 1, 1981)

8,980	441	9,010	6,547
8,985	1,348	9,025	10,121
8,990	2,300	9,040	14,023
9,000	4,345	9,055	18,187

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14866	13940	11816	9299	6806	4449	1658	1819	10465	17482	15733	15499
2	14736	13798	11811	9280	6692	4459	1660	1858	10916	17479	15722	15502
3	14603	13608	11774	9243	6579	4372	1613	1844	11323	17451	15678	15499
4	14467	13549	11720	9114	6458	4293	1564	1810	11707	17417	15656	15507
5	14332	13477	11686	9005	6345	4201	1529	1628	12061	17386	15606	15510
6	14206	13403	11645	8892	6230	4110	1473	1521	12414	17349	15576	15515
7	14069	13347	11604	8768	6246	4026	1425	1588	12558	17357	15537	15515
8	13942	13267	11501	8650	6172	3869	1379	1778	12656	17369	15504	15548
9	13811	13195	11439	8638	6120	3755	1310	1893	12759	17369	15474	15604
10	13669	13139	11308	8612	5959	3639	1238	1964	12880	17360	15471	15675
11	13531	13073	11192	8490	5851	3520	1132	2118	13028	17386	15463	15708
12	13411	13020	11182	8365	5734	3389	842	2497	13185	17363	15480	15747
13	13262	12946	11161	8246	5736	3378	452	2857	13357	17386	15485	15780
14	13126	12883	11038	8120	5734	3378	302	3180	13547	17357	15491	15816
15	12994	12830	10929	8018	5607	3247	277	3387	13733	17324	15493	15858
16	12851	12780	10791	8004	5512	3120	212	3581	13910	17292	15493	15929
17	12716	12701	10680	7990	5384	3003	144	3854	14093	17247	15496	15990
18	12582	12627	10573	7893	5279	2885	139	4163	14276	17194	15499	16063
19	12440	12553	10556	7808	5158	2782	151	4487	14570	17137	15493	16132
20	12285	12475	10538	7717	5169	2784	181	4836	15093	17075	15482	16193
21	12262	12409	10422	7595	5182	2772	249	5196	15543	17019	15493	16243
22	12435	12338	10347	7497	5051	2659	375	5592	15924	16957	15496	16299
23	12764	12272	10219	7506	4948	2536	1022	6049	16360	16856	15485	16313
24	13076	12220	10096	7511	4836	2424	1438	6524	16772	16744	15491	16285
25	13355	12149	9974	7413	4715	2306	1485	7027	17084	16618	15493	16252
26	13597	12089	9954	7301	4594	2202	1550	7506	17278	16500	15502	16210
27	13822	12016	9929	7190	4585	2200	1622	7988	17349	16380	15496	16229
28	13999	11949	9802	7080	4592	2192	1685	8511	17372	16257	15502	16299
29	14149	11904	9668	6972	---	2075	1741	9003	17482	16124	15507	16330
30	14106	11878	9550	6965	---	1908	1776	9486	17479	15996	15491	16355
31	14023	---	9417	6960	---	1804	---	9969	---	15863	15496	---
MAX	14866	13940	11816	9299	6806	4459	1776	9969	17482	17482	15733	16355
MIN	12262	11878	9417	6960	4585	1804	139	1521	10465	15863	15463	15499
a	9040.00	9031.89	9022.16	9011.81	9001.16	8987.43	8987.28	9024.39	9052.52	9046.75	9045.42	9048.52
b	-966	-2145	-2461	-2457	-2368	-2788	-28	+8193	+7510	-1616	-367	+859

CAL YR 1998 MAX 17491 MIN 1186 b +2902
WTR YR 1999 MAX 17482 MIN 139 b +1366

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

10287285 AGNEW LAKE NEAR JUNE LAKE, CA

LOCATION.—Lat 37°45'30", long 119°07'52", unsurveyed, T.2 S., R.26 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in boat house, at left abutment of dam on Rush Creek, and 3.3 mi southwest of town of June Lake.

DRAINAGE AREA.—23.3 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by concrete dam completed in 1916. Usable capacity, 810 acre-ft, between elevations 8,470.00 ft, invert of outlet, and 8,495.88 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 871 acre-ft, Aug. 30, 1995, elevation, 8,497.40 ft; minimum, 22 acre-ft, Feb. 28, 1991, elevation, 8,470.97 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 835 acre-ft, June 29, elevation, 8,496.49 ft; minimum, 26 acre-ft, many days, minimum elevation, 8,471.12 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 25, 1981)

8,470	0	8,485	415
8,475	122	8,490	587
8,480	260	8,498	896

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	762	220	26	26	26	26	26	50	444	834	783	797
2	759	213	26	26	26	26	26	51	459	833	779	799
3	757	213	26	26	26	26	26	51	470	832	777	800
4	756	203	26	26	26	26	26	51	477	828	777	801
5	755	184	26	26	26	26	26	52	483	825	777	802
6	753	166	26	26	26	26	26	57	491	822	778	803
7	752	150	26	26	26	26	26	64	705	821	779	805
8	750	132	26	26	26	26	26	72	813	822	781	805
9	748	114	26	26	26	26	26	79	815	821	783	805
10	746	97	26	26	26	26	26	86	816	819	785	805
11	745	82	26	26	27	26	26	95	817	820	787	806
12	743	67	26	26	28	26	26	109	817	820	789	807
13	740	51	26	26	27	26	26	123	818	819	789	807
14	738	36	26	26	27	26	26	130	818	820	790	808
15	737	26	26	26	27	26	26	136	818	819	791	809
16	735	26	26	26	27	26	28	143	818	816	792	809
17	734	26	26	26	27	26	30	153	818	811	792	807
18	732	26	26	26	26	26	31	163	818	808	793	808
19	730	26	26	26	26	26	32	174	818	806	794	810
20	742	26	26	26	26	26	34	188	816	803	794	810
21	709	26	26	26	26	26	37	203	817	803	795	811
22	641	26	26	26	26	26	38	217	817	803	795	811
23	575	26	26	26	26	26	40	236	816	800	796	811
24	512	26	26	26	26	26	40	262	815	800	797	811
25	447	26	26	26	26	26	41	288	814	799	797	811
26	385	26	26	26	26	26	43	313	821	799	799	811
27	323	26	26	26	26	26	45	335	828	797	801	811
28	289	26	26	26	26	26	46	361	833	793	802	811
29	272	26	26	26	---	26	47	385	835	791	803	811
30	254	26	26	26	---	26	48	406	834	788	796	810
31	237	---	26	26	---	26	---	424	---	785	797	---
MAX	762	220	26	26	28	26	48	424	835	834	803	811
MIN	237	26	26	26	26	26	26	50	444	785	777	797
a	8479.21	8471.12	8471.14	8471.13	8471.14	8471.14	8472.06	8485.28	8496.47	8495.25	8495.54	8495.87
b	-525	-211	0	0	0	0	+22	+376	+410	-49	+12	+13

CAL YR 1998 MAX 857 MIN 26 b -1
WTR YR 1999 MAX 835 MIN 26 b +48

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

10287289 RUSH CREEK FLUME BELOW AGNEW LAKE, NEAR JUNE LAKE, CA

LOCATION.—Lat 37°45'33", 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, on left bank, 600 ft downstream from Agnew Lake Dam, and 3.4 mi southwest of town of June Lake.

DRAINAGE AREA.—23.3 mi².

PERIOD OF RECORD.—October 1990 to current year. If records for Rush Creek Powerplant Tailrace (station 10287300) are combined with this record, a record equivalent to that published since October 1951 as Rush Creek below Agnew Lake (station 10287290) can be obtained. Monthly and yearly mean discharges prior to October 1969, published in WSP 2127.

GAGE.—Water-stage recorder and Parshall flume. A 4-ft Cipolletti weir is set in the Parshall flume at times. Elevation of gage is 8,440 ft above sea level, from topographic map.

REMARKS.—Flow regulated for power development by Waugh, Gem, and Agnew Lakes (stations 10287260, 10287280, and 10287285). Most of the water is diverted at either Gem or Agnew Lakes to Rush Creek Powerplant Tailrace via Rush Creek Powerplant.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 441 ft³/s, July 30, 1995, gage height, 4.90 ft; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.8	e1.3	e.62	.69	.37	1.5	1.7	2.5	99	e1.5	1.4
2	1.9	2.8	1.3	.62	.69	.37	1.5	1.7	2.6	107	e1.5	1.3
3	1.8	2.8	1.1	.62	.64	.37	1.5	e1.7	2.7	96	e1.5	1.3
4	1.8	7.4	1.2	.63	.62	.37	1.5	e1.8	2.5	66	e1.5	1.3
5	1.8	11	1.4	.63	.62	.37	1.5	1.9	2.2	42	1.6	1.3
6	1.8	11	e1.3	.63	.62	.37	1.5	1.9	2.1	31	1.3	1.4
7	1.8	11	e1.3	.62	.62	.35	1.5	1.9	2.1	26	1.2	1.3
8	1.8	11	e1.3	.62	.61	.31	1.5	2.0	3.5	28	1.2	1.5
9	1.8	11	e1.2	.59	.55	.31	1.5	1.9	7.0	26	1.2	1.8
10	1.8	10	e1.2	.65	.55	.28	1.4	2.0	8.4	21	1.2	1.6
11	1.8	10	e1.2	.59	.55	.26	1.4	1.9	11	20	1.2	1.4
12	1.8	10	e1.2	.55	.55	.26	1.4	1.9	12	23	1.2	1.4
13	1.8	9.9	e1.1	.55	.55	.26	1.4	2.0	13	21	1.8	1.8
14	1.8	9.6	e1.1	.55	.55	.26	1.4	1.9	15	25	1.4	1.4
15	1.8	9.3	e1.1	.66	.55	.26	1.4	2.0	15	24	1.2	1.5
16	1.8	4.2	e1.1	.57	.51	.26	1.4	2.0	14	16	1.2	2.0
17	1.8	1.6	e.99	.69	.49	.37	e1.4	2.1	14	8.7	1.3	2.2
18	1.8	1.0	e.68	.87	.49	.62	e1.4	2.1	14	2.7	1.4	1.7
19	1.8	1.0	e.57	e.88	.49	.65	e1.5	2.0	13	2.2	1.2	1.5
20	1.8	.91	e.76	.90	.43	.70	e1.5	2.1	13	2.4	1.4	1.7
21	2.7	.83	.77	e.91	.43	.69	e1.5	2.2	9.8	1.3	1.4	1.9
22	3.8	.77	e.77	e.92	.43	.68	e1.6	2.1	10	1.2	1.4	2.1
23	3.7	.96	e.77	e.91	.43	.84	1.6	2.1	12	1.8	1.6	2.4
24	3.5	.93	e.77	e.91	.43	.80	1.6	2.2	11	1.2	1.4	2.3
25	3.4	.62	e.77	e.90	.39	.77	1.7	2.3	8.4	1.1	1.4	1.9
26	3.3	.72	e.73	e.91	.37	e.80	1.8	2.2	11	1.1	1.4	2.1
27	3.2	.66	e.69	e.90	.37	e.80	1.7	2.3	41	e1.5	1.3	1.8
28	3.1	.74	e.69	.90	.37	e.80	e1.7	2.3	73	e1.5	1.2	1.8
29	3.1	.88	e.65	.77	---	.80	1.6	2.3	100	e1.5	1.6	2.0
30	3.0	1.3	e.64	.69	---	.79	1.6	2.5	97	e1.5	4.1	2.5
31	3.0	---	e.63	.69	---	e1.0	---	2.5	---	e1.5	1.4	---
TOTAL	71.9	146.72	30.28	22.45	14.59	16.14	45.5	63.5	542.8	702.2	45.2	51.6
MEAN	2.32	4.89	.98	.72	.52	.52	1.52	2.05	18.1	22.7	1.46	1.72
MAX	3.8	11	1.4	.92	.69	1.0	1.8	2.5	100	107	4.1	2.5
MIN	1.8	.62	.57	.55	.37	.26	1.4	1.7	2.1	1.1	1.2	1.3
AC-FT	143	291	60	45	29	32	90	126	1080	1390	90	102
a	4740	2410	2790	2740	2690	2980	1540	2780	2890	5360	1610	2230

e Estimated.

a Diversion, in acre-feet, to Rush Creek Powerplant Tailrace, provided by Southern California Edison Co.

10287289 RUSH CREEK FLUME BELOW AGNEW LAKE, NEAR JUNE LAKE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.87	2.00	.80	1.04	.74	.85	1.42	1.23	17.3	52.9	11.6	.94
MAX	3.06	4.89	1.37	4.72	1.59	1.70	2.99	3.89	81.8	218	89.8	1.85
(WY)	1996	1999	1995	1997	1997	1998	1996	1998	1995	1995	1995	1998
MIN	.085	.39	.23	.27	.19	.13	.040	.045	.049	.031	.005	.015
(WY)	1995	1994	1991	1991	1991	1995	1994	1994	1992	1994	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	5689.57		1752.88			
ANNUAL MEAN	15.6		4.80		7.80	
HIGHEST ANNUAL MEAN					33.6	
LOWEST ANNUAL MEAN					.41	
HIGHEST DAILY MEAN	295	Jul 21	107	Jul 2	397	Jul 30 1995
LOWEST DAILY MEAN	.50	Jan 3	.26	Mar 11	.00	Oct 27 1990
ANNUAL SEVEN-DAY MINIMUM	.50	Jan 3	.26	Mar 10	.00	Mar 12 1991
INSTANTANEOUS PEAK FLOW			121	Jul 2	441	Jul 30 1995
INSTANTANEOUS PEAK STAGE			3.36	Jul 2	4.90	Jul 30 1995
ANNUAL RUNOFF (AC-FT)	11290		3480		5650	
ANNUAL DIVERSION (AC-FT) a	43740		34760			
10 PERCENT EXCEEDS	11		11		4.7	
50 PERCENT EXCEEDS	1.8		1.5		.77	
90 PERCENT EXCEEDS	.70		.55		.06	

a Diversion, in acre-feet, to Rush Creek Powerplant Tailrace, provided by Southern California Edison Co.

10287650 SADDLEBAG LAKE NEAR LEE VINING, CA

LOCATION.—Lat 37°57'56", long 119°16'18", unsurveyed, T.1 N., R.24 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, near left abutment of dam, on Lee Vining Creek, and 8.2 mi west of Lee Vining.

DRAINAGE AREA.—4.55 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

REVISED RECORDS.—WDR CA-98-1: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1921. Usable capacity, 9,789 acre-ft, between elevations 10,048.80 ft, invert of outlet, and 10,090.40 ft, crest of spillway. At times, a cofferdam 600 ft upstream affects the storage below about 800 acre-ft, due to the constriction of flow past the cofferdam. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 9,454 acre-ft, Aug. 24, 25, 1995, elevation, 10,089.26 ft; minimum, 558 acre-ft, Apr. 5, 23, 24, 27, 1995, elevation, 10,051.84 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 6,817 acre-ft, Aug. 5, elevation, 10,079.72 ft; minimum, 2,829 acre-ft, May 6, elevation, 10,063.09 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Feb. 8, 1985)

10,050	217	10,070	4,392
10,055	1,163	10,080	6,890
10,060	2,172	10,091	9,970

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6556	5848	5251	4487	3948	3701	3241	2881	4030	6105	6801	6670
2	6545	e5835	5221	4463	3930	3685	3223	2873	4092	6182	6801	6660
3	6525	e5827	5204	4437	3918	3669	3217	2853	4130	6266	6804	6647
4	6514	e5806	5185	4411	3898	3656	3199	2840	4144	6282	6809	6637
5	6496	e5785	5175	4387	3886	3633	3190	2831	4151	6318	6817	6626
6	6480	e5764	5150	4359	3884	3622	3184	2829	4172	6348	6811	6613
7	6467	e5743	5116	4340	3934	3604	3181	2834	4183	6400	6804	6603
8	6439	e5722	5079	4315	3957	3599	3173	2840	4214	6449	6801	6592
9	6410	e5701	5065	4289	3964	3597	3157	2844	4242	6486	6796	6579
10	6385	e5680	5040	4265	3946	3581	3142	2851	4279	6517	6796	6574
11	6361	e5659	5014	4240	3932	3565	3124	2866	4333	6566	6793	6564
12	6330	e5638	4992	4216	3916	3547	3100	2890	4399	6605	6788	6553
13	6305	e5617	4967	4190	3900	3531	3086	2912	4485	6644	6775	6540
14	6282	e5596	4931	4162	3884	3513	3071	2929	4587	6683	6764	6527
15	6256	e5575	4921	4146	3868	3499	3051	2936	4685	6712	6754	6517
16	6230	e5553	4889	4139	3866	3479	3036	2949	4779	6736	6746	6506
17	6205	e5530	4863	4116	3859	3463	3020	2966	4887	6754	6741	6496
18	6179	e5505	4834	4130	3845	3445	3007	2992	5004	6764	6725	6499
19	6154	e5483	4805	4146	3829	3430	2997	3020	5109	6770	6723	6491
20	6125	e5461	e4785	4167	3820	3414	2983	3053	5224	6775	6712	6480
21	6102	5446	4769	4141	3824	3399	2977	3091	5312	6777	6710	6473
22	6079	5414	4743	4113	3808	3385	2968	3153	5416	6777	6704	6465
23	6049	5401	e4715	4134	3786	3372	2968	3230	5538	6775	6696	6460
24	6041	5371	4685	4113	3758	3356	2949	3299	5678	6777	6694	6449
25	6023	5352	4664	4106	3763	3341	2936	3379	5735	6780	6691	6439
26	5983	5320	4640	4083	3747	3328	2929	3461	5793	6783	6702	6426
27	5967	5290	4625	4060	3731	3310	2916	3549	5845	6785	6707	6410
28	5944	5283	4587	4034	3717	3292	2903	3663	5906	6785	6702	6397
29	5924	5263	4561	4009	---	3270	2894	3765	5967	6791	6699	6385
30	5901	5268	4542	3988	---	3257	2886	3854	6031	6793	6696	6366
31	5888	---	4509	3967	---	3261	---	3944	---	6796	6678	---
MAX	6556	5848	5251	4487	3964	3701	3241	3944	6031	6796	6817	6670
MIN	5888	5263	4509	3967	3717	3257	2886	2829	4030	6105	6678	6366
a	10076.12	10073.63	10070.49	10068.18	10067.09	10065.06	10063.35	10068.08	10076.68	10079.64	10079.19	10077.99
b	-668	-620	-759	-542	-250	-456	-375	+1058	+2087	+765	-118	-312
CAL YR 1998	MAX 6730	MIN 663	b +180									
WTR YR 1999	MAX 6817	MIN 2829	b -190									

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

10287655 LEE VINING CREEK BELOW SADDLEBAG LAKE, NEAR LEE VINING, CA

LOCATION.—Lat 37°57'52", long 119°16'20", in SE 1/4 SE 1/4 sec.12, T.1 N., R.24 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank, 500 ft downstream from Saddleback Lake Dam, and 8.1 mi west of Lee Vining.

DRAINAGE AREA.—4.43 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 10,050 ft above sea level, from topographic map.

REMARKS.—Flow regulated by Saddleback Lake (station 10287650) 500 ft upstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 33 ft³/s, Mar. 23, 1998, gage height, 2.99 ft; minimum daily, 8.3 ft³/s, May 22–24, 1998.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	14	15	14	12	11	10	9.9	12	9.7	10	9.7
2	10	14	15	14	11	11	11	9.9	12	9.7	10	9.7
3	10	14	15	14	11	11	11	9.9	12	9.8	10	9.7
4	10	14	15	14	11	11	11	9.9	12	9.9	10	9.7
5	10	14	15	14	11	11	10	9.8	12	10	10	9.6
6	10	14	15	14	11	11	10	9.8	12	10	10	9.6
7	10	13	15	14	11	11	10	9.9	12	10	10	9.5
8	13	14	15	14	11	11	10	10	12	9.7	10	9.4
9	15	14	14	15	11	11	10	10	12	9.5	10	9.4
10	14	13	14	15	11	10	10	10	12	9.5	10	9.4
11	15	13	14	15	11	10	10	10	12	9.5	10	9.3
12	15	13	14	15	11	10	10	10	12	9.5	10	9.3
13	15	13	14	15	11	10	10	10	12	9.8	10	9.3
14	15	13	14	15	11	10	10	10	12	10	10	9.3
15	15	13	14	15	11	10	10	10	13	10	11	9.3
16	15	12	14	15	11	10	10	10	13	10	11	9.3
17	15	13	14	15	11	10	10	10	11	10	11	9.2
18	15	12	14	15	11	9.8	10	10	10	10	11	9.2
19	15	12	14	15	11	9.3	9.9	10	10	10	11	9.2
20	15	13	14	15	11	9.3	9.9	10	10	10	11	9.2
21	15	15	14	15	11	9.2	9.9	11	10	10	11	9.2
22	15	15	14	14	11	9.2	9.9	11	10	10	11	9.2
23	15	15	14	14	11	9.2	9.9	11	9.9	10	11	9.1
24	15	15	14	14	11	9.2	10	11	9.7	10	10	9.2
25	15	15	14	14	11	9.1	9.9	11	9.7	10	9.6	9.2
26	15	15	14	14	11	9.1	9.9	11	9.7	10	9.6	9.2
27	15	15	14	14	11	9.1	9.9	11	9.8	10	9.6	9.2
28	14	15	14	14	11	9.0	9.9	12	9.7	10	9.6	9.2
29	14	15	14	14	---	9.0	9.9	12	9.6	10	9.5	9.2
30	14	15	14	14	---	9.0	9.9	12	9.6	10	9.7	9.2
31	13	---	14	14	---	9.0	---	12	---	10	9.7	---
TOTAL	422	415	442	447	309	307.5	301.9	324.1	332.7	306.6	316.3	280.2
MEAN	13.6	13.8	14.3	14.4	11.0	9.92	10.1	10.5	11.1	9.89	10.2	9.34
MAX	15	15	15	15	12	11	11	12	13	10	11	9.7
MIN	10	12	14	14	11	9.0	9.9	9.8	9.6	9.5	9.5	9.1
AC-FT	837	823	877	887	613	610	599	643	660	608	627	556

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1999, BY WATER YEAR (WY)

MEAN	11.4	11.8	11.7	14.8	12.4	13.4	16.3	9.71	11.1	10.0	10.0	9.67
MAX	13.6	13.8	14.3	15.1	13.7	16.8	22.6	10.5	11.1	10.2	10.2	10.0
(WY)	1999	1999	1999	1998	1998	1998	1998	1999	1998	1998	1999	1998
MIN	9.09	9.79	9.15	14.4	11.0	9.92	10.1	8.96	11.1	9.89	9.87	9.34
(WY)	1998	1998	1998	1999	1999	1999	1999	1998	1999	1999	1998	1999

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1998 - 1999	
ANNUAL TOTAL	4864.8		4204.3			
ANNUAL MEAN	13.3		11.5		11.8	
HIGHEST ANNUAL MEAN					12.2	
LOWEST ANNUAL MEAN					11.5	
HIGHEST DAILY MEAN	33	Mar 24	15	Oct 9	33	Mar 24 1998
LOWEST DAILY MEAN	8.3	May 22	9.0	Mar 28	8.3	May 22 1998
ANNUAL SEVEN-DAY MINIMUM	8.4	May 19	9.0	Mar 25	8.4	May 19 1998
INSTANTANEOUS PEAK FLOW			16		33	
INSTANTANEOUS PEAK STAGE			.85		2.99	
ANNUAL RUNOFF (AC-FT)	9650		8340		8580	
10 PERCENT EXCEEDS	18		15		15	
50 PERCENT EXCEEDS	12		11		10	
90 PERCENT EXCEEDS	9.5		9.5		9.1	

10287700 TIOGA LAKE NEAR LEE VINING, CA

LOCATION.—Lat 37°55'41", long 119°15'01", in SE 1/4 SE 1/4 sec.19, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, at left abutment of dam, on Glacier Creek, and 7.4 mi west of Lee Vining.

DRAINAGE AREA.—3.67 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1928. Usable capacity, 1,254 acre-ft, between elevations 9,626.72 ft, invert of outlet, and 9,650.28 ft, crest of spillway. Figures given represent usable contents. Water is used for power development downstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 1,284 acre-ft, June 13, 1996, elevation, 9,650.68 ft; minimum, 88 acre-ft, several days in 1992, elevation, 9,628.95 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 1,269 acre-ft, July 15, 16, elevation, 9,650.48 ft; minimum, 118 acre-ft, Dec. 12, Feb. 9, Mar. 7, elevation, 9,629.68 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 19, 1981)

9,626.72	0	9,640	609
9,630	131	9,646	962
9,635	356	9,652	1,383

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1139	677	129	120	119	131	137	139	1115	1166	1246	1220
2	1138	656	128	120	119	124	137	139	1124	1175	1244	1217
3	1137	634	127	121	119	119	138	139	1097	1176	1242	1213
4	1134	613	126	119	119	119	136	140	1062	1175	1241	1210
5	1133	591	126	121	119	119	138	141	1030	1172	1240	1206
6	1130	571	126	119	119	120	139	147	1011	1170	1241	1202
7	1129	554	127	121	119	118	140	152	993	1172	1241	1198
8	1126	533	124	120	119	119	140	154	976	1182	1241	1195
9	1123	513	120	120	118	122	138	154	974	1190	1242	1191
10	1120	496	119	119	122	122	138	156	993	1200	1245	1187
11	1118	478	119	119	122	120	137	162	1024	1210	1245	1183
12	1115	460	118	119	123	121	136	177	1064	1218	1243	1179
13	1112	438	119	120	121	123	136	197	1118	1235	1241	1175
14	1109	417	121	119	123	123	136	211	1177	1258	1239	1171
15	1091	403	120	119	123	124	137	218	1213	1269	1237	1167
16	1062	388	119	120	123	123	137	228	1234	1269	1235	1163
17	1036	372	120	119	124	123	138	248	1249	1267	1232	1160
18	1008	356	121	119	123	123	140	275	1251	1265	1229	1164
19	982	318	121	119	124	124	140	303	1241	1263	1227	1162
20	956	268	123	119	124	125	142	334	1225	1262	1225	1160
21	931	225	123	119	126	127	143	372	1198	1261	1223	1157
22	907	189	123	119	128	129	142	427	1175	1260	1223	1155
23	882	163	123	119	130	130	143	502	1171	1259	1221	1153
24	860	149	123	120	131	131	140	563	1180	1257	1220	1151
25	836	141	123	119	131	130	140	639	1174	1257	1220	1148
26	813	134	123	119	130	132	141	708	1157	1256	1224	1144
27	791	131	125	119	132	130	141	780	1138	1254	1225	1141
28	766	130	122	119	133	133	140	881	1137	1253	1225	1137
29	744	130	122	120	---	135	139	951	1146	1251	1225	1133
30	721	131	121	119	---	128	139	1007	1155	1249	1223	1129
31	700	---	121	119	---	139	---	1060	---	1249	1222	---
MAX	1139	677	129	121	133	139	143	1060	1251	1269	1246	1220
MIN	700	130	118	119	118	118	136	139	974	1166	1220	1129
a	9641.64	9629.99	9629.75	9629.70	9630.05	9630.19	9630.19	9647.50	9648.88	9650.20	9649.83	9648.51
b	-438	-569	-10	-2	+14	+6	0	+921	+95	+94	-27	-93
CAL YR 1998	MAX 1265	MIN 118	b -1									
WTR YR 1999	MAX 1269	MIN 118	b -9									

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

10287720 GLACIER CREEK BELOW TIOGA LAKE, NEAR LEE VINING, CA

LOCATION.—Lat 37°56'10", long 119°13'48", in SE 1/4 SE 1/4 sec.19, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank, 300 ft downstream from Tioga Lake Dam, and 7.3 mi west of Lee Vining.

DRAINAGE AREA.—3.67 mi².

PERIOD OF RECORD.—October 1997 to current year. Unpublished records prior to October 1997 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 9,620 ft above sea level, from topographic map.

REMARKS.—Records not computed for the winter months. Flow regulated by Tioga Lake (station 10287700) 300 ft upstream.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	14	3.7	1.5	---	---	---	1.8	16	11	6.8	4.5
2	4.3	14	3.5	1.5	---	---	---	2.1	25	11	6.8	4.5
3	4.3	14	3.1	1.5	---	---	---	2.4	34	11	6.8	4.5
4	4.3	14	3.0	1.5	---	---	---	2.4	34	11	6.8	4.5
5	4.3	14	2.9	1.5	---	---	---	2.1	32	11	6.0	4.5
6	4.3	13	3.0	1.4	---	---	---	3.0	32	11	4.7	4.5
7	4.3	13	2.9	1.3	---	---	---	5.3	32	11	4.7	4.5
8	4.2	13	2.7	1.3	---	---	---	7.1	32	9.4	4.7	4.6
9	4.0	13	2.4	---	---	---	---	8.0	25	6.9	4.7	4.6
10	4.0	13	2.6	---	---	---	---	7.9	18	6.9	4.7	4.6
11	4.0	13	2.7	---	---	---	---	9.0	19	6.9	4.6	4.6
12	4.0	13	2.4	---	---	---	---	13	19	7.0	4.7	4.6
13	4.0	12	2.1	---	---	---	---	13	19	6.9	4.7	4.5
14	4.0	12	2.1	---	---	---	---	6.0	20	6.9	4.6	4.6
15	12	12	2.1	---	---	---	---	6.1	24	10	4.7	4.6
16	18	12	2.1	---	---	---	---	6.2	29	14	4.7	4.5
17	18	11	2.0	---	---	---	---	6.3	34	12	4.6	4.6
18	17	11	2.0	---	---	---	---	6.5	45	11	4.6	6.2
19	17	23	1.9	---	---	---	---	7.0	45	9.8	4.6	9.1
20	16	30	e1.9	---	---	---	---	7.5	45	8.8	4.6	7.0
21	16	25	e2.0	---	---	---	1.8	8.0	45	8.1	4.6	4.6
22	16	22	2.0	---	---	---	1.9	8.6	45	7.8	4.7	4.5
23	16	16	2.0	---	---	---	2.1	9.4	36	7.6	4.6	4.5
24	16	9.9	2.0	---	---	---	1.9	8.3	28	7.0	4.4	4.5
25	16	7.0	1.9	---	---	---	1.7	6.9	28	6.9	4.4	4.5
26	15	5.3	1.8	---	---	---	1.6	7.2	29	6.9	4.4	4.5
27	15	4.4	1.8	---	---	---	2.0	7.4	29	6.8	4.4	4.6
28	15	4.0	1.7	---	---	---	2.0	8.0	20	6.8	4.5	4.6
29	15	3.5	1.6	---	---	---	1.8	11	11	6.8	4.5	4.5
30	15	3.4	1.5	---	---	---	1.8	15	11	6.8	4.5	4.5
31	14	---	1.5	---	---	---	---	16	---	6.8	4.5	---
TOTAL	325.3	384.5	70.9	---	---	---	---	228.5	861	271.8	152.6	144.9
MEAN	10.5	12.8	2.29	---	---	---	---	7.37	28.7	8.77	4.92	4.83
MAX	18	30	3.7	---	---	---	---	16	45	14	6.8	9.1
MIN	4.0	3.4	1.5	---	---	---	---	1.8	11	6.8	4.4	4.5
AC-FT	645	763	141	---	---	---	---	453	1710	539	303	287

e Estimated.

10287760 ELLERY LAKE NEAR LEE VINING, CA

LOCATION.—Lat 37°56'08", long 119°13'50", in SW 1/4 NW 1/4 sec.21, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, in valve house, at base of Rhinedollar Dam, on Lee Vining Creek, and 6.3 mi west of Lee Vining.

DRAINAGE AREA.—16.7 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Southern California Edison Co.).

REMARKS.—Reservoir is formed on natural lake by rock-fill dam completed in 1927. Usable capacity, 493 acre-ft, between elevations 9,478.53 ft, invert of outlet, and 9,492.53 ft, crest of spillway. Radial gates are occasionally closed, which increases elevation to 9,496.53 ft and capacity to 749 acre-ft. Lake receives water from Saddlebag and Tioga Lakes (stations 10287650 and 10287700) and releases it via Poole Powerplant Conduit (station 10287762) to Poole Powerplant. Figures given represent usable contents.

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents, 677 acre-ft, Jan. 2, 1997, elevation, 9,495.43 ft; minimum, 195 acre-ft, Aug. 13, 1996, elevation, 9,487.17 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents, 573 acre-ft, June 18, elevation, 9,493.81 ft; minimum, 262 acre-ft, Oct. 14, elevation, 9,488.46 ft.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by Southern California Edison Co., dated Aug. 18, 1981)

9,485	96	9,493	522
9,489	290	9,497	780

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	440	442	440	438	433	434	431	429	539	530	430	425
2	435	442	439	438	428	435	435	435	514	524	433	424
3	431	441	442	437	428	435	436	e426	491	506	433	424
4	428	438	446	437	430	435	438	e422	482	481	434	424
5	428	440	451	437	430	434	439	e487	513	452	437	424
6	430	442	455	437	431	434	443	484	528	449	437	425
7	434	449	459	437	436	432	449	467	505	483	428	428
8	427	451	459	434	442	434	445	457	497	478	417	435
9	393	453	458	433	433	431	446	443	508	449	422	437
10	360	455	456	432	435	431	442	438	506	436	433	435
11	334	455	455	431	441	433	435	460	520	439	440	433
12	317	456	453	430	442	433	431	493	537	431	444	436
13	299	458	451	430	440	434	430	458	549	422	448	436
14	262	462	453	433	438	430	432	415	561	435	451	433
15	286	462	459	438	432	415	437	406	556	443	452	436
16	323	462	465	444	430	413	440	415	553	434	452	438
17	359	461	465	451	429	416	441	448	569	415	452	438
18	395	460	458	452	425	424	447	466	573	415	453	446
19	430	469	452	448	424	427	452	468	561	415	455	438
20	448	470	444	434	428	424	457	470	564	419	456	434
21	449	465	445	426	433	426	457	477	550	423	455	433
22	449	455	451	437	436	435	450	514	563	427	451	433
23	448	449	456	442	436	438	448	537	568	433	448	433
24	449	442	457	436	437	439	441	530	556	439	448	434
25	449	434	456	444	433	443	441	539	529	443	449	433
26	449	433	448	441	432	441	439	529	511	446	448	433
27	449	437	443	437	433	440	440	539	509	446	442	435
28	448	436	439	430	434	438	440	555	514	442	434	438
29	446	438	437	425	---	437	436	545	509	440	427	441
30	444	439	438	427	---	434	432	546	514	431	422	444
31	442	---	438	432	---	431	---	550	---	422	427	---
MAX	449	470	465	452	442	443	457	555	573	530	456	446
MIN	262	433	437	425	424	413	430	406	482	415	417	424
a	9491.68	9491.62	9491.61	9491.50	9491.53	9491.49	9491.50	9493.44	9492.86	9491.34	9491.41	9491.71
b	+4	-3	-1	-6	+2	-3	+1	+118	-36	-92	+5	+17

CAL YR 1998 MAX 605 MIN 262 b -11
WTR YR 1999 MAX 573 MIN 262 b +6

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

10287770 LEE VINING CREEK BELOW RHINEDOLLAR DAM, NEAR LEE VINING, CA

LOCATION.—Lat 37°56'10", long 119°13'48", in SW 1/4 NW 1/4 sec.21, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank, 100 ft downstream from Rhinedollar Dam Spillway, and 6.3 mi west of Lee Vining.

DRAINAGE AREA.—16.7 mi².

PERIOD OF RECORD.—October 1990 to current year. Unpublished records prior to October 1990 available in files of Southern California Edison Co.

GAGE.—Water-stage recorder and Parshall flume. Elevation of gage is 9,450 ft above sea level, from topographic map.

REMARKS.—Flow regulated for power development by Saddlebag, Tioga, and Ellery Lakes (stations 10287650, 10287700, and 10287760). Most of the water is diverted at Ellery Lake to Poole Powerplant via Poole Powerplant Conduit intake (station 10287762).

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 310 ft³/s, July 9, 1995, gage height, 4.63 ft; maximum gage height, 5.52 ft, Mar. 22, 1993, (backwater from snow); no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	66	25	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	41	36	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	10	21	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.01	4.4	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	6.6	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	e.40	30	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	30	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	4.5	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	14	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	5.8	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	17	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.61	33	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	1.2	58	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	72	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	81	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	77	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	82	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	109	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	104	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	90	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	86	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	2.1	76	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	36	97	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	45	92	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	41	63	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	51	28	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	38	14	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	66	15	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	70	16	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	55	12	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	60	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	466.31	1429.91	86.40	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	15.0	47.7	2.79	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	70	109	36	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	925	2840	171	.00	.00
a	1600	1440	990	1150	720	800	1210	4320	5550	3900	1640	1070

e Estimated.

a Diversion, in acre-feet, to Poole Powerplant, provided by Southern California Edison Co.

10287770 LEE VINING CREEK BELOW RHINEDOLLAR DAM, NEAR LEE VINING, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.53	.13	.000	2.14	.66	.57	1.64	7.74	31.9	27.7	1.16	.10
MAX	5.65	1.17	.000	19.3	5.40	2.62	14.1	41.1	58.1	130	9.89	.94
(WY)	1995	1995	1991	1997	1996	1992	1996	1997	1995	1995	1995	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1992	1991	1991	1991	1992	1991	1991	1994	1992	1991	1991	1991

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1991 - 1999	
ANNUAL TOTAL	4471.89		1982.62			
ANNUAL MEAN	12.3		5.43		6.29	
HIGHEST ANNUAL MEAN					17.3 1995	
LOWEST ANNUAL MEAN					.27 1994	
HIGHEST DAILY MEAN	179	Jul 9	109	Jun 18	271	Jul 9 1995
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1990
INSTANTANEOUS PEAK FLOW			137	Jun 18	310	Jul 9 1995
INSTANTANEOUS PEAK STAGE			3.18	Jun 18	5.52	Mar 22 1993
ANNUAL RUNOFF (AC-FT)	8870		3930		4560	
ANNUAL DIVERSION (AC-FT) a	27740		24380			
10 PERCENT EXCEEDS	70		13		10	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

a Diversion, in acre-feet, to Poole Powerplant, provided by Southern California Edison Co.

10287780 LEE VINING CREEK BELOW POOLE POWERPLANT, NEAR LEE VINING, CA

LOCATION.—Lat 37°56'41", long 119°12'42", in SW 1/4 NW 1/4 sec.21, T.1 N., R.25 E., Mono County, Hydrologic Unit 18090101, Inyo National Forest, on left bank, at culvert 0.2 mi downstream from Poole Powerplant, and 4.9 mi west of Lee Vining.

DRAINAGE AREA.—26.3 mi².

PERIOD OF RECORD.—April to September 1999.

GAGE.—Water-stage recorder. Elevation of gage is 9,620 ft above sea level, from topographic map.

REMARKS.—Flow regulated by Poole Powerplant (station 10287762) and Ellery Lake (station 10287760).

COOPERATION.—Records collected by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	33	230	152	45	25
2	---	---	---	---	---	---	---	32	196	165	45	25
3	---	---	---	---	---	---	---	33	150	152	45	23
4	---	---	---	---	---	---	---	27	117	135	44	22
5	---	---	---	---	---	---	---	23	94	124	45	22
6	---	---	---	---	---	---	---	50	114	110	37	22
7	---	---	---	---	---	---	---	81	152	102	37	21
8	---	---	---	---	---	---	---	87	130	122	36	21
9	---	---	---	---	---	---	---	84	137	115	26	22
10	---	---	---	---	---	---	---	77	156	110	27	22
11	---	---	---	---	---	---	---	84	161	104	29	22
12	---	---	---	---	---	---	---	103	180	105	30	19
13	---	---	---	---	---	---	---	128	207	100	27	22
14	---	---	---	---	---	---	---	106	231	99	27	22
15	---	---	---	---	---	---	---	88	243	96	28	20
16	---	---	---	---	---	---	---	73	238	92	28	19
17	---	---	---	---	---	---	---	79	238	84	27	21
18	---	---	---	---	---	---	---	94	288	67	27	26
19	---	---	---	---	---	---	---	108	266	62	27	28
20	---	---	---	---	---	---	---	118	248	55	28	24
21	---	---	---	---	---	---	---	129	250	51	30	22
22	---	---	---	---	---	---	---	141	225	52	30	22
23	---	---	---	---	---	---	---	192	257	50	28	22
24	---	---	---	---	---	---	---	207	253	50	27	22
25	---	---	---	---	---	---	---	206	208	47	27	22
26	---	---	---	---	---	---	---	223	181	48	33	21
27	---	---	---	---	---	---	---	213	147	49	38	19
28	---	---	---	---	---	---	---	240	148	50	34	19
29	---	---	---	---	---	---	---	34	240	146	53	20
30	---	---	---	---	---	---	---	34	217	143	54	20
31	---	---	---	---	---	---	---	228	---	51	23	---
TOTAL	---	---	---	---	---	---	---	3744	5734	2706	992	657
MEAN	---	---	---	---	---	---	---	121	191	87.3	32.0	21.9
MAX	---	---	---	---	---	---	---	240	288	165	45	28
MIN	---	---	---	---	---	---	---	23	94	47	23	19
AC-FT	---	---	---	---	---	---	---	7430	11370	5370	1970	1300

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 mi².

PERIOD OF RECORD.—October 1936 to current year.

REVISED RECORDS.—WSP 1245: 1937–1938. WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 569.40 ft above sea level (levels by International Boundary and Water Commission).

REMARKS.—Records fair. Flow regulated by Morena Reservoir, capacity, 50,210 acre-ft, and Barrett Lake (station 11011000), capacity, 44,760 acre-ft. Water diverted from Barrett Lake through San Diego and Dulzura Conduits to Lower Otay Lake (station 11014550).

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,700 ft³/s, Feb. 21, 1980, gage height, 11.15 ft, from rating curve extended above 8,700 ft³/s; no flow for part of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.52	1.1	2.1	1.6	5.3	1.1	.00	.00	.00	.00
2	.00	.00	.68	1.1	1.7	1.6	9.4	.98	.00	.00	.00	.00
3	.00	.00	.61	1.0	1.7	1.5	5.5	.93	.02	.00	.00	.00
4	.00	.00	.65	1.0	4.4	1.8	6.4	.87	.09	.00	.00	.00
5	.00	.00	1.4	.99	8.3	1.9	5.2	.84	.05	.00	.00	.00
6	.00	.00	3.1	1.0	6.8	1.8	3.9	.74	.00	.00	.00	.00
7	.00	.00	1.5	1.1	5.4	1.8	6.0	.65	.00	.00	.00	.00
8	.00	.00	.98	1.1	4.5	1.7	5.2	.55	.00	.00	.00	.00
9	.00	.00	.87	3.3	4.2	1.5	3.3	.56	.00	.00	.00	.00
10	.00	.00	.76	1.1	3.9	1.5	2.0	.60	.00	.00	.00	.00
11	.00	.00	.76	1.1	2.7	2.1	1.6	.45	.00	.00	.00	.00
12	.00	.00	.75	1.1	2.3	2.4	5.1	.56	.00	.00	.00	.00
13	.00	.00	.75	1.2	2.4	1.7	4.1	.49	.00	.00	.00	.00
14	.00	.00	.77	1.3	2.5	1.5	2.8	.28	.00	.00	.00	.00
15	.00	.00	.88	1.3	2.6	1.9	1.6	.34	.00	.00	.00	.00
16	.00	.00	2.3	1.4	2.6	2.5	1.2	.20	.00	.00	.00	.00
17	.00	.00	.89	1.5	2.7	1.9	.79	.64	.00	.00	.00	.00
18	.00	.00	.95	1.5	2.9	1.6	.66	2.3	.00	.00	.00	.00
19	.00	.00	1.1	1.5	2.8	1.4	.55	.38	.00	.00	.00	.00
20	.00	.00	1.3	1.9	2.6	1.2	.46	.17	.00	.00	.00	.00
21	.00	.00	1.2	2.0	2.4	1.3	.50	.15	.00	.00	.00	.00
22	.00	.12	1.1	2.1	2.3	1.3	.82	.18	.00	.00	.00	.00
23	.00	.23	1.1	1.9	2.1	1.1	1.1	.15	.00	.00	.00	.00
24	.00	.21	1.0	1.8	2.0	1.1	1.0	.12	.00	.00	.00	.00
25	.00	.19	1.1	4.6	1.9	1.3	1.0	.06	.00	.00	.00	.00
26	.00	.13	1.1	6.3	1.9	2.4	.76	.02	.00	.00	.00	.00
27	.00	.09	1.1	8.9	1.7	1.7	.67	.01	.00	.00	.00	.00
28	.00	.38	1.1	5.2	1.7	1.5	.50	.00	.00	.00	.00	.00
29	.00	.85	1.1	2.6	---	1.2	1.7	.00	.00	.00	.00	.00
30	.00	.57	1.1	2.0	---	.85	1.4	.00	.00	.00	.00	.00
31	.00	---	1.1	2.0	---	.84	---	.00	---	.00	.00	---
TOTAL	0.00	2.77	33.62	65.99	85.1	49.49	80.51	14.32	0.16	0.00	0.00	0.00
MEAN	.000	.092	1.08	2.13	3.04	1.60	2.68	.46	.005	.000	.000	.000
MAX	.00	.85	3.1	8.9	8.3	2.5	9.4	2.3	.09	.00	.00	.00
MIN	.00	.00	.52	.99	1.7	.84	.46	.00	.00	.00	.00	.00
AC-FT	.00	5.5	67	131	169	98	160	28	.3	.00	.00	.00

TIJUANA RIVER BASIN

11012000 COTTONWOOD CREEK ABOVE TECATE CREEK, NEAR DULZURA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.17	.77	2.47	19.0	52.9	71.1	36.2	12.8	4.61	1.43	1.10	1.11
MAX	66.0	18.8	40.5	605	1200	1443	676	296	99.5	47.5	24.4	57.4
(WY)	1994	1984	1984	1993	1980	1983	1941	1983	1980	1980	1980	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1937	1937	1950	1951	1951	1951	1955	1947	1940	1939	1938	1937

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1937 - 1999	
ANNUAL TOTAL	8308.91		331.96			
ANNUAL MEAN	22.8		.91		16.8	
HIGHEST ANNUAL MEAN					243	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	365	Feb 15	9.4	Apr 2	8430	Feb 21 1980
LOWEST DAILY MEAN	.00	Jul 28	.00	Oct 1	.00	Oct 1 1936
ANNUAL SEVEN-DAY MINIMUM	.00	Jul 28	.00	Oct 1	.00	Oct 1 1936
INSTANTANEOUS PEAK FLOW			17	Jan 9	11700	Feb 21 1980
INSTANTANEOUS PEAK STAGE			2.53	Jan 9	11.15	Feb 21 1980
ANNUAL RUNOFF (AC-FT)	16480		658		12210	
10 PERCENT EXCEEDS	77		2.4		11	
50 PERCENT EXCEEDS	1.1		.12		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 mi², of which 3 mi² are in Mexico.

PERIOD OF RECORD.—October 1936 to current year.

REVISED RECORDS.—WSP 1635: 1937–38(M), 1940(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 2,178.92 ft above sea level. Prior to Dec. 1, 1954, at datum 1 ft higher.

REMARKS.—Records good except for discharges below 1 ft³/s, which are fair. Peaks are attenuated by small conservation reservoir 1 mi upstream since August 1956. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,580 ft³/s, Jan. 16, 1993, gage height, 6.86 ft, from rating curve extended above 340 ft³/s; no flow for part of some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.63	.61	4.7	4.7	5.2	5.0	8.2	5.8	.66	.25	.22	.07
2	.62	.64	5.2	4.7	5.7	4.9	16	4.8	.79	.26	.23	.11
3	.64	.61	4.8	4.7	6.1	4.8	11	4.3	1.0	.28	.19	.13
4	.64	.60	4.6	4.4	7.5	5.2	14	4.5	1.5	.25	.15	.13
5	.58	.63	5.4	4.4	12	5.3	10	3.9	1.9	.23	.11	.12
6	.54	.65	9.3	4.5	10	5.2	7.6	3.3	1.5	.20	.15	.10
7	.54	.65	9.3	4.5	8.1	5.4	11	2.9	1.2	.23	.16	.09
8	.55	.78	5.5	4.7	7.4	5.5	11	2.7	.93	.28	.16	.08
9	.56	.88	5.0	4.4	6.8	5.2	8.6	2.6	.82	.25	.17	.09
10	.57	.81	4.6	4.6	6.8	5.2	7.1	2.6	.72	.23	.18	.09
11	.55	.80	4.5	4.7	6.2	5.4	6.4	2.6	.63	.52	.18	.08
12	.54	.91	4.5	4.8	5.4	6.2	8.3	2.5	.53	.32	.17	.07
13	.56	1.1	4.4	4.9	5.3	5.4	8.2	2.2	.48	.31	.14	.06
14	.59	1.3	4.5	4.8	5.3	5.2	6.5	2.1	.42	.36	.13	.06
15	.64	1.5	5.0	5.0	5.4	5.4	5.1	2.0	.38	.31	.13	.06
16	.63	1.7	6.5	5.2	5.5	6.1	4.2	1.9	.37	.31	.12	.08
17	.56	1.7	5.4	5.2	5.7	5.9	3.8	1.8	.37	.30	.11	.09
18	.58	1.8	5.2	5.2	5.7	5.3	3.6	1.6	.36	.25	.09	.12
19	.57	1.9	5.3	5.2	5.4	5.2	3.5	1.5	.34	.25	.08	.11
20	.56	1.8	6.2	6.5	5.2	5.1	3.4	1.4	.34	.26	.08	.08
21	.55	1.8	5.9	8.0	5.2	5.0	3.4	1.4	.33	.25	.07	.08
22	.53	2.0	5.2	6.6	5.2	4.8	3.7	1.4	.33	.23	.06	.14
23	.53	2.0	5.2	6.1	4.9	4.7	4.2	1.4	.32	.21	.06	.15
24	.55	2.0	4.9	6.0	5.0	4.9	5.4	1.3	.29	.20	.06	.13
25	.62	2.2	4.7	7.2	5.0	4.7	5.0	1.1	.29	.21	.05	.11
26	.62	2.1	4.8	10	5.2	5.8	4.3	.97	.27	.21	.05	.10
27	.61	2.2	4.9	14	5.2	5.6	3.9	.86	.28	.24	.05	.10
28	.60	2.6	4.7	8.8	5.2	5.2	3.8	.77	.27	.31	.05	.08
29	.64	4.0	4.9	6.4	---	4.8	5.6	.69	.27	.35	.04	.05
30	.69	4.7	5.1	5.3	---	4.7	6.5	.69	.27	.26	.04	.05
31	.63	---	5.0	5.2	---	4.7	---	.67	---	.23	.05	---
TOTAL	18.22	46.97	165.2	180.7	171.6	161.8	203.3	68.25	18.16	8.35	3.53	2.81
MEAN	.59	1.57	5.33	5.83	6.13	5.22	6.78	2.20	.61	.27	.11	.094
MAX	.69	4.7	9.3	14	12	6.2	16	5.8	1.9	.52	.23	.15
MIN	.53	.60	4.4	4.4	4.9	4.7	3.4	.67	.27	.20	.04	.05
AC-FT	36	93	328	358	340	321	403	135	36	17	7.0	5.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.81	1.48	2.65	5.76	8.19	11.9	7.61	3.59	1.82	.96	.88	.67
MAX	14.3	20.7	25.7	140	74.5	153	121	52.2	30.4	20.1	26.5	16.5
(WY)	1984	1984	1984	1993	1980	1983	1983	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1937	1949	1949	1957	1957	1956	1957	1957	1950	1947	1946	1947

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1937 - 1999

ANNUAL TOTAL	2822.85	1048.89										
ANNUAL MEAN	7.73	2.87								3.83		
HIGHEST ANNUAL MEAN										39.6		1983
LOWEST ANNUAL MEAN										.000		1957
HIGHEST DAILY MEAN				163	Feb 15		16	Apr 2		745	Jan 16	1993
LOWEST DAILY MEAN				.23	Jan 1		.04	Aug 29		.00	Oct 1	1936
ANNUAL SEVEN-DAY MINIMUM				.24	Jan 1		.05	Aug 25		.00	Oct 1	1936
INSTANTANEOUS PEAK FLOW							20	Apr 2		1580	Jan 16	1993
INSTANTANEOUS PEAK STAGE							2.06	Apr 2		6.86	Jan 16	1993
ANNUAL RUNOFF (AC-FT)	5600	2080								2780		
10 PERCENT EXCEEDS				19			6.1			9.2		
50 PERCENT EXCEEDS				2.3			1.7			.10		
90 PERCENT EXCEEDS				.55			.11			.00		

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.—70.1 mi².

PERIOD OF RECORD.—April 1940 to December 1940, April 1941 to September 1978, October 1985 to current year.

REVISED RECORDS.—WSP 1565: 1952, 1954. WSP 1715: 1944, 1946. WDR CA-93-1: Drainage area. WDR CA-94-1: Datum of gage.

GAGE.—Water-stage recorder and broad-crested weir control with low-water venturi-type flume. Datum of gage is 511.89 ft above sea level. Prior to Oct. 1, 1951, at datum 1.00 ft higher.

REMARKS.—Records good. No regulation upstream from station. Water is diverted from Cottonwood Creek at Barrett Lake (station 11011000) 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, 5,870 ft³/s, Mar. 5, 1995, gage height, 7.59 ft, present datum, from rating curve extended above 1,200 ft³/s on basis of critical-depth computations; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 1,200 ft³/s on basis of critical-depth computations:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1530	45	2.45				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	2.4	40	40	23	32	23	25	26	24	24	41
2	40	2.1	41	40	23	32	25	25	27	24	24	35
3	40	5.1	40	40	24	32	25	25	26	24	24	34
4	40	21	36	35	33	32	26	25	26	24	24	34
5	40	36	10	8.8	33	32	25	25	26	24	24	34
6	39	39	6.6	5.2	33	32	25	25	26	23	24	33
7	39	40	4.4	3.9	33	33	26	25	26	23	24	33
8	39	42	3.1	3.5	33	32	26	25	25	25	24	33
9	40	41	2.6	15	33	32	26	25	25	25	24	33
10	40	40	2.3	20	33	32	25	25	26	25	24	33
11	41	41	2.0	21	32	32	25	26	26	25	24	33
12	41	40	1.9	33	32	32	28	25	25	24	24	33
13	40	40	1.7	34	32	32	26	26	24	24	24	33
14	41	40	1.6	34	32	32	26	26	24	24	24	33
15	41	40	2.8	35	32	32	26	26	24	19	24	33
16	40	41	13	35	32	32	26	26	24	19	24	33
17	41	42	5.3	35	32	32	25	26	24	19	24	34
18	41	42	2.7	35	32	32	25	26	24	19	23	34
19	40	41	2.3	35	32	32	25	26	24	19	24	34
20	38	41	11	36	32	32	25	26	24	19	29	33
21	10	41	16	34	32	32	26	26	25	19	29	34
22	4.3	41	29	9.9	32	32	26	27	24	19	29	34
23	3.0	41	37	5.2	32	32	26	26	24	24	29	29
24	16	41	38	3.6	32	32	26	26	24	24	29	29
25	19	40	39	4.5	32	32	26	26	25	24	29	28
26	24	40	39	13	32	33	26	26	25	24	27	28
27	37	40	40	18	32	32	25	26	24	24	35	29
28	38	43	40	16	32	32	26	26	24	24	41	28
29	9.5	42	40	16	---	32	26	26	24	24	41	28
30	4.8	40	40	22	---	13	26	26	24	24	41	28
31	3.0	---	40	23	---	5.9	---	26	---	24	41	---
TOTAL	969.6	1085.6	628.3	709.6	877	948.9	768	796	745	706	855	971
MEAN	31.3	36.2	20.3	22.9	31.3	30.6	25.6	25.7	24.8	22.8	27.6	32.4
MAX	41	43	41	40	33	33	28	27	27	25	41	41
MIN	3.0	2.1	1.6	3.5	23	5.9	23	25	24	19	23	28
AC-FT	1920	2150	1250	1410	1740	1880	1520	1580	1480	1400	1700	1930

11014000 JAMUL CREEK NEAR JAMUL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.77	8.92	9.79	17.7	20.4	29.8	19.3	15.0	15.0	12.7	11.2	8.84
MAX	40.2	45.6	62.5	415	188	254	101	49.1	49.6	51.7	44.4	37.4
(WY)	1948	1946	1946	1993	1998	1995	1958	1954	1952	1995	1995	1947
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1950	1951	1951	1958	1961	1959	1955	1956	1953	1950	1949	1949

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1940 - 1999	
ANNUAL TOTAL	18022.56		10060.0			
ANNUAL MEAN	49.4		27.6		14.4	
HIGHEST ANNUAL MEAN					55.2	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1030	Feb 24	43	Nov 28	2320	Jan 16 1993
LOWEST DAILY MEAN	.00	Sep 17	1.6	Dec 14	.00	Jul 17 1949
ANNUAL SEVEN-DAY MINIMUM	.06	Sep 11	2.1	Dec 9	.00	Jul 17 1949
INSTANTANEOUS PEAK FLOW			45		5870	
INSTANTANEOUS PEAK STAGE			2.46		7.59	
ANNUAL RUNOFF (AC-FT)	35750		19950		10450	
10 PERCENT EXCEEDS	66		40		38	
50 PERCENT EXCEEDS	38		26		.32	
90 PERCENT EXCEEDS	4.5		14		.00	

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 mi².

PERIOD OF RECORD.—October 1905 to September 1927 (monthly discharge only for some months, published in WSP 1315-B), October 1956 to current year. Prior to October 1927, records unadjusted for diversion. October 1956 to September 1977, both unadjusted records and combined records of river plus diversion (station 11015001) were published. No diversion since November 1976.

REVISED RECORD.—WSP 1315-B: 1922(M). WDR CA-73-1: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 3,269.24 ft above sea level. 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.—Records good. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,200 ft³/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 ft³/s, or maximum, from rating curve extended above 1,150 ft³/s on basis of slope area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 29	0030	20	4.92				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	1.1	4.2	2.9	4.2	2.7	3.8	4.7	1.7	.16	.00	.00
2	.46	1.1	4.2	2.8	3.9	2.7	5.3	4.1	2.0	.15	.00	.00
3	.46	1.1	3.8	2.8	3.8	2.7	5.1	4.4	2.2	.15	.00	.00
4	.48	1.2	3.5	2.6	4.8	2.9	9.2	4.4	3.7	.15	.00	.00
5	.44	1.2	5.0	2.5	6.6	2.9	6.7	3.7	3.2	.14	.00	.00
6	.33	1.2	8.3	2.6	6.2	2.9	4.9	3.2	2.4	.10	.00	.00
7	.28	1.2	5.7	2.6	5.3	3.1	8.6	3.0	1.5	.13	.00	.00
8	.28	3.1	4.6	2.7	4.9	3.1	8.1	2.9	1.1	.19	.00	.00
9	.30	4.4	4.2	2.6	4.8	3.0	6.9	2.9	.95	.18	.00	.00
10	.33	3.0	3.9	2.6	5.1	3.0	5.7	2.9	.83	.14	.00	.00
11	.33	2.6	3.6	2.5	4.3	3.4	5.2	2.9	.77	.13	.00	.00
12	.35	2.4	3.5	2.6	4.0	3.4	7.8	2.7	.64	.17	.00	.00
13	.36	2.2	3.5	2.6	3.8	3.2	7.4	2.5	.58	.22	.00	.00
14	.39	2.0	3.5	2.5	3.8	3.1	6.6	2.5	.53	.19	.00	.00
15	.46	2.0	3.8	2.5	3.8	3.6	6.2	2.5	.48	.12	.00	.00
16	.62	1.9	3.8	2.6	3.7	3.8	5.9	2.5	.44	.07	.00	.00
17	.57	1.9	3.4	2.6	3.7	3.4	5.4	2.3	.38	.05	.00	.00
18	.51	1.8	3.3	2.5	3.6	3.3	5.0	2.2	.37	.03	.00	.00
19	.49	1.8	3.4	2.5	3.3	3.0	4.5	2.2	.35	.02	.00	.00
20	.51	1.7	4.0	3.2	3.2	3.0	4.4	2.2	.34	.02	.00	.00
21	.50	1.7	3.9	4.0	3.1	3.0	4.3	2.2	.33	.01	.00	.00
22	.49	1.7	3.6	3.4	3.1	3.0	4.2	2.3	.28	.01	.00	.01
23	.51	1.6	3.4	3.3	3.0	2.9	4.2	2.2	.27	.00	.00	.00
24	.56	1.7	3.3	3.3	3.0	2.7	4.4	2.1	.25	.00	.00	.00
25	.71	1.7	3.3	4.7	3.0	2.7	3.8	2.0	.24	.00	.00	.00
26	.88	1.7	3.3	7.1	3.0	2.9	3.5	1.9	.23	.00	.00	.00
27	.93	1.7	3.3	7.1	3.0	2.8	3.0	1.8	.19	.00	.00	.00
28	.93	4.4	3.0	5.2	2.7	2.5	3.1	1.8	.19	.00	.00	.00
29	1.0	11	3.0	4.5	---	2.5	5.5	1.7	.18	.00	.00	.00
30	1.1	5.4	3.0	4.1	---	2.4	5.5	1.7	.17	.00	.00	.00
31	1.2	---	3.0	4.2	---	2.5	---	1.6	---	.00	.00	---
TOTAL	17.28	71.5	119.3	103.7	110.7	92.1	164.2	82.0	26.79	2.53	0.00	0.01
MEAN	.56	2.38	3.85	3.35	3.95	2.97	5.47	2.65	.89	.082	.000	.000
MAX	1.2	11	8.3	7.1	6.6	3.8	9.2	4.7	3.7	.22	.00	.01
MIN	.28	1.1	3.0	2.5	2.7	2.4	3.0	1.6	.17	.00	.00	.00
AC-FT	34	142	237	206	220	183	326	163	53	5.0	.00	.02

11015000 SWEETWATER RIVER NEAR DESCANSO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.21	1.52	4.76	13.0	29.4	39.1	20.5	8.17	3.15	.88	.47	.32
MAX	3.53	24.0	83.5	304	336	382	138	68.5	25.5	8.68	8.45	6.16
(WY)	1984	1966	1967	1993	1980	1983	1983	1983	1983	1980	1983	1978
MIN	.000	.000	.000	.000	.000	.042	.010	.000	.000	.000	.000	.000
(WY)	1957	1957	1957	1961	1961	1961	1961	1961	1959	1957	1957	1957

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1957 - 1999	
ANNUAL TOTAL	11532.29		790.11			
ANNUAL MEAN	31.6		2.16		10.0	
HIGHEST ANNUAL MEAN					71.2	
LOWEST ANNUAL MEAN					.004	
HIGHEST DAILY MEAN	564	Mar 28	11	Nov 29	2500	Feb 20 1980
LOWEST DAILY MEAN	.20	Jan 7	.00	Jul 23	.00	Oct 1 1956
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 14	.00	Jul 23	.00	Oct 1 1956
INSTANTANEOUS PEAK FLOW			20		8600	
INSTANTANEOUS PEAK STAGE			4.92		13.22	
ANNUAL RUNOFF (AC-FT)	22870		1570		7250	
10 PERCENT EXCEEDS	91		4.6		14	
50 PERCENT EXCEEDS	4.2		2.2		.34	
90 PERCENT EXCEEDS	.49		.00		.00	

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 mi².

PERIOD OF RECORD.—October 1983 to current year.

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

GAGE.—Water-stage recorder, concrete control, and crest-stage gage. Elevation of gage is 560 ft above sea level, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,090 ft³/s, Mar. 5, 1995, gage height, 9.74 ft, from rating curve extended above 209 ft³/s on basis of critical-depth computations; minimum daily, 0.04 ft³/s, Oct. 26, 31, Nov. 2, 3, 5, and 6, 1997.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 75 ft³/s, or 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)
Jan. 25	1745	75	3.99				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	.80	6.1	1.4	1.6	1.2	18	1.5	.61	.30	.15	e.15
2	.55	.90	3.3	1.4	1.5	1.1	4.2	1.3	.81	.31	.14	e.14
3	.61	.82	1.5	1.3	1.6	1.1	2.9	1.4	.74	.33	.14	e.15
4	.70	.80	1.5	1.6	11	2.2	6.6	1.3	.87	.31	.15	e.14
5	.70	.79	8.9	1.2	5.5	1.0	1.9	1.1	.68	.29	.15	e.15
6	.51	.85	10	1.3	2.3	1.0	2.6	.95	.60	.28	.16	e.15
7	.51	.84	2.1	1.2	1.9	1.3	13	.91	.58	.28	.16	e.15
8	.53	6.5	1.9	1.2	1.7	1.4	2.7	.96	.55	.61	.16	e.15
9	.61	2.9	1.7	1.2	4.1	1.5	3.2	.94	.54	.31	.16	.17
10	.65	1.0	1.4	1.1	3.7	1.9	2.0	.95	.54	.25	.16	.17
11	.67	1.1	1.5	1.2	1.7	3.3	2.3	.94	.54	.25	.17	.17
12	.65	.89	1.5	1.2	1.6	1.2	18	.92	.52	.22	.20	.17
13	.67	.88	1.3	1.3	1.6	1.1	3.1	.93	.50	.23	.23	.17
14	.73	.90	1.4	1.2	1.6	1.0	2.6	.88	.55	.21	.31	.17
15	.71	.94	1.4	1.1	1.5	5.0	2.2	.86	.64	.22	.33	.17
16	.72	.96	1.3	1.2	1.6	3.9	1.9	.83	.61	.21	.27	.17
17	.66	.79	1.2	1.2	1.5	1.3	1.7	.79	.48	.20	.20	.18
18	.61	.80	1.3	1.2	1.4	1.3	1.6	.76	.51	.19	.19	.19
19	.59	.76	2.7	1.2	1.4	1.2	1.6	.71	.64	.20	.19	.18
20	.59	.79	3.0	3.2	1.4	1.1	1.6	.71	.59	.19	.18	.18
21	.61	.79	1.8	3.1	1.4	1.2	1.7	.70	.59	.19	.18	.24
22	.66	.86	1.6	1.6	1.3	1.1	1.9	.68	.45	.27	.17	.43
23	.61	1.1	1.6	1.7	1.3	1.1	1.9	.66	.41	.18	.16	.30
24	.64	1.0	1.5	1.6	1.3	1.1	1.6	.67	.41	.18	.15	.29
25	.84	1.2	1.4	28	1.3	2.0	1.4	.65	.48	.18	e.15	.29
26	.74	.99	1.5	17	1.3	1.3	1.4	.60	.45	.19	e.15	.28
27	.81	1.2	1.5	11	1.3	1.2	1.4	.57	.40	.20	e.16	.29
28	.77	10	1.5	2.7	1.2	1.1	1.4	.57	.32	.19	e.17	.29
29	.96	5.5	1.4	2.1	---	1.1	1.5	.57	.30	.17	e.17	.26
30	.95	1.4	1.4	1.9	---	1.1	1.5	.56	.32	.15	e.16	.25
31	.87	---	1.5	2.0	---	1.1	---	.54	---	.15	e.15	---
TOTAL	20.90	49.05	71.7	99.6	60.6	47.5	109.4	26.41	16.23	7.44	5.57	6.19
MEAN	.67	1.63	2.31	3.21	2.16	1.53	3.65	.85	.54	.24	.18	.21
MAX	.96	10	10	28	11	5.0	18	1.5	.87	.61	.33	.43
MIN	.47	.76	1.2	1.1	1.2	1.0	1.4	.54	.30	.15	.14	.14
AC-FT	41	97	142	198	120	94	217	52	32	15	11	12

e Estimated.

11022200 LOS COCHES CREEK NEAR LAKESIDE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.48	1.25	1.92	5.09	6.22	6.21	3.07	1.47	.84	.40	.26	.28
MAX	1.37	4.58	6.09	40.2	28.3	31.1	13.5	6.25	3.67	1.31	.69	.64
(WY)	1988	1984	1985	1993	1998	1995	1998	1998	1995	1995	1998	1998
MIN	.066	.17	.32	.66	1.09	.78	.45	.25	.16	.096	.079	.077
(WY)	1998	1993	1990	1989	1989	1989	1989	1984	1996	1996	1996	1996

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1984 - 1999	
ANNUAL TOTAL	2151.55		520.59			
ANNUAL MEAN	5.89		1.43		2.27	
HIGHEST ANNUAL MEAN					6.77	
LOWEST ANNUAL MEAN					.50	
HIGHEST DAILY MEAN	120	Feb 8	28	Jan 25	248	Mar 5 1995
LOWEST DAILY MEAN	.47	Oct 1	.14	Aug 2	.04	Oct 26 1997
ANNUAL SEVEN-DAY MINIMUM	.54	Sep 19	.15	Jul 30	.04	Oct 31 1997
INSTANTANEOUS PEAK FLOW			75		1090	Mar 5 1995
INSTANTANEOUS PEAK STAGE			3.99		9.74	Mar 5 1995
ANNUAL RUNOFF (AC-FT)	4270		1030		1650	
10 PERCENT EXCEEDS	13		2.2		3.7	
50 PERCENT EXCEEDS	1.5		.89		.58	
90 PERCENT EXCEEDS	.64		.17		.16	

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

LOCATION.—Lat 32°50'25", long 117°01'30", in Mission San Diego Grant, San Diego County, Hydrologic Unit 18070304, near right bank, at Mast Road Bridge, 0.7 mi upstream from Old Mission Dam site, 2.8 mi west of Santee, and 14.2 mi downstream from El Capitan Lake.

DRAINAGE AREA.—368 mi².

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" (station 11022500).

REVISED RECORDS.—WSP 1565: 1955–56. WSP 1635: 1922, 1926(M), 1927. WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 300 ft above sea level, 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.

REMARKS.—Records fair. Flow regulated by Cuyamaca Reservoir, capacity, 11,740 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, 45,400 ft³/s, Feb. 16, 1927, gage height, 18.1 ft, site and datum then in use, from floodmarks, on basis of slope-area measurement of peak flow; no flow for many days some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 70,200 ft³/s, Jan. 27, 1916, gage height, 25.1 ft, site and datum in use prior to Nov. 10, 1920, from floodmarks, based on slope-conveyance computation of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	4.9	52	7.7	21	8.5	137	8.1	4.4	1.9	2.6	2.0
2	4.4	5.2	30	8.1	17	8.4	35	7.6	5.3	2.4	2.6	2.0
3	4.2	5.1	17	8.5	15	8.3	27	6.1	4.0	2.6	2.6	2.1
4	4.1	5.1	16	8.9	79	10	34	5.9	4.7	2.2	3.2	1.8
5	4.3	5.1	104	9.1	52	8.3	13	6.8	3.2	1.9	2.7	1.9
6	4.3	5.1	64	8.0	25	8.1	13	5.7	3.0	2.2	2.6	1.8
7	4.2	5.1	20	8.0	21	9.9	68	5.5	3.0	2.8	3.1	1.6
8	4.0	57	17	7.4	19	10	21	5.8	3.1	3.9	3.0	1.6
9	4.4	15	16	7.6	24	9.9	26	6.8	3.2	3.3	3.1	1.5
10	4.4	12	14	7.7	20	9.5	16	6.5	3.0	2.7	3.0	1.7
11	4.2	12	12	8.6	13	22	14	5.9	3.2	2.5	3.2	1.6
12	4.2	11	11	8.1	12	10	140	6.2	3.9	2.4	2.8	1.5
13	4.3	9.7	10	7.9	11	9.1	26	6.7	3.9	2.4	2.4	1.3
14	4.5	9.1	9.9	8.3	11	9.7	22	6.7	3.7	2.3	2.1	1.3
15	5.2	8.6	9.7	8.5	10	30	18	6.4	3.6	2.2	2.0	1.3
16	5.3	8.1	11	8.4	10	28	15	6.3	3.3	2.1	2.0	1.4
17	5.2	8.3	11	7.6	9.9	13	13	6.2	2.9	2.1	2.3	1.6
18	4.6	8.2	11	7.4	9.9	11	12	5.7	2.9	2.2	2.1	1.8
19	4.6	8.1	21	8.2	9.8	9.2	10	5.3	2.8	2.2	2.2	1.9
20	5.1	7.6	16	14	10	8.6	9.5	5.2	3.2	2.3	2.4	1.8
21	5.5	7.3	9.6	14	10	8.2	9.3	5.0	2.7	2.7	2.5	3.2
22	4.4	6.7	9.1	9.4	10	8.1	9.4	5.0	2.5	3.1	2.3	12
23	4.1	6.6	8.8	9.0	10	8.0	9.1	4.7	2.6	2.8	2.3	3.0
24	4.7	7.2	8.4	8.9	9.4	8.0	8.6	4.6	2.5	3.1	2.1	2.5
25	8.2	7.4	8.6	198	9.5	36	8.3	4.3	2.4	3.3	1.9	2.2
26	6.4	7.3	9.3	122	9.8	16	7.9	4.1	2.0	3.4	1.8	2.0
27	5.7	7.8	8.8	129	9.1	8.4	7.7	4.0	1.9	3.1	2.3	2.4
28	5.4	77	9.3	50	8.9	7.5	8.2	4.0	2.4	2.6	2.4	2.6
29	4.9	31	9.2	43	---	7.0	8.9	3.9	2.2	2.5	2.5	2.2
30	4.7	16	8.6	35	---	6.9	8.9	4.3	2.1	2.5	2.3	2.0
31	4.1	---	8.3	28	---	7.4	---	4.2	---	2.5	2.2	---
TOTAL	148.1	384.6	570.6	814.3	476.3	363.0	755.8	173.5	93.6	80.2	76.6	67.6
MEAN	4.78	12.8	18.4	26.3	17.0	11.7	25.2	5.60	3.12	2.59	2.47	2.25
MAX	8.2	77	104	198	79	36	140	8.1	5.3	3.9	3.2	12
MIN	4.0	4.9	8.3	7.4	8.9	6.9	7.7	3.9	1.9	1.9	1.8	1.3
AC-FT	294	763	1130	1620	945	720	1500	344	186	159	152	134

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.15	5.88	21.1	32.8	95.1	81.8	49.1	18.2	4.84	3.07	2.77	1.91
MAX	20.8	78.8	728	410	1871	683	1324	379	181	156	139	38.3
(WY)	1988	1986	1922	1993	1927	1941	1941	1915	1980	1980	1980	1980
MIN	.000	.000	.000	.000	.000	.019	.000	.000	.000	.000	.000	.000
(WY)	1913	1913	1913	1951	1951	1951	1951	1913	1913	1912	1913	1913

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1912 - 1999	
ANNUAL TOTAL	24621.8		4004.2			
ANNUAL MEAN	67.5		11.0		26.1	
HIGHEST ANNUAL MEAN					219	
LOWEST ANNUAL MEAN					.002	
HIGHEST DAILY MEAN	1650	Feb 8	198	Jan 25	27300	Feb 16 1927
LOWEST DAILY MEAN	4.0	Oct 8	1.3	Sep 13	.00	Jun 19 1912
ANNUAL SEVEN-DAY MINIMUM	4.2	Oct 2	1.4	Sep 11	.00	Jun 19 1912
INSTANTANEOUS PEAK FLOW			586		45400	
INSTANTANEOUS PEAK STAGE			7.05		18.10	
ANNUAL RUNOFF (AC-FT)	48840		7940		18910	
10 PERCENT EXCEEDS	150		20		29	
50 PERCENT EXCEEDS	11		6.5		1.5	
90 PERCENT EXCEEDS	5.2		2.2		.00	

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 mi².

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 for Oct. 1, 1981, to Jan. 17, 1982, published in WDR CA-82-1, are in error and should not be used.

REVISED RECORDS.—See PERIOD OF RECORD.

GAGE.—Water-stage recorder. Elevation of gage is 20 ft above sea level, from topographic map. See WSP 1315-B for history of changes for period October 1912 to January 1916.

REMARKS.—Records good below 10 ft³/s and fair above. Flow regulated by Cuyamaca Reservoir, capacity, 11,740 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 ft³/s, Jan. 27, 1916, gage height, 19.3 ft, site and datum then in use, estimated on basis of upstream station, San Diego River near Santee; no flow at times during some years. Maximum discharge recorded since storage began in El Capitan Lake and San Vicente Reservoir, 9,430 ft³/s, Mar. 6, 1995, gage height, 13.47 ft, from rating curve extended above 5,800 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	6.0	29	12	34	14	63	12	4.7	2.2	1.8	1.7
2	5.9	5.6	73	12	27	13	190	12	5.1	2.1	1.9	1.7
3	5.9	5.2	45	12	22	11	56	11	6.2	2.1	1.8	1.7
4	5.3	4.8	25	11	61	14	50	9.9	5.9	2.1	1.8	1.6
5	4.8	4.8	117	10	137	12	39	9.1	6.2	2.1	1.8	1.7
6	4.4	5.4	145	10	69	12	28	8.9	6.1	2.0	1.7	1.8
7	3.9	6.0	73	10	36	13	87	9.0	5.6	1.8	1.9	1.8
8	3.5	84	32	10	26	15	79	9.0	5.2	1.9	2.1	1.7
9	3.4	73	22	10	24	13	39	8.6	4.5	2.7	2.1	1.6
10	3.4	29	20	10	33	12	31	8.4	4.2	2.7	2.0	1.8
11	3.6	17	19	10	26	19	31	8.3	3.9	2.5	1.8	2.0
12	3.7	14	17	11	21	25	248	8.6	3.7	2.3	1.7	2.0
13	3.7	12	16	11	19	20	95	8.8	3.8	1.9	1.7	1.7
14	3.8	12	15	11	17	16	38	8.5	4.0	1.8	1.8	1.6
15	4.0	12	14	11	16	38	29	8.2	4.0	1.7	1.8	1.3
16	4.2	11	14	11	15	56	25	8.4	3.8	1.6	1.9	1.4
17	4.2	11	14	11	15	39	23	8.7	3.8	1.7	1.8	1.4
18	4.5	9.9	13	12	14	25	21	8.4	3.7	1.7	1.5	1.4
19	5.4	8.8	13	12	14	19	19	7.8	3.8	1.7	1.5	1.6
20	6.1	9.0	29	20	14	16	18	7.9	3.8	1.7	1.5	1.6
21	5.5	8.9	25	37	14	15	17	7.5	3.5	1.7	1.5	1.6
22	4.8	9.3	19	24	14	14	16	7.6	3.2	1.8	1.6	1.6
23	4.7	9.1	15	19	13	13	16	7.8	3.0	1.8	1.4	1.9
24	4.9	9.1	13	16	13	13	15	7.4	2.6	1.8	1.3	2.1
25	5.7	8.7	13	153	13	57	14	6.9	2.4	1.6	1.2	2.0
26	7.1	8.5	12	336	13	82	13	6.6	2.4	1.5	1.2	1.9
27	6.9	8.5	12	332	12	34	13	6.0	2.4	1.4	1.4	1.9
28	6.7	79	12	99	14	20	12	5.7	2.4	1.5	1.5	1.9
29	6.7	104	12	52	---	16	12	5.7	2.2	1.6	1.7	1.7
30	6.6	49	12	43	---	13	13	5.4	2.2	1.4	1.8	1.6
31	6.2	---	12	39	---	12	---	5.0	---	1.6	1.7	---
TOTAL	155.5	634.6	902	1377	746	691	1350	253.1	118.3	58.0	52.2	51.3
MEAN	5.02	21.2	29.1	44.4	26.6	22.3	45.0	8.16	3.94	1.87	1.68	1.71
MAX	7.1	104	145	336	137	82	248	12	6.2	2.7	2.1	2.1
MIN	3.4	4.8	12	10	12	11	12	5.0	2.2	1.4	1.2	1.3
AC-FT	308	1260	1790	2730	1480	1370	2680	502	235	115	104	102

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

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1982 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.59	29.0	45.2	106	122	152	50.6	18.7	7.31	3.19	2.55	3.56
MAX	31.2	144	143	683	668	777	242	135	21.3	8.93	9.47	20.0
(WY)	1987	1986	1985	1993	1998	1983	1983	1983	1983	1983	1983	1986
MIN	.62	.87	5.09	14.5	20.5	8.38	7.69	2.45	1.30	.25	.54	.033
(WY)	1990	1990	1990	1989	1989	1984	1989	1996	1985	1985	1985	1984

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1982 - 1999	
ANNUAL TOTAL	33230.5		6389.0			
ANNUAL MEAN	91.0		17.5		45.1	
HIGHEST ANNUAL MEAN					125	
LOWEST ANNUAL MEAN					11.5	
HIGHEST DAILY MEAN	3280	Feb 8	336	Jan 26	4760	Mar 3 1983
LOWEST DAILY MEAN	3.0	Aug 27	1.2	Aug 25	.00	Sep 7 1984
ANNUAL SEVEN-DAY MINIMUM	3.6	Oct 8	1.4	Aug 21	.00	Sep 13 1984
INSTANTANEOUS PEAK FLOW			460		9430	Mar 6 1995
INSTANTANEOUS PEAK STAGE			5.99		13.47	Mar 6 1995
ANNUAL RUNOFF (AC-FT)	65910		12670		32680	
10 PERCENT EXCEEDS	186		37		84	
50 PERCENT EXCEEDS	17		8.6		7.6	
90 PERCENT EXCEEDS	4.8		1.7		.76	

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 mi².

PERIOD OF RECORD.—October 1964 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 260 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,750 ft³/s, Feb. 21, 1980, gage height, 10.26 ft, from rating curve extended above 1,400 ft³/s; maximum gage height, 10.92 ft, Jan. 4, 1995; no flow at times in 1968, 1972, 1977.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 400 ft³/s, or maximum, from rating curve extended above 2,130 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	1430	503	4.99	Jan. 25	1545	420	4.69
Nov. 28	2230	491	4.95				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.8	8.6	2.4	6.7	3.4	124	3.1	2.8	2.2	2.1	2.2
2	3.0	2.8	15	2.4	4.8	3.4	42	2.9	45	2.3	2.3	2.2
3	2.7	2.8	4.4	2.3	4.5	3.5	6.7	2.8	6.0	2.3	2.1	2.4
4	2.5	3.2	6.3	2.3	88	7.0	43	2.9	16	2.1	1.9	2.9
5	2.4	2.9	47	2.4	34	4.2	4.7	2.8	3.9	2.2	2.0	2.7
6	2.6	2.8	56	2.5	8.4	3.7	4.4	2.6	2.7	2.3	2.5	2.7
7	2.5	2.8	7.1	3.3	5.6	10	15	2.6	2.6	2.4	2.1	2.9
8	2.5	166	5.3	2.5	5.5	4.6	5.4	2.8	2.3	30	1.7	2.9
9	3.0	14	4.2	2.6	7.4	4.8	16	2.8	2.2	10	2.1	2.8
10	3.0	5.2	3.5	2.6	12	3.7	4.0	3.0	2.1	3.4	2.2	2.7
11	3.4	4.3	3.3	2.7	4.8	33	6.4	3.2	2.1	2.4	2.1	2.5
12	3.6	3.8	3.3	2.8	4.3	8.0	112	3.1	2.1	2.2	2.2	2.3
13	3.8	3.7	3.3	2.8	4.3	4.0	6.1	3.3	2.0	2.1	2.4	2.3
14	3.5	3.5	3.8	3.0	4.1	3.6	4.2	3.7	2.0	2.1	2.0	2.4
15	3.4	3.5	3.9	2.6	6.4	42	3.8	3.8	2.0	2.0	1.9	2.5
16	3.6	3.5	3.7	2.5	5.4	9.6	3.4	3.9	2.0	2.1	1.8	2.4
17	3.3	3.5	3.1	2.5	4.1	4.2	3.1	4.1	2.0	2.0	2.2	3.0
18	3.0	3.5	3.0	2.4	3.7	3.7	2.9	3.6	2.8	1.8	2.2	3.1
19	3.4	3.5	8.8	2.5	3.7	e3.5	3.1	3.6	2.2	1.9	2.6	3.0
20	3.4	3.5	11	20	3.7	e3.4	3.0	3.9	1.9	1.9	2.5	2.6
21	3.4	3.5	4.2	14	3.6	e3.3	3.7	3.5	2.1	1.9	2.4	2.8
22	3.4	3.1	3.5	3.9	3.6	e3.2	4.6	3.6	2.4	1.9	2.3	3.4
23	3.2	3.0	3.2	3.2	3.6	e3.2	5.7	3.2	2.1	1.8	2.2	2.8
24	3.4	3.2	2.7	2.9	3.7	3.1	3.1	3.3	2.0	1.7	2.2	2.6
25	9.8	3.5	2.5	209	3.6	55	2.7	3.2	2.3	1.6	2.0	2.8
26	14	3.4	2.5	84	3.6	18	3.2	3.2	2.1	1.7	2.1	2.6
27	3.8	3.1	2.5	63	3.6	4.5	3.0	3.1	1.9	2.0	2.1	2.7
28	3.1	125	2.4	9.0	3.5	3.8	2.6	3.5	2.0	2.2	2.0	2.8
29	3.0	101	2.5	6.3	---	3.5	13	3.1	2.4	2.0	1.7	2.4
30	3.5	6.4	2.4	5.3	---	3.5	3.9	2.8	2.1	2.1	1.7	2.2
31	3.0	---	2.4	12	---	3.6	---	2.8	---	2.0	2.3	---
TOTAL	115.3	496.8	235.4	481.7	250.2	268.0	458.7	99.8	128.1	100.6	65.9	79.6
MEAN	3.72	16.6	7.59	15.5	8.94	8.65	15.3	3.22	4.27	3.25	2.13	2.65
MAX	14	166	56	209	88	55	124	4.1	45	30	2.6	3.4
MIN	2.4	2.8	2.4	2.3	3.5	3.1	2.6	2.6	1.9	1.6	1.7	2.2
AC-FT	229	985	467	955	496	532	910	198	254	200	131	158

e Estimated.

11023340 LOS PENASQUITOS CREEK NEAR POWAY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.63	6.14	9.27	25.2	34.0	34.5	9.44	3.23	1.63	1.11	1.03	1.59
MAX	7.09	28.7	51.6	233	277	213	50.0	22.0	6.58	3.25	3.59	13.9
(WY)	1997	1986	1966	1993	1998	1983	1998	1998	1998	1999	1998	1997
MIN	.030	.10	.23	.23	.41	.75	.27	.14	.056	.009	.020	.028
(WY)	1976	1978	1974	1976	1965	1965	1977	1974	1974	1977	1975	1975

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1965 - 1999	
ANNUAL TOTAL	14159.7		2780.1			
ANNUAL MEAN	38.8		7.62		10.6	
HIGHEST ANNUAL MEAN					39.4	
LOWEST ANNUAL MEAN					.80	
HIGHEST DAILY MEAN	1210	Feb 8	209	Jan 25	1400	Mar 1 1978
LOWEST DAILY MEAN	2.0	Jan 1	1.6	Jul 25	.00	May 16 1968
ANNUAL SEVEN-DAY MINIMUM	2.5	Dec 25	1.8	Jul 20	.00	Jul 18 1977
INSTANTANEOUS PEAK FLOW			503		4750	Feb 21 1980
INSTANTANEOUS PEAK STAGE			4.99		10.92	Jan 4 1995
ANNUAL RUNOFF (AC-FT)	28090		5510		7690	
10 PERCENT EXCEEDS	99		9.2		12	
50 PERCENT EXCEEDS	4.4		3.1		1.5	
90 PERCENT EXCEEDS	2.8		2.1		.25	

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 mi².

PERIOD OF RECORD.—February 1912 to February 1923 (monthly discharge only for November and December 1919), October 1943 to current year.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 847.88 ft above sea level (levels by city of San Diego Water Department). See WSP 1315-B for history of changes prior to Feb. 3, 1923.

REMARKS.—Records good above 1 ft³/s and fair below except for estimated daily discharges, which are poor. Flow regulated by Lake Sutherland, capacity, 29,680 acre-ft, since July 1954. Some small diversions upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,400 ft³/s, Jan. 27, 1916, gage height, 14.0 ft, datum then in use, from rating curve extended above 1,500 ft³/s on basis of slope-conveyance study of peak flow; maximum gage height, 14.25 ft, Feb. 21, 1980; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	1.4	3.9	3.9	6.2	e4.7	7.5	5.6	.99	.03	.00	.00
2	.93	1.9	4.6	3.8	5.4	e4.7	9.6	4.6	2.1	.03	.00	.00
3	.76	1.9	3.5	3.5	5.0	e4.7	7.3	4.4	1.9	.03	.00	.00
4	.76	1.9	3.2	3.3	e9.0	e5.5	9.0	4.4	2.6	.02	.00	.00
5	.71	1.2	4.5	3.0	e10	e5.2	7.5	4.1	2.7	.01	.00	.00
6	.45	1.6	10	3.2	e8.0	e5.0	6.8	3.6	2.1	.01	.00	.00
7	.41	1.6	8.0	3.3	e6.0	e5.5	9.1	3.1	1.5	.01	.00	.00
8	.50	3.1	6.6	3.3	e5.5	e4.9	11	3.0	1.2	.03	.00	.00
9	.53	4.4	5.6	3.3	e5.3	4.6	11	2.9	.92	.04	.00	.00
10	.65	3.7	4.6	3.3	e6.5	4.3	8.4	3.0	.77	.01	.00	.00
11	.71	3.3	4.2	3.3	e5.8	4.8	7.4	2.8	.65	.00	.00	.00
12	.64	3.1	4.0	3.3	e5.4	5.1	11	2.7	.57	.00	.00	.00
13	.63	2.6	3.7	3.3	e5.3	4.6	12	2.6	.43	.00	.00	.00
14	.45	2.6	3.7	3.3	e5.2	4.3	8.7	2.2	.26	.00	.00	.00
15	.65	2.6	3.9	3.3	e5.2	5.1	7.1	2.0	.21	.00	.00	.00
16	.59	2.5	3.7	3.3	e5.1	5.4	5.9	2.0	.21	.00	.00	.00
17	.38	2.6	3.6	3.3	e5.1	5.3	4.8	1.6	.19	.00	.00	.00
18	.29	2.8	3.6	3.3	e5.1	4.9	4.5	1.5	.19	.00	.00	.00
19	.29	2.8	4.0	3.5	e5.0	4.6	4.1	1.5	.16	.00	.00	.00
20	.31	2.7	5.2	4.4	e5.0	4.4	4.1	1.8	.13	.00	.00	.00
21	.34	2.5	5.6	6.6	e5.0	4.3	4.1	1.8	.13	.00	.00	.00
22	.32	2.6	5.3	5.9	e4.9	4.1	4.4	2.0	.11	.00	.00	.00
23	.32	2.3	4.6	4.9	e4.9	4.1	5.0	2.0	.09	.00	.00	.00
24	.26	2.6	4.4	4.5	e4.9	4.0	5.4	1.8	.06	.00	.00	.00
25	1.6	3.0	4.3	8.5	e4.8	4.1	5.4	1.3	.05	.00	.00	.00
26	1.6	2.9	4.1	12	e4.8	4.5	4.6	1.4	.04	.00	.00	.00
27	1.4	3.3	4.1	16	e4.8	4.4	4.2	1.8	.05	.00	.00	.00
28	1.4	6.9	4.1	10	e4.7	4.3	4.1	1.7	.04	.00	.00	.00
29	1.5	10	3.9	7.3	---	4.0	5.4	1.3	.03	.00	.00	.00
30	1.8	5.2	4.0	6.1	---	3.8	6.2	.73	.03	.00	.00	.00
31	2.0	---	3.9	6.4	---	4.0	---	.77	---	.00	.00	---
TOTAL	24.16	91.6	142.4	156.4	157.9	143.2	205.6	76.00	20.41	0.22	0.00	0.00
MEAN	.78	3.05	4.59	5.05	5.64	4.62	6.85	2.45	.68	.007	.000	.000
MAX	2.0	10	10	16	10	5.5	12	5.6	2.7	.04	.00	.00
MIN	.26	1.2	3.2	3.0	4.7	3.8	4.1	.73	.03	.00	.00	.00
AC-FT	48	182	282	310	313	284	408	151	40	.4	.00	.00

e Estimated.

11025500 SANTA YSABEL CREEK NEAR RAMONA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.76	4.16	28.3	106	70.6	72.7	38.9	27.8	9.07	2.83	1.53	.98
MAX	16.9	17.3	330	1690	345	249	153	221	47.0	15.6	10.5	8.63
(WY)	1917	1947	1922	1916	1916	1922	1922	1915	1915	1915	1916	1916
MIN	.000	.000	.000	1.70	3.54	6.37	4.75	1.10	.037	.000	.000	.000
(WY)	1948	1949	1951	1948	1912	1951	1951	1947	1951	1946	1921	1921

SUMMARY STATISTICS

WATER YEARS 1912 - 1954

ANNUAL MEAN	30.7
HIGHEST ANNUAL MEAN	206 1916
LOWEST ANNUAL MEAN	1.77 1951
HIGHEST DAILY MEAN	14100 Jan 27 1916
LOWEST DAILY MEAN	.00 Aug 16 1912
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 17 1912
INSTANTANEOUS PEAK FLOW	28400 Jan 27 1916
INSTANTANEOUS PEAK STAGE	14.00 Jan 27 1916
ANNUAL RUNOFF (AC-FT)	22250
10 PERCENT EXCEEDS	50
50 PERCENT EXCEEDS	4.1
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.50	2.13	5.37	15.7	42.5	43.8	20.2	8.53	3.58	1.12	.69	.39
MAX	6.30	43.5	124	220	795	425	207	110	42.2	13.8	11.9	7.07
(WY)	1981	1966	1967	1993	1980	1980	1983	1983	1983	1980	1983	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1955	1955	1959	1961	1961	1961	1959	1956	1955	1955	1955

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1955 - 1999

ANNUAL TOTAL	10169.04	1017.89	
ANNUAL MEAN	27.9	2.79	11.9
HIGHEST ANNUAL MEAN			131 1980
LOWEST ANNUAL MEAN			.000 1961
HIGHEST DAILY MEAN	597 Feb 24	16 Jan 27	6190 Feb 21 1980
LOWEST DAILY MEAN	.26 Oct 24	.00 Jul 11	.00 Oct 1 1954
ANNUAL SEVEN-DAY MINIMUM	.30 Oct 18	.00 Jul 11	.00 Oct 1 1954
INSTANTANEOUS PEAK FLOW		41 Dec 6	10700 Feb 21 1980
INSTANTANEOUS PEAK STAGE		2.63 Dec 6	14.25 Feb 21 1980
ANNUAL RUNOFF (AC-FT)	20170	2020	8600
10 PERCENT EXCEEDS	74	5.9	13
50 PERCENT EXCEEDS	5.1	2.6	.13
90 PERCENT EXCEEDS	.59	.00	.00

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, and 4.6 mi upstream from mouth.

DRAINAGE AREA.—57.6 mi².

PERIOD OF RECORD.—December 1912 to September 1920, October 1946 to current year.

REVISED RECORDS.—WSP 1285: 1952. WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Concrete control since October 1946. Datum of gage is 1,294.44 ft above sea level. Prior to Oct. 1, 1946, at same site, at datum 1.78 ft lower.

REMARKS.—Records good except for discharges below 1 ft³/s, which are fair. No regulation upstream from station. Land application of treated sewage effluent upstream from the gage beginning December 1972 contributes to low flows.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,200 ft³/s, Feb. 21, 1980, gage height, 14.39 ft, from rating curve extended above 166 ft³/s on basis of slope-area measurements at gage heights 4.56 ft and 14.39 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum, from rating curve extended above 955 ft³/s on basis of slope-area measurement at gage height 14.39 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	1100	18	1.71				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.56	1.4	1.4	2.5	.36	2.4	1.0	.03	.00	.00	.00
2	.02	1.3	2.1	.62	1.3	.38	4.3	.64	.09	.00	.00	.00
3	.03	.28	1.3	1.7	1.3	.44	1.2	.54	1.10	.00	.00	.00
4	.03	.26	1.0	.31	2.5	1.1	4.0	.55	.24	.00	.00	.00
5	.02	.23	.77	.31	2.4	.54	2.2	.48	.13	.00	.00	.00
6	.00	.23	1.6	.31	1.1	.63	1.3	.32	.08	.00	.00	.00
7	.01	.20	.96	.73	.87	.78	2.8	.19	.08	.00	.00	.00
8	.02	.67	.89	.36	.76	.71	2.4	.16	.06	.00	.00	.00
9	.04	.49	1.1	.30	.99	.52	3.3	.13	.07	.00	.00	.00
10	.08	.28	1.2	.30	2.3	.45	1.9	.13	.09	.00	.00	.00
11	.15	.61	.73	.30	.72	.83	1.4	.12	.09	.00	.00	.00
12	.25	.82	.86	.56	.53	1.3	8.4	.09	.08	.00	.00	.00
13	.34	.31	.72	.61	1.0	1.4	4.8	.07	.04	.00	.00	.00
14	.07	.54	.84	.66	1.3	1.5	2.7	.07	.03	.00	.00	.00
15	.39	.84	.51	.66	.62	1.9	2.0	.07	.14	.00	.00	.00
16	.85	.93	.45	.37	.61	1.4	1.7	.09	.18	.00	.00	.00
17	.10	.71	.66	.36	1.9	1.3	.99	.09	.06	.00	.00	.00
18	.08	.61	1.0	.34	1.9	1.4	1.4	.07	.06	.00	.00	.00
19	.16	.39	.72	.36	2.0	1.1	1.1	.10	.06	.00	.00	.00
20	.11	.52	1.0	1.3	.70	.56	.94	.07	.04	.00	.00	.00
21	.09	.43	.96	.84	.57	.53	.67	.07	.05	.00	.00	.00
22	.11	.35	1.4	1.1	.53	.53	.69	.09	.04	.00	.00	.00
23	.14	.35	1.5	.69	.96	.94	.77	.12	.02	.00	.00	.00
24	.11	.54	1.0	.65	.44	.51	.71	.06	.01	.00	.00	.00
25	.12	1.2	.60	3.1	.39	.50	.60	.05	.01	.00	.00	.00
26	.29	.39	.63	3.8	.41	.70	.73	.04	.00	.00	.00	.00
27	1.1	.36	.85	3.7	.39	.57	.58	.04	.00	.00	.00	.00
28	1.0	1.7	.82	1.1	.36	.45	.50	.03	.00	.00	.00	.00
29	1.5	6.6	.51	1.9	---	.32	1.1	.01	.00	.00	.00	.00
30	1.0	1.1	.47	1.5	---	.40	1.4	.03	.00	.00	.00	.00
31	.31	---	.50	2.7	---	.38	---	.02	---	.00	.00	---
TOTAL	8.53	23.80	29.05	32.94	31.35	24.43	58.98	5.54	1.88	0.00	0.00	0.00
MEAN	.28	.79	.94	1.06	1.12	.79	1.97	.18	.063	.000	.000	.000
MAX	1.5	6.6	2.1	3.8	2.5	1.9	8.4	1.0	.24	.00	.00	.00
MIN	.00	.20	.45	.30	.36	.32	.50	.01	.00	.00	.00	.00
AC-FT	17	47	58	65	62	48	117	11	3.7	.00	.00	.00

11028500 SANTA MARIA CREEK NEAR RAMONA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1913 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.055	.44	1.37	23.8	25.6	26.4	6.70	2.32	.57	.073	.098	.034
MAX	.45	10.9	26.5	545	443	288	63.2	31.0	7.66	1.28	4.03	.22
(WY)	1987	1966	1967	1916	1980	1983	1998	1915	1983	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1914	1916	1920	1920	1951	1951	1950	1949	1920	1913	1913	1913

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1913 - 1999

ANNUAL TOTAL	7514.47	216.50	
ANNUAL MEAN	20.6	.59	
HIGHEST ANNUAL MEAN			7.33 1993
LOWEST ANNUAL MEAN			.000 1951
HIGHEST DAILY MEAN	654	Feb 24	4960
LOWEST DAILY MEAN	.00	Aug 29	.00
ANNUAL SEVEN-DAY MINIMUM	.01	Aug 27	.00
INSTANTANEOUS PEAK FLOW			18
INSTANTANEOUS PEAK STAGE			1.71
ANNUAL RUNOFF (AC-FT)	14900	429	14.39
10 PERCENT EXCEEDS	55	1.4	3.2
50 PERCENT EXCEEDS	1.0	.31	.00
90 PERCENT EXCEEDS	.03	.00	.00

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA

LOCATION.—Lat 33°13'05", long 117°21'34", in SE 1/4 SW 1/4 sec.13, T.11 S., R.5 W., San Diego County, Hydrologic Unit 18070303, on left 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 mi².

PERIOD OF RECORD.—April 1912 to September 1914 (published as "near Oceanside"), January 1916, October 1929 to January 1942, October 1946 to current year. Discharge measurements only Oct. 1, 1992, to Aug. 16, 1993, and Nov. 10, 1997, to Apr. 28, 1998.

REVISED RECORDS.—WSP 2128: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 20 ft above sea level, 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. October 1929 to Nov. 9, 1981, at site 0.8 mi downstream at different datum.

REMARKS.—Records good except for estimated daily discharges, which are poor. Gage out of operation for channel work from Nov. 10, 1997, to Apr. 28, 1998. Flow regulated by Lake Henshaw, capacity, 194,300 acre-ft, since 1923. Several diversions for irrigation and domestic use upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 95,600 ft³/s, Jan. 27, 1916, from hydrograph based on discharge measurements; no flow for several months in some years. Since regulation by Lake Henshaw, maximum discharge, 25,700 ft³/s, Jan. 16, 1993, gage height, 21.70 ft, on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e4.5	e6.4	e25	e22	40	25	24	18	3.5	3.3	e.17	.04
2	e4.8	e6.5	e24	e22	33	24	29	18	7.0	3.9	e.15	.04
3	e5.0	e6.6	e24	e21	31	24	32	19	4.7	3.0	e.14	.05
4	e5.0	e6.5	e24	e21	45	25	34	19	6.0	2.7	e.15	.37
5	e5.2	e6.5	e28	e20	104	25	31	19	4.6	2.5	e.12	1.4
6	e5.5	e6.6	e35	e20	99	23	29	19	4.7	2.3	e.10	1.6
7	e5.6	e6.6	e30	e20	78	26	32	18	5.1	2.3	e.09	1.3
8	e5.8	e25	e29	22	64	25	36	17	4.8	2.2	e.09	.77
9	e6.0	e18	e29	25	58	24	39	17	4.4	2.2	e.09	.72
10	e6.0	e16	e28	24	56	24	35	16	4.2	2.0	e.10	.74
11	e6.1	e15	e27	24	52	27	34	16	4.0	1.9	e.10	.57
12	e6.2	e15	e28	23	49	31	91	15	3.6	e1.8	e.11	.38
13	e6.3	e14	e28	23	45	30	93	15	3.4	e1.6	e.11	.23
14	e6.3	e14	e27	22	44	28	74	14	3.5	e1.4	e.10	.23
15	e6.4	e15	e26	22	39	29	59	13	3.4	e1.1	e.10	.16
16	6.1	e15	e27	22	36	31	48	12	3.2	e1.0	e.11	.06
17	5.8	e14	e27	22	43	30	40	11	3.1	e.92	e.11	.17
18	5.7	e14	e27	21	40	30	33	11	3.1	e.80	e.10	.30
19	5.9	e14	e28	21	38	29	28	10	3.0	e.65	e.09	.27
20	5.8	e14	e31	26	36	27	24	9.3	3.1	e.60	e.07	.11
21	e5.9	15	e28	29	33	26	23	8.8	3.0	e.56	e.06	.02
22	e6.0	15	e27	26	33	25	22	8.0	3.0	e.53	e.06	.00
23	e6.0	14	e27	24	33	24	22	10	3.0	e.51	e.05	.00
24	e5.9	e15	e26	22	32	23	20	9.1	3.2	e.50	e.06	.00
25	e8.0	e15	e26	37	31	32	19	8.0	3.2	e.46	e.10	.00
26	e7.2	e14	e25	72	29	45	19	7.1	3.2	e.42	.17	.02
27	e6.8	e15	e25	180	26	37	19	6.0	3.2	e.41	.14	.09
28	e6.5	e40	e24	140	25	32	19	5.6	3.1	e.41	.12	.04
29	e6.3	e32	e23	82	---	26	18	5.0	3.1	e.33	.10	.00
30	e6.3	e29	e23	53	---	22	18	4.2	3.1	e.26	.09	.00
31	e6.4	---	e22	46	---	22	---	3.8	---	e.20	.09	---
TOTAL	185.3	452.7	828	1154	1272	851	1044	381.9	113.5	42.76	3.24	9.68
MEAN	5.98	15.1	26.7	37.2	45.4	27.5	34.8	12.3	3.78	1.38	.10	.32
MAX	8.0	40	35	180	104	45	93	19	7.0	3.9	.17	1.6
MIN	4.5	6.4	22	20	25	22	18	3.8	3.0	.20	.05	.00
AC-FT	368	898	1640	2290	2520	1690	2070	757	225	85	6.4	19

e Estimated.

11042000 SAN LUIS REY RIVER AT OCEANSIDE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.74	8.92	20.6	46.7	101	137	55.1	29.1	14.5	7.41	5.60	3.33
MAX	54.6	144	196	451	1858	1211	432	346	293	207	213	85.9
(WY)	1984	1984	1979	1980	1980	1995	1980	1980	1980	1980	1980	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1930	1930	1930	1930	1931	1931	1930	1930	1930

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1930 - 1999

ANNUAL TOTAL	6338.08		
ANNUAL MEAN	17.4	35.4	
HIGHEST ANNUAL MEAN		415	1980
LOWEST ANNUAL MEAN		.000	1931
HIGHEST DAILY MEAN	180	11300	Mar 3 1938
LOWEST DAILY MEAN	.00	.00	Oct 1 1929
ANNUAL SEVEN-DAY MINIMUM	.02	.00	Oct 1 1929
INSTANTANEOUS PEAK FLOW	198	25700	Jan 16 1993
INSTANTANEOUS PEAK STAGE	7.51	21.70	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	12570	25680	
10 PERCENT EXCEEDS	35	57	
50 PERCENT EXCEEDS	14	1.5	
90 PERCENT EXCEEDS	.11	.00	

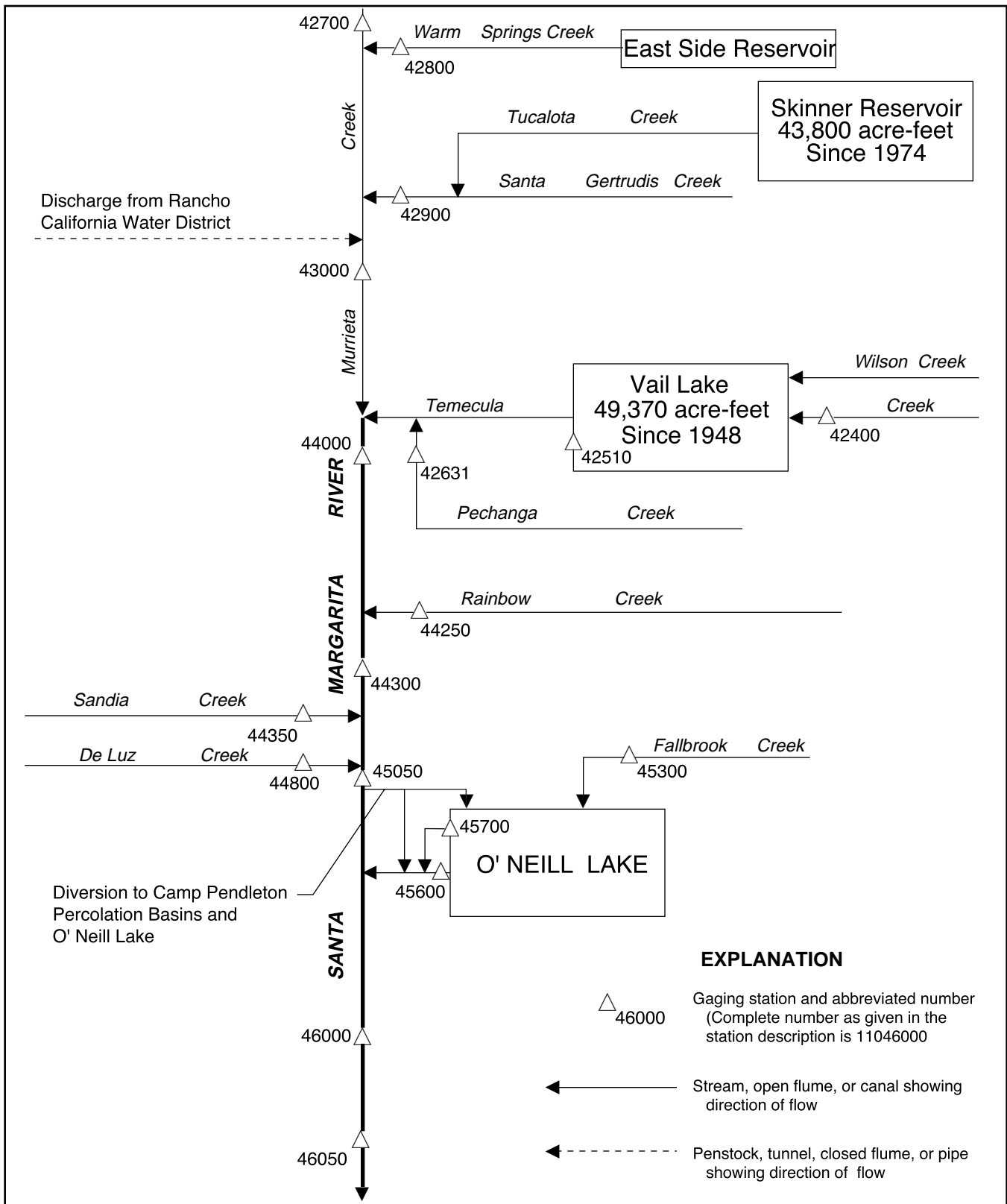


Figure 16. Diversions and storage in Santa Margarita River Basin.

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 mi².

PERIOD OF RECORD.—August 1957 to current year.

REVISED RECORDS.—WDR CA-89-1: 1958(P), 1966(M), 1979(M), 1980(M), 1986(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,590 ft above sea level, from topographic map.

REMARKS.—Records good. No regulation upstream from station. Pumping upstream from station for irrigation of less than 1,000 acres. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,100 ft³/s, Jan. 16, 1993, gage height, 14.6 ft, from flood mark, from rating curve extended above 1,200 ft³/s on basis of critical depth computation; no flow for several days in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or 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)
Apr. 12	1145	35	2.32				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	3.1	6.1	4.9	7.2	5.2	4.9	5.6	3.1	1.5	1.0	1.2
2	2.7	3.0	5.2	4.9	6.5	5.1	5.5	5.1	5.1	1.5	.99	1.4
3	2.7	3.0	5.0	4.9	6.3	5.0	5.1	5.0	6.0	1.4	.92	1.5
4	2.7	2.9	5.6	4.9	7.9	4.9	5.6	4.9	6.4	1.5	.97	1.6
5	2.6	3.0	6.1	4.9	7.6	5.0	5.4	4.8	6.7	1.1	1.1	1.5
6	2.4	3.3	7.1	4.9	5.6	5.1	6.1	3.8	5.7	.99	1.4	1.6
7	2.3	3.2	6.5	4.9	5.5	5.4	8.4	3.1	4.7	.99	1.4	1.4
8	2.3	3.7	5.2	5.2	5.9	5.2	8.6	3.4	4.3	3.2	1.5	1.3
9	2.3	4.6	5.1	5.1	6.9	5.0	7.4	4.0	4.6	3.6	1.5	1.4
10	2.4	3.8	5.0	4.9	7.5	4.9	6.4	4.0	5.2	2.0	1.7	1.6
11	2.5	3.5	5.0	5.0	5.6	5.0	6.9	3.7	5.4	1.6	1.7	1.3
12	2.5	3.6	5.1	5.2	5.4	4.9	21	3.1	5.1	1.8	1.5	1.2
13	2.6	3.4	5.1	5.1	5.7	4.6	17	3.0	5.1	1.9	1.4	1.2
14	2.6	3.4	5.2	4.9	5.7	5.1	11	3.4	4.3	1.3	1.2	1.2
15	2.7	3.3	5.1	4.9	6.0	7.0	8.3	3.3	3.6	.73	1.2	1.4
16	2.7	3.3	4.9	4.9	6.1	7.8	7.1	4.4	3.5	.80	1.1	1.6
17	2.7	3.3	4.9	4.9	6.1	5.2	6.4	3.8	3.3	.80	1.0	1.8
18	2.7	3.4	4.9	4.9	6.0	4.9	6.0	3.2	3.0	.79	.97	2.0
19	2.6	3.4	5.1	5.1	5.9	4.7	5.8	3.2	2.7	.75	.87	1.9
20	2.6	3.3	5.5	5.2	5.8	4.5	5.7	3.3	2.5	.77	.86	1.6
21	2.7	3.4	5.5	5.2	5.7	4.7	5.9	3.9	2.4	.77	.87	1.5
22	2.6	3.4	5.5	5.2	5.6	4.4	6.0	4.9	2.4	.77	.85	2.0
23	2.6	3.4	5.4	5.2	5.5	4.1	6.2	5.4	2.2	.81	.83	2.1
24	2.6	3.6	5.2	5.5	5.4	3.9	6.5	4.6	2.0	.80	.76	1.9
25	2.8	3.6	5.3	5.9	5.3	4.8	5.2	4.3	2.0	.84	.77	1.7
26	2.8	3.9	5.4	8.3	5.5	4.3	4.8	4.1	1.9	.91	.72	1.7
27	2.9	4.4	5.2	9.1	5.6	3.4	4.5	3.8	1.8	.95	.74	1.6
28	3.0	6.0	5.2	6.9	5.5	3.3	4.4	3.2	1.8	1.0	.82	1.5
29	3.0	11	5.2	6.6	---	3.2	5.3	3.1	1.6	1.2	.75	1.3
30	3.0	7.0	5.2	6.3	---	3.0	5.7	3.3	1.5	1.0	.80	1.2
31	3.2	---	5.1	6.5	---	3.2	---	3.3	---	1.0	.96	---
TOTAL	82.5	117.2	165.9	170.3	169.3	146.8	213.1	122.0	109.9	39.07	33.15	46.2
MEAN	2.66	3.91	5.35	5.49	6.05	4.74	7.10	3.94	3.66	1.26	1.07	1.54
MAX	3.2	11	7.1	9.1	7.9	7.8	21	5.6	6.7	3.6	1.7	2.1
MIN	2.3	2.9	4.9	4.9	5.3	3.0	4.4	3.0	1.5	.73	.72	1.2
AC-FT	164	232	329	338	336	291	423	242	218	77	66	92

11042400 TEMECULA CREEK NEAR AGUANGA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.55	3.48	5.78	17.7	27.5	21.9	11.6	5.28	2.81	1.60	1.36	1.34
MAX	7.94	47.9	66.0	361	266	105	87.3	25.5	13.1	8.19	9.40	6.93
(WY)	1984	1966	1967	1993	1980	1991	1958	1998	1980	1980	1983	1980
MIN	.000	.000	.000	.094	.70	.41	.34	.16	.067	.000	.000	.000
(WY)	1958	1963	1963	1963	1965	1965	1961	1961	1966	1964	1957	1957

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1957 - 1999	
ANNUAL TOTAL	5125.7		1415.42			
ANNUAL MEAN	14.0		3.88		8.40	
HIGHEST ANNUAL MEAN					56.1	
LOWEST ANNUAL MEAN					.28	
HIGHEST DAILY MEAN	378	Feb 24	21	Apr 12	3600	Jan 16 1993
LOWEST DAILY MEAN	1.5	Aug 24	.72	Aug 26	.00	Aug 1 1957
ANNUAL SEVEN-DAY MINIMUM	1.5	Aug 24	.77	Aug 24	.00	Aug 1 1957
INSTANTANEOUS PEAK FLOW			35	Apr 12	8100	Jan 16 1993
INSTANTANEOUS PEAK STAGE			2.32	Apr 12	14.60	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	10170		2810		6080	
10 PERCENT EXCEEDS	32		6.1		12	
50 PERCENT EXCEEDS	5.3		3.8		1.8	
90 PERCENT EXCEEDS	2.0		1.0		.00	

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 mi².

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 current year.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by the U.S. Bureau of Reclamation). June 4, 1969, to September 1985, nonrecording gage.

REMARKS.—Reservoir is formed by concrete arch-type dam, completed in June 1949. Total capacity, 49,370 acre-ft, between elevations 1,352.5 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 ft³/s occurred (from theoretical discharge curve). Water is released down Temecula Creek for diversion about 1 mi downstream. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum contents observed, 52,670 acre-ft, spilling, Feb. 21, 1980, elevation, 1,473.0 ft, from highwater mark; minimum observed, 1,038 acre-ft, Oct. 31, 1960, elevation, 1,379.44 ft.

EXTREMES FOR CURRENT YEAR.—Maximum contents observed, 24,360 acre-ft, Apr. 16, elevation, 1,442.21 ft; minimum observed, 22,120 acre-ft, Sept. 30, elevation, 1,439.05 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 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23920	23100	23260	23510	23860	24180	24250	24260	24030	23440	22860	22420
2	23890	23100	23270	23510	23870	24200	24240	24260	24050	23410	22850	22410
3	23860	23100	23270	23510	23880	24210	24240	24250	24040	23390	22840	22390
4	23830	23100	23290	23510	23920	24210	24240	24240	24030	23360	22820	22390
5	23790	23100	23300	23520	23950	24230	24240	24240	24030	23330	22820	22370
6	23750	23100	23320	23530	23960	24240	24240	24220	24020	23300	22800	22370
7	23720	23100	23330	23540	23970	24240	24250	24210	24020	23270	22790	22340
8	23690	23120	23340	23560	23990	24250	24260	24210	24010	23270	22770	22340
9	23660	23130	23340	23560	24020	24260	24260	24200	23980	23240	22760	22330
10	23630	23120	23340	23560	24040	24260	24250	24190	23960	23220	22740	22320
11	23590	23130	23340	23560	24020	24270	24260	24180	23940	23190	22730	22300
12	23570	23130	23340	23570	24020	24280	24310	24180	23920	23180	22720	22290
13	23560	23140	23350	23580	24020	24280	24320	24160	23890	23170	22700	22280
14	23530	23140	23370	23590	24040	24290	24320	24150	23870	23160	22690	22270
15	23510	23150	23370	23590	24050	24310	24320	24130	23850	23140	22670	22270
16	23480	23150	23370	23610	24050	24320	24320	24120	23840	23120	22650	22250
17	23440	23150	23380	23620	24070	24320	24320	24100	23810	23100	22640	22250
18	23400	23150	23390	23640	24080	24320	24320	24080	23780	23100	22630	22240
19	23370	23150	23400	23650	24090	24300	24320	24080	23760	23080	22610	22230
20	23340	23150	23420	23660	24100	24300	24320	24080	23740	23060	22590	22210
21	23320	23150	23430	23660	24120	24280	24320	24080	23710	23050	22580	22210
22	23290	23160	23440	23680	24130	24280	24310	24080	23680	23010	22560	22210
23	23270	23160	23440	23680	24130	24270	24320	24070	23650	23000	22550	22210
24	23240	23160	23450	23700	24140	24260	24320	24070	23610	22990	22540	22210
25	23220	23170	23450	23740	24160	24260	24310	24080	23590	22970	22520	22190
26	23190	23170	23460	23780	24170	24250	24290	24070	23560	22960	22510	22190
27	23170	23180	23460	23790	24180	24250	24290	24070	23540	22940	22500	22180
28	23150	23210	23470	23810	24180	24240	24280	24070	23500	22930	22490	22160
29	23120	23230	23480	23820	---	24240	24270	24060	23490	22920	22470	22150
30	23110	23240	23490	23840	---	24240	24260	24050	23460	22900	22460	22130
31	23100	---	23500	23840	---	24240	---	24030	---	22890	22440	---
MAX	23920	23240	23500	23840	24180	24320	24320	24260	24050	23440	22860	22420
MIN	23100	23100	23260	23510	23860	24180	24240	24030	23460	22890	22440	22130
a	1440.46	1440.66	1441.02	1441.50	1441.97	1442.04	1442.08	1441.76	1440.96	1440.15	1439.51	1439.07
b	-850	+140	+260	+340	+340	+60	+20	-230	-570	-570	-450	-310
CAL YR 1998	MAX 29300	MIN 18960	b +4560									
WTR YR 1999	MAX 24320	MIN 22130	b -1820									

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

PERIOD OF RECORD.—October 1987 to current year. Discharge measurements only, October 1991 to September 1992.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,010 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,120 ft³/s, Jan. 16, 1993, gage height, 8.12 ft, from rating curve extended above 400 ft³/s on basis of step-backwater analysis; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.007	.029	5.74	3.40	2.67	.42	.19	.048	.021	.015	.001
MAX	.003	.050	.15	63.4	24.4	16.5	2.63	.95	.51	.23	.18	.006
(WY)	1988	1997	1993	1993	1993	1995	1998	1993	1993	1993	1993	1993
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1991	1992	1989	1989	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR				FOR 1999 WATER YEAR				WATER YEARS 1988 - 1999			
ANNUAL TOTAL	500.01											
ANNUAL MEAN	1.37								1.04			
HIGHEST ANNUAL MEAN									8.27			
LOWEST ANNUAL MEAN									.000			
HIGHEST DAILY MEAN	90				Feb 24				900			
LOWEST DAILY MEAN	.00				Jan 1				.00			
ANNUAL SEVEN-DAY MINIMUM	.00				Jan 1				.00			
INSTANTANEOUS PEAK FLOW									3120			
INSTANTANEOUS PEAK STAGE									8.12			
ANNUAL RUNOFF (AC-FT)	992								751			
10 PERCENT EXCEEDS	2.9								.33			
50 PERCENT EXCEEDS	.00								.00			
90 PERCENT EXCEEDS	.00								.00			

11042700 MURRIETA CREEK AT TENAJA ROAD, NEAR MURRIETA, CA

LOCATION.—Lat 33°33'20", long 117°13'50", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank, at Tenaja Road crossing, and 1.0 mi northwest of Murrieta.

DRAINAGE AREA.—30.0 mi².

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and concrete road crossing. Elevation of gage is 1,105 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,390 ft³/s, Feb. 23, 1998, gage height, 10.35 ft, from rating curve extended above 304 ft³/s; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	1.71	1.44	48.7	6.69	4.48	4.70	.17	.000	.000	.000
MAX	.000	.000	3.42	2.87	97.5	13.4	8.95	9.40	.33	.000	.000	.000
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1998	1998	1999	1999	1999	1999	1999	1999	1999	1998	1998	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1998 - 1999
ANNUAL TOTAL	3803.10		
ANNUAL MEAN	10.4		5.35
HIGHEST ANNUAL MEAN			10.7 1998
LOWEST ANNUAL MEAN			.000 1999
HIGHEST DAILY MEAN	530 Feb 23		530 Feb 23 1998
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1997
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1997
INSTANTANEOUS PEAK FLOW			3390 Feb 23 1998
INSTANTANEOUS PEAK STAGE			10.35 Feb 23 1998
ANNUAL RUNOFF (AC-FT)	7540		3880
10 PERCENT EXCEEDS	19	.00	8.4
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

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 mouth, and 2.8 mi southeast of Murrieta.

DRAINAGE AREA.—55.4 mi².

PERIOD OF RECORD.—October 1987 to Nov. 4, 1991, June 11, 1992, to current year.

GAGE.—Water-stage recorder. Elevation of gage is 1,040 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Rancho California Water District can discharge into creek from automated pump, approximately 0.1 mi upstream from station. Beginning in water year 1999, flows partly regulated by East Side Reservoir, capacity, 800,000 acre-ft. East Side Reservoir is used to store imported water. Construction of Eastside Reservoir, beginning in 1996, permanently rerouted 2.4 mi² of drainage area in Goodhart Canyon out of the Warm Springs Creek Basin and into the Santa Ana River Basin. Compensatory releases to Warm Springs Creek from East Side Reservoir may occur at times. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,570 ft³/s, Jan. 17, 1993, gage height, 8.59 ft, from rating curve extended above 2,190 ft³/s; no flow for many days each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or 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)
Apr. 7	1400	44	4.34				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.09	.00	.00	.00	.37	.00	.00	.00	.07	.00
2	.00	.00	.00	.00	.00	.00	.06	.00	.44	.00	.00	.00
3	.00	.00	.02	.00	.01	.00	.01	3.0	.00	.00	.00	.00
4	.00	.00	1.2	.00	2.4	.00	.00	.00	.14	.12	.00	.00
5	.00	.00	2.7	.07	.16	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	e2.5	.38	.00	.00	4.6	.20	.00	.00	.00	.00
7	.00	.00	e1.5	.20	.11	.00	13	.00	.11	.00	.00	.00
8	.00	.07	e1.0	.04	.01	.00	.11	.06	.00	.80	.00	.00
9	.00	.00	e.80	.00	.03	.00	.09	.00	.00	.00	.00	.00
10	.40	.00	e.50	.00	.00	.00	.00	.00	.25	.00	.00	.00
11	.00	.01	e.30	.00	.00	.00	.14	.00	.00	.00	.00	.00
12	.00	.00	e.20	.00	.00	.01	9.4	.00	.00	.12	.00	.00
13	.00	.00	e.25	.15	.00	.00	.92	.00	.00	.00	.00	.01
14	.00	.11	e.40	.00	.00	.00	.50	.00	.00	.00	4.6	.00
15	.00	.01	e2.5	.02	.00	.02	.37	.03	.00	.00	8.0	.00
16	.00	.00	1.1	.00	.00	.00	.14	.26	.06	.00	.04	.00
17	.00	.00	.94	.00	.02	.00	1.5	.00	.00	.00	.00	.00
18	.00	.00	.80	.00	.00	.00	11	.00	.00	.00	.02	.00
19	.00	.00	.92	.00	.00	.00	6.0	.00	.00	.00	.00	.00
20	.00	.00	.01	.00	.00	.00	.03	.00	.00	.00	.00	.00
21	.00	.00	.50	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	1.1	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	1.3	.00	.13	.00	.00	.00	.06	.00	.00	.00
24	.00	.00	.87	.00	.35	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.01	.00	.02	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	3.3	.00	.00	2.2	.00	.09	.00	.00	.00
27	.00	.17	.00	3.6	.00	.00	.07	.00	.00	.00	.00	.00
28	.00	1.8	.00	.04	.00	.00	.00	.00	.00	.00	.00	.04
29	.00	.80	.02	.00	---	.00	1.6	.00	.00	.00	.00	.00
30	.00	.94	.01	.00	---	.00	.04	.00	.00	.00	.00	.00
31	.00	---	.00	.01	---	.17	---	.00	---	.00	.00	---
TOTAL	0.40	3.91	21.54	7.81	3.24	0.20	52.15	3.55	1.15	1.04	12.73	0.05
MEAN	.013	.13	.69	.25	.12	.006	1.74	.11	.038	.034	.41	.002
MAX	.40	1.8	2.7	3.6	2.4	.17	13	3.0	.44	.80	8.0	.04
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.8	7.8	43	15	6.4	.4	103	7.0	2.3	2.1	25	.1

e Estimated.

11042800 WARM SPRINGS CREEK NEAR MURRIETA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.074	.14	.62	23.6	21.2	12.1	.98	.47	.27	.067	.034	.008
MAX	.46	.68	2.27	226	116	74.0	6.19	2.99	2.93	.71	.41	.091
(WY)	1993	1997	1993	1993	1998	1991	1998	1998	1998	1998	1999	1997
MIN	.000	.000	.000	.036	.004	.000	.000	.000	.000	.000	.000	.000
(WY)	1989	1989	1990	1994	1989	1988	1989	1989	1988	1989	1988	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1988 - 1999	
ANNUAL TOTAL	4129.37		107.77			
ANNUAL MEAN	11.3		.30		4.89	
HIGHEST ANNUAL MEAN					27.6	
LOWEST ANNUAL MEAN					.063	
HIGHEST DAILY MEAN	1120	Feb 24	13	Apr 7	2070	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 20	.00	Oct 1	.00	Oct 1 1987
INSTANTANEOUS PEAK FLOW			44		5570	
INSTANTANEOUS PEAK STAGE			4.34		8.59	
ANNUAL RUNOFF (AC-FT)	8190		214		3550	
10 PERCENT EXCEEDS	12		.46		1.4	
50 PERCENT EXCEEDS	.01		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11042900 SANTA GERTRUDIS CREEK NEAR TEMECULA, CA

LOCATION.—Lat 33°31'28", long 117°09'50", in Temecula Grant, Riverside County, Hydrologic Unit 18070302, on left bank, 0.85 mi upstream from Murrieta Creek, 1.65 mi downstream from Tualota Creek, and 2.2 mi northeast of Temecula.

DRAINAGE AREA.—90.2 mi².

PERIOD OF RECORD.—October 1987 to current year. Discharge measurements only, October 1991 to September 1992.

REVISED RECORDS.—WDR CA-94-1: Drainage area. WDR CA-96-1: 1993(M).

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 1,045 ft above sea level, from topographic map. Prior to Oct. 11, 1994, at site 800 ft upstream at different datum.

REMARKS.—Records fair. Flow partly regulated by Skinner Reservoir, capacity, 43,800 acre-ft. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,200 ft³/s, estimated, Jan. 16, 1993, gage height, 8.47 ft, site and datum then in use, based on critical depth computation; no flow for most of each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	7.0	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	1.4	.00	2.3	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.54	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	21	.00	.35	.00	.00	.00	.00	.00
5	.00	.00	1.5	.00	12	.00	.00	4.5	.00	.00	.00	.00
6	.00	.00	8.7	.00	4.1	.00	.41	17	.00	.00	.00	.00
7	.00	.00	2.2	.00	.00	.00	37	11	.00	.00	.00	.00
8	.00	.78	.00	.00	.00	.00	10	.00	.00	12	.00	.00
9	.00	.00	.00	.00	3.1	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	e.00	.00	.84	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	e.00	.00	.00	.00	1.7	.00	.00	.00	.00	.00
12	.00	.00	e.00	.00	.00	.00	68	.00	.00	.00	.00	.00
13	.00	.00	e.00	.00	.00	.00	13	.00	.00	.00	.00	.00
14	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	e.00	.00	.00	1.9	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.26	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.12	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	2.2	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	19	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	15	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	10	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	4.6	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	36.78	12.78	40.80	41.04	1.90	139.40	32.50	2.30	12.00	0.00	0.00
MEAN	.000	1.23	.41	1.32	1.47	.061	4.65	1.05	.077	.39	.000	.000
MAX	.00	26	8.7	19	21	1.9	68	17	2.3	12	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	73	25	81	81	3.8	276	64	4.6	24	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.020	.40	.87	15.7	15.3	13.0	7.17	3.41	.013	.042	.000	.063
MAX	.12	1.94	4.93	108	77.8	50.7	46.7	28.3	.077	.39	.000	.67
(WY)	1994	1997	1998	1993	1998	1995	1993	1993	1999	1999	1988	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1990	1991	1988	1988	1989	1988	1988	1988	1988	1988

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1988 - 1999

ANNUAL TOTAL	3354.01	319.50	
ANNUAL MEAN	9.19	.88	4.62
HIGHEST ANNUAL MEAN			23.2
LOWEST ANNUAL MEAN			.006
HIGHEST DAILY MEAN	664	Feb 24	68
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Apr 16	.00
INSTANTANEOUS PEAK FLOW			182
INSTANTANEOUS PEAK STAGE			2.45
ANNUAL RUNOFF (AC-FT)	6650	634	3340
10 PERCENT EXCEEDS	19	.00	5.8
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

e Estimated.

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 Tualota Creek.

DRAINAGE AREA.—222 mi².

PERIOD OF RECORD.—October 1924 to current year. Prior to September 1930 monthly discharges only, published in WSP 1315-B.

REVISED RECORDS.—WSP 1345: 1952. WSP 1635: 1932, 1937. WSP 1928: Drainage area. WDR CA-93-1: 1991 (P), 1992 (M).

GAGE.—Water-stage recorder. Concrete control since Aug. 30, 1981. Elevation of gage is 970 ft above sea level, from topographic map. See WSP 1735 for history of changes prior to Dec. 16, 1938.

REMARKS.—Records poor. Flow partly regulated since 1974 by Skinner Reservoir, capacity, 43,800 acre-ft. Beginning in water year 1999, flows on Warm Springs Creek, a tributary to Murrieta Creek, are slightly regulated by East Side Reservoir, capacity, 800,000 acre-ft (see station 11042800). Pumping upstream from station for irrigation. Rancho California Water District can discharge into creek, approximately 0.1 mi upstream, to supplement low flow. Varying amounts of backwater caused by beaver dams at times during low-flow periods. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 25,000 ft³/s, Jan. 16, 1993, gage height, 17.24 ft, on basis of slope-area measurement of peak flow; no flow for many days 1989–93.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft³/s, or maximum, from rating curve extended above 6,430 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	1330	239	4.05	Feb. 4	1930	207	4.03

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	e.50	e2.7	.20	.95	e1.7	4.5	e1.9	2.9	e2.6	2.1	3.5
2	2.7	e.50	1.9	.20	1.6	e1.9	6.9	e1.7	5.0	2.1	2.0	3.6
3	2.7	e.50	2.1	.20	1.4	1.1	e3.4	e2.6	1.1	2.4	2.3	2.9
4	2.7	e.50	3.6	e.21	30	1.1	e7.4	e3.9	1.2	2.3	1.9	2.7
5	2.7	e.50	10	.20	e9.0	1.1	e3.1	e8.1	1.4	2.0	2.6	2.4
6	2.8	e.60	15	.20	3.4	1.2	e2.7	8.0	1.4	2.0	3.0	2.6
7	3.0	e.60	5.1	.21	3.0	1.7	e42	7.6	1.7	2.1	2.9	3.0
8	3.1	6.5	4.1	.21	1.8	2.1	e7.6	3.6	1.9	7.8	3.3	2.5
9	3.3	1.7	4.1	.25	1.9	e1.8	e5.0	3.1	2.1	2.0	3.3	3.3
10	e3.3	.33	3.3	.29	e5.0	e2.0	e2.6	e2.4	2.2	.94	2.7	3.5
11	e3.2	.30	e3.2	.33	2.2	e1.8	e2.0	e2.2	2.2	1.3	3.3	3.6
12	e3.2	.71	e2.3	.33	1.9	e2.5	e61	e3.0	2.2	1.9	3.8	3.7
13	e2.7	.23	e1.6	.33	1.7	e1.7	e14	4.6	2.2	2.6	3.3	2.9
14	2.5	.45	e1.4	.36	1.5	e2.0	e5.5	5.9	2.2	2.2	e2.5	2.5
15	2.9	.62	e1.0	.43	1.1	7.3	e3.5	5.5	2.4	2.4	e2.1	2.1
16	2.9	.69	e1.0	.43	1.0	1.2	e2.1	5.5	2.5	2.5	4.9	2.4
17	2.9	1.1	e1.0	.53	.94	1.7	e1.8	4.4	2.9	2.1	3.2	2.6
18	e2.5	1.1	1.0	.56	1.2	e2.0	e1.0	3.7	2.4	2.1	1.9	2.8
19	e2.6	.90	1.3	.56	1.1	e1.9	e3.8	3.1	2.4	2.5	2.5	2.3
20	e2.5	.89	4.7	.90	1.1	e4.5	e3.9	2.9	2.4	2.8	2.7	1.6
21	2.5	1.1	1.4	.96	1.2	e4.2	e2.1	2.9	2.0	2.5	2.1	1.7
22	2.2	1.2	.21	e.90	1.4	e6.7	e2.7	2.9	1.4	2.6	1.9	1.7
23	2.8	.98	.21	e.90	1.5	e5.0	e1.7	3.0	1.4	2.7	2.1	2.0
24	2.9	.92	.21	e1.2	2.0	3.8	e2.6	3.0	1.4	2.8	2.6	2.1
25	2.9	1.1	.21	13	3.0	4.5	e1.7	3.0	e1.1	3.4	3.0	2.2
26	3.0	.83	.21	39	e2.0	6.1	e1.4	2.9	e1.2	2.9	2.9	2.2
27	2.2	.60	.21	9.8	e1.9	5.4	e1.6	2.9	e1.2	2.4	3.3	2.3
28	e.50	51	.21	3.8	e1.5	4.7	e1.5	2.9	e1.3	2.5	3.2	2.3
29	e.50	30	.20	1.4	---	4.1	e1.4	2.9	e1.2	1.6	2.3	2.2
30	e.60	3.9	.20	1.1	---	3.8	e1.6	2.9	e2.0	1.9	2.2	1.6
31	e.60	---	.20	6.3	---	3.0	---	3.0	---	2.2	3.1	---
TOTAL	77.60	110.85	73.87	85.29	86.29	93.6	202.1	116.0	58.9	76.14	85.0	76.8
MEAN	2.50	3.69	2.38	2.75	3.08	3.02	6.74	3.74	1.96	2.46	2.74	2.56
MAX	3.3	51	15	39	30	7.3	61	8.1	5.0	7.8	4.9	3.7
MIN	.50	.23	.20	.20	.94	1.1	1.0	1.7	1.1	.94	1.9	1.6
AC-FT	154	220	147	169	171	186	401	230	117	151	169	152

e Estimated.

11043000 MURRIETA CREEK AT TEMECULA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1973, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	2.57	7.27	18.2	36.5	32.0	7.85	.92	.55	.41	.40	.65
MAX	1.87	47.3	63.2	289	604	479	167	9.65	1.73	1.20	1.23	9.40
(WY)	1969	1966	1941	1943	1969	1938	1958	1941	1941	1941	1941	1939
MIN	.10	.055	.11	.078	.20	.21	.18	.20	.13	.10	.092	.12
(WY)	1971	1970	1970	1970	1968	1965	1970	1968	1970	1970	1969	1970

SUMMARY STATISTICS

WATER YEARS 1931 - 1973

ANNUAL TOTAL	
ANNUAL MEAN	8.86
HIGHEST ANNUAL MEAN	56.9 1969
LOWEST ANNUAL MEAN	.39 1964
HIGHEST DAILY MEAN	7200 Mar 2 1938
LOWEST DAILY MEAN	.02 Jun 10 1969
ANNUAL SEVEN-DAY MINIMUM	.03 Nov 16 1969
INSTANTANEOUS PEAK FLOW	17500 Jan 23 1943
INSTANTANEOUS PEAK STAGE	13.80 Jan 23 1943
ANNUAL RUNOFF (AC-FT)	6420
10 PERCENT EXCEEDS	2.9
50 PERCENT EXCEEDS	.60
90 PERCENT EXCEEDS	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.45	1.77	3.98	66.6	98.4	68.0	11.1	5.56	1.54	1.25	1.31	2.01
MAX	3.28	11.1	28.6	818	838	420	85.4	44.2	4.96	2.48	3.05	10.6
(WY)	1988	1997	1998	1993	1980	1978	1980	1980	1978	1985	1985	1976
MIN	.18	.000	.000	.39	.55	.093	.073	.19	.13	.13	.15	.17
(WY)	1994	1990	1990	1975	1977	1990	1989	1988	1994	1994	1993	1977

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	20636.32	1142.44	
ANNUAL MEAN	56.5	3.13	21.5
HIGHEST ANNUAL MEAN			121 1993
LOWEST ANNUAL MEAN			1.02 1977
HIGHEST DAILY MEAN	4000 Feb 24	61 Apr 12	7790 Jan 16 1993
LOWEST DAILY MEAN	.07 May 29	.20 Dec 29	.00 Dec 11 1976
ANNUAL SEVEN-DAY MINIMUM	.21 Dec 25	.20 Dec 28	.00 Nov 28 1988
INSTANTANEOUS PEAK FLOW		239 Jan 26	25000 Jan 16 1993
INSTANTANEOUS PEAK STAGE		4.05 Jan 26	17.24 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	40930	2270	15600
10 PERCENT EXCEEDS	62	4.7	9.0
50 PERCENT EXCEEDS	2.7	2.2	.98
90 PERCENT EXCEEDS	.51	.50	.14

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 mi².

PERIOD OF RECORD.—January 1923 to current year. Prior to October 1952, published as Temecula Creek at Railroad Canyon, near Temecula.

REVISED RECORDS.—WSP 981: 1927(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Concrete control since Nov. 3, 1966; buried by sand Nov. 19, 1985, uncovered by high flow in March 1991. Elevation of gage is 950 ft above sea level, from topographic map. Prior to Nov. 3, 1966, at site 100 ft downstream at same datum.

REMARKS.—Records good. Flow partly regulated since November 1948 by Vail Lake (station 11042510) on Temecula Creek, and since 1974 by Skinner Reservoir. Rancho California Water District can discharge into Murrieta Creek, approximately 1.0 mi upstream, to supplement low flow. Beginning in water year 1999, flows on Warm Springs Creek, a tributary to Murrieta Creek, are slightly regulated by East Side Reservoir, capacity, 800,00 acre-ft (see station 11042800). See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 31,000 ft³/s, Jan. 16, 1993, gage height, 22.5 ft, from rating curve extended above 4,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily, 0.16 ft³/s, Mar. 31, Apr. 1, 11, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	1.2	3.8	1.3	4.1	2.5	28	2.5	4.7	3.2	4.2	4.0
2	3.7	1.2	3.1	1.2	3.2	2.4	20	2.3	11	2.8	3.5	4.2
3	3.8	1.2	2.5	1.2	2.6	1.6	4.6	3.3	5.1	3.5	3.4	3.2
4	3.8	1.2	2.7	1.1	55	1.6	9.3	4.6	4.4	3.5	2.7	2.6
5	3.7	1.2	14	1.1	29	1.7	4.1	9.9	4.5	3.5	3.0	2.6
6	3.7	1.2	40	1.2	8.2	2.0	3.6	10	4.4	2.8	3.6	2.6
7	3.6	1.2	8.1	1.1	4.4	2.8	82	11	4.9	2.9	3.8	2.7
8	3.7	10	5.6	1.2	5.5	2.5	18	4.1	5.8	21	4.3	3.4
9	3.6	4.9	5.3	1.2	4.9	2.1	6.4	3.6	6.1	9.7	3.9	3.7
10	3.7	1.6	3.8	1.2	12	2.9	3.4	2.8	6.5	3.4	3.0	3.7
11	3.7	1.7	3.6	1.2	3.1	2.1	2.7	2.8	6.1	3.3	3.4	3.7
12	3.7	2.6	2.8	1.2	2.9	3.2	75	3.7	6.0	3.2	4.2	3.8
13	3.1	1.6	2.0	1.1	2.9	2.6	17	5.5	6.0	4.8	3.6	3.3
14	3.1	1.4	1.8	1.1	2.5	2.3	6.1	6.5	6.0	3.3	2.7	3.0
15	3.1	1.4	1.3	1.1	3.0	13	4.2	6.5	5.8	3.0	2.4	3.0
16	3.1	1.3	1.4	1.1	3.2	5.1	2.9	6.6	5.8	3.0	5.9	3.0
17	3.0	1.4	1.4	1.2	3.0	2.6	2.3	5.3	5.9	3.0	3.3	3.0
18	3.0	1.4	1.4	1.1	3.4	3.0	1.9	4.4	5.6	3.0	2.2	3.1
19	3.1	1.3	1.8	1.2	3.1	3.0	6.2	4.4	5.1	3.1	2.2	3.1
20	3.0	1.3	6.4	1.2	2.6	6.4	4.8	4.8	4.9	3.2	2.6	3.1
21	3.1	1.3	2.8	1.2	2.7	5.9	2.8	4.5	3.9	3.0	2.1	3.2
22	3.1	1.8	1.9	1.3	2.8	7.2	3.5	4.5	2.4	3.0	2.0	3.3
23	3.1	2.7	1.3	1.4	2.6	6.5	2.3	4.4	2.4	3.0	2.4	3.2
24	3.1	2.8	1.5	1.8	3.0	6.3	3.5	4.4	1.9	2.8	2.8	3.2
25	3.1	1.7	1.7	17	3.6	7.0	2.5	4.5	1.5	3.3	3.4	3.2
26	3.1	1.6	1.7	74	2.7	7.3	2.4	4.7	1.7	3.5	3.5	3.2
27	2.6	1.4	1.3	60	2.8	6.4	2.8	4.6	1.8	3.8	3.7	3.2
28	1.2	69	1.2	8.2	2.4	6.1	2.2	4.7	1.9	4.3	3.9	3.2
29	1.2	43	1.2	4.9	---	5.1	2.2	4.6	1.8	3.9	3.4	3.2
30	1.2	4.9	1.3	3.9	---	3.8	2.8	4.7	2.5	4.1	3.0	3.1
31	1.2	---	1.3	7.5	---	5.1	---	4.5	---	4.1	3.4	---
TOTAL	94.9	170.5	130.0	204.5	181.2	132.1	329.5	154.7	136.4	128.0	101.5	96.8
MEAN	3.06	5.68	4.19	6.60	6.47	4.26	11.0	4.99	4.55	4.13	3.27	3.23
MAX	3.8	69	40	74	55	13	82	11	11	21	5.9	4.2
MIN	1.2	1.2	1.2	1.1	2.4	1.6	1.9	2.3	1.5	2.8	2.0	2.6
AC-FT	188	338	258	406	359	262	654	307	271	254	201	192

11044000 SANTA MARGARITA RIVER NEAR TEMECULA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1948, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.04	10.4	21.4	32.6	114	90.3	26.7	10.2	7.01	5.41	5.01	5.93
MAX	11.8	39.3	99.9	369	1205	1007	226	40.2	15.1	9.90	9.65	19.4
(WY)	1942	1945	1941	1943	1927	1938	1941	1941	1941	1941	1941	1939
MIN	3.77	3.11	4.97	8.03	7.59	5.90	4.19	3.62	3.12	1.55	1.90	2.31
(WY)	1925	1930	1930	1936	1925	1931	1928	1929	1929	1929	1926	1926

SUMMARY STATISTICS

WATER YEARS 1923 - 1948

ANNUAL MEAN	28.2
HIGHEST ANNUAL MEAN	101 1927
LOWEST ANNUAL MEAN	6.22 1925
HIGHEST DAILY MEAN	19900 Feb 16 1927
LOWEST DAILY MEAN	.90 Aug 9 1929
ANNUAL SEVEN-DAY MINIMUM	.99 Aug 8 1929
INSTANTANEOUS PEAK FLOW	25000 Feb 16 1927
INSTANTANEOUS PEAK STAGE	14.60 Feb 16 1927
ANNUAL RUNOFF (AC-FT)	20390
10 PERCENT EXCEEDS	21
50 PERCENT EXCEEDS	8.5
90 PERCENT EXCEEDS	3.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1973, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.39	6.24	8.90	21.8	36.7	18.6	12.4	3.97	3.35	2.79	3.01	3.06
MAX	6.04	53.3	41.4	251	638	212	177	6.70	5.59	4.69	6.38	6.55
(WY)	1954	1966	1966	1952	1969	1952	1958	1949	1949	1949	1953	1953
MIN	2.05	2.22	2.69	2.73	2.54	2.57	2.35	2.39	2.19	1.51	1.28	1.45
(WY)	1967	1967	1965	1965	1965	1965	1972	1970	1973	1972	1972	1970

SUMMARY STATISTICS

WATER YEARS 1949 - 1973

ANNUAL MEAN	10.2
HIGHEST ANNUAL MEAN	62.5 1969
LOWEST ANNUAL MEAN	2.96 1964
HIGHEST DAILY MEAN	7730 Feb 25 1969
LOWEST DAILY MEAN	.30 Aug 18 1966
ANNUAL SEVEN-DAY MINIMUM	.67 Aug 17 1966
INSTANTANEOUS PEAK FLOW	14600 Feb 25 1969
INSTANTANEOUS PEAK STAGE	15.32 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	7390
10 PERCENT EXCEEDS	7.3
50 PERCENT EXCEEDS	3.7
90 PERCENT EXCEEDS	2.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.06	4.60	6.65	91.3	127	87.4	15.0	8.61	3.27	2.55	2.69	3.34
MAX	10.8	32.8	32.4	1255	1105	438	85.6	46.6	6.87	4.55	9.99	13.9
(WY)	1994	1986	1998	1993	1980	1978	1980	1980	1978	1980	1993	1976
MIN	1.25	.27	.51	2.35	1.84	.36	.32	.58	.72	.58	.91	1.33
(WY)	1982	1989	1990	1976	1989	1988	1989	1988	1984	1984	1984	1987

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	23413.9	1860.1	
ANNUAL MEAN	64.1	5.10	29.2
HIGHEST ANNUAL MEAN			183 1993
LOWEST ANNUAL MEAN			2.17 1987
HIGHEST DAILY MEAN	4200 Feb 24	82 Apr 7	13000 Jan 16 1993
LOWEST DAILY MEAN	1.2 Oct 28	1.1 Jan 4	.16 Mar 31 1988
ANNUAL SEVEN-DAY MINIMUM	1.2 Oct 28	1.1 Jan 12	.18 Mar 31 1988
INSTANTANEOUS PEAK FLOW		353 Jan 26	31000 Jan 16 1993
INSTANTANEOUS PEAK STAGE		3.18 Jan 26	22.50 Jan 16 1993
ANNUAL RUNOFF (AC-FT)	46440	3690	21120
10 PERCENT EXCEEDS	73	6.5	14
50 PERCENT EXCEEDS	3.8	3.1	2.6
90 PERCENT EXCEEDS	1.5	1.3	1.1

11044250 RAINBOW CREEK NEAR FALLBROOK, CA

LOCATION.—Lat 33°24'27", long 117°12'00", NW 1/4 SE 1/4 sec.9, T.9 S., R.3 W., San Diego County, Hydrologic Unit 18070302, on left bank, 1.0 mi upstream from the confluence with Santa Margarita River, and 3.4 mi northeast of Fallbrook.

DRAINAGE AREA.—10.3 mi².

PERIOD OF RECORD.—November 1989 to current year.

REVISED RECORDS.—WDR CA-91-1: 1990(M).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 540 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation upstream from station. Undetermined amount of water upstream from station used for irrigation by a local nursery. Water is imported for domestic use and irrigation. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,000 ft³/s (estimated), Jan. 16, 1993, gage height, unknown, on basis of slope-area measurement of peak flow; maximum recorded gage height, 8.35 ft, Feb. 23, 1998; minimum daily, 0.04 ft³/s, July 23, 24, July 27 to Aug. 1, and Aug. 3, 1996.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 712 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	1430	101	4.13				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.60	.90	.97	1.1	.51	6.3	.63	.28	.10	.10	.14
2	.61	.53	.89	.73	.72	.42	3.6	.70	1.2	.10	.09	.33
3	.77	.84	.82	.58	.48	.42	1.2	.63	.47	.14	.08	.39
4	1.2	.50	.63	.43	8.5	1.9	1.1	.54	.39	.13	.08	.21
5	.56	.47	2.2	.45	6.3	1.0	.66	.49	.35	.12	.10	.25
6	.35	.48	8.5	.57	2.2	.92	.62	.46	.30	.09	.12	.20
7	.54	.47	.88	.40	1.4	.97	8.1	.39	.27	.10	.12	.17
8	.43	7.1	.60	.38	1.2	.65	1.8	.47	.23	1.7	.12	.15
9	.61	1.7	.46	1.0	1.4	.61	1.2	.54	.22	.30	.12	.17
10	.48	.77	.68	1.0	2.4	.48	.99	.48	.23	.16	.11	.18
11	.80	.78	.88	1.0	.56	.89	.98	.46	.23	.14	.12	.16
12	.60	.71	.86	1.6	.48	.85	14	.39	.21	.11	.12	.14
13	.53	.53	.56	1.3	.44	.61	1.7	.39	.18	.09	.11	.13
14	.48	.41	1.0	1.4	1.4	.56	1.3	.36	.18	.08	.11	.12
15	.45	.43	.62	1.4	.45	1.8	.94	.35	.17	.08	.12	.13
16	.44	.45	.68	1.3	1.1	.91	.67	.33	.17	.08	.10	.14
17	.38	.45	.63	1.7	.46	.61	.57	.31	.16	.08	.09	.18
18	.34	.52	1.0	1.7	.62	.66	.53	.29	.15	.12	.09	.21
19	.35	.36	2.2	1.8	.61	.58	.76	.30	.16	.14	.12	.19
20	.36	.32	3.6	4.9	.61	.58	.83	.31	.16	.12	.20	.15
21	.37	.32	1.6	6.2	.73	.57	1.1	.31	.16	.10	.37	.14
22	.38	.33	1.2	2.6	.48	.53	1.2	.31	.15	.09	.20	.12
23	.34	.33	2.3	2.3	.51	.39	1.0	.28	.15	.08	.15	.13
24	.34	.34	1.1	1.7	.45	.48	1.3	.27	.14	.08	.15	.13
25	.38	.34	.91	13	.50	.95	.76	.29	.14	.08	.14	.13
26	.40	.33	.81	17	.66	.83	.63	.29	.13	.09	.13	.14
27	.49	.36	.82	10	.52	.50	.72	.29	.14	.09	.12	.14
28	.54	11	.77	1.8	.61	.61	.67	.27	.14	.09	.11	.13
29	.51	5.5	.81	1.2	---	.51	.57	.30	.13	.10	.10	.09
30	.67	1.1	.78	.86	---	.35	.57	.30	.13	.10	.11	.08
31	.92	---	.84	2.4	---	.38	---	.31	---	.11	.13	---
TOTAL	16.22	38.37	40.53	83.67	36.89	22.03	56.37	12.04	7.12	4.99	3.93	4.97
MEAN	.52	1.28	1.31	2.70	1.32	.71	1.88	.39	.24	.16	.13	.17
MAX	1.2	.11	8.5	17	8.5	1.9	14	.70	1.2	1.7	.37	.39
MIN	.34	.32	.46	.38	.44	.35	.53	.27	.13	.08	.08	.08
AC-FT	32	76	80	166	73	44	112	24	14	9.9	7.8	9.9

11044250 RAINBOW CREEK NEAR FALLBROOK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.55	.97	1.24	15.5	15.5	11.5	3.31	1.49	.79	.41	.36	.49
MAX	.95	3.40	2.72	97.3	58.9	55.4	9.20	5.73	2.07	.90	.75	1.25
(WY)	1998	1997	1997	1993	1998	1995	1998	1998	1998	1990	1995	1995
MIN	.34	.26	.46	.65	1.32	.71	.63	.24	.15	.066	.066	.13
(WY)	1997	1993	1991	1991	1999	1999	1997	1996	1997	1996	1997	1996

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1990 - 1999	
ANNUAL TOTAL	2806.21		327.13			
ANNUAL MEAN	7.69		.90		4.63	
HIGHEST ANNUAL MEAN					14.4	
LOWEST ANNUAL MEAN					.90	
HIGHEST DAILY MEAN	333	Feb 24	17	Jan 26	800	Jan 16 1993
LOWEST DAILY MEAN	.20	Aug 31	.08	Jul 14	.04	Jul 23 1996
ANNUAL SEVEN-DAY MINIMUM	.24	Aug 25	.09	Jul 22	.04	Jul 26 1996
INSTANTANEOUS PEAK FLOW			101		8000	
INSTANTANEOUS PEAK STAGE			4.13		8.35	
ANNUAL RUNOFF (AC-FT)	5570		649		3360	
10 PERCENT EXCEEDS	14		1.6		6.0	
50 PERCENT EXCEEDS	1.0		.46		.66	
90 PERCENT EXCEEDS	.35		.11		.17	

11044300 SANTA MARGARITA RIVER AT FALLBROOK PUBLIC UTILITY DISTRICT SUMP, NEAR FALLBROOK, CA

LOCATION.—Lat 33°24'49", long 117°14'25", in NW 1/4 NW 1/4 sec.7, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank, 0.3 mi upstream from confluence with Sandia Creek, and 2.9 mi north of Fallbrook.

DRAINAGE AREA.—620 mi².

PERIOD OF RECORD.—October 1989 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 330 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Flow partly regulated since November 1948 by Vail Lake (station 11042510) and since 1974 by Skinner Reservoir. Flow in Warm Springs Creek, a tributary to Murrieta Creek, slightly regulated beginning in water year 1999 by East Side Reservoir, capacity, 800,000 acre-ft (see station 11042800). See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 34,000 ft³/s, estimated, based on regression equation and flood routing of upstream flows, Jan. 16, 1993, gage height, 15.89 ft; no flow several days in 1990.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	4.4	8.9	5.4	14	6.4	14	7.9	6.5	3.6	5.7	4.9
2	7.0	4.4	7.8	5.2	9.2	6.3	46	6.6	10	4.7	5.2	5.5
3	7.3	4.5	6.8	5.1	8.3	6.4	19	5.6	17	4.3	4.3	7.2
4	8.1	4.1	6.3	4.8	12	7.0	16	6.0	5.5	5.1	3.4	6.0
5	7.2	4.4	8.3	4.7	47	6.2	15	8.3	4.5	6.0	3.9	5.2
6	6.5	4.8	31	4.8	20	5.8	11	14	4.6	4.6	3.4	4.9
7	6.0	5.3	24	4.7	13	6.9	41	13	4.3	3.8	4.2	4.1
8	6.1	21	12	4.8	9.9	7.7	40	15	4.2	7.2	4.9	3.7
9	6.7	31	8.6	4.7	11	7.0	16	7.0	5.3	30	5.0	4.3
10	7.2	19	8.1	5.0	16	6.5	12	5.5	5.6	15	4.9	5.2
11	6.7	11	6.9	5.0	12	8.1	9.5	5.0	7.5	8.3	4.4	5.4
12	7.1	9.2	7.1	5.2	7.9	7.9	49	4.2	6.7	6.0	3.6	5.3
13	7.7	9.1	6.4	7.9	7.9	8.2	31	5.4	6.1	5.5	3.8	4.1
14	6.3	7.7	5.6	5.5	8.4	7.6	17	8.1	6.4	6.0	4.6	4.0
15	6.3	8.7	5.2	5.1	7.4	9.2	10	9.4	6.3	5.7	4.5	3.8
16	6.3	8.6	4.3	5.4	8.5	18	7.7	9.0	6.4	4.9	3.1	4.0
17	6.1	8.6	4.1	5.5	8.1	10	6.2	8.9	8.0	5.0	4.6	4.6
18	5.7	8.9	4.3	5.3	8.0	7.1	6.2	6.3	9.7	5.1	4.2	5.5
19	5.9	6.9	5.3	4.8	8.0	8.0	5.3	4.9	10	5.4	3.5	6.0
20	5.5	7.0	8.0	6.0	7.9	7.4	9.7	4.7	8.9	5.2	2.9	4.4
21	5.5	6.7	10	9.1	7.4	11	8.7	5.0	9.2	5.1	3.9	3.6
22	5.9	6.3	6.8	6.5	7.3	9.9	7.7	5.3	9.5	4.9	4.3	3.6
23	5.6	6.3	6.6	7.2	6.9	11	8.8	5.3	5.7	4.1	3.2	3.9
24	5.4	6.2	5.4	5.7	6.4	10	7.4	5.0	4.7	4.4	3.0	4.0
25	5.9	6.8	5.1	12	6.8	11	8.2	5.3	4.7	4.9	3.2	4.3
26	6.6	7.1	5.5	e65	8.1	14	7.1	5.4	3.9	5.0	3.8	4.7
27	6.7	7.7	5.5	e80	7.2	13	6.0	6.7	3.5	5.4	4.9	4.5
28	9.7	21	5.2	21	7.0	11	7.1	6.3	4.1	5.9	4.5	4.0
29	17	68	4.9	13	---	11	6.5	6.1	4.7	6.1	5.4	3.3
30	5.3	16	5.0	10	---	10	6.6	6.8	3.9	5.6	5.8	2.7
31	4.6	---	5.2	11	---	9.4	---	7.0	---	5.6	4.7	---
TOTAL	210.7	340.7	244.2	345.4	301.6	279.0	455.7	219.0	197.4	198.4	130.8	136.7
MEAN	6.80	11.4	7.88	11.1	10.8	9.00	15.2	7.06	6.58	6.40	4.22	4.56
MAX	17	68	31	80	47	18	49	15	17	30	5.8	7.2
MIN	4.6	4.1	4.1	4.7	6.4	5.8	5.3	4.2	3.5	3.6	2.9	2.7
AC-FT	418	676	484	685	598	553	904	434	392	394	259	271

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.79	7.73	13.9	201	215	123	27.1	19.0	9.09	5.66	4.87	5.26
MAX	15.7	24.4	37.1	1462	860	490	70.4	58.3	25.1	11.4	10.1	9.03
(WY)	1994	1997	1998	1993	1993	1991	1993	1998	1993	1993	1993	1993
MIN	4.31	1.48	1.66	4.65	10.8	2.50	4.51	6.12	2.43	2.11	1.00	1.22
(WY)	1991	1992	1990	1991	1999	1990	1990	1997	1997	1990	1990	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR			FOR 1999 WATER YEAR			WATER YEARS 1990 - 1999		
ANNUAL TOTAL	31713.6			3059.6					
ANNUAL MEAN	86.9			8.38			52.4		
HIGHEST ANNUAL MEAN							220		
LOWEST ANNUAL MEAN							5.99		
HIGHEST DAILY MEAN	4800			Feb 24			80		
LOWEST DAILY MEAN	2.5			Sep 8			2.7		
ANNUAL SEVEN-DAY MINIMUM	3.0			Aug 25			3.4		
INSTANTANEOUS PEAK FLOW							194		
INSTANTANEOUS PEAK STAGE							2.60		
ANNUAL RUNOFF (AC-FT)	62900			6070			37940		
10 PERCENT EXCEEDS	107			13			50		
50 PERCENT EXCEEDS	8.6			6.3			6.6		
90 PERCENT EXCEEDS	3.6			4.2			2.5		

e Estimated.

11044350 SANDIA CREEK NEAR FALLBROOK, CA

LOCATION.—Lat 33°25'28", long 117°14'54", in SW 1/4 NE 1/4 sec.1, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank, 1.05 mi north of intersection of Sandia and Rock Mountain Roads, 0.8 mi upstream from mouth, and 3.8 mi north of Fallbrook.

DRAINAGE AREA.—21.1 mi².

PERIOD OF RECORD.—October 1989 to current year.

REVISED RECORDS.—WDR CA-91-1: 1990(M).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 380 ft above sea level, from topographic map. Prior to Sept. 30, 1993, at site 0.65 mi downstream at different datum.

REMARKS.—Records fair. No regulation or diversion upstream from station. Natural flow affected by pumping and return flow from irrigated areas. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,100 ft³/s, Jan. 16, 1993, gage height, 17.60 ft, site and datum then in use, from floodmarks (may have been affected by backwater from the Santa Margarita River); no flow for many days in summer of 1996.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 75 ft³/s, or maximum, from rating curve extended above 536 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 21	2230	69	2.65				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	2.7	4.6	3.3	3.4	2.9	5.3	3.0	1.6	1.2	.25	.44
2	3.1	3.0	4.7	3.0	3.1	3.0	6.1	2.8	2.4	1.1	.21	.70
3	3.1	3.1	4.6	2.5	5.1	2.9	3.5	3.1	2.0	.52	.10	.40
4	2.7	3.2	4.8	2.7	5.0	3.1	3.6	2.7	2.0	.68	.33	.24
5	2.7	3.1	5.3	2.8	6.6	3.2	3.7	2.8	1.9	1.3	.34	.32
6	2.5	3.4	6.5	2.9	6.0	2.7	4.4	2.5	1.9	1.5	.39	.39
7	2.2	2.8	5.2	2.9	4.8	2.7	9.9	2.1	1.8	.96	.39	.53
8	2.3	6.4	5.0	2.8	4.5	3.0	7.7	2.1	1.4	1.4	.17	.72
9	2.4	5.5	4.9	2.8	4.7	3.2	5.8	2.3	.92	.96	.15	.80
10	2.2	4.8	4.7	2.8	5.5	3.0	5.0	2.5	1.3	.32	.47	.63
11	2.3	4.8	4.6	2.8	4.4	3.2	5.7	2.6	1.9	.16	.91	.29
12	2.5	4.7	5.4	2.7	3.7	3.3	13	2.4	.66	.52	.68	.31
13	2.5	4.2	4.1	4.5	3.4	3.3	7.9	2.7	.62	.60	.57	.30
14	2.8	4.1	4.4	2.8	2.8	3.2	5.6	2.6	1.5	.56	.41	.25
15	3.0	4.1	4.4	2.7	3.0	3.9	5.1	2.1	1.8	.38	.44	.28
16	2.9	4.1	4.3	2.5	3.4	3.9	4.3	2.2	1.8	.26	.54	.34
17	2.2	4.0	4.8	2.6	3.4	3.6	3.7	2.1	1.4	.13	.73	.42
18	.77	4.1	3.8	2.9	3.6	3.6	3.0	1.9	1.1	.07	1.1	.51
19	1.0	3.6	3.8	2.9	3.6	3.4	3.0	2.0	.62	.33	1.0	.66
20	1.4	3.1	4.3	3.0	3.5	3.9	2.9	1.9	.60	1.2	.51	.88
21	3.7	2.9	4.3	3.1	3.4	5.6	3.1	1.8	1.3	.45	.27	1.6
22	4.0	3.1	4.6	3.0	3.4	7.6	3.2	1.8	1.5	.43	.20	1.7
23	2.5	3.1	5.0	2.8	3.1	6.6	3.1	1.9	1.3	.25	.26	1.7
24	2.5	3.4	5.1	2.8	3.0	5.2	3.3	1.8	1.3	.10	.70	1.4
25	2.5	3.5	5.6	3.7	2.9	3.3	3.1	1.8	1.5	.07	.36	.74
26	2.7	3.8	2.7	6.3	2.9	3.5	3.2	1.6	.46	.43	.15	.71
27	2.7	3.8	2.7	6.9	2.7	3.4	3.1	1.3	.32	.89	.22	1.8
28	3.0	5.8	2.7	4.1	2.9	2.8	2.8	1.5	.63	1.1	.17	2.0
29	3.1	5.9	2.7	3.0	---	3.0	3.1	1.4	1.1	.70	.13	1.5
30	3.2	4.9	2.8	3.0	---	3.3	3.2	1.6	1.0	.29	.38	.78
31	2.9	---	2.9	3.6	---	2.8	---	1.5	---	.23	.41	---
TOTAL	80.17	119.0	135.3	100.2	107.8	112.1	140.4	66.4	39.63	19.09	12.94	23.34
MEAN	2.59	3.97	4.36	3.23	3.85	3.62	4.68	2.14	1.32	.62	.42	.78
MAX	4.0	6.4	6.5	6.9	6.6	7.6	13	3.1	2.4	1.5	1.1	2.0
MIN	.77	2.7	2.7	2.5	2.7	2.7	2.8	1.3	.32	.07	.10	.24
AC-FT	159	236	268	199	214	222	278	132	79	38	26	46

11044350 SANDIA CREEK NEAR FALLBROOK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.44	2.33	3.64	37.5	34.8	26.4	11.5	6.80	4.28	2.08	1.18	1.05
MAX	2.59	3.97	8.12	237	128	79.8	28.0	18.3	9.49	5.40	2.73	3.21
(WY)	1999	1999	1997	1993	1993	1995	1995	1998	1998	1998	1998	1998
MIN	.53	1.34	1.88	2.77	3.85	3.62	3.73	2.14	1.02	.31	.030	.062
(WY)	1997	1992	1990	1991	1999	1999	1996	1999	1996	1996	1996	1996

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1990 - 1999	
ANNUAL TOTAL	6580.47		956.37			
ANNUAL MEAN	18.0		2.62		11.0	
HIGHEST ANNUAL MEAN					36.8	
LOWEST ANNUAL MEAN					2.62	
HIGHEST DAILY MEAN	589	Feb 23	13	Apr 12	2000	Jan 16 1993
LOWEST DAILY MEAN	.77	Oct 18	.07	Jul 18	.00	Jul 26 1996
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 27	.25	Jul 30	.00	Aug 14 1996
INSTANTANEOUS PEAK FLOW			69	Oct 21	5100	Jan 16 1993
INSTANTANEOUS PEAK STAGE			2.65	Oct 21	17.60	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	13050		1900		7950	
10 PERCENT EXCEEDS	32		4.8		18	
50 PERCENT EXCEEDS	5.9		2.8		2.8	
90 PERCENT EXCEEDS	2.7		.38		.57	

11044800 DE LUZ CREEK NEAR DE LUZ, CA

LOCATION.—Lat 33°25'11", long 117°19'15", in SW 1/4 SE 1/4 sec.5, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on left bank, 4.85 mi upstream from mouth, and 1.2 mi south of De Luz.

DRAINAGE AREA.—33.0 mi².

PERIOD OF RECORD.—October 1992 to current year.

GAGE.—Water-stage recorder, concrete control, and crest-stage gage. Elevation of gage is 270 ft above sea level, from topographic map. February 1951 to September 1965 and October 1989 to September 1991, at site 4.2 mi downstream (published as 11044900, De Luz Creek near Fallbrook).

REMARKS.—Records poor. No regulation or diversion upstream from station. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,700 ft³/s, Jan. 16, 1993, gage height, 15.13 ft, on basis of flow-over-road computation; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 385 ft³/s on basis of flow-over-road computation:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	unknown	unknown	unknown				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.70	e2.5	6.3	e2.4	e3.9	e2.5	e8.0	e2.1	e.90	.00	.00	.00
2	e.69	e2.0	4.6	e2.3	e3.7	e2.4	e5.6	e1.8	e1.9	.00	.00	.00
3	e.69	e1.7	2.2	e2.2	e3.6	e2.4	e6.2	e1.6	1.6	.00	.00	.00
4	e.69	1.6	2.4	e2.1	e6.3	e2.3	e5.7	1.8	1.6	.00	.00	.00
5	e.68	1.4	3.9	e2.0	e5.0	e2.4	e3.9	1.5	1.6	.00	.00	.00
6	e.68	1.3	8.7	e2.1	e4.3	e2.3	e3.0	.94	1.2	.00	.00	.00
7	e.68	1.2	4.5	e2.2	e4.0	e2.5	e7.0	1.0	.62	.00	.00	.00
8	e.70	7.0	4.1	e2.2	e3.7	e2.3	e5.0	1.4	.58	.00	.00	.00
9	e.72	2.8	4.2	e2.1	e3.6	e2.2	e4.4	1.7	.62	.00	.00	.00
10	e.74	2.9	3.0	e2.0	4.2	e2.4	e3.8	1.7	.54	.00	.00	.00
11	e.76	4.4	4.1	e2.0	3.7	e2.9	e3.5	1.5	.52	.00	.00	.00
12	e.78	4.3	2.8	e1.9	3.3	e2.8	e10	.98	.44	.00	.00	.00
13	e.80	4.2	2.5	e2.0	3.3	e2.5	e7.2	1.1	.42	.00	.00	.00
14	e.82	3.5	3.2	e2.0	3.0	e2.2	e5.9	1.1	.55	.00	.00	.00
15	.83	e3.1	2.7	e1.9	2.6	e4.5	e4.4	.94	.39	.00	.00	.00
16	.82	e2.9	2.4	e1.8	e2.5	e3.9	e4.0	.79	.45	.00	.00	.00
17	.77	e2.9	2.0	e1.9	e3.0	e3.6	e3.6	.97	.15	.00	.00	.00
18	.85	e2.7	2.0	e1.9	e2.9	e3.4	e3.4	1.0	.20	.00	.00	.00
19	.85	e2.5	2.9	e2.0	e2.9	e3.1	e4.2	.77	.21	.00	.00	.00
20	.91	e2.4	3.9	e5.0	e2.8	e3.0	e3.9	.78	.31	.00	.00	.00
21	e.90	e2.2	4.0	e4.6	e2.6	e2.8	e3.6	e.78	.40	.00	.00	.00
22	e.88	e2.1	3.4	e3.7	e2.6	e2.6	e3.2	e.75	.31	.00	.00	.00
23	e.88	e2.0	3.7	e3.2	e2.5	e2.5	e3.0	e.70	.25	.00	.00	.00
24	e.87	e1.9	3.4	e3.0	e2.4	e2.5	e3.0	e.65	.13	.00	.00	.00
25	e.85	e1.8	2.9	e7.0	e2.5	e3.0	e2.8	e.61	.04	.00	.00	.00
26	e.89	e1.6	e2.7	e15	e2.5	e2.9	e2.7	e.59	.00	.00	.00	.00
27	e.95	7.6	e2.7	e11	e2.4	e2.6	e2.6	e.57	.00	.00	.00	.00
28	e1.2	11	e2.6	e8.0	e2.5	e2.5	e2.5	e.56	.00	.00	.00	.00
29	e1.5	8.6	e2.5	e6.1	---	e2.3	e2.6	e.53	.00	.00	.00	.00
30	e2.2	6.6	e2.3	e3.8	---	e2.4	e2.3	e.48	.00	.00	.00	.00
31	e2.1	---	e2.2	e4.9	---	e2.4	---	e.50	---	.00	.00	---
TOTAL	28.38	102.7	104.8	114.3	92.3	84.1	131.0	32.19	15.93	0.00	0.00	0.00
MEAN	.92	3.42	3.38	3.69	3.30	2.71	4.37	1.04	.53	.000	.000	.000
MAX	2.2	11	8.7	15	6.3	4.5	10	2.1	1.9	.00	.00	.00
MIN	.68	1.2	2.0	1.8	2.4	2.2	2.3	.48	.00	.00	.00	.00
AC-FT	56	204	208	227	183	167	260	64	32	.00	.00	.00

e Estimated.

11044800 DE LUZ CREEK NEAR DE LUZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.42	1.14	3.27	79.1	83.1	44.7	14.5	8.96	3.62	1.34	.54	.22
MAX	1.07	3.42	10.1	365	252	189	37.2	37.0	10.2	5.01	2.38	.84
(WY)	1993	1999	1997	1993	1998	1995	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.33	1.56	3.30	2.71	2.31	.71	.12	.000	.000	.000
(WY)	1995	1995	1995	1994	1999	1999	1997	1997	1997	1996	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1993 - 1999	
ANNUAL TOTAL	11989.88		705.70			
ANNUAL MEAN	32.8		1.93		19.7	
HIGHEST ANNUAL MEAN					53.9	
LOWEST ANNUAL MEAN					1.93	
HIGHEST DAILY MEAN	1380	Feb 23	15	Jan 26	3220	Jan 16 1993
LOWEST DAILY MEAN	.60	Sep 2	.00	Jun 26	.00	Aug 1 1994
ANNUAL SEVEN-DAY MINIMUM	.69	Oct 1	.00	Jun 26	.00	Aug 1 1994
INSTANTANEOUS PEAK FLOW			a		9700	Jan 16 1993
INSTANTANEOUS PEAK STAGE			a		15.13	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	23780		1400		14300	
10 PERCENT EXCEEDS	69		4.2		33	
50 PERCENT EXCEEDS	4.5		1.7		1.5	
90 PERCENT EXCEEDS	.82		.00		.00	

a Instantaneous peak discharge and stage for water year 1999 are unknown, but probably occurred on Jan. 26.

11045050 SANTA MARGARITA RIVER AT UNITED STATES MARINE CORPS DIVERSION DAM, NEAR YSIDORA, CA

LOCATION.—Lat 33°20'17", long 117°19'49", in SW 1/4 NW 1/4 sec.5, T.10 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on left bank, at U. S. Marine Corps Diversion Dam, 2.3 mi upstream from Basilone Road Bridge, 10.2 mi upstream from mouth, and 7.5 mi upstream from Ysidora.

DRAINAGE AREA.—710 mi².

PERIOD OF RECORD.—February 1999 to September 1999.

GAGE.—Water-stage recorder, crest-stage gage, and steel drop structure (diversion dam). Elevation of gage is 110 ft above sea level, from topographic map.

REMARKS.—Records poor. Flow partly regulated by Vail Lake (station 11042510) since November 1948 and by Skinner Reservoir since 1974. Flow in Warm Springs Creek, a tributary to Murrieta Creek, slightly regulated beginning in water year 1999 by East Side Reservoir, capacity, 800,000 acre-ft (see station 11042800). Diversions to O'Neill Lake and to ground-water recharge basins are made immediately upstream by Camp Pendleton personnel. These diversions take a varying portion of the base flow. This station, normally an auxiliary (partial-record) gage for station 11046000 (Santa Margarita River at Ysidora), was temporarily installed as a continuous-record station on Feb. 26, 1999, due to removal of Basilone Road Bridge and construction of new bridge. New station name and number established, due to nonequivalence of low- and medium-flow records with station 11046000. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 65 ft³/s, based on critical depth computations, Apr. 8, 1999, gage height, 40.06 ft; minimum daily, 1.4 ft³/s, Apr. 6, 1999.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	e3.2	e2.9	e4.0	e3.2	e1.9	e4.5	e2.4
2	---	---	---	---	---	e3.1	e16	e3.0	e5.0	e2.4	e4.1	e2.8
3	---	---	---	---	---	e2.7	e5.0	e2.8	e8.0	e2.1	e3.2	e3.6
4	---	---	---	---	---	e3.1	e3.6	e2.6	e2.3	e2.6	e2.4	e3.0
5	---	---	---	---	---	e2.6	e1.9	e2.5	e2.2	e3.0	e2.7	e2.6
6	---	---	---	---	---	e2.1	e1.4	e7.0	e2.3	e2.3	e2.1	e2.4
7	---	---	---	---	---	e2.4	e15	e6.5	e2.2	e1.9	e2.8	e2.3
8	---	---	---	---	---	e2.5	e22	e7.5	e2.1	e3.6	e3.2	e2.1
9	---	---	---	---	---	e2.3	e8.0	e3.5	e2.6	e15	e3.2	e2.2
10	---	---	---	---	---	e2.0	e5.0	e2.8	e2.8	e9.0	e3.0	e2.1
11	---	---	---	---	---	e2.6	e4.0	e2.5	e3.8	e3.9	e2.5	e2.0
12	---	---	---	---	---	e2.3	e12	e2.1	e3.3	e4.0	e2.3	e1.9
13	---	---	---	---	---	e2.4	e18	e2.7	e3.0	e4.0	e2.4	e1.8
14	---	---	---	---	---	e2.0	e7.5	e4.1	e3.2	e3.4	e2.5	e1.6
15	---	---	---	---	---	e2.4	e4.8	e4.7	e3.2	e3.1	e2.5	e1.8
16	---	---	---	---	---	e6.0	e3.8	e4.5	e3.2	e2.6	e2.1	e2.0
17	---	---	---	---	---	e3.7	e3.1	e4.4	e4.0	e2.7	e3.3	e2.3
18	---	---	---	---	---	e2.3	e2.6	e3.2	e4.8	e2.7	e3.0	e2.7
19	---	---	---	---	---	e2.5	e2.2	e2.5	e5.0	e3.0	e2.5	e3.0
20	---	---	---	---	---	e2.4	e4.1	e2.3	e4.4	e2.8	e2.0	e3.3
21	---	---	---	---	---	e3.7	e4.2	e2.5	e4.6	e3.4	e2.9	e3.6
22	---	---	---	---	---	e2.9	e3.8	e2.6	e4.8	e3.3	e3.3	e3.6
23	---	---	---	---	---	e2.3	e4.4	e2.6	e2.8	e2.9	e2.2	e3.7
24	---	---	---	---	---	e2.0	e3.7	e2.5	e2.3	e3.0	e2.0	e3.9
25	---	---	---	---	---	e1.9	e3.9	e2.6	e2.3	e3.2	e2.2	e3.9
26	---	---	---	---	e4.0	e3.0	e3.0	e2.7	e2.0	e3.3	e2.8	e4.0
27	---	---	---	---	e3.6	e2.8	e3.0	e3.3	e1.8	e3.7	e3.9	e4.1
28	---	---	---	---	e3.5	e2.7	e3.5	e3.2	e2.0	e4.0	e3.5	e4.1
29	---	---	---	---	---	e2.5	e3.2	e3.0	e2.3	e4.2	e3.8	e4.1
30	---	---	---	---	---	e2.2	e3.3	e3.4	e2.0	e4.6	e3.9	e3.0
31	---	---	---	---	---	e2.0	---	e3.5	---	e4.5	e3.0	---
TOTAL	---	---	---	---	---	82.6	178.9	107.1	97.5	116.1	89.8	85.9
MEAN	---	---	---	---	---	2.66	5.96	3.45	3.25	3.75	2.90	2.86
MAX	---	---	---	---	---	6.0	22	7.5	8.0	15	4.5	4.1
MIN	---	---	---	---	---	1.9	1.4	2.1	1.8	1.9	2.0	1.6
AC-FT	---	---	---	---	---	164	355	212	193	230	178	170

e Estimated.

11045050 SANTA MARGARITA RIVER AT UNITED STATES MARINE CORPS DIVERSION DAM, NEAR YSIDORA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	2.66	5.96	3.45	3.25	3.75	2.90	2.86
MAX	---	---	---	---	---	2.66	5.96	3.45	3.25	3.75	2.90	2.86
(WY)	---	---	---	---	---	1999	1999	1999	1999	1999	1999	1999
MIN	---	---	---	---	---	2.66	5.96	3.45	3.25	3.75	2.90	2.86
(WY)	---	---	---	---	---	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

HIGHEST DAILY MEAN	22	Apr 8
LOWEST DAILY MEAN	1.4	Apr 6
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 10
INSTANTANEOUS PEAK FLOW	65	Apr 8
INSTANTANEOUS PEAK STAGE	40.06	Apr 8
10 PERCENT EXCEEDS	4.7	
50 PERCENT EXCEEDS	3.0	
90 PERCENT EXCEEDS	2.1	

11045300 FALLBROOK CREEK NEAR FALLBROOK, CA

LOCATION.—Lat 33°20'49", long 117°19'01", in SE 1/4 SE 1/4 sec.32, T.9 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank, at culvert on DeLuz Road, 0.75 mi upstream from O'Neill Lake, and 4.5 mi southwest of Fallbrook.

DRAINAGE AREA.—6.97 mi².

PERIOD OF RECORD.—October 1993 to current year. Discharge records for October 1964 to September 1977 and October 1989 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

GAGE.—Water-stage recorder, crest-stage gage, and concrete control with low-water Parshall flume. Elevation of gage is 190 ft above sea level, from topographic map.

REMARKS.—Records good. Slight regulation by two small storage reservoirs upstream from station. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 895 ft³/s, Feb. 23, 1998, gage height, 9.73 ft, from rating curve extended above 140 ft³/s on basis of culvert computation; no flow for many days in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or 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. 6	1115	27	1.24				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.43	.46	.86	.73	1.1	.67	1.5	.48	.33	.23	.16	.01
2	.45	.47	.95	.73	.77	.65	5.5	.48	.38	.22	.14	.01
3	.45	.47	.90	.73	.71	.62	.95	.47	.39	.21	.14	.01
4	.45	.46	.82	.73	1.7	.65	.83	.43	.41	.20	.14	.01
5	.43	.45	1.9	.73	5.9	.65	.78	.43	.42	.18	.14	.01
6	.41	.45	8.1	.74	2.4	.65	.73	.42	.44	.18	.13	.02
7	.39	.45	1.7	.65	1.2	.65	4.0	.42	.44	.17	.13	.01
8	.38	1.3	.92	.65	.94	.65	2.1	.42	.44	.19	.12	.01
9	.37	6.1	.82	.63	.93	.65	.81	.41	.44	.18	.11	.01
10	.36	1.1	.80	.63	2.2	.65	.66	.41	.43	.18	.09	.01
11	.35	.74	.82	.65	.90	.66	.61	.41	.43	.19	.09	.01
12	.38	.73	.90	.65	.72	.65	9.0	.41	.42	.18	.08	.01
13	.40	.69	.74	.65	.68	.66	1.4	.42	.41	.17	.10	.01
14	.41	.65	.65	.65	.66	.65	.84	.42	.41	.17	.09	.01
15	.41	.65	.65	.65	.66	.86	.73	.43	.42	.18	.07	.01
16	.42	.65	.66	.65	.68	1.4	.70	.43	.41	.19	.03	.01
17	.36	.65	.65	.65	.72	.75	.62	.42	.41	.18	.02	.01
18	.35	.65	.64	.65	.73	.69	.60	.42	.38	.18	.01	.01
19	.35	.61	.65	.65	.73	.65	.58	.42	.34	.18	.01	.04
20	.35	.57	.75	.68	.72	.65	.60	.41	.33	.16	.02	.02
21	.36	.58	.74	.83	.73	.65	.65	.40	.34	.15	.02	.02
22	.36	.56	.65	1.0	.71	.65	.65	.41	.33	.12	.02	.02
23	.36	.58	.65	.82	.68	.65	.69	.42	.32	.13	.02	.02
24	.35	.65	.65	.87	.67	.65	.66	.39	.32	.17	.01	.03
25	.37	.65	.65	3.4	.68	.69	.67	.37	.32	.18	.01	.04
26	.37	.65	.64	8.1	.68	1.0	.64	.36	.34	.18	.01	.05
27	.43	.67	.52	6.9	.67	.86	.52	.35	.34	.18	.01	.07
28	.44	.67	.52	1.4	.67	.73	.52	.37	.32	.17	.01	.06
29	.44	4.8	.70	.86	---	.74	.53	.35	.24	.17	.01	.03
30	.45	1.0	.73	.75	---	.74	.52	.35	.23	.16	.01	.01
31	.45	---	.73	.78	---	.63	---	.33	---	.16	.02	---
TOTAL	12.28	29.11	32.06	39.19	30.54	22.10	39.59	12.66	11.18	5.49	1.97	0.60
MEAN	.40	.97	1.03	1.26	1.09	.71	1.32	.41	.37	.18	.064	.020
MAX	.45	6.1	8.1	8.1	5.9	1.4	9.0	.48	.44	.23	.16	.07
MIN	.35	.45	.52	.63	.66	.62	.52	.33	.23	.12	.01	.01
AC-FT	24	58	64	78	61	44	79	25	22	11	3.9	1.2

11045300 FALLBROOK CREEK NEAR FALLBROOK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.18	1.08	1.36	5.84	8.63	6.25	2.37	1.31	.67	.32	.16	.12
MAX	.40	3.35	3.20	18.5	35.9	23.8	5.63	3.28	1.50	.82	.41	.41
(WY)	1999	1997	1997	1995	1998	1995	1998	1998	1995	1998	1995	1998
MIN	.015	.13	.33	.87	1.09	.71	.81	.39	.14	.025	.024	.001
(WY)	1995	1995	1995	1994	1999	1999	1997	1997	1997	1997	1996	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1994 - 1999	
ANNUAL TOTAL	1714.11		236.77			
ANNUAL MEAN	4.70		.65		2.32	
HIGHEST ANNUAL MEAN					4.77 1998	
LOWEST ANNUAL MEAN					.65 1999	
HIGHEST DAILY MEAN	182	Feb 24	9.0	Apr 12	256	Mar 5 1995
LOWEST DAILY MEAN	.18	Aug 31	.01	Aug 18	.00	Sep 5 1994
ANNUAL SEVEN-DAY MINIMUM	.22	Aug 27	.01	Aug 24	.00	Sep 5 1994
INSTANTANEOUS PEAK FLOW			27	Dec 6	895	Feb 23 1998
INSTANTANEOUS PEAK STAGE			1.24	Dec 6	9.73	Feb 23 1998
ANNUAL RUNOFF (AC-FT)	3400		470		1680	
10 PERCENT EXCEEDS	8.0		.86		3.0	
50 PERCENT EXCEEDS	.97		.45		.59	
90 PERCENT EXCEEDS	.39		.02		.02	

11045600 O'NEILL LAKE OUTLET CHANNEL NEAR FALLBROOK, CA

LOCATION.—Lat 33°19'30", long 117°19'29", in SE 1/4 NW 1/4 sec.8, T.10 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on left bank, 300 ft downstream from O'Neill Lake, and 5.5 mi southwest of Fallbrook.

DRAINAGE AREA.—9.77 mi².

PERIOD OF RECORD.—October 1998 to September 1999.

GAGE.—Water-stage recorder and concrete control with low water V-notch weir. Elevation of gage is 100 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are poor. Records for this station represent regulated releases from O'Neill Lake. Water is sometimes diverted into O'Neill Lake from the Santa Margarita River via a diversion dam 0.9 mi above gage. Slight regulation by two small storage reservoirs upstream from gaging station on Fallbrook Creek near Fallbrook (station 11045300). See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3.8 ft³/s, Nov. 8, 1998, gage height, 1.37 ft; no flow Sept. 26, 29–30, 1999.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.34	e.35	.58	.33	.47	.49	.54	.37	.51	.24	.21	.13
2	.39	e.36	.51	.29	.42	.46	.50	.36	.53	.25	.19	.15
3	.37	e.39	.45	.31	.36	.47	.48	.41	.37	.24	.18	.13
4	.31	.43	.49	.35	1.0	.50	.35	.39	.40	.24	.19	.12
5	.32	.36	.60	.36	1.0	.46	.27	.42	.36	.27	.17	.12
6	.32	.35	1.4	.36	.70	.42	.18	.47	.31	.31	.19	.12
7	.34	.30	.52	.37	.41	.42	.85	.48	.38	.33	.19	.19
8	.34	1.7	.45	.38	.45	.43	.41	.42	.35	.35	.15	.17
9	.38	.68	.42	.31	.54	.42	.48	.35	.35	.30	.16	.18
10	.37	.34	.39	.32	.54	.44	.44	.38	.37	.26	.18	.14
11	.30	.33	.39	.38	.43	.57	.65	.39	.36	.23	.17	.15
12	.31	.40	.36	.42	.43	.45	2.0	.40	.30	.28	.16	.14
13	.37	.38	.40	.35	.38	.37	.59	.42	.28	.27	.17	.15
14	.53	.31	.45	.19	.35	.38	.53	.39	.32	.26	.18	.15
15	.40	.27	.46	.32	.41	.72	.48	.37	.32	.28	.16	.06
16	.37	.35	.42	.33	.44	.50	.39	.35	.31	.27	.15	.02
17	.31	.38	.48	.30	.42	.51	.34	.40	.30	.24	.15	.05
18	.26	.37	.53	.34	.44	.48	.33	.40	.33	.23	.15	.01
19	.31	.38	.55	.56	.46	.46	.39	.39	.29	.27	.15	.01
20	.34	.38	.64	.59	.40	.42	.41	.38	.29	.28	.16	.01
21	.37	.34	.49	.50	.37	.39	.42	.38	.30	.30	.13	.01
22	.36	.32	.55	.43	.41	.50	.47	.35	.34	.28	.12	.01
23	.35	.37	.43	.38	.46	.45	.49	.38	.31	.26	.14	.01
24	.32	.40	.20	.37	.47	.41	.41	.39	.34	.22	.16	.01
25	.33	.41	.29	1.2	.48	1.1	.37	.23	.33	.20	.13	.01
26	.37	.37	.31	1.8	.46	.68	.44	.26	.25	.24	.12	.00
27	.37	.31	.32	1.2	.41	.42	.44	.48	.23	.26	.11	.01
28	.36	.59	.36	.45	.41	.42	.44	.46	.23	.27	.14	.01
29	.40	.76	.40	.41	---	.43	.43	.38	.24	.27	.17	.00
30	.41	.52	.42	.38	---	.41	.44	.38	.25	.28	.17	.00
31	.32	---	.39	.54	---	.43	---	.42	---	.26	.13	---
TOTAL	10.94	13.20	14.65	14.82	13.52	15.01	14.96	12.05	9.85	8.24	4.93	2.27
MEAN	.35	.44	.47	.48	.48	.48	.50	.39	.33	.27	.16	.076
MAX	.53	1.7	1.4	1.8	1.0	1.1	2.0	.48	.53	.35	.21	.19
MIN	.26	.27	.20	.19	.35	.37	.18	.23	.23	.20	.11	.00
AC-FT	22	26	29	29	27	30	30	24	20	16	9.8	4.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.35	.44	.47	.48	.48	.48	.50	.39	.33	.27	.16	.076
MAX	.35	.44	.47	.48	.48	.48	.50	.39	.33	.27	.16	.076
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	.35	.44	.47	.48	.48	.48	.50	.39	.33	.27	.16	.076
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

ANNUAL TOTAL	134.44
ANNUAL MEAN	.37
HIGHEST DAILY MEAN	2.0 Apr 12
LOWEST DAILY MEAN	.00 Sep 26
ANNUAL SEVEN-DAY MINIMUM	.01 Sep 24
INSTANTANEOUS PEAK FLOW	3.8 Nov 8
INSTANTANEOUS PEAK STAGE	1.37 Nov 8
ANNUAL RUNOFF (AC-FT)	267
10 PERCENT EXCEEDS	.51
50 PERCENT EXCEEDS	.37
90 PERCENT EXCEEDS	.15

e Estimated.

11045700 O'NEILL LAKE SPILL CHANNEL NEAR FALLBROOK, CA

LOCATION.—Lat 33°19'44", long 117°19'35", in NW 1/4 NW 1/4 sec.8, T.10 S., R.4 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank, 100 ft upstream from spillway on O'Neill Lake, 1.3 mi upstream from confluence with Santa Margarita River, and 5.5 mi southwest of Fallbrook.

DRAINAGE AREA.—9.77 mi².

PERIOD OF RECORD.—October 1998 to September 1999.

GAGE.—Water-stage recorder and sharp-crested weir (wooden flashboards in four weir boxes). Elevation of gage is 110 ft above sea level, from topographic map.

REMARKS.—Records for this station represent spill from O'Neill Lake. Minor seepage through weir flashboards may occur at times and is not indicated in records for this station. Water is sometimes diverted into O'Neill Lake from the Santa Margarita River via a diversion dam 0.55 mi above gage. Slight regulation by two small storage reservoirs upstream from gaging station on Fallbrook Creek near Fallbrook (station 11045300). See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—No flow since station established on Oct. 1, 1998.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
MAX	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

HIGHEST DAILY MEAN	.00	Oct 1
LOWEST DAILY MEAN	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1
10 PERCENT EXCEEDS	.00	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

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 side of Basilone Road Bridge, 7.9 mi upstream from mouth, and 5.2 mi upstream from Ysidora.

DRAINAGE AREA.—723 mi².

PERIOD OF RECORD.—February 1923 to February 1999 (see GAGE paragraph). Low-flow records not equivalent prior to Dec. 10, 1980, due to installation of conservation ponds above downstream site.

REVISED RECORDS.—WDR CA-87-1: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Auxiliary gage 2.3 mi upstream with crest-stage gage and steel drop structure (diversion dam). Gage temporarily out of operation as of Feb. 26, 1999, due to channel work and replacement of Basilone Road Bridge. During this period, the auxiliary gage is operated as a temporary replacement (see station 11045050; new station name and number established, due to nonequivalence of low- and medium-flow records). Elevation of gage is 75 ft above sea level, from topographic map. February 1923 to Feb. 16, 1927, at site 4.4 mi downstream at different datum (destroyed by flood). Feb. 17, 1927, to Feb. 1, 1931, no gage in operation; records based on discharge measurements. Feb. 2, 1931, to Feb. 24, 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.—Records fair except for estimated daily discharges, which are poor. Flow partly regulated by Vail Lake (station 11042510) since November 1948 and by Skinner Reservoir since 1974. Flow in Warm Springs Creek, a tributary to Murrieta Creek, slightly regulated beginning in water year 1999 by East Side Reservoir, capacity, 800,000 acre-ft (see station 11042800). Diversions to O'Neill Lake and to ground-water recharge basins are made at point 2.3 mi upstream by Camp Pendleton personnel. Regulated return flows from O'Neill Lake can occur at times, as can unregulated spills. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 44,000 ft³/s, estimated, based on regression equation and flood routing of upstream flows, Jan. 16, 1993, gage height, 20.47 ft; no flow for all or part of most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	e3.9	27	12	24	---	---	---	---	---	---	---
2	7.1	e3.9	18	13	27	---	---	---	---	---	---	---
3	7.3	e3.8	14	10	16	---	---	---	---	---	---	---
4	11	3.5	15	9.6	e14	---	---	---	---	---	---	---
5	8.6	3.7	18	12	51	---	---	---	---	---	---	---
6	7.7	4.3	34	11	46	---	---	---	---	---	---	---
7	4.8	5.4	82	12	30	---	---	---	---	---	---	---
8	3.4	9.3	32	13	29	---	---	---	---	---	---	---
9	3.9	15	15	13	31	---	---	---	---	---	---	---
10	4.2	13	12	14	30	---	---	---	---	---	---	---
11	4.3	7.1	14	12	30	---	---	---	---	---	---	---
12	e4.1	5.8	11	9.7	31	---	---	---	---	---	---	---
13	e4.0	21	11	13	27	---	---	---	---	---	---	---
14	3.9	24	10	19	24	---	---	---	---	---	---	---
15	4.2	17	14	12	20	---	---	---	---	---	---	---
16	4.3	15	15	9.8	17	---	---	---	---	---	---	---
17	4.6	e15	16	11	27	---	---	---	---	---	---	---
18	4.5	e15	14	13	23	---	---	---	---	---	---	---
19	e4.2	15	13	14	25	---	---	---	---	---	---	---
20	e3.9	17	15	19	21	---	---	---	---	---	---	---
21	e3.9	15	17	21	19	---	---	---	---	---	---	---
22	4.2	14	20	25	20	---	---	---	---	---	---	---
23	3.6	15	11	20	18	---	---	---	---	---	---	---
24	e3.6	18	e11	20	18	---	---	---	---	---	---	---
25	e3.9	18	e11	28	14	---	---	---	---	---	---	---
26	5.0	16	11	59	---	---	---	---	---	---	---	---
27	5.5	16	15	280	---	---	---	---	---	---	---	---
28	4.5	21	13	123	---	---	---	---	---	---	---	---
29	5.1	160	10	47	---	---	---	---	---	---	---	---
30	4.4	64	12	18	---	---	---	---	---	---	---	---
31	3.9	---	12	18	---	---	---	---	---	---	---	---
TOTAL	154.5	574.7	543	911.1	---	---	---	---	---	---	---	---
MEAN	4.98	19.2	17.5	29.4	---	---	---	---	---	---	---	---
MAX	11	160	82	280	---	---	---	---	---	---	---	---
MIN	3.4	3.5	10	9.6	---	---	---	---	---	---	---	---
AC-FT	306	1140	1080	1810	---	---	---	---	---	---	---	---

e Estimated.

11046000 SANTA MARGARITA RIVER AT YSIDORA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1948, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.31	6.31	30.9	58.5	152	190	58.9	11.8	3.21	.54	.29	.88
MAX	13.3	65.8	141	532	1002	1730	465	1.01	28.7	3.15	2.30	13.5
(WY)	1942	1945	1941	1943	1937	1938	1941	1941	1941	1936	1935	1939
MIN	.000	.000	.000	.000	1.32	1.18	1.33	.000	.000	.000	.000	.000
(WY)	1924	1924	1948	1948	1925	1925	1925	1948	1923	1923	1923	1923

SUMMARY STATISTICS

WATER YEARS 1923 - 1948

ANNUAL MEAN	43.3
HIGHEST ANNUAL MEAN	169
LOWEST ANNUAL MEAN	.77
HIGHEST DAILY MEAN	15500
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	33600
INSTANTANEOUS PEAK STAGE	18.00
ANNUAL RUNOFF (AC-FT)	31390
10 PERCENT EXCEEDS	53
50 PERCENT EXCEEDS	1.6
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1949 - 1980, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.007	1.31	4.30	69.8	153	84.3	26.3	3.84	.65	.17	.036	.030
MAX	.23	41.7	71.7	749	2249	1071	379	52.7	12.1	3.14	.80	.67
(WY)	1970	1966	1967	1978	1980	1978	1958	1980	1979	1979	1980	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1949	1949	1949	1949	1950	1950	1949	1949	1949	1949	1949	1949

SUMMARY STATISTICS

WATER YEARS 1949 - 1980

ANNUAL MEAN	27.9
HIGHEST ANNUAL MEAN	282
LOWEST ANNUAL MEAN	.000
HIGHEST DAILY MEAN	18000
LOWEST DAILY MEAN	.00
ANNUAL SEVEN-DAY MINIMUM	.00
INSTANTANEOUS PEAK FLOW	24000
INSTANTANEOUS PEAK STAGE	18.80
ANNUAL RUNOFF (AC-FT)	20250
10 PERCENT EXCEEDS	4.4
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.14	16.3	30.1	196	214	196	54.7	26.8	10.8	3.27	3.01	1.63
MAX	39.3	62.0	124	2261	1296	896	202	121	36.6	10.1	31.6	6.98
(WY)	1984	1984	1984	1993	1993	1995	1983	1998	1998	1998	1983	1998
MIN	.000	.000	.013	4.74	8.27	3.85	4.16	1.58	.000	.000	.000	.000
(WY)	1982	1985	1990	1991	1989	1987	1984	1984	1984	1981	1981	1981

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1981 - 1999

ANNUAL TOTAL	55304.1
ANNUAL MEAN	152
HIGHEST ANNUAL MEAN	337
LOWEST ANNUAL MEAN	4.59
HIGHEST DAILY MEAN	6420
LOWEST DAILY MEAN	2.9
ANNUAL SEVEN-DAY MINIMUM	3.9
INSTANTANEOUS PEAK FLOW	418
INSTANTANEOUS PEAK STAGE	6.67
ANNUAL RUNOFF (AC-FT)	109700
10 PERCENT EXCEEDS	326
50 PERCENT EXCEEDS	17
90 PERCENT EXCEEDS	4.3

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA

LOCATION.—Lat 33°14'08", long 117°24'27", in SW 1/4 NE 1/4 sec.9, T.11 S., R.5 W., San Diego County, Hydrologic Unit 18070302, on Camp Joseph H. Pendleton Naval Reservation, on right bank, 300 ft downstream from bridge on Interstate Highway 5, 0.5 mi upstream from mouth, and 3.5 mi northwest of Oceanside.

DRAINAGE AREA.—744 mi².

GAGE-HEIGHT RECORDS

PERIOD OF RECORD.—October 1989 to current year. Unpublished records for water year 1989 available in files of the U.S. Geological Survey.

GAGE.—Water-stage recorder. Datum of gage is 2.78 ft below sea level.

REMARKS.—Gage height generally affected by tide. See schematic diagram of Santa Margarita River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum gage height, 15.10 ft, from floodmarks and hydrographers' notes, Jan. 16, 1993; minimum recorded gage height, 2.02 ft, Feb. 3, 1999.

EXTREMES FOR CURRENT YEAR.—Maximum recorded gage height, 10.13 ft, Jan. 24; minimum recorded gage height, 2.02 ft, Feb. 3.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	6.96	6.92	7.27	7.22	7.90	7.75	---	---	6.75	2.12	6.60	3.05
2	6.95	6.92	7.28	7.22	8.05	7.90	---	---	6.12	2.09	6.57	3.53
3	6.98	6.95	7.28	7.23	8.15	8.05	---	---	5.73	2.02	5.80	3.49
4	7.04	6.96	7.29	7.24	8.18	8.13	---	---	5.10	2.12	5.44	3.29
5	7.12	7.01	7.29	7.26	8.21	8.15	9.52	9.40	4.65	2.06	4.89	3.27
6	7.07	7.02	7.32	7.28	8.25	8.18	9.53	9.40	4.49	2.23	4.83	3.28
7	7.08	7.02	7.33	7.27	8.43	8.25	9.54	9.42	4.48	2.43	4.85	3.25
8	7.08	7.03	7.38	7.31	8.56	8.43	9.60	9.43	4.65	2.34	4.59	3.22
9	7.09	7.03	7.41	7.37	8.66	8.56	9.55	9.50	4.73	2.15	4.39	3.14
10	7.08	7.03	7.43	7.38	8.68	8.61	9.56	9.51	4.86	2.18	3.67	3.13
11	7.08	7.03	7.42	7.40	8.71	8.65	9.57	9.52	4.89	2.08	4.03	3.13
12	7.09	7.04	7.45	7.40	8.75	8.68	9.59	9.54	5.30	2.06	4.09	3.22
13	7.09	7.05	7.46	7.40	8.78	8.73	9.62	9.57	5.60	2.05	4.39	3.22
14	7.10	7.06	7.47	7.41	8.79	8.74	9.63	9.59	6.27	2.24	4.42	3.26
15	7.11	7.06	7.48	7.42	8.82	8.78	9.67	9.62	6.58	2.27	4.59	3.26
16	7.12	7.06	7.48	7.43	8.88	8.81	9.69	9.64	6.45	2.23	4.90	3.23
17	7.13	7.04	7.49	7.43	8.89	8.82	9.86	9.67	6.47	2.40	5.31	3.26
18	7.13	7.05	7.49	7.44	8.88	8.87	9.87	9.72	6.37	2.72	5.02	3.22
19	7.14	7.07	7.51	7.46	8.91	8.88	9.92	9.83	5.66	2.84	4.99	3.18
20	7.15	7.08	7.51	7.46	8.96	8.91	9.98	9.92	5.61	3.00	4.73	3.22
21	7.14	7.09	7.53	7.46	9.02	8.94	10.01	9.98	5.44	3.01	4.33	3.25
22	7.16	7.10	7.54	7.47	9.07	9.00	10.02	9.98	5.42	3.01	3.92	3.34
23	7.16	7.12	7.53	7.49	9.11	9.05	10.07	10.02	5.38	2.96	3.73	3.34
24	7.16	7.13	7.54	7.49	9.13	9.07	10.13	10.07	5.51	2.82	4.05	3.42
25	7.18	7.14	7.55	7.52	9.18	9.10	10.11	2.96	5.88	2.75	4.39	3.49
26	7.19	7.15	7.57	7.53	9.18	9.13	6.09	2.86	6.29	2.82	5.14	3.00
27	7.21	7.16	7.57	7.54	9.23	9.16	6.61	2.98	6.43	2.84	5.06	3.50
28	7.21	7.16	7.60	7.56	9.27	9.15	6.60	2.89	6.34	2.82	5.35	3.49
29	7.22	7.18	7.62	7.59	---	---	6.89	2.29	---	---	5.23	3.62
30	7.23	7.19	7.75	7.61	---	---	6.78	2.13	---	---	5.42	3.65
31	7.26	7.19	---	---	---	---	6.84	2.18	---	---	5.93	3.70
MONTH	7.26	6.92	7.75	7.22	---	---	---	---	6.75	2.02	6.60	3.00

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.75	3.74	5.47	3.76	5.90	4.19	6.18	4.02	5.47	4.10	5.88	4.01
2	5.49	3.74	5.56	3.74	5.90	4.39	6.18	4.07	4.66	4.08	5.85	4.01
3	6.59	3.80	5.70	3.79	5.73	4.63	5.91	4.13	4.83	4.02	6.05	4.15
4	6.10	3.77	5.65	3.69	5.74	4.92	5.30	4.12	5.08	3.96	6.20	4.25
5	5.30	3.74	5.16	3.65	5.13	4.91	4.68	4.02	5.54	3.95	6.30	4.23
6	5.18	3.92	4.73	3.65	4.93	4.90	5.01	4.00	5.91	3.94	6.58	4.22
7	5.30	4.27	4.55	3.75	5.24	4.92	5.56	4.19	6.21	3.93	6.59	4.30
8	4.84	4.22	4.56	3.97	5.57	5.24	6.13	4.15	6.66	3.94	6.66	4.17
9	4.66	4.16	4.60	4.10	5.81	5.39	6.77	4.07	7.05	4.02	6.38	4.17
10	4.35	4.10	4.79	4.07	6.38	4.95	7.38	4.20	7.06	4.06	5.94	4.12
11	4.41	4.06	5.32	4.07	7.01	4.89	7.70	4.28	6.72	4.02	5.72	4.21
12	5.03	4.14	6.05	4.05	7.26	4.19	7.81	4.37	6.33	4.03	5.36	4.25
13	5.01	4.07	6.86	4.08	7.55	4.09	7.56	4.28	6.02	4.05	4.95	4.28
14	5.69	3.99	7.42	4.04	7.44	4.06	7.08	4.13	5.89	4.06	4.92	4.22
15	6.11	3.95	7.50	4.08	7.14	4.01	6.76	4.10	5.25	4.02	4.73	4.13
16	6.41	3.88	7.39	3.99	6.91	3.94	6.61	4.18	4.64	3.96	4.50	4.11
17	6.43	3.83	7.08	3.92	6.58	3.98	5.88	4.25	4.58	3.88	4.58	4.29
18	6.33	3.83	6.86	3.86	5.92	4.00	4.99	4.18	4.65	3.81	4.77	4.58
19	6.26	3.81	6.58	3.87	5.06	4.03	4.83	4.05	4.89	3.84	4.89	4.77
20	6.07	3.77	6.04	3.88	5.02	4.10	4.94	4.06	4.99	3.99	5.02	4.89
21	6.06	3.72	5.58	4.02	5.36	4.38	5.08	4.08	5.32	3.90	5.20	5.02
22	5.71	3.72	5.02	4.07	5.52	4.29	5.17	4.14	5.70	3.94	5.34	5.20
23	5.32	3.73	5.03	4.12	5.91	4.11	5.54	4.18	5.93	3.95	5.48	5.34
24	4.86	3.70	5.34	4.23	6.12	4.13	6.08	4.23	6.24	3.95	5.61	5.48
25	4.96	3.74	5.40	4.30	6.32	4.12	6.39	4.19	6.59	3.99	5.74	5.61
26	5.16	3.80	5.58	4.30	6.55	4.13	6.46	4.19	6.59	4.01	5.86	5.74
27	5.57	3.85	5.57	4.27	6.50	4.09	6.60	4.16	6.44	4.06	5.96	5.86
28	6.71	4.00	5.72	4.08	6.54	4.00	6.51	4.11	6.14	4.12	6.00	5.95
29	5.85	3.98	6.11	4.18	6.38	4.00	6.28	4.10	6.06	4.12	6.03	5.98
30	5.58	3.83	6.10	4.15	6.34	4.01	5.95	4.09	5.60	4.12	6.04	5.98
31	---	---	5.92	4.16	---	---	5.91	4.11	5.76	4.10	---	---
MONTH	6.71	3.70	7.50	3.65	7.55	3.94	7.81	4.00	7.06	3.81	6.66	4.01

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1993 to current year.

SPECIFIC CONDUCTANCE: October 1993 to current year.

pH: October 1993 to current year.

WATER TEMPERATURE: October 1993 to current year.

DISSOLVED OXYGEN: October 1993 to current year.

PERIOD OF DAILY RECORD.—October 1993 to current year.

SPECIFIC CONDUCTANCE: October 1993 to current year.

pH: October 1993 to current year.

WATER TEMPERATURE: October 1993 to current year.

DISSOLVED OXYGEN: October 1993 to current year.

INSTRUMENTATION.—Water-quality monitor since October 1993.

REMARKS.—Interruptions in record at times due to malfunction of recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 53,700 microsiemens, Oct. 5, 1995; minimum recorded, 119 microsiemens, Feb. 24, 1998.

pH: Maximum recorded, 9.6 standard units, Dec. 21, 22, 1996; minimum recorded, 6.2 standard units, Nov. 26, 1993.

WATER TEMPERATURE: Maximum recorded, 32.0°C, July 29, 1995, June 9, and Aug. 14, 16, 1996; minimum recorded, 5.0°C, Nov. 21, 1994.

DISSOLVED OXYGEN: Maximum recorded, 20.9 mg/L, May 1, 1996; minimum recorded, 0.0 mg/L, May 19, Aug. 29, 1994, and Jan. 1, 2, 1999.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 51,100 microsiemens, June 1, 13; minimum recorded, 1,580 microsiemens, Jan. 28.

pH: Maximum recorded, 9.0 standard units, Oct. 6, Feb. 17, 20; minimum recorded, 7.4 standard units, Oct. 5, 6, Mar. 29.

WATER TEMPERATURE: Maximum recorded, 28.5°C, July 13, 14, 19, 20; minimum recorded, 7.5°C, Feb. 3.

DISSOLVED OXYGEN: Maximum recorded, >20.0 mg/L, Apr. 4; minimum recorded, <0.1 mg/L, Jan. 1, 2.

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

> Actual value is known to be greater than the value shown.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	31800	31100	33200	32300	34200	27300	18500	17100	49700	6200	50000	30600
2	31300	30000	32900	31900	39100	31800	18100	17000	49900	4900	50100	40900
3	30900	29600	32600	31600	39100	34300	17800	17000	49700	6010	50500	29900
4	30600	29500	32600	31500	37800	34000	17600	16600	49000	8380	49000	15500
5	30200	29200	32600	31800	36100	30200	17200	16400	48800	7930	50000	33800
6	29400	27600	32300	31500	33300	26200	16800	15900	48300	2750	49300	37500
7	29000	27400	32000	31000	27900	26300	16300	15700	47800	3260	49900	11600
8	29000	27000	32100	30700	27100	25400	16100	15400	47600	3200	49500	20400
9	29000	27000	31600	30800	26300	24800	15700	14900	49100	3090	47900	18900
10	28600	27500	31700	30100	25100	22600	15300	14900	49600	3160	47100	28200
11	31400	28100	31100	30500	24500	22600	15200	14900	47900	3390	46000	22300
12	30800	29900	30800	29900	24200	22600	15300	14800	49500	3970	47600	16300
13	30200	28000	30500	29700	24400	22200	15000	14500	50000	4130	47300	23500
14	30500	27200	30300	29500	24200	22300	14800	14300	49900	4160	48500	20700
15	29800	27100	30100	29400	23800	21800	14700	14300	50400	5390	48500	19700
16	27400	26200	30100	29600	22900	21600	14500	14200	49800	5520	50000	14000
17	27100	26200	29800	28800	22600	20900	14600	13700	49900	9010	50300	28500
18	27000	25700	29600	28600	21900	20600	14600	13800	50300	18100	49300	29200
19	26800	26000	29500	28500	21600	19300	14300	13500	50300	20500	47700	30800
20	27000	25900	29100	28400	19300	18200	14100	13000	49700	32900	49800	23500
21	27100	25100	29200	28300	19700	18700	13900	12600	49800	32400	49800	17600
22	34300	27100	29200	28300	19800	18800	13500	13000	50200	9630	48700	32900
23	34800	33800	28900	28200	19600	18000	13400	12700	49400	18200	49100	11000
24	34500	33600	28900	27900	19600	17900	13200	11600	49600	13700	48000	24900
25	34400	33500	28700	26700	19300	17800	12700	5000	49200	8710	48100	28400
26	33900	33000	28300	27900	19600	18400	48700	4520	49900	13600	49100	38500
27	33800	32800	28200	28000	19700	18000	49100	1700	49500	16900	49400	41200
28	33700	32900	28100	26900	19700	15100	47600	1580	50300	13700	49900	26600
29	33600	32500	27500	27200	19500	17800	48300	3630	---	---	49800	41300
30	33300	32400	27700	27000	19000	18100	49300	5770	---	---	50200	32700
31	33100	32100	---	---	19000	17700	49700	5120	---	---	47400	16600
MONTH	34800	25100	33200	26700	39100	15100	49700	1580	50400	2750	50500	11000

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	46500	28500	49900	37000	51100	46600	50500	46600	50900	47600	50100	44200
2	48000	32300	50000	39400	50900	44500	50400	46300	50700	46700	49900	45400
3	48300	9140	49800	28300	50900	43100	50400	44500	49400	46100	49800	45400
4	45700	32900	49600	36500	50200	45700	50300	44600	50500	43500	50100	45100
5	47800	31500	48800	32700	47700	40000	50000	45300	50800	43100	50600	45600
6	47500	34700	48300	36200	43600	30000	49400	44200	50900	42300	50800	44600
7	47300	36100	46900	26500	44500	36300	50100	45300	50900	45200	50800	43400
8	40700	6290	46700	40000	46500	41300	50200	45300	50900	41700	50800	45200
9	19700	1730	47900	23600	48400	36200	50400	44100	51000	45700	50700	44800
10	10100	1860	48300	32600	50700	34900	50400	45800	51000	44700	50700	45500
11	19800	5170	49300	27900	50800	43100	50300	46000	51000	46300	50600	46400
12	37900	14200	49800	41100	50900	45000	50300	46400	50800	46400	50600	46500
13	42700	36400	50000	42600	51100	43300	50300	45400	50900	46900	49400	46600
14	46700	39400	50100	37600	51000	44600	50600	45500	50800	47100	48800	45600
15	47600	38100	50200	36800	50900	42700	50600	46100	50800	46500	48100	40000
16	48200	42700	50100	40500	50900	45900	50600	47500	49800	46000	47700	41700
17	47600	38100	50100	40500	50900	45200	50600	47000	48300	44900	45700	41300
18	48600	31600	50100	40900	50900	45400	50600	46600	48300	44400	45900	31300
19	47800	31000	49600	33100	50900	46100	50200	27100	50100	44400	45800	41400
20	48400	39900	49800	34100	50300	44200	49600	34700	50300	41600	45000	41900
21	47800	35800	46200	18600	50300	43500	49900	46300	50500	41600	43800	42600
22	47600	35400	---	32100	50000	44000	50100	46500	50700	43200	44400	40900
23	48500	27800	---	35200	48900	34800	50200	46300	50700	44400	45000	43100
24	48800	31500	47300	41100	48500	42500	50400	46200	50700	44200	45200	44000
25	48900	26300	42300	36200	50300	46700	50500	45100	50800	44800	45300	43900
26	49300	35200	41900	35100	46700	35400	50500	46400	50900	45200	45300	44400
27	49600	35300	50700	39300	35700	32800	50500	43900	50900	44500	45200	44200
28	49700	28200	50800	40200	39500	34000	50500	44100	50900	45400	44600	42900
29	49500	36900	50900	43400	50400	39500	50500	45100	50800	46300	44000	41200
30	49800	30700	50800	39600	50600	45000	50800	45500	50800	46400	43000	41700
31	---	---	51000	41800	---	---	50900	46900	50300	45700	---	---
MONTH	49800	1730	---	18600	51100	30000	50900	27100	51000	41600	50800	31300

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.9	8.2	8.3	8.2	8.7	8.2	8.5	8.3	8.4	7.9	8.5	8.2
2	8.9	7.9	8.3	8.2	8.4	8.1	8.5	8.2	8.4	7.8	8.5	8.1
3	8.9	7.8	8.3	8.2	8.3	8.1	8.5	8.3	8.4	7.9	8.5	8.0
4	8.7	7.7	8.3	8.2	8.1	8.0	8.6	8.4	8.2	7.8	8.5	8.0
5	7.7	7.4	8.3	8.2	8.3	8.0	8.6	8.4	8.2	7.8	8.5	7.9
6	9.0	7.4	8.2	8.2	8.5	8.1	8.7	8.5	8.6	7.9	8.2	7.8
7	8.7	8.0	8.3	8.2	8.5	8.3	8.7	8.5	8.5	7.7	8.5	7.8
8	8.8	8.1	8.3	8.2	8.4	8.2	8.7	8.5	8.6	8.0	8.5	8.0
9	8.5	8.0	8.3	8.2	8.3	8.2	8.8	8.5	8.4	8.1	8.7	7.9
10	8.7	7.9	8.3	8.2	8.2	8.1	8.9	8.5	8.7	8.0	8.7	8.2
11	8.5	7.9	8.3	8.2	8.2	8.1	8.9	8.6	8.7	7.8	8.5	8.1
12	8.5	8.0	8.3	8.2	8.2	8.1	8.8	8.5	8.6	7.8	8.8	8.1
13	8.2	7.9	8.3	8.2	8.2	8.0	8.7	8.4	8.6	7.7	8.7	7.9
14	8.4	7.9	8.3	8.2	8.2	8.1	8.7	8.4	8.6	7.8	8.8	8.0
15	8.2	7.7	8.3	8.3	8.1	8.0	8.7	8.4	8.6	7.9	8.6	7.9
16	7.9	7.7	8.3	8.2	8.1	8.0	8.6	8.4	8.7	7.8	8.8	7.9
17	7.8	7.7	8.2	8.1	8.2	8.0	8.5	8.4	9.0	7.9	8.8	7.9
18	8.7	7.6	8.3	8.2	8.1	8.0	8.5	8.4	8.4	7.9	8.7	7.7
19	8.7	8.4	8.3	8.2	8.3	8.0	8.5	8.4	8.9	8.0	8.6	7.7
20	8.4	8.2	8.4	8.3	8.3	8.0	8.4	8.3	9.0	7.9	8.5	7.6
21	8.9	8.2	8.5	8.4	8.3	8.2	8.5	8.0	8.8	7.8	8.6	7.8
22	8.9	8.4	8.7	8.5	8.3	8.2	8.4	8.2	8.9	7.9	8.5	7.8
23	8.5	8.4	8.6	8.5	8.5	8.2	8.3	8.2	8.9	7.8	8.7	7.8
24	8.5	8.3	8.6	8.5	8.6	8.4	8.4	8.2	8.9	7.9	8.8	7.7
25	8.4	8.3	8.9	8.5	8.6	8.5	8.5	7.6	8.8	8.2	8.5	7.9
26	8.5	8.3	8.8	8.7	8.6	8.5	7.9	7.6	8.6	8.2	8.7	7.8
27	8.4	8.4	8.8	8.7	8.5	8.4	8.3	7.6	8.6	8.2	8.7	7.7
28	8.4	8.3	8.7	8.7	8.5	8.3	8.1	7.7	8.6	8.1	8.7	7.5
29	8.4	8.4	8.8	8.6	8.6	8.3	8.4	7.8	---	---	8.6	7.4
30	8.4	8.3	8.8	8.6	8.5	8.3	8.3	8.0	---	---	8.7	7.6
31	8.3	8.2	---	---	8.5	8.2	8.3	8.0	---	---	8.6	7.8
MONTH	9.0	7.4	8.9	8.1	8.7	8.0	8.9	7.6	9.0	7.7	8.8	7.4
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	7.8	8.4	7.9	8.1	7.9	8.3	7.9	8.2	8.1	8.4	8.3
2	8.8	7.9	8.3	7.9	8.1	7.8	8.1	7.9	8.1	8.0	8.5	8.2
3	8.9	7.7	8.3	7.9	8.2	7.8	8.2	7.9	8.1	7.9	8.5	8.2
4	8.9	8.1	8.4	8.0	8.2	7.9	8.2	7.9	8.2	7.9	8.5	8.2
5	8.6	7.7	8.4	8.0	8.2	8.0	8.2	7.9	8.2	8.0	8.4	8.2
6	8.4	7.6	8.5	8.0	8.3	8.0	8.2	7.9	8.2	8.0	8.4	8.2
7	8.4	7.8	8.4	8.0	8.3	8.0	8.3	7.8	8.2	8.0	8.5	8.2
8	8.5	7.9	8.3	8.0	8.2	7.9	8.1	7.8	8.2	8.0	8.6	8.2
9	8.6	8.1	8.4	7.9	8.2	7.9	8.2	7.9	8.3	8.0	8.6	8.3
10	8.7	8.2	8.5	7.9	8.2	7.9	8.3	7.9	8.3	8.1	8.6	8.3
11	8.4	8.0	8.5	7.8	8.2	7.8	8.3	7.9	8.3	8.1	8.7	8.3
12	8.4	7.8	8.3	7.8	8.2	7.9	8.3	7.9	8.3	8.1	8.7	8.2
13	8.5	7.5	8.3	7.9	8.3	8.0	8.2	7.9	8.2	8.1	8.8	8.3
14	8.8	7.5	8.3	8.0	8.3	8.0	8.2	7.9	8.2	8.1	8.6	8.4
15	8.7	8.0	8.3	7.9	8.2	7.8	8.1	7.9	8.3	8.1	8.6	8.4
16	8.7	8.1	8.3	7.9	8.1	7.9	8.1	7.9	8.3	8.0	8.5	8.3
17	8.8	7.9	8.3	7.9	8.2	7.9	8.1	7.9	8.3	8.0	8.5	8.3
18	8.7	8.0	8.3	7.9	8.1	7.9	8.0	7.8	8.2	8.0	8.4	8.3
19	8.4	8.0	8.2	7.9	8.1	7.8	7.9	7.8	8.3	8.1	8.6	8.2
20	8.4	7.9	8.2	7.9	8.0	7.8	7.9	7.8	8.3	8.1	8.7	8.3
21	8.4	8.0	8.3	7.8	7.9	7.8	8.0	7.8	8.3	8.1	8.6	8.4
22	8.2	7.9	8.3	7.8	7.9	7.8	8.1	7.8	8.4	8.1	8.8	8.3
23	8.4	8.0	8.2	7.9	8.0	7.8	8.0	7.8	8.4	8.2	8.7	8.4
24	8.4	8.0	8.3	7.9	7.9	7.7	8.1	7.9	8.5	8.3	8.6	8.4
25	8.4	8.0	8.3	7.8	7.9	7.8	8.0	7.9	8.5	8.2	8.5	8.3
26	8.2	8.0	8.3	7.8	8.0	7.8	8.0	7.9	8.5	8.2	8.4	8.3
27	8.1	7.9	8.2	7.8	8.0	7.8	8.0	7.9	8.5	8.3	8.5	8.3
28	8.2	7.9	8.1	7.8	8.1	7.9	8.0	7.8	8.5	8.3	8.4	8.0
29	8.2	7.9	8.2	7.8	8.3	7.9	8.1	7.9	8.5	8.2	8.4	8.0
30	8.3	7.8	8.2	7.8	8.3	7.9	8.2	7.9	8.5	8.2	8.3	8.2
31	---	---	8.2	7.8	---	---	8.2	8.0	8.5	8.2	---	---
MONTH	8.9	7.5	8.5	7.8	8.3	7.7	8.3	7.8	8.5	7.9	8.8	8.0

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.0	13.5	20.0	19.0	16.0	15.0	11.0	10.5	16.0	9.5	17.5	12.5
2	18.5	16.0	20.0	19.0	15.5	15.0	11.5	11.0	16.5	8.5	16.5	13.0
3	18.5	14.5	19.5	18.5	16.0	15.5	11.5	11.0	16.5	7.5	17.0	13.5
4	18.0	16.0	19.5	18.0	16.0	15.5	11.5	11.5	13.0	11.0	16.5	14.0
5	19.5	18.0	19.0	18.5	16.0	15.5	11.5	11.0	14.5	11.0	17.5	14.0
6	22.5	17.5	19.0	18.0	16.0	13.5	11.5	11.0	17.5	11.5	14.5	14.0
7	22.0	17.5	18.5	17.0	13.5	13.0	11.5	11.0	17.0	10.5	18.0	13.5
8	21.5	16.0	17.5	17.5	13.5	12.5	11.5	11.0	18.5	13.5	18.5	14.0
9	20.5	14.0	17.5	16.5	13.0	12.0	12.0	11.5	18.0	12.5	19.0	14.5
10	17.0	12.5	17.0	16.0	12.5	11.5	11.5	11.5	16.0	12.0	18.0	14.5
11	15.5	11.0	16.5	15.5	12.0	11.5	11.5	11.0	14.0	10.5	17.0	14.5
12	15.5	13.5	16.0	14.5	11.5	11.5	11.5	11.5	17.0	9.0	18.5	13.0
13	18.0	15.5	16.0	15.0	11.5	11.5	12.0	11.5	17.5	9.0	18.5	13.0
14	18.5	13.0	16.0	15.0	12.0	11.5	12.0	11.5	18.5	11.0	19.0	13.0
15	18.5	16.0	16.0	15.5	12.0	11.5	12.0	11.5	18.0	12.0	16.5	13.5
16	19.0	17.5	16.0	15.5	12.0	12.0	12.0	12.0	17.0	12.0	17.5	13.0
17	19.0	18.5	17.0	16.0	12.5	12.0	12.5	12.0	18.5	12.0	16.5	13.0
18	20.5	16.5	17.0	16.5	13.0	12.5	13.0	12.0	15.0	13.0	18.0	13.0
19	19.5	15.0	16.5	16.0	13.5	13.0	13.0	12.5	16.0	13.5	18.5	14.0
20	18.5	18.0	16.0	14.5	14.0	13.0	13.5	13.0	16.5	13.5	17.0	14.0
21	21.0	17.5	15.5	14.5	13.0	11.5	15.0	13.0	16.5	13.5	19.0	14.0
22	21.0	17.0	15.5	14.0	12.0	11.0	15.0	14.0	17.5	13.0	20.0	14.5
23	21.5	20.0	15.5	14.5	11.5	9.5	14.0	14.0	18.5	13.0	20.0	15.0
24	21.5	20.5	16.0	14.5	10.0	9.0	14.0	13.5	19.0	12.5	20.0	14.0
25	21.5	20.5	16.0	15.0	9.5	9.0	14.0	11.5	20.0	12.5	18.5	14.0
26	21.5	20.5	16.0	15.5	9.5	9.0	12.0	10.0	19.5	13.0	17.0	13.0
27	21.0	20.0	16.0	15.5	9.5	9.0	15.0	10.5	19.5	12.5	18.0	14.0
28	21.0	20.0	16.0	15.5	10.0	9.5	14.0	9.0	19.5	12.5	20.0	14.5
29	20.5	20.0	16.0	15.0	10.0	9.5	14.5	8.5	---	---	19.0	14.5
30	20.5	19.5	16.0	15.5	10.0	10.0	15.5	9.5	---	---	19.5	14.5
31	20.0	19.0	---	---	10.5	10.0	15.5	10.5	---	---	17.5	15.0
MONTH	22.5	11.0	20.0	14.0	16.00	9.0	15.5	8.5	20.0	7.5	20.0	12.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.0	13.0	21.5	16.0	20.0	18.0	25.0	20.5	26.0	20.0	24.0	22.5
2	18.0	13.0	19.5	16.5	21.0	17.5	22.5	20.5	27.0	21.0	23.5	22.5
3	18.0	13.0	20.0	16.0	21.0	16.0	22.5	20.5	27.0	24.0	24.5	21.5
4	16.5	12.0	21.5	16.0	20.5	16.0	25.5	20.5	26.5	22.5	24.5	22.5
5	19.0	13.5	23.0	16.5	23.0	19.0	25.5	21.0	24.5	22.0	23.0	20.5
6	17.0	14.5	24.0	16.5	24.5	21.5	25.5	23.0	25.5	22.0	24.0	20.0
7	17.5	13.5	22.5	17.0	25.5	23.0	26.0	22.0	27.0	23.0	24.0	20.0
8	19.5	16.0	21.5	17.5	24.5	22.0	24.5	21.5	26.5	21.5	24.0	19.0
9	18.0	12.5	21.5	17.5	25.0	20.0	26.5	21.5	26.0	20.5	22.0	18.5
10	19.0	12.5	24.0	18.0	26.0	18.0	27.5	21.5	26.0	20.5	23.0	18.0
11	18.0	14.5	24.0	18.5	23.5	18.0	27.5	21.0	25.5	20.5	22.5	18.0
12	16.0	13.0	22.5	18.0	24.5	18.5	28.0	21.5	26.5	20.5	22.5	18.0
13	17.5	13.5	19.0	17.5	25.0	18.5	28.5	22.5	24.5	20.0	23.5	20.0
14	17.5	14.5	22.5	17.5	24.0	19.0	28.5	23.0	22.5	20.5	22.5	21.5
15	18.5	14.5	22.5	18.0	21.5	18.5	28.0	23.0	25.5	20.5	23.0	21.5
16	18.0	14.0	22.5	18.0	23.0	18.5	28.0	23.0	26.5	22.0	22.5	21.0
17	19.5	14.0	24.5	18.0	24.5	19.5	27.5	22.5	26.5	23.5	22.0	21.0
18	22.0	14.5	23.0	18.5	23.0	19.5	28.0	23.0	27.0	24.0	21.5	20.5
19	22.0	14.5	23.0	18.5	22.5	19.5	28.5	25.5	26.5	21.5	23.5	20.0
20	20.0	14.5	23.5	18.5	24.0	20.5	28.5	25.0	25.0	21.0	23.0	20.5
21	21.5	16.0	23.5	19.0	23.5	21.0	28.0	24.0	24.0	20.5	22.5	21.5
22	21.0	16.5	23.0	20.0	25.0	20.5	27.5	22.5	25.5	20.0	24.0	21.0
23	21.0	15.5	23.5	19.5	26.0	20.5	27.5	20.0	23.5	20.0	24.0	23.0
24	22.5	17.0	24.0	20.5	26.5	21.0	26.5	19.0	25.5	19.0	23.5	22.0
25	23.0	17.0	22.5	19.5	25.5	20.5	25.5	18.5	25.0	18.5	22.5	21.5
26	22.5	17.0	24.5	19.0	26.0	20.5	26.0	19.5	25.0	18.0	21.5	20.5
27	22.0	17.0	23.5	19.0	25.0	20.5	25.0	19.5	24.0	19.0	21.5	21.0
28	19.5	16.0	21.5	19.0	24.5	20.5	25.5	19.5	23.0	20.0	22.5	21.5
29	18.0	15.5	24.0	18.5	26.0	20.0	26.5	20.0	23.5	19.5	23.5	21.5
30	19.0	15.0	23.5	18.5	27.0	20.5	25.5	19.5	24.5	20.5	23.5	22.5
31	---	---	23.5	18.5	---	---	26.5	19.5	24.5	21.0	---	---
MONTH	23.0	12.0	24.5	16.0	27.0	16.0	28.5	18.5	27.0	18.0	24.5	18.0

11046050 SANTA MARGARITA RIVER AT MOUTH, NEAR OCEANSIDE, CA—Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.4	3.3	5.5	4.0	7.3	1.4	4.8	<.1	9.1	5.7	12.3	6.5
2	7.1	3.3	4.9	3.7	4.6	1.1	3.1	<.1	8.4	5.4	10.8	6.0
3	8.9	3.1	4.8	3.5	4.1	1.9	.1	.1	8.6	5.8	11.9	5.7
4	6.4	3.2	4.6	3.6	2.9	1.2	2.8	.1	7.1	5.3	12.2	5.6
5	3.3	2.9	4.7	3.4	3.4	.9	1.8	.1	7.9	4.9	12.6	6.0
6	15.0	3.0	4.9	3.3	8.1	.9	3.0	.1	9.9	5.0	7.2	5.6
7	14.4	4.7	5.2	3.8	7.2	4.3	3.0	.1	9.5	4.3	14.3	4.7
8	14.4	4.2	5.2	3.9	5.0	2.8	3.1	.1	8.6	4.0	14.2	5.9
9	11.5	4.2	5.3	3.9	4.6	2.2	5.6	.1	9.2	4.3	16.1	5.9
10	8.6	3.8	5.3	4.2	5.8	2.3	6.5	.1	10.5	4.5	16.2	6.8
11	10.5	3.7	5.3	3.8	6.2	3.2	6.8	.2	10.4	4.3	12.1	5.6
12	9.7	3.7	5.6	3.6	5.4	2.8	4.4	.2	9.9	5.2	16.8	6.6
13	4.4	3.5	5.7	4.7	7.2	3.0	5.6	.2	11.0	4.4	15.4	5.2
14	7.3	3.4	5.8	4.7	5.8	4.2	5.6	.2	11.2	4.5	15.2	6.1
15	5.9	3.5	6.3	4.6	6.5	3.8	4.7	.2	10.4	4.7	13.5	5.2
16	6.0	3.5	6.2	5.1	6.4	3.8	2.5	.2	11.3	4.2	15.9	6.0
17	3.7	3.5	6.2	4.2	7.5	3.4	.9	.2	11.5	4.3	15.8	5.7
18	12.9	3.6	6.7	4.8	6.3	3.9	.5	.2	8.7	4.0	17.0	5.3
19	12.3	3.7	6.8	4.9	8.4	3.9	.4	.2	10.7	3.7	15.6	5.3
20	5.4	3.7	7.5	5.4	10.7	5.6	.3	.2	12.2	3.1	13.9	4.9
21	11.9	3.7	7.8	6.2	10.7	8.8	4.5	.3	14.1	2.3	13.0	5.6
22	8.5	4.2	11.6	7.3	11.1	8.4	3.9	.4	18.2	2.9	13.3	5.0
23	7.8	4.3	8.9	7.4	14.3	8.8	3.1	1.1	16.9	2.5	15.0	4.8
24	7.4	4.2	9.1	7.2	15.3	11.0	6.6	.5	17.0	2.4	15.1	4.6
25	8.0	4.3	13.4	6.5	15.7	11.5	7.7	.4	15.3	6.1	11.2	4.8
26	7.3	4.4	10.4	7.0	14.4	10.1	7.7	3.1	13.4	6.7	14.8	5.2
27	6.7	4.7	8.3	5.8	13.0	8.6	8.9	3.2	14.3	6.6	14.4	4.5
28	6.5	4.2	8.2	5.7	9.7	4.3	9.4	4.9	13.1	6.6	16.3	3.9
29	6.4	4.3	10.8	3.8	8.0	2.3	9.1	5.5	---	---	12.8	3.8
30	5.6	4.1	8.6	4.7	4.7	1.5	8.5	5.6	---	---	15.6	4.3
31	5.4	4.2	---	---	4.7	.1	9.0	5.8	---	---	15.0	4.6
MONTH	15.0	2.9	13.4	3.3	15.7	.1	9.4	<.1	18.2	2.3	17.0	3.8
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.7	3.0	10.7	4.7	6.4	4.5	10.4	4.3	7.5	4.7	5.0	2.7
2	19.1	5.1	8.5	3.9	7.2	4.2	8.3	5.0	6.5	4.0	4.9	2.9
3	19.8	6.1	9.4	4.3	7.5	4.5	8.5	4.8	6.1	2.8	5.1	2.8
4	>20.0	6.2	10.6	3.9	7.2	4.9	9.1	4.9	6.2	2.8	5.0	2.4
5	16.7	4.9	10.5	4.3	6.7	4.8	8.7	4.7	5.6	3.2	4.8	2.5
6	13.9	5.8	11.2	4.5	6.4	4.0	8.4	4.1	6.4	3.0	5.3	3.1
7	11.9	5.5	10.5	4.3	6.3	4.2	9.6	4.1	6.4	3.1	6.2	2.9
8	13.0	6.2	7.9	3.7	5.5	3.5	7.7	3.9	6.3	3.0	6.0	2.9
9	11.6	5.7	9.8	3.4	6.1	3.2	9.2	4.5	6.7	3.0	5.7	3.2
10	12.7	6.7	10.9	3.8	6.2	3.6	9.6	4.6	7.2	3.8	5.7	3.3
11	12.1	7.7	11.8	3.4	6.1	3.8	9.5	4.7	7.0	3.4	5.8	3.3
12	14.0	5.8	9.8	3.4	6.8	4.0	9.5	5.0	7.3	3.5	5.7	3.0
13	14.2	5.5	9.7	3.6	7.2	3.8	8.6	5.1	5.8	3.5	6.1	3.1
14	18.3	4.1	10.2	4.9	7.1	4.0	9.1	5.0	4.9	3.2	5.0	3.3
15	17.3	3.6	10.9	5.2	6.9	3.0	8.4	5.0	6.2	3.0	6.1	3.0
16	17.2	5.0	10.2	4.9	8.7	4.4	7.9	4.8	6.1	2.4	4.7	3.3
17	18.8	4.5	11.2	5.0	9.4	5.4	7.8	5.0	5.6	2.0	4.8	3.1
18	16.9	4.1	9.4	4.9	9.2	5.3	6.6	4.3	5.2	1.7	3.9	3.0
19	12.1	4.7	7.9	4.6	7.9	4.4	6.3	3.8	5.5	2.1	6.6	2.8
20	11.0	4.8	8.7	4.8	8.3	4.2	6.6	3.4	5.4	2.6	6.3	3.3
21	11.9	5.1	8.9	4.4	7.5	3.9	7.1	4.1	5.5	2.3	5.2	3.6
22	8.4	4.5	9.0	4.3	8.4	3.9	7.7	4.0	5.6	2.4	7.2	3.2
23	12.0	4.8	8.6	4.7	7.7	3.6	8.4	4.7	5.5	2.7	5.2	3.4
24	13.2	3.5	9.2	4.8	6.6	3.5	8.5	5.1	6.0	2.6	4.7	3.2
25	12.9	3.8	8.9	4.1	7.1	3.2	7.9	5.8	6.0	2.9	4.0	2.8
26	9.9	3.7	9.6	4.3	7.6	3.4	8.1	5.2	6.4	3.1	3.8	3.1
27	8.3	3.4	8.1	4.5	6.4	3.3	7.7	5.3	6.2	3.0	4.8	3.5
28	8.1	4.0	7.9	4.2	5.5	3.0	7.7	4.8	5.6	2.6	8.2	3.8
29	8.9	3.5	8.6	4.2	10.6	3.0	7.9	5.4	5.6	2.6	8.9	4.2
30	9.6	4.0	8.0	4.2	11.3	4.5	6.9	5.5	5.7	2.3	6.7	4.7
31	---	---	7.7	4.4	---	---	7.7	4.9	4.8	2.1	---	---
MONTH	>20.0	3.0	11.8	3.4	11.3	3.0	10.4	3.4	7.5	1.7	8.9	2.4

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

> Actual value is known to be greater than the value shown.

331346117243401 SANTA MARGARITA RIVER ESTUARY, NEAR OCEANSIDE, CA

LOCATION.—Lat 33°13'46", long 117°24'34", in SE 1/4 SW 1/4 sec.9, T.11 S., R.5 W., San Diego County, Hydrologic Unit18070302, on tidal flat of the Santa Margarita River, on Camp Joseph H. Pendleton Naval Reservation, 0.6 mi west of Interstate Highway 5, and 3.0 mi northwest of Oceanside.

DRAINAGE AREA.—Not determined.

PERIOD OF RECORD.—November 1993 to current year.

SPECIFIC CONDUCTANCE: November 1993 to current year.

pH: November 1993 to current year.

WATER TEMPERATURE: November 1993 to current year.

DISSOLVED OXYGEN: November 1993 to current year.

PERIOD OF DAILY RECORD.—November 1993 to current year.

SPECIFIC CONDUCTANCE: November 1993 to current year.

pH: November 1993 to current year.

WATER TEMPERATURE: November 1993 to current year.

DISSOLVED OXYGEN: November 1993 to current year.

INSTRUMENTATION.—Water-quality monitor since November 1993.

REMARKS.—Interruptions in record at times due to malfunction of recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 58,700 microsiemens, July 2, 1998; minimum recorded, 236 microsiemens, Feb. 25, 1998.

pH: Maximum recorded, 9.3 standard units, July 2–3, 1997, and Feb. 23, 1998; minimum recorded, 6.0 standard units, Nov. 23, 1994, Apr. 24, 1995.

WATER TEMPERATURE: Maximum recorded, 35.0°C, Aug. 14, 1996; minimum recorded, 2.0°C, Nov. 19, 21, 1994.

DISSOLVED OXYGEN: Maximum recorded, 21.1 mg/L, Apr. 18, 1997; minimum recorded, 0.0 mg/L, many days during period of record.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 56,600 microsiemens, July 23; minimum recorded, 23,000 microsiemens, Jan. 18, 19.

pH: Maximum recorded, 9.1 standard units, Mar. 5; minimum recorded, 6.6 standard units, May 23.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 14; minimum recorded, 4.5°C, Dec. 23.

DISSOLVED OXYGEN: Maximum recorded, >20.0 mg/L, several days in November and December; minimum recorded, <0.1 mg/L, several days in May.

> Actual value is known to be greater than the value shown.

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

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	48000	46900	40800	39700	52500	34300	30000	25600	---	---	53300	51600
2	47300	45800	40700	39900	35600	34600	27100	26300	51700	44500	53000	51000
3	46200	44700	40200	39300	35000	34300	26900	26300	46500	42800	51200	48200
4	47400	45700	40000	39100	35000	34600	27300	26200	44100	36500	50400	47700
5	47300	46100	40800	38600	35400	35000	29300	26000	36500	31800	50600	48000
6	47800	46100	40900	38400	35400	30000	29300	25800	32200	31300	51000	48600
7	48700	46800	40300	38900	33600	31100	29300	25700	32800	30900	50400	47400
8	48400	47400	43300	37900	34900	32800	28700	24900	40700	31000	52100	48400
9	47600	46900	41800	39300	34800	33500	25800	25000	41600	31000	52100	46000
10	47000	45700	39600	38300	34100	32700	25900	25100	43100	41200	46300	44800
11	46300	45000	38800	37900	34600	32400	26400	25400	44900	42900	45600	44100
12	45900	44700	38300	37000	33800	31100	28100	24900	46200	44400	44300	41400
13	45200	44200	37900	37100	32900	31700	26200	24600	47600	45100	44200	41400
14	44300	42400	38100	36800	32600	30500	25200	24500	48300	44700	44200	41900
15	43600	42000	37700	37000	32200	29800	25100	24600	48000	44800	44700	41900
16	43400	41500	37600	36900	32000	29800	24900	24000	49100	45900	45400	42300
17	43200	41300	37100	35600	32200	28800	24100	23500	50000	46800	45400	43600
18	42700	41600	36100	34600	32500	29100	24200	23000	54300	42300	46000	44000
19	45200	42000	36700	34700	33000	28700	23400	23000	54300	44100	46700	44100
20	44600	43500	36400	35200	30000	28500	---	---	49400	45900	46800	44200
21	43800	41400	36400	34900	31200	28900	---	---	49300	45400	46900	45100
22	43800	40500	35900	35000	33200	30400	---	---	49100	45400	47400	44800
23	43000	40100	35500	35000	32400	29300	---	---	49100	46200	46500	45200
24	40300	39000	35000	34100	31800	29700	---	---	50500	47800	47400	45500
25	39800	38800	34300	33700	31300	29800	---	---	51500	49500	48100	45400
26	39500	38200	33800	33100	31500	29800	---	---	52800	50700	45800	43100
27	39200	38300	33800	32600	32900	28500	---	---	53200	51500	45700	43500
28	39100	38000	33600	29400	33000	28500	---	---	53200	51200	46100	44700
29	39400	37000	31600	30200	32000	28000	---	---	---	---	46700	45800
30	42400	36900	35400	29700	32100	27400	---	---	---	---	47000	46000
31	41800	40400	---	---	31900	26800	---	---	---	---	47800	46700
MONTH	48700	36900	43300	29400	52500	26800	---	---	---	---	53300	41400

331346117243401 SANTA MARGARITA RIVER ESTUARY, NEAR OCEANSIDE, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	48300	46900	52800	51000	53500	51200	53800	51800	54900	52600	53500	51500
2	48400	45500	53300	51200	51400	49000	54000	52000	54500	52600	53600	51000
3	48600	46700	52300	50900	50200	49200	53900	51900	55000	53800	53500	51600
4	48700	47000	52700	51000	49800	48400	53800	52400	54800	53200	53700	51900
5	48900	46600	53800	51700	49100	48300	54000	52100	54800	42100	53700	51600
6	48600	47200	53800	52300	48400	45500	54000	52300	54900	37300	53500	50800
7	47700	46300	54100	50200	45500	43300	54000	52400	54800	52000	53300	51000
8	46600	45500	54100	52600	44300	42100	54900	52000	54700	51400	53500	51200
9	45700	41200	53500	51900	43400	41900	54200	51000	54400	51200	53400	51300
10	41200	38300	53600	51900	44600	42900	53900	51200	54500	51200	53500	51100
11	38300	34300	54000	48200	48500	44500	53400	50900	54900	51200	53500	51200
12	34400	30000	54700	50400	49900	47600	54300	50800	54800	51300	53600	51600
13	30000	25100	53700	45800	51000	49800	56100	51300	54600	51300	53400	51200
14	45100	29000	52300	50800	51800	50900	56000	52600	53500	51800	53300	52200
15	---	---	52300	50900	52800	51400	56500	53300	54000	52200	53200	48200
16	---	---	52400	50800	53200	51600	56200	53200	53700	52100	53200	50700
17	---	---	52600	51100	54100	52000	56300	54600	53600	51100	52800	51900
18	---	---	53900	51900	53700	52400	56000	54600	53600	52200	52500	51700
19	---	---	53300	52200	53400	52100	56000	54400	53500	52200	52300	51200
20	---	---	53600	52900	53100	52200	56100	54800	53400	51100	52200	51000
21	---	---	54000	52900	53300	52100	56500	54400	53700	52000	52300	51000
22	---	---	53800	53100	53700	52200	56400	54300	54100	52300	51900	50900
23	---	---	53900	53200	54200	51800	56600	54300	54000	51900	51400	50100
24	50500	49400	53400	52800	54100	51500	55900	47900	53300	51400	50500	48900
25	51100	49500	53600	52700	54000	51700	55700	52400	53300	51000	49500	48200
26	51800	50300	53000	50900	53900	31900	55000	52300	53800	51100	48200	47000
27	52300	50100	50900	47000	53900	51700	54300	51900	53700	51200	47100	44500
28	52500	50100	50500	49400	53900	51700	53800	52000	53300	50900	46300	45500
29	51700	50400	51200	50200	53300	50600	53800	52000	53300	50800	46000	44700
30	52300	50600	52300	50900	53600	50900	54100	52200	53400	50700	45500	44600
31	---	---	52700	50900	---	---	54600	52700	53400	50600	---	---
MONTH	---	---	54700	45800	54200	31900	56600	47900	55000	37300	53700	44500

331346117243401 SANTA MARGARITA RIVER ESTUARY, NEAR OCEANSIDE, CA—Continued

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8.1	7.7	8.5	7.9	7.9	6.9	8.1	7.7	---	---	8.8	8.4
2	7.9	7.5	8.0	7.5	7.5	7.1	8.1	7.9	7.5	7.3	8.8	8.5
3	8.9	7.7	8.3	7.5	7.9	7.5	8.2	8.0	7.7	7.4	8.9	8.5
4	8.8	8.3	8.2	7.6	7.7	7.7	8.2	8.0	8.1	7.7	8.9	8.7
5	8.6	8.3	8.6	7.4	7.7	7.5	8.2	8.0	8.2	8.1	9.1	8.7
6	8.8	8.4	8.5	7.7	8.1	7.5	8.2	7.9	8.4	8.2	9.0	8.7
7	8.8	8.3	8.4	7.7	8.4	8.1	8.1	7.9	8.4	8.3	8.9	8.2
8	8.8	8.1	8.5	7.6	8.5	8.0	8.0	7.8	8.4	8.2	8.4	7.9
9	8.7	8.0	8.2	7.5	8.4	8.1	8.1	7.9	8.3	8.1	8.4	7.6
10	8.7	7.7	7.6	7.4	8.5	8.0	8.1	7.8	8.3	8.0	8.1	7.6
11	8.7	7.6	7.4	7.2	8.5	7.9	8.0	7.8	8.4	8.3	7.9	7.8
12	8.5	7.5	7.9	7.1	8.5	8.0	8.0	7.7	8.5	8.3	8.4	7.7
13	7.5	7.2	7.2	7.0	8.3	7.9	8.0	7.7	8.5	8.4	8.4	7.6
14	8.8	7.2	8.5	7.1	8.2	7.9	8.0	7.7	8.5	8.4	8.8	8.2
15	8.5	7.8	8.4	7.2	8.2	7.8	8.0	7.8	8.6	8.4	8.9	8.4
16	8.6	7.9	8.1	7.5	8.0	7.7	7.9	7.8	8.4	8.4	8.8	8.3
17	8.3	7.8	7.5	7.2	7.9	7.6	7.8	7.7	8.6	8.3	8.8	7.3
18	8.5	7.7	7.6	7.2	7.8	7.5	7.8	7.6	8.4	8.3	8.2	7.5
19	8.3	7.7	8.4	7.1	8.1	7.4	7.8	7.8	8.5	8.3	8.3	7.5
20	8.2	7.7	8.4	7.6	8.2	8.0	---	---	8.5	8.3	8.0	7.4
21	7.9	7.6	8.3	7.6	8.3	8.1	---	---	8.5	8.3	8.2	7.5
22	8.1	7.6	8.3	7.8	8.4	8.0	---	---	8.6	8.3	8.6	7.8
23	7.9	7.6	8.0	7.6	8.5	8.0	---	---	8.6	8.4	8.9	7.5
24	7.6	7.4	7.6	7.4	8.4	8.1	---	---	8.7	7.9	8.8	7.8
25	7.5	7.3	7.4	7.3	8.3	7.9	---	---	8.4	7.7	8.8	7.9
26	8.4	7.3	8.2	7.1	8.3	8.0	---	---	8.8	8.1	7.9	7.6
27	8.4	8.1	8.2	7.4	8.2	8.0	---	---	8.9	8.3	7.8	7.2
28	8.1	7.9	8.2	8.1	8.2	7.9	---	---	8.9	8.3	8.0	7.3
29	8.6	7.9	8.1	7.7	8.2	7.8	---	---	---	---	7.9	7.3
30	8.6	8.3	8.1	7.4	8.2	7.8	---	---	---	---	7.9	7.3
31	8.4	8.0	---	---	8.0	7.7	---	---	---	---	8.2	7.4
MONTH	8.9	7.2	8.6	7.0	8.5	6.9	---	---	---	---	9.1	7.2
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.4	8.6	8.2	8.5	8.1	8.6	8.1	8.4	7.8	8.3	7.9
2	7.8	7.5	8.6	8.3	8.4	8.0	8.6	8.0	8.5	7.8	8.2	7.8
3	7.9	7.5	8.6	8.2	8.6	7.8	8.8	8.0	8.1	7.7	8.3	7.8
4	7.8	7.5	8.6	8.3	8.5	8.3	8.9	8.1	8.0	7.7	8.2	7.8
5	7.8	7.6	8.7	8.3	8.6	8.3	8.8	8.3	7.9	7.6	8.1	7.8
6	7.9	7.6	8.7	8.5	8.6	8.4	8.6	8.3	8.0	7.6	8.2	7.8
7	7.9	7.7	8.8	8.6	8.6	8.4	8.4	8.1	8.1	7.7	8.2	7.8
8	7.9	7.8	8.8	8.6	8.6	8.3	8.4	8.0	8.3	7.7	8.2	7.8
9	8.1	7.8	8.9	8.5	8.5	8.2	8.8	7.8	8.3	7.7	8.3	7.8
10	8.0	7.8	8.9	8.4	8.6	8.0	8.8	7.9	8.4	7.7	8.3	7.7
11	8.4	7.9	8.9	8.6	8.3	7.8	8.5	7.8	8.4	7.7	8.4	7.8
12	8.7	8.3	8.9	8.4	8.2	7.6	8.3	7.8	8.1	7.6	8.4	7.8
13	8.7	8.2	8.7	8.2	8.2	7.8	8.2	7.9	8.3	7.6	8.5	7.9
14	8.6	8.2	8.4	8.1	8.2	7.6	8.2	7.7	8.4	7.6	8.4	8.0
15	8.5	8.2	8.4	7.9	8.2	7.6	8.2	7.6	8.4	7.6	8.4	8.0
16	8.5	8.3	8.2	7.7	8.1	7.5	8.2	7.6	8.5	7.8	8.2	8.0
17	8.7	8.3	8.1	7.8	8.1	7.6	8.4	7.8	8.4	7.9	8.3	7.9
18	8.7	8.4	8.2	7.7	8.2	7.6	8.2	7.8	8.2	7.9	8.2	8.0
19	8.5	8.3	8.1	7.6	8.2	7.7	8.2	7.8	8.1	7.8	8.4	7.9
20	9.0	8.2	8.0	7.0	8.2	7.7	8.3	7.8	8.1	7.8	8.3	8.1
21	8.9	8.2	8.2	6.9	8.2	7.8	8.4	7.8	8.0	7.8	8.3	8.1
22	8.9	8.2	8.1	6.7	8.2	7.7	8.4	7.8	8.1	7.8	8.1	8.0
23	8.6	8.0	7.1	6.6	8.3	7.8	8.4	7.9	8.2	7.8	8.1	7.9
24	8.7	8.2	7.6	6.9	8.4	7.8	8.2	7.8	8.2	7.8	8.1	7.9
25	8.8	8.3	7.9	6.8	8.4	7.9	8.1	7.8	8.3	7.8	7.9	7.9
26	8.8	8.3	7.1	6.8	8.5	7.9	8.3	7.7	8.3	7.8	7.9	7.8
27	8.7	8.3	8.7	6.8	8.5	7.9	8.1	7.6	8.3	7.8	7.8	7.8
28	8.6	8.3	8.5	7.8	8.5	7.9	8.1	7.6	8.3	7.7	7.8	7.7
29	8.6	8.1	8.6	7.8	8.6	7.9	7.9	7.5	8.2	7.8	7.9	7.7
30	8.4	8.1	8.5	7.9	8.6	8.0	8.1	7.6	8.2	7.8	8.1	7.6
31	---	---	8.5	7.8	---	---	8.5	7.8	8.3	7.8	---	---
MONTH	9.0	7.4	8.9	6.6	8.6	7.5	8.9	7.5	8.5	7.6	8.5	7.6

331346117243401 SANTA MARGARITA RIVER ESTUARY, NEAR OCEANSIDE, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.5	21.5	18.0	15.0	15.0	13.5	14.0	11.0	---	---	19.0	11.5
2	22.5	22.0	18.0	17.5	15.5	15.0	13.5	10.0	14.0	10.5	18.0	12.0
3	23.0	20.0	18.0	13.5	15.5	14.0	13.0	10.0	14.0	9.5	21.0	14.0
4	22.0	16.0	16.5	14.0	15.5	15.0	12.5	8.0	12.5	11.5	19.5	13.5
5	19.5	16.0	20.0	16.0	15.5	15.5	12.0	9.0	14.0	12.0	20.5	12.5
6	18.5	13.0	19.0	14.0	15.5	12.0	12.5	9.5	15.0	13.0	15.0	13.0
7	16.5	12.0	18.0	13.0	12.5	8.0	12.5	10.5	15.5	12.0	19.5	11.0
8	16.0	13.5	16.0	15.0	10.0	6.5	14.0	11.5	16.5	14.5	19.0	10.5
9	16.5	13.5	17.0	16.0	12.0	8.0	13.0	9.5	16.0	13.5	19.0	11.5
10	19.0	16.5	16.5	15.5	11.5	7.5	12.5	10.5	14.0	11.0	18.5	10.5
11	19.0	14.5	16.0	15.0	11.5	6.5	13.0	11.0	13.0	10.0	15.0	14.0
12	18.5	16.0	15.5	12.0	11.5	7.5	13.5	11.5	13.0	8.5	20.0	12.0
13	19.5	18.5	15.0	14.5	11.5	9.0	14.0	10.5	12.5	8.0	19.5	11.5
14	22.5	18.0	15.5	13.5	12.0	10.0	13.5	11.0	15.0	10.5	20.0	13.0
15	22.5	17.5	15.5	14.0	12.0	9.5	13.5	10.5	15.5	12.0	16.0	13.0
16	21.5	16.0	16.0	15.5	13.0	11.0	14.0	12.0	15.0	11.5	19.0	11.5
17	20.5	14.0	16.5	16.0	14.5	11.0	15.5	14.0	16.5	11.5	19.0	11.0
18	17.5	13.0	16.5	14.5	14.5	13.0	15.0	13.5	15.0	13.5	22.0	11.5
19	16.0	11.5	15.5	14.5	14.5	13.5	15.0	14.5	16.0	13.5	23.0	11.5
20	16.0	13.5	15.5	14.5	14.0	12.0	---	---	17.5	12.0	19.5	12.5
21	18.5	16.0	15.5	12.0	12.0	10.0	---	---	17.5	14.0	21.5	11.0
22	18.5	14.0	14.5	13.0	10.0	6.0	---	---	18.0	12.5	21.5	11.0
23	19.0	16.5	15.0	14.5	10.5	4.5	---	---	17.5	13.5	21.0	14.5
24	19.5	18.0	15.0	15.0	10.0	5.0	---	---	18.0	11.0	23.0	13.5
25	19.5	18.5	15.5	15.0	9.5	5.5	---	---	20.5	11.5	18.0	13.0
26	21.0	17.0	15.5	15.0	9.5	7.5	---	---	21.5	11.5	17.5	13.5
27	20.0	15.5	16.0	15.5	11.0	7.5	---	---	21.0	11.5	18.5	14.0
28	19.0	18.0	16.5	14.5	11.0	9.0	---	---	22.0	12.0	20.5	14.0
29	21.5	17.5	16.5	14.0	11.5	9.5	---	---	---	---	20.0	14.0
30	18.5	17.0	16.5	13.5	12.0	10.5	---	---	---	---	23.0	15.0
31	18.5	15.0	---	---	13.0	12.0	---	---	---	---	19.0	13.5
MONTH	23.0	11.5	20.0	12.0	15.5	4.5	---	---	---	---	23.0	10.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	11.5	21.5	14.0	20.0	17.5	28.0	22.0	27.0	21.0	26.0	22.0
2	20.5	8.5	19.5	17.0	21.0	17.0	24.5	21.0	29.0	23.0	24.5	20.5
3	19.0	11.5	20.0	15.0	22.5	18.0	24.0	19.0	28.0	23.5	25.5	20.0
4	16.0	9.0	21.5	15.5	21.5	17.0	27.5	20.0	27.5	24.0	25.0	21.5
5	18.0	10.0	22.0	14.5	23.0	18.5	27.5	21.5	25.0	22.5	24.5	21.5
6	16.5	13.0	24.5	16.0	25.5	22.5	26.5	23.0	27.0	20.5	26.0	21.0
7	14.5	12.0	23.5	18.0	26.5	24.5	27.0	22.0	28.5	22.0	27.0	20.0
8	16.5	14.0	22.5	18.0	26.0	23.5	25.0	23.0	27.5	20.5	26.5	20.0
9	17.0	15.5	21.5	16.5	25.0	22.5	28.0	22.5	27.5	20.0	25.0	21.0
10	18.0	16.5	23.0	18.5	26.0	21.5	30.0	22.0	29.0	20.5	27.0	20.0
11	18.5	17.5	23.5	19.0	25.0	21.0	29.5	21.0	29.0	20.5	26.0	19.5
12	17.5	16.5	23.5	19.5	27.0	20.0	29.0	21.5	28.0	20.0	25.5	18.5
13	19.0	16.5	20.5	18.0	27.5	19.5	29.0	23.0	29.5	21.5	25.5	20.0
14	19.0	15.0	22.0	16.0	27.0	19.5	30.5	23.5	26.0	22.0	24.5	21.0
15	17.0	15.5	23.0	17.0	23.0	19.0	30.0	23.5	29.5	20.5	25.5	21.5
16	18.5	15.0	21.0	16.0	24.5	18.5	30.0	23.5	29.0	22.5	23.0	20.0
17	20.5	15.0	20.5	16.0	27.0	20.0	29.5	22.5	28.5	22.0	22.0	20.5
18	21.0	15.0	21.0	19.0	25.0	20.5	29.5	23.0	28.5	22.5	21.0	20.0
19	21.5	15.5	20.5	18.5	23.5	20.5	30.0	23.5	27.5	23.0	25.0	19.0
20	23.5	16.0	21.0	18.5	25.5	20.0	29.0	22.5	26.5	22.5	23.0	19.0
21	24.5	16.5	21.0	18.5	24.0	20.5	29.5	22.0	26.0	22.5	23.0	20.5
22	22.0	15.0	20.0	17.5	26.0	19.5	28.5	21.5	27.5	22.5	24.0	21.5
23	20.5	13.5	21.0	19.5	27.0	20.5	29.0	21.5	25.5	21.5	24.5	23.5
24	22.5	17.5	22.0	19.5	27.5	21.5	28.5	21.0	28.5	21.5	24.5	22.5
25	23.5	18.5	22.0	20.5	27.5	21.5	28.5	22.0	28.0	19.5	23.0	22.5
26	22.0	17.0	23.5	21.5	28.0	21.5	28.5	22.5	28.0	20.0	22.5	21.0
27	24.0	18.0	24.5	20.0	28.5	21.5	26.5	21.5	27.0	21.5	22.0	21.0
28	20.5	15.0	22.0	19.5	26.0	21.5	27.5	21.5	25.5	21.0	22.0	21.0
29	18.0	13.0	25.5	18.0	28.5	21.5	28.0	20.5	27.0	21.0	23.0	21.0
30	19.0	15.0	24.5	19.0	29.0	22.0	28.0	21.5	28.0	22.0	23.0	20.5
31	---	---	25.0	18.5	---	---	28.5	22.0	27.5	22.0	---	---
MONTH	24.5	8.5	25.5	14.0	29.0	17.0	30.5	19.0	29.5	19.5	27.0	18.5

331346117243401 SANTA MARGARITA RIVER ESTUARY, NEAR OCEANSIDE, CA—Continued

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3.1	1.0	9.3	1.2	8.7	1.2	---	---	---	---	9.5	6.8
2	2.2	1.0	3.4	1.3	12.2	1.5	---	---	4.2	1.8	9.7	6.7
3	10.3	1.0	7.4	1.2	16.2	2.1	---	---	5.8	2.0	11.8	6.2
4	10.7	3.6	6.7	2.1	15.9	3.2	---	---	9.9	3.7	11.9	6.9
5	10.0	3.2	12.5	1.6	>20.0	5.4	---	---	13.1	2.7	13.0	5.4
6	12.5	5.4	12.5	2.0	---	---	---	---	9.7	2.5	11.4	6.3
7	10.5	3.5	10.2	2.8	---	---	---	---	14.6	2.7	12.8	6.5
8	9.8	2.4	6.5	1.8	---	---	---	---	15.1	2.1	11.3	8.0
9	9.2	2.0	3.2	1.1	---	---	---	---	4.8	1.8	10.0	6.1
10	7.2	2.0	2.9	.8	---	---	---	---	4.2	1.9	6.4	3.5
11	7.8	1.9	.9	.5	---	---	---	---	3.6	2.2	5.5	3.3
12	6.4	2.0	5.4	.5	---	---	---	---	4.5	2.0	5.7	3.5
13	2.1	1.7	.8	.5	---	---	---	---	4.0	1.4	5.3	3.0
14	13.8	1.8	14.6	.5	---	---	---	---	5.1	1.4	4.2	2.8
15	13.3	3.5	15.4	1.2	---	---	---	---	4.4	1.7	3.6	2.0
16	13.3	3.1	10.5	1.4	---	---	---	---	1.8	1.1	---	---
17	10.4	2.7	10.7	2.5	---	---	---	---	3.1	1.1	---	---
18	7.4	2.7	10.0	2.6	---	---	---	---	3.2	1.0	---	---
19	9.5	2.6	18.8	4.0	---	---	---	---	6.4	1.4	---	---
20	8.6	2.6	16.9	3.1	---	---	---	---	7.8	5.3	---	---
21	3.4	2.3	16.5	4.1	---	---	---	---	8.2	6.7	---	---
22	8.3	2.3	17.7	3.8	---	---	---	---	9.0	6.2	---	---
23	4.8	2.5	11.1	2.7	---	---	---	---	7.1	5.7	---	---
24	5.0	2.5	6.5	2.3	---	---	---	---	11.4	6.8	---	---
25	2.7	2.5	11.8	3.3	---	---	---	---	10.2	7.0	---	---
26	11.9	2.6	>20.0	3.9	---	---	---	---	10.1	5.9	---	---
27	11.2	2.8	>20.0	11.3	---	---	---	---	13.8	7.2	---	---
28	4.4	2.8	>20.0	16.0	---	---	---	---	10.1	7.0	---	---
29	10.9	2.8	>20.0	9.5	---	---	---	---	---	---	---	---
30	5.8	1.4	>20.0	2.1	---	---	---	---	---	---	---	---
31	4.6	1.1	---	---	---	---	---	---	---	---	---	---
MONTH	13.8	1.0	>20.0	.5	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	9.6	3.3	10.1	1.2	12.1	.6	8.0	3.0	7.3	1.2
2	---	---	6.3	1.0	9.3	2.2	11.4	.6	9.7	2.8	6.4	1.5
3	---	---	8.2	2.2	12.5	1.5	14.2	1.3	5.1	2.7	6.5	1.7
4	---	---	7.9	3.2	10.6	4.6	13.7	1.2	6.7	2.7	5.6	1.0
5	---	---	9.7	2.6	13.2	4.1	12.2	1.5	6.0	2.3	5.4	1.0
6	---	---	8.5	2.1	12.5	8.8	7.4	2.2	7.2	2.5	6.3	.9
7	---	---	7.3	3.8	11.1	5.4	8.4	1.4	6.2	1.8	6.4	1.1
8	---	---	10.1	2.0	9.8	3.0	8.4	.8	6.5	2.1	5.8	1.1
9	---	---	12.0	1.7	9.4	.5	13.9	.7	6.6	1.7	6.6	1.0
10	---	---	10.9	1.4	11.2	.4	14.6	.9	9.0	1.8	6.3	1.1
11	---	---	11.2	2.1	8.3	.4	10.2	.8	8.2	1.4	6.5	1.2
12	---	---	9.1	2.4	8.6	.4	5.7	1.1	6.3	1.3	6.6	1.6
13	---	---	15.1	1.3	7.2	.5	5.6	1.1	8.7	1.1	6.7	2.2
14	---	---	7.9	1.3	7.0	.5	4.9	1.4	10.5	1.1	6.6	2.6
15	---	---	8.5	1.3	5.1	.5	6.2	1.5	8.5	1.1	8.7	2.3
16	---	---	5.4	<.1	6.7	.5	6.9	2.0	8.7	1.3	6.4	2.4
17	---	---	5.1	<.1	7.3	.5	7.6	2.1	7.0	.7	6.6	2.4
18	---	---	4.1	<.1	6.4	.8	7.5	2.1	4.2	.9	5.1	2.7
19	---	---	2.0	<.1	6.2	.7	8.1	2.1	5.0	.9	8.0	2.7
20	---	---	<.1	<.1	6.5	1.0	9.8	2.3	5.1	.7	7.9	3.6
21	---	---	.7	<.1	6.3	1.0	11.2	2.3	4.2	.7	6.1	2.6
22	---	---	2.0	<.1	8.7	.7	11.1	2.5	4.7	.8	3.9	1.8
23	---	---	<.1	<.1	8.9	.8	11.7	2.7	5.0	1.0	3.5	1.7
24	8.1	1.4	<.1	<.1	9.7	.8	9.8	2.9	3.9	1.1	2.8	1.7
25	6.8	1.7	<.1	<.1	9.8	.8	9.6	2.9	4.4	1.0	2.1	1.5
26	7.4	1.1	<.1	<.1	10.6	.7	10.5	3.1	3.6	1.0	2.1	1.6
27	7.4	1.0	12.0	<.1	11.8	1.1	10.6	3.3	4.7	1.1	2.9	1.7
28	8.2	.9	9.3	.1	10.7	1.0	9.3	3.4	6.2	1.3	3.1	2.0
29	6.9	1.9	13.4	.2	12.0	1.2	8.4	3.5	5.4	1.2	4.8	1.9
30	7.5	1.5	9.5	.2	12.7	.4	7.7	3.7	5.9	1.2	9.3	2.2
31	---	---	10.9	.2	---	---	10.5	3.0	7.0	1.2	---	---
MONTH	---	---	15.1	<.1	13.2	.4	14.6	.6	10.5	.7	9.3	.9

> Actual value is known to be greater than the value shown.

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

11046090 LAS FLORES CREEK AT LAS PULGAS CANYON, NEAR OCEANSIDE, CA

LOCATION.—Lat 33°19'07", long 117°26'13", in NE 1/4 SE 1/4 sec.7, T.10 S., R.5 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on right bank, 2.7 mi upstream from mouth, and 9.7 mi northwest of Oceanside.

DRAINAGE AREA.—15.6 mi².

PERIOD OF RECORD.—October 1998 to September 1999.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 110 ft above sea level, from topographic map.

REMARKS.—Records poor. Some pumping upstream from station for irrigation. Camp Pendleton Water Treatment Plant No. 9 discharges to the channel at a point approximately 0.5 mi upstream from gage.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15 ft³/s, Nov. 8, 1998, gage height, 7.75 ft; minimum daily, 0.07 ft³/s, Sept. 30, 1999.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve extended above 2.8 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 8	0930	15	7.75				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.3	3.0	1.7	2.2	1.7	1.8	1.5	1.5	.20	.25	.25
2	1.8	2.4	2.7	1.7	2.2	1.8	1.7	1.5	.66	.22	.20	.17
3	1.7	2.4	2.6	1.7	2.2	1.8	1.6	1.6	.22	.23	.18	.22
4	1.8	2.4	3.0	1.7	2.9	1.8	1.6	1.5	.21	.19	.22	e.23
5	1.9	2.5	3.2	1.8	2.7	1.7	1.5	1.5	.17	.18	.31	e.20
6	1.7	2.5	3.4	1.9	2.4	1.7	1.6	1.3	.18	.21	.23	e.24
7	1.7	2.4	2.3	2.0	2.3	1.7	2.2	1.2	.16	.21	.24	e.26
8	1.8	4.1	2.2	2.0	2.3	1.6	1.7	1.2	.15	.25	.21	e.22
9	1.7	2.9	2.1	2.0	2.3	1.6	1.6	1.2	.15	.24	.22	e.20
10	1.7	2.7	1.9	2.0	2.2	1.5	1.6	1.2	.14	.17	.23	e.22
11	1.6	2.5	2.0	2.0	1.9	1.6	1.6	1.2	.16	.16	.22	e.23
12	1.5	2.4	1.9	1.9	2.0	1.6	3.4	1.2	.16	.16	.41	e.24
13	1.5	2.3	2.0	1.9	1.8	1.5	2.2	1.3	.17	.15	.34	e.25
14	1.6	2.2	2.0	1.9	1.8	1.4	2.1	1.2	.16	.15	.27	.16
15	1.8	2.3	2.0	1.9	1.8	2.2	2.1	1.3	.17	.15	.24	.19
16	1.8	2.4	1.9	1.9	1.8	2.1	2.0	1.3	.19	.15	.20	.21
17	1.5	2.3	1.9	1.9	1.8	2.0	1.9	1.3	.17	.17	.17	.26
18	1.6	2.4	2.0	1.9	1.8	2.0	1.8	1.3	.17	.16	.17	.33
19	1.7	2.3	2.2	2.0	1.8	1.9	1.8	1.2	.19	.17	.20	.31
20	1.9	2.4	2.1	2.3	1.7	1.9	1.8	1.2	.19	.17	.21	.22
21	1.9	2.3	2.0	2.2	1.7	1.8	1.9	1.2	.21	.18	.22	.21
22	1.8	2.3	2.0	2.1	1.7	1.9	1.9	1.2	.19	.17	.27	.18
23	2.3	2.4	2.0	2.0	1.6	1.8	1.9	1.2	.19	.16	.28	.20
24	2.1	2.4	1.9	2.0	1.6	1.8	1.9	1.1	.18	.16	.25	.27
25	2.2	2.5	1.8	2.7	1.7	2.1	1.8	1.2	.17	.19	.12	.25
26	2.1	2.3	1.8	3.2	1.8	1.9	1.9	1.2	.19	.21	.13	.27
27	2.1	2.4	1.7	3.1	1.8	1.8	1.8	1.2	.19	.27	.11	.30
28	2.2	3.4	1.8	2.4	1.7	1.7	1.7	1.4	.20	.24	.15	.28
29	2.3	2.8	1.8	2.3	---	1.7	1.6	1.3	.18	.24	.25	.20
30	2.3	2.6	1.7	2.2	---	1.7	1.6	1.4	.17	.24	.41	.07
31	2.3	---	1.7	2.6	---	1.7	---	1.3	---	.28	.43	---
TOTAL	57.7	75.5	66.6	64.9	55.5	55.0	55.6	39.9	7.14	6.03	7.34	6.84
MEAN	1.86	2.52	2.15	2.09	1.98	1.77	1.85	1.29	.24	.19	.24	.23
MAX	2.3	4.1	3.4	3.2	2.9	2.2	3.4	1.6	1.5	.28	.43	.33
MIN	1.5	2.2	1.7	1.7	1.6	1.4	1.5	1.1	.14	.15	.11	.07
AC-FT	114	150	132	129	110	109	110	79	14	12	15	14

e Estimated.

11046090 LAS FLORES CREEK AT LAS PULGAS CANYON, NEAR OCEANSIDE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.86	2.52	2.15	2.09	1.98	1.77	1.85	1.29	.24	.19	.24	.23
MAX	1.86	2.52	2.15	2.09	1.98	1.77	1.85	1.29	.24	.19	.24	.23
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	1.86	2.52	2.15	2.09	1.98	1.77	1.85	1.29	.24	.19	.24	.23
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

ANNUAL TOTAL	498.05
ANNUAL MEAN	1.36
HIGHEST DAILY MEAN	4.1 Nov 8
LOWEST DAILY MEAN	.07 Sep 30
ANNUAL SEVEN-DAY MINIMUM	.16 Jun 7
INSTANTANEOUS PEAK FLOW	15 Nov 8
INSTANTANEOUS PEAK STAGE	7.75 Nov 8
ANNUAL RUNOFF (AC-FT)	988
10 PERCENT EXCEEDS	2.3
50 PERCENT EXCEEDS	1.7
90 PERCENT EXCEEDS	.17

11046100 LAS FLORES CREEK NEAR OCEANSIDE, CA

LOCATION.—Lat 33°17'32", long 117°27'21", in NW 1/4 SE 1/4 sec.24, T.10 S., R.6 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on upstream side, at center of the Southern Pacific Railroad bridge, 0.5 mi upstream from mouth, and 8.5 mi northwest of Oceanside.

DRAINAGE AREA.—26.6 mi².

PERIOD OF RECORD.—May 1951 to September 1967, October 1969 to September 1979, and October 1993 to current year. Discharge records for October 1967 to September 1969 and October 1979 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

REVISED RECORDS.—WDR CA-72-1: 1971(M).

GAGE.—Water-stage recorder and multiple concrete culvert control. Elevation of gage is 35 ft above sea level, from topographic map.

REMARKS.—Records good. No regulation upstream from station. Camp Pendleton Water Treatment Plant No. 9 discharges to the channel at a point approximately 2.7 mi upstream from gage. Some pumping upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,300 ft³/s, Mar. 4, 1978, gage height, 13.67 ft, estimated, from floodmarks, based on culvert computation of peak flow; no flow for several days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Feb. 25, 1969, reached a stage of 7.25 ft, from floodmarks, discharge, 4,200 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.76	.84	.93	1.0	1.1	.97	.51	.74	.63	.52	.62
2	1.1	.84	.84	.99	.94	.94	1.1	.53	.74	.56	.46	.70
3	1.1	.84	.84	1.1	.94	1.0	.94	.56	.80	.51	.48	.69
4	1.1	.84	.84	1.1	.99	1.1	.92	.53	.76	.63	.53	.68
5	1.0	.80	.89	.96	1.4	1.1	.84	.50	.74	.64	.49	.81
6	1.0	.74	1.2	.94	1.0	1.0	.84	.49	.74	.60	.54	.73
7	1.2	.64	.90	.94	.94	1.0	1.1	.50	.76	.64	.54	.75
8	1.2	1.2	.84	.92	.94	.94	1.3	.56	.82	.57	.47	.62
9	1.1	1.0	.83	.94	.94	.88	.95	.56	.88	.58	.49	.62
10	1.1	.81	.82	.94	1.3	.91	.84	.56	.76	.49	.49	.57
11	1.1	.74	.75	.86	1.1	.89	.84	.56	.75	.59	.49	.54
12	1.0	.74	.79	.94	1.2	1.1	2.0	.58	.78	.63	.45	.57
13	.99	.74	.82	.89	1.1	1.1	1.5	.73	.72	.61	.49	.56
14	.90	.74	.75	.84	.97	1.1	1.0	.70	.67	.63	.49	.52
15	.92	.74	.86	.92	.94	1.2	.92	.74	.79	.52	.49	.52
16	.84	.79	.84	.94	.88	1.4	.88	.74	.65	.51	.48	.56
17	.86	.77	.84	1.0	.93	1.0	.94	.67	.68	.54	.47	.56
18	.90	.89	.84	1.1	.94	.94	.89	.74	.69	.54	.47	.50
19	.92	.87	.84	1.1	.94	.94	.82	.73	.71	.56	.52	.53
20	.84	.84	.89	1.1	.94	.94	.74	.74	.70	.53	.53	.43
21	.82	.84	.94	1.1	.94	.94	.74	.74	.73	.54	.56	.43
22	.77	.84	.98	1.1	.94	.94	.67	.74	.74	.56	.55	.43
23	.79	.79	.94	.94	.84	.94	.56	.78	.76	.49	.49	.38
24	.84	.67	.94	.94	.84	.87	.59	.80	.72	.45	.52	.47
25	.84	.64	.92	.99	.96	.92	.58	.74	.63	.54	.57	.56
26	.76	.64	.94	1.2	1.1	1.5	.61	.74	.64	.56	.62	.55
27	.82	.64	.94	1.8	1.1	1.2	.64	.81	.64	.56	.59	.50
28	.87	.71	.94	1.1	1.1	.99	.51	.84	.64	.50	.62	.48
29	.84	.85	.88	.94	---	.94	.53	.75	.56	.55	.62	.46
30	.78	.79	1.0	.94	---	.94	.56	.74	.64	.56	.69	.45
31	.74	---	1.1	.97	---	.94	---	.70	---	.56	.64	---
TOTAL	29.14	23.74	27.58	31.47	28.15	31.70	26.32	20.61	21.58	17.38	16.36	16.79
MEAN	.94	.79	.89	1.02	1.01	1.02	.88	.66	.72	.56	.53	.56
MAX	1.2	1.2	1.2	1.8	1.4	1.5	2.0	.84	.88	.64	.69	.81
MIN	.74	.64	.75	.84	.84	.87	.51	.49	.56	.45	.45	.38
AC-FT	58	47	55	62	56	63	52	41	43	34	32	33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.065	.26	.78	4.17	6.92	9.37	2.13	.41	.15	.11	.10	.12
MAX	.94	4.81	12.9	35.6	146	143	29.3	8.95	2.32	1.27	1.17	1.15
(WY)	1999	1966	1967	1995	1998	1978	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1954	1954	1963	1961	1955	1953	1953	1952	1952	1952	1952

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1952 - 1999	
ANNUAL TOTAL	5967.41		290.82			
ANNUAL MEAN	16.3		.80		2.03	
HIGHEST ANNUAL MEAN					17.9	
LOWEST ANNUAL MEAN					.006	
HIGHEST DAILY MEAN	1050		Feb 24		1050	
LOWEST DAILY MEAN	.18		Jan 3		.00	
ANNUAL SEVEN-DAY MINIMUM	.27		Jan 1		.00	
INSTANTANEOUS PEAK FLOW					2.5	
INSTANTANEOUS PEAK STAGE					.43	
ANNUAL RUNOFF (AC-FT)	11840		577		1470	
10 PERCENT EXCEEDS	26		1.1		.76	
50 PERCENT EXCEEDS	1.2		.80		.00	
90 PERCENT EXCEEDS	.74		.52		.00	

11046250 SAN ONOFRE CREEK AT SAN ONOFRE, CA

LOCATION.—Lat 33°23'02", long 117°34'24", in SE 1/4 SE 1/4 sec.14, T.9 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on left bank, 0.2 mi north of San Onofre, 0.3 mi upstream from Interstate Highway 5, and 0.5 mi upstream from mouth.

DRAINAGE AREA.—42.2 mi².

PERIOD OF RECORD.—October 1946 to September 1967, January to September 1989, and October 1998 to September 1999. Previous periods of gage operation were at site 250 ft upstream and at different datum.

GAGE.—Water-stage recorder, crest-stage gage, and concrete road crossing. Elevation of gage is 15 ft above sea level, from topographic map.

REMARKS.—No regulation upstream from station. Detention basins upstream from station for ground-water recharge. Pumping upstream from station for irrigation and water supply.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,600 ft³/s, Apr. 1, 1958, gage height, 6.90 ft, site and datum then in use; no flow for all or part of most years.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.56	3.35	3.31	2.51	3.31	3.09	.004	.000	.000	.000	.000
MAX	.000	12.3	63.6	37.1	32.2	41.9	62.6	.10	.000	.000	.000	.000
(WY)	1947	1966	1967	1952	1962	1952	1958	1958	1947	1947	1947	1947
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947	1947

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1947 - 1999

ANNUAL MEAN	1.37	
HIGHEST ANNUAL MEAN	8.48	1958
LOWEST ANNUAL MEAN	.000	1947
HIGHEST DAILY MEAN	887	Dec 6 1966
LOWEST DAILY MEAN	.00	Oct 1 1946
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1 1946
INSTANTANEOUS PEAK FLOW	2600	Apr 1 1958
INSTANTANEOUS PEAK STAGE	6.90	Apr 1 1958
ANNUAL RUNOFF (AC-FT)	995	
10 PERCENT EXCEEDS	.00	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

11046300 SAN MATEO CREEK NEAR SAN CLEMENTE, CA

LOCATION.—Lat 33°28'15", long 117°28'20", in SE 1/4 NE 1/4 sec.23, T.8 S., R.6 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on left bank, 0.4 mi downstream from mouth of Devil Canyon, and 8.6 miles northeast of San Clemente.

DRAINAGE AREA.—80.8 mi².

PERIOD OF RECORD.—October 1952 to September 1967, October 1993 to current year. Discharge records for October 1967 to September 1977 and October 1989 to September 1993 available in files of U.S. Marine Corps at Camp Pendleton.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 405 ft above sea level, from topographic map.

REMARKS.—Records good. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,500 ft³/s, Feb. 23, 1998, gage height, 12.83 ft, on basis of slope-area measurement of peak flow; no flow for several days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 9,240 ft³/s, gage height, 11.12 ft, Jan. 25, 1969.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft³/s, or maximum, from rating curve extended above 167 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 27	2315	8.4	2.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.8	4.5	3.4	6.0	3.6	3.6	2.9	.91	.02	.00	.00
2	1.7	1.7	4.4	3.4	5.9	3.6	3.7	2.9	1.2	.00	.00	.00
3	2.0	1.7	4.2	3.2	5.5	3.6	4.0	2.9	1.6	.00	.00	.00
4	2.0	1.7	4.1	3.1	5.3	3.6	4.1	2.9	1.9	.00	.00	.00
5	1.9	1.7	5.1	3.0	6.2	3.6	4.1	2.9	2.0	.00	.00	.00
6	1.6	1.7	6.7	2.9	6.7	3.6	4.0	2.6	1.8	.00	.00	.00
7	1.4	1.8	7.1	2.9	6.4	3.6	4.9	2.5	1.4	.00	.00	.00
8	1.2	3.3	5.9	2.9	6.0	3.6	6.0	2.3	1.1	.00	.00	.00
9	1.2	5.9	4.9	3.1	5.5	3.6	6.2	2.1	.93	.00	.00	.00
10	1.3	4.1	4.2	3.2	6.0	3.6	6.0	2.1	.83	.00	.00	.00
11	1.4	3.1	3.9	3.4	6.1	3.6	5.3	2.2	.72	.00	.00	.00
12	1.4	3.1	3.8	3.2	5.5	3.6	5.8	2.3	.70	.00	.00	.00
13	1.6	2.9	3.8	3.2	5.2	3.6	7.2	2.2	.65	.00	.00	.00
14	1.5	2.7	3.8	3.4	4.7	3.6	6.9	2.1	.58	.00	.00	.00
15	1.7	2.5	3.8	3.2	4.6	3.6	6.2	2.1	.50	.00	.00	.00
16	1.9	2.5	3.8	3.1	4.4	4.0	5.2	2.0	.43	.00	.00	.00
17	1.9	2.5	3.7	3.4	4.4	4.2	4.4	1.9	.38	.00	.00	.00
18	1.7	2.6	3.6	3.4	4.4	4.4	3.9	1.8	.32	.00	.00	.00
19	1.5	2.7	3.7	3.6	4.4	4.2	3.5	1.6	.27	.00	.00	.00
20	1.4	2.6	4.3	4.0	4.3	4.1	3.3	1.5	.25	.00	.00	.00
21	1.4	2.4	4.4	5.9	4.1	4.1	3.1	1.4	.21	.00	.00	.00
22	1.4	2.3	4.3	5.8	4.1	3.9	3.1	1.4	.20	.00	.00	.00
23	1.4	2.3	4.0	5.0	3.9	3.8	3.1	1.6	.17	.00	.00	.00
24	1.2	2.4	3.8	4.6	3.8	3.8	3.4	1.7	.15	.00	.00	.00
25	1.3	2.5	3.7	5.0	3.6	3.9	3.6	1.7	.11	.00	.00	.00
26	1.4	2.5	3.6	5.9	3.6	4.3	3.6	1.5	.10	.00	.00	.00
27	1.6	2.5	3.6	7.6	3.6	4.4	3.4	1.4	.06	.00	.00	.00
28	1.7	3.4	3.6	8.1	3.6	4.4	3.2	1.2	.04	.00	.00	.00
29	1.8	6.4	3.6	7.0	---	4.1	2.9	1.2	.04	.00	.00	.00
30	1.8	5.6	3.6	6.1	---	3.9	2.9	1.0	.03	.00	.00	.00
31	1.8	---	3.4	5.8	---	3.7	---	.99	---	.00	.00	---
TOTAL	48.8	84.9	130.9	131.8	137.8	119.2	130.6	60.89	19.58	0.02	0.00	0.00
MEAN	1.57	2.83	4.22	4.25	4.92	3.85	4.35	1.96	.65	.001	.000	.000
MAX	2.0	6.4	7.1	8.1	6.7	4.4	7.2	2.9	2.0	.02	.00	.00
MIN	1.2	1.7	3.4	2.9	3.6	3.6	2.9	.99	.03	.00	.00	.00
AC-FT	97	168	260	261	273	236	259	121	39	.04	.00	.00

11046300 SAN MATEO CREEK NEAR SAN CLEMENTE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.15	3.73	11.4	18.7	40.3	36.3	26.0	6.36	2.30	.67	.16	.088
MAX	1.57	69.4	164	131	488	371	270	53.9	21.2	6.94	2.09	1.21
(WY)	1999	1966	1967	1995	1998	1995	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.089	.035	.007	.000	.000	.000	.000	.000
(WY)	1953	1954	1954	1963	1961	1961	1961	1961	1960	1953	1953	1953

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1953 - 1999	
ANNUAL TOTAL	24105.01		864.49			
ANNUAL MEAN	66.0		2.37		12.0	
HIGHEST ANNUAL MEAN					65.7	
LOWEST ANNUAL MEAN					.019	
HIGHEST DAILY MEAN	3150	Feb 24	8.1	Jan 28	3150	Feb 24 1998
LOWEST DAILY MEAN	.65	Sep 1	.00	Jul 2	.00	Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	.78	Aug 28	.00	Jul 2	.00	Oct 1 1952
INSTANTANEOUS PEAK FLOW			8.4	Jan 27	12500	Feb 23 1998
INSTANTANEOUS PEAK STAGE			2.85	Jan 27	12.83	Feb 23 1998
ANNUAL RUNOFF (AC-FT)	47810		1710		8700	
10 PERCENT EXCEEDS	149		5.1		14	
50 PERCENT EXCEEDS	5.5		2.3		.20	
90 PERCENT EXCEEDS	1.4		.00		.00	

11046360 CRISTIANITOS CREEK ABOVE SAN MATEO CREEK, NEAR SAN CLEMENTE, CA

LOCATION.—Lat 33°25'35", long 117°34'10", in SW 1/4 SW 1/4 sec.36, T.8 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, on left bank, at San Mateo Creek Road crossing, 0.5 mi upstream from confluence with San Mateo Creek, and 2.3 mi east of San Clemente.

DRAINAGE AREA.—31.6 mi².

PERIOD OF RECORD.—October 1993 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and culvert control. Auxiliary gage 250 ft downstream with crest-stage gage and concrete road crossing. Elevation of gage is 90 ft above sea level, from topographic map. October 1993 to Feb. 23, 1998, two water-stage recorders (one on each of two main channels) at same site at different datums.

REMARKS.—Gage destroyed by flood on Feb. 23, 1998, and was out of operation until Sept. 30, 1999. Since Sept. 30, 1999, gage is as described above (see GAGE). No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 5,800 ft³/s, estimated, Feb. 23, 1998, gage height, unknown, on basis of drainage area relation with the peak on San Mateo Creek near San Clemente (11046300) and slope-area measurement of peak flow; no flow most of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 16, 1952, reached a discharge of 1,800 ft³/s, gage height of 8.86 ft, datum then in use, at site 1.8 mi upstream (station 11046350), on basis of slope-area measurement.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year (estimated).

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.004	.087	.49	7.19	46.0	26.6	7.08	1.83	.42	.028	.000	.000
MAX	.026	.51	1.58	24.6	249	128	31.2	7.36	1.92	.084	.000	.000
(WY)	1997	1997	1997	1995	1998	1995	1998	1998	1998	1997	1994	1994
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1994	1994	1994	1994	1999	1999	1994	1994	1994	1994	1994	1994

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1994 - 1999
ANNUAL TOTAL	9169.17		
ANNUAL MEAN	25.1		7.24
HIGHEST ANNUAL MEAN			25.2 1998
LOWEST ANNUAL MEAN			.000 1999
HIGHEST DAILY MEAN	1400	Feb 24	1400 Feb 24 1998
LOWEST DAILY MEAN	.00	Jan 1	.00 Oct 1 1993
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 12	.00 Oct 1 1993
INSTANTANEOUS PEAK FLOW			e5800 Feb 23 1998
INSTANTANEOUS PEAK STAGE			a Feb 23 1998
ANNUAL RUNOFF (AC-FT)	18190		5250
10 PERCENT EXCEEDS	35		5.6
50 PERCENT EXCEEDS	.00		.00
90 PERCENT EXCEEDS	.00		.00

e Estimated.

a Peak stage is unknown but is known to have occurred on Feb. 23, 1998.

11046370 SAN MATEO CREEK AT SAN ONOFRE, CA

LOCATION.—Lat 33°23'28", long 117°35'23", in SW 1/4 NW 1/4 sec.14, T.9 S., R.7 W., San Diego County, Hydrologic Unit 18070301, on Camp Joseph H. Pendleton Naval Reservation, at bridge on Interstate Highway 5, 0.5 mi upstream from mouth, and 2.6 mi downstream from Cristianitos Creek.

DRAINAGE AREA.—132 mi².

PERIOD OF RECORD.—October 1946 to September 1967 and October 1984 to September 1985. Discharge measurements only, October 1998 to September 1999.

SEDIMENT RECORDS: Water years 1982–85.

GAGE.—None. Elevation of station is 20 ft above sea level, from topographic map.

REMARKS.—Flow partly regulated by small detention reservoirs.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,000 ft³/s, estimated, Dec. 5, 1966, gage height, 10.42 ft, datum then in use; maximum gage height, 12.9 ft, Mar. 1, 1983 (backwater from channel vegetation), datum then in use; no flow for all or several months each year.

DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Time	Discharge (ft ³ /s)
Oct. 9.....	1210	0.86
Nov. 6.....	1310	.84
Dec. 3.....	1210	.68
Jan. 5.....	1145	.66
Feb. 5.....	1200	.71
Mar. 2.....	1020	.72
Apr. 6.....	1110	.68
May 5.....	1410	.67
June 14.....	1640	.64
July 8.....	1130	.62
Aug. 11.....	1200	.50
Sept. 8.....	1415	.31

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 mi².

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 and crest-stage gage. Elevation of gage is 100 ft above sea level, from topographic map.

REMARKS.—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. October 1928 to September 1969 and October 1969 to September 1985, data published as San Juan Creek near San Juan Capistrano (station 11046500) and San Juan Creek at San Juan Capistrano (station 11046550), which are located approximately 1.9 mi upstream and 1.0 mi downstream, respectively. Data for these sites are roughly equivalent.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 25,600 ft³/s, estimated, Mar. 5, 1995, gage height, 20.66 ft, from rating curve extended above 3,420 ft³/s; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, from rating curve extended above 3,510 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 6	0515	123	11.20				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	4.0	12	6.6	8.8	4.1	3.3	1.9	1.2	.00	.00	.00
2	3.4	4.4	15	6.1	5.9	3.2	2.9	2.1	2.0	.00	.00	.00
3	3.9	4.7	9.0	5.7	5.7	3.2	2.6	2.1	2.9	.00	.00	.00
4	3.7	4.1	9.5	5.3	8.0	4.6	3.6	2.0	2.1	.00	.00	.00
5	3.7	4.3	14	6.4	11	4.1	3.9	1.8	1.2	.00	.00	.00
6	3.6	4.3	24	7.2	7.0	3.9	4.6	1.6	1.0	.00	.00	.00
7	3.0	4.2	11	8.2	6.2	4.4	11	1.2	1.1	.00	.00	.00
8	2.6	22	9.0	6.3	6.6	4.1	7.7	.74	1.0	.00	.00	.00
9	2.7	13	8.2	4.9	8.0	3.9	6.0	1.3	.63	.00	.00	.00
10	2.7	6.1	7.3	5.0	11	3.8	4.9	2.3	.52	.00	.00	.00
11	2.6	5.9	6.7	4.5	6.7	4.4	8.4	2.2	.52	.00	.00	.00
12	2.8	6.7	7.0	3.5	5.2	4.4	25	1.6	.48	.00	.00	.00
13	3.1	6.0	6.7	3.9	4.8	4.0	9.3	1.4	.42	.00	.00	.00
14	3.1	5.6	6.5	4.0	4.9	3.7	6.7	1.6	.52	.00	.00	.00
15	3.1	4.7	7.9	3.5	4.9	5.9	5.5	1.3	.50	.00	.00	.00
16	3.0	4.4	9.3	3.3	4.5	6.0	4.4	1.2	.53	.00	.00	.00
17	2.9	5.0	6.5	3.3	4.4	4.4	3.8	1.7	.61	.00	.00	.00
18	2.4	4.3	6.6	3.4	4.8	4.5	3.3	1.8	.65	.00	.00	.00
19	2.7	4.6	7.9	3.2	4.6	3.9	3.0	1.3	.78	.00	.00	.00
20	2.8	4.4	13	7.5	4.6	4.0	2.4	1.0	.97	.00	.00	.00
21	2.9	3.9	7.1	8.9	4.6	4.6	1.9	1.0	.99	.00	.00	.00
22	3.1	4.2	6.1	5.6	4.9	4.1	2.4	1.4	1.0	.00	.00	.00
23	3.2	3.9	6.0	4.7	4.7	3.5	2.8	1.6	1.0	.00	.00	.00
24	3.1	4.7	6.3	4.7	4.5	3.2	2.4	2.0	1.0	.00	.00	.00
25	3.1	4.5	6.5	16	4.4	9.1	2.7	1.2	.75	.00	.00	.00
26	3.6	4.6	6.5	18	4.8	12	2.5	.70	.51	.00	.00	.05
27	4.3	5.3	6.1	25	5.2	5.2	1.8	.40	.29	.00	.00	.00
28	4.5	22	6.7	8.8	5.0	4.2	1.4	.02	.39	.00	.00	.11
29	4.2	17	6.0	7.4	---	4.0	1.7	.00	.22	.00	.00	.01
30	4.3	9.6	5.7	5.5	---	3.1	1.8	.39	.22	.00	.00	.00
31	3.8	---	5.8	10	---	3.1	---	1.1	---	.00	.00	---
TOTAL	101.2	202.4	265.9	216.4	165.7	140.6	143.7	41.95	26.00	0.00	0.00	0.17
MEAN	3.26	6.75	8.58	6.98	5.92	4.54	4.79	1.35	.87	.000	.000	.006
MAX	4.5	22	24	25	11	12	25	2.3	2.9	.00	.00	.11
MIN	2.4	3.9	5.7	3.2	4.4	3.1	1.4	.00	.22	.00	.00	.00
AC-FT	201	401	527	429	329	279	285	83	52	.00	.00	.3

11046530 SAN JUAN CREEK AT LA NOVIA STREET BRIDGE, AT SAN JUAN CAPISTRANO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.62	2.35	5.58	69.9	116	83.3	21.7	12.4	4.16	1.42	.63	.52
MAX	3.26	9.45	16.8	590	816	663	121	94.9	25.5	8.93	3.83	3.33
(WY)	1999	1997	1997	1993	1998	1995	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.51	1.17	.55	.037	.000	.000	.000	.000	.000
(WY)	1987	1987	1990	1990	1989	1990	1989	1987	1986	1986	1986	1986

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1986 - 1999	
ANNUAL TOTAL	36324.8		1304.02			
ANNUAL MEAN	99.5		3.57		26.0	
HIGHEST ANNUAL MEAN					106	
LOWEST ANNUAL MEAN					.61	
HIGHEST DAILY MEAN	5610	Feb 24	25	Jan 27	5700	Mar 5 1995
LOWEST DAILY MEAN	2.0	Sep 2	.00	May 29	.00	May 20 1986
ANNUAL SEVEN-DAY MINIMUM	2.2	Aug 27	.00	Jul 1	.00	May 20 1986
INSTANTANEOUS PEAK FLOW			123	Dec 6	25600	Mar 5 1995
INSTANTANEOUS PEAK STAGE			11.29	Apr 12	20.66	Mar 5 1995
ANNUAL RUNOFF (AC-FT)	72050		2590		18870	
10 PERCENT EXCEEDS	191		7.8		30	
50 PERCENT EXCEEDS	9.0		3.1		1.2	
90 PERCENT EXCEEDS	3.1		.00		.00	

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 mi².

PERIOD OF RECORD.—October 1972 to September 1977, October 1983 to September 1989, October 1995 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 80 ft above sea level, from topographic map.

REMARKS.—Records good. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,000 ft³/s, Feb. 23, 1998, gage height, 19.81 ft, from rating curve extended above 1,600 ft³/s; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 800 ft³/s, from rating curve extended above 1,600 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	0700	958	12.81	Jan. 27	0030	860	12.68

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

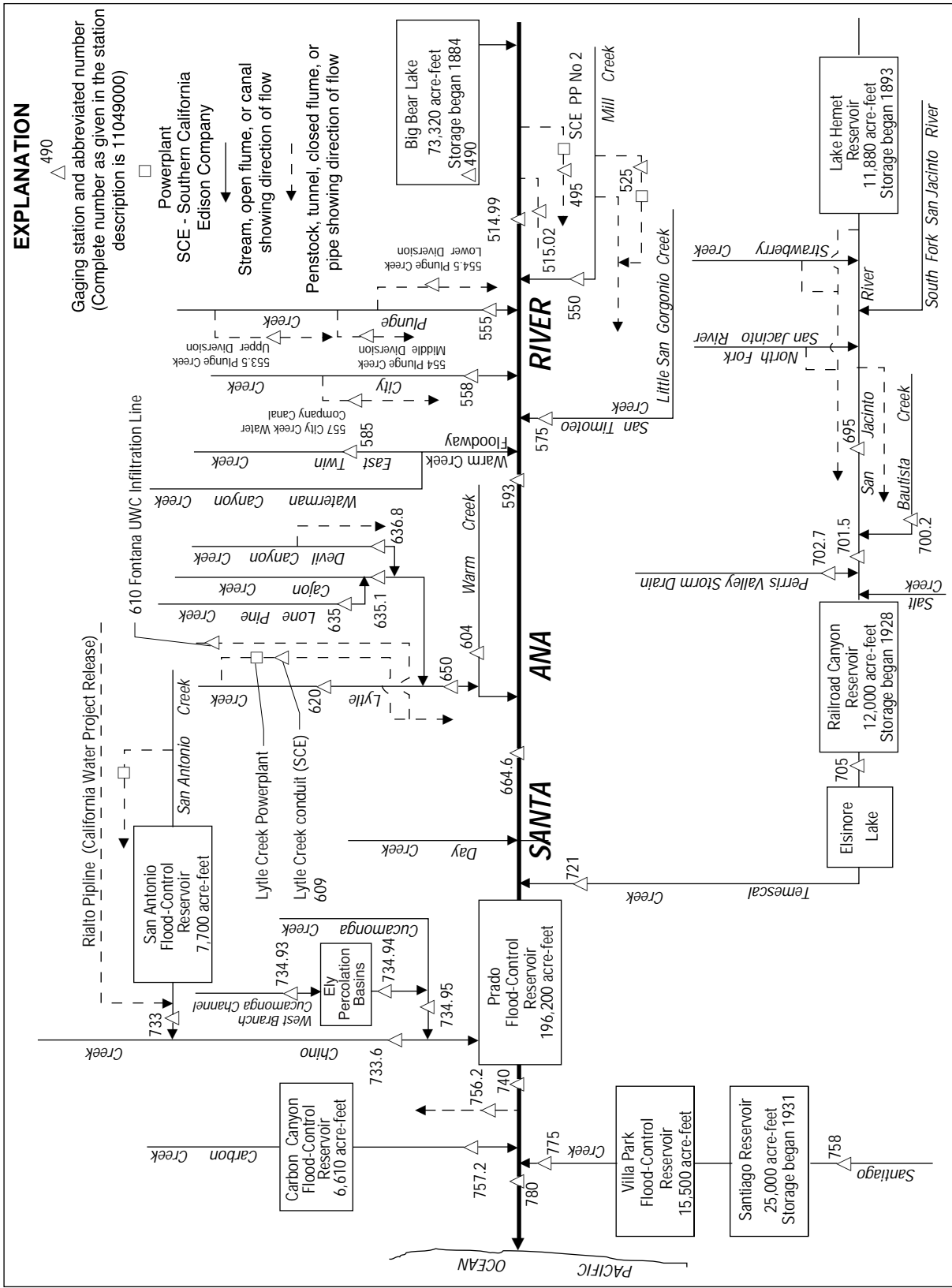
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.4	82	6.5	13	6.3	6.7	6.3	5.1	1.3	1.5	1.4
2	4.1	3.4	20	6.4	9.2	5.5	6.4	5.9	24	1.4	1.5	1.3
3	4.1	3.4	8.6	6.2	7.8	5.1	6.4	6.1	11	1.7	1.6	1.4
4	3.9	3.4	16	6.2	18	12	7.5	6.2	7.2	1.5	1.7	1.5
5	3.9	3.5	37	6.1	22	6.7	6.7	5.8	5.6	1.4	1.8	1.6
6	3.7	3.6	94	6.3	8.5	6.6	22	5.6	4.6	1.3	1.6	1.4
7	3.6	3.5	10	6.5	7.5	8.6	96	5.8	3.9	1.4	1.4	1.5
8	3.5	129	7.7	7.1	7.8	6.8	14	5.9	3.7	1.6	1.4	2.0
9	3.5	14	7.4	6.6	21	6.9	16	6.0	3.4	2.0	1.6	1.6
10	3.6	7.7	7.2	6.5	25	7.6	7.5	6.4	3.2	1.4	1.6	1.6
11	3.5	11	7.5	6.9	9.2	17	55	6.1	3.1	1.3	1.6	1.5
12	3.5	8.3	7.0	6.7	7.3	13	133	5.6	2.7	1.3	1.7	1.4
13	3.5	6.7	7.0	6.9	6.9	9.0	19	5.2	2.4	1.4	1.8	1.8
14	3.5	6.4	7.6	6.8	6.6	8.8	11	5.7	2.3	1.4	1.6	1.9
15	3.6	6.3	7.4	7.1	6.4	50	9.0	5.5	2.6	1.4	1.6	1.9
16	3.5	6.7	7.5	7.3	5.8	12	9.0	5.8	2.4	1.3	1.6	1.7
17	3.2	6.6	8.1	6.9	5.8	7.2	8.7	5.8	2.1	1.4	1.7	1.7
18	3.1	6.7	7.6	7.2	5.6	7.0	7.9	5.9	2.0	1.4	1.8	1.7
19	3.2	6.6	25	7.2	5.7	7.2	7.7	6.1	1.9	1.7	2.0	1.6
20	3.2	7.2	35	32	5.8	13	8.1	5.8	1.9	1.7	1.8	1.6
21	3.4	6.7	15	19	5.9	9.0	7.8	6.5	2.0	1.6	1.8	1.6
22	4.1	6.8	8.2	7.6	5.9	8.5	7.5	5.8	1.9	1.6	1.7	1.6
23	3.7	7.0	7.8	6.7	6.1	8.7	7.3	6.1	1.7	1.7	2.0	1.4
24	3.5	6.8	6.9	6.5	6.4	9.3	6.8	6.7	1.6	1.6	2.2	1.3
25	4.0	7.2	6.9	108	6.4	130	6.0	6.4	1.7	1.5	1.9	1.2
26	3.9	7.2	6.9	98	6.4	19	6.0	6.0	1.6	1.5	1.8	1.2
27	3.8	7.2	6.5	123	6.5	8.2	5.8	6.8	1.6	1.6	1.8	1.2
28	4.1	171	6.8	13	6.1	7.1	6.0	6.0	1.6	1.5	1.8	1.3
29	3.9	25	6.7	9.6	---	6.8	5.7	5.6	1.6	1.6	1.6	1.1
30	3.6	8.2	6.7	8.1	---	6.8	5.7	5.8	1.4	1.6	1.8	1.1
31	3.5	---	6.9	51	---	8.1	---	5.7	---	1.6	1.5	---
TOTAL	113.2	500.5	494.9	609.9	254.6	437.8	522.2	184.9	111.8	46.7	52.8	45.1
MEAN	3.65	16.7	16.0	19.7	9.09	14.1	17.4	5.96	3.73	1.51	1.70	1.50
MAX	4.1	171	94	123	25	130	133	6.8	24	2.0	2.2	2.0
MIN	3.1	3.4	6.5	6.1	5.6	5.1	5.7	5.2	1.4	1.3	1.4	1.1
AC-FT	225	993	982	1210	505	868	1040	367	222	93	105	89

11047300 ARROYO TRABUCO AT SAN JUAN CAPISTRANO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1973 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.31	12.3	22.8	20.3	49.4	23.0	11.3	6.50	2.98	1.52	1.58	2.55
MAX	12.7	37.8	91.8	120	481	129	59.8	56.9	22.1	7.99	8.90	7.81
(WY)	1988	1997	1998	1997	1998	1998	1998	1998	1998	1998	1977	1986
MIN	.052	.81	1.73	.85	2.84	3.74	.92	.71	.007	.055	.019	.000
(WY)	1974	1975	1973	1976	1977	1988	1977	1988	1973	1973	1973	1973

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1973 - 1999	
ANNUAL TOTAL	24505.6		3374.4			
ANNUAL MEAN	67.1		9.24		12.9	
HIGHEST ANNUAL MEAN					74.1	
LOWEST ANNUAL MEAN					3.17	
HIGHEST DAILY MEAN	2560	Feb 23	171	Nov 28	2560	Feb 23 1998
LOWEST DAILY MEAN	3.1	Oct 18	1.1	Sep 29	.00	Oct 1 1972
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 15	1.2	Sep 24	.00	Oct 1 1972
INSTANTANEOUS PEAK FLOW			958		10000	
INSTANTANEOUS PEAK STAGE			12.81		19.81	
ANNUAL RUNOFF (AC-FT)	48610		6690		9360	
10 PERCENT EXCEEDS	129		13		18	
50 PERCENT EXCEEDS	11		5.9		2.0	
90 PERCENT EXCEEDS	3.9		1.5		.24	



EXPLANATION

△ 490
 Gaging station and abbreviated number
 (Complete number as given in the station
 description is 11049000)

□
 Powerplant
 SCE - Southern California
 Edison Company

→
 Stream, open flume, or canal
 showing direction of flow

 Penstock, tunnel, closed flume, or
 pipe showing direction of flow

Figure 17. Diversions and storage in 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 mi², 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. WDR CA-99-1: Spillway (top of dam) elevation.

GAGE.—Nonrecording gage. Datum of gage is 6,670.9 ft above sea level (levels by Bear Valley Mutual Water Co.). Prior to 1912 at old dam 200 ft upstream at same datum; spill occurs at elevation 6,743.2 ft (revised).

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; present capacity table put into use August 1977), 73,320 acre-ft at elevation 6,743.2 ft, top of dam. No dead storage. During the year, 124 acre-ft was released. Between November 1998 and March 1999, 830 acre-ft was pumped from the lake for snowmaking. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Record of contents provided by Big Bear Municipal Water District; not reviewed by the U.S. Geological Survey.

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, 70,330 acre-ft, Oct. 1; minimum contents observed, 61,660 acre-ft, Sept. 30.

MONTHEND CONTENTS, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Contents (acre-ft)	Change in Contents (acre-ft)
Sept.30	70,370	—
Oct. 31	69,280	-1,090
Nov. 30	68,850	-430
Dec. 31	68,270	-580
CAL YR 1998	—	+10,240
Jan. 31	68,250	-20
Feb. 28	68,270	+20
Mar. 31	66,930	-1,340
Apr. 30	67,410	+480
May 31	66,600	-810
June 30	65,590	-1,010
July 31	64,300	-1,290
Aug. 31	62,820	-1,480
Sept. 30	61,660	-1,160
WTR YR 1999	—	-8,710

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 mi², including area tributary to Baldwin Lake at head of Bear Valley.

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.

REVISED RECORDS.—WSP 931: 1940. WSP 1635: 1918, 1920(M), 1922, 1937, 1943(M). WSP 1928: Drainage area. WSP 2128: 1910.

GAGE.—Three water-stage recorders. Main gage on right bank of river (station 11051499), canal gage on powerplant diversion (station 11049500), and since 1970, supplementary gage on left bank of river (station 11051502). Elevation of the main and supplementary gages is 1,950 ft above sea level, 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.—Records fair except for estimated daily discharges, which are poor. Flow partly regulated by Big Bear Lake (station 11049000). The supplementary gage (station 11051502) measures water that is occasionally diverted out of the main channel 250 ft upstream for water distribution. Flow measured by the supplementary gage is included with the river record to maintain equivalence with records prior to 1970. For records of combined discharge of Santa Ana River and Southern California Edison Co.'s Canal below Powerplant No. 2 (station 11049500), which diverts upstream from station, see station 11051501. 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.

COOPERATION.—Records for Southern California Edison Co.'s Canal near Mentone (station 11049500) were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—River only: Maximum discharge, 52,300 ft³/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 ft³/s, Mar. 2, 1938; minimum daily, 5.3 ft³/s, July 22, 1990.

EXTREMES OUTSIDE PERIOD OF RECORD.—Combined river and canal: Flood of Feb. 23, 1891, 53,700 ft³/s, from notes provided by F.C. Finkle, consulting engineer, Los Angeles.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	e56	e61	e50	52	34	11	52	e11	e2.4	e2.5	e4.2
2	8.2	e56	e61	e49	49	33	11	52	e18	e2.1	e2.9	e2.0
3	8.3	e57	e56	e49	48	35	11	40	e16	e2.1	e2.9	e1.4
4	8.7	e57	e60	e49	50	32	12	20	e20	e2.0	e3.5	e1.7
5	9.1	e55	e60	e50	55	35	11	30	e16	e1.9	e3.0	e1.6
6	8.5	e54	e63	e51	55	34	14	19	e13	e1.7	e3.0	e1.6
7	6.6	e50	e49	e49	54	34	22	11	e11	e1.8	e3.4	e1.6
8	5.9	e62	e55	e48	50	34	16	21	e11	e7.4	e3.3	e3.8
9	6.7	e70	e54	e47	52	34	19	21	e15	e28	e3.6	e3.8
10	6.4	e71	e40	e47	72	34	15	20	e6.8	e20	e4.4	e2.8
11	6.8	e64	e51	e46	57	37	16	18	e7.1	e25	e3.3	e2.2
12	7.5	e58	e53	e46	53	34	36	32	e6.1	59	e3.0	e2.1
13	9.1	e60	e52	44	50	34	29	29	e7.9	41	e2.9	e3.8
14	e8.8	e60	e54	44	48	34	38	e25	e4.6	e30	e2.9	e5.2
15	e12	e59	e52	44	47	37	58	e16	e3.5	e18	e2.9	e3.5
16	e48	e60	e51	44	45	35	52	e15	e12	e14	e2.9	e2.9
17	e56	e59	e51	44	44	36	37	e14	e22	e13	e3.5	e1.8
18	e55	e61	e51	44	42	34	36	e11	e21	e11	e3.3	e1.8
19	e58	e60	e51	44	31	33	28	e19	e14	e10	e3.2	e1.8
20	e57	e61	e50	48	13	33	15	e20	e13	e7.5	e2.9	e1.5
21	e64	e61	e50	50	12	33	11	e13	e8.5	e5.2	e5.1	e1.7
22	e58	e61	e48	e49	12	32	12	e23	e13	e4.1	e3.0	e1.7
23	e50	e61	e46	e50	11	26	15	e29	e6.6	e2.5	e3.5	e1.3
24	e48	e61	e47	e49	11	11	37	e16	e2.9	e2.4	e5.0	1.9
25	e48	e62	e49	51	28	11	35	e15	e3.3	e2.4	e5.9	1.8
26	e60	e61	e51	54	41	10	32	e14	e6.8	e2.4	e3.8	1.8
27	e58	e60	e50	54	36	10	24	e14	e7.1	e2.7	e5.7	e.75
28	e57	e76	e50	50	36	10	7.4	e13	e7.4	e2.7	e2.7	e.00
29	e53	e73	e49	51	---	9.6	34	e12	e6.1	e2.9	e2.9	e.00
30	e59	e64	e50	47	---	9.5	52	e12	e4.3	e2.8	e2.7	e.00
31	e57	---	e50	52	---	9.9	---	e11	---	e7.4	e3.6	---
TOTAL	1007.5	1830	1615	1494	1154	858.0	746.4	657	315.0	335.4	107.2	62.05
MEAN	32.5	61.0	52.1	48.2	41.2	27.7	24.9	21.2	10.5	10.8	3.46	2.07
MAX	64	76	63	54	72	37	58	52	22	59	5.9	5.2
MIN	5.9	50	40	44	11	9.5	7.4	11	2.9	1.7	2.5	.00
AC-FT	2000	3630	3200	2960	2290	1700	1480	1300	625	665	213	123

e Estimated.

SANTA ANA RIVER BASIN

11051500 SANTA ANA RIVER NEAR MENTONE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1915 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.07	9.24	25.8	42.4	83.2	95.9	64.4	49.6	22.2	11.8	6.49	6.60
MAX	77.8	206	536	646	1052	1405	413	446	278	174	124	134
(WY)	1970	1966	1967	1993	1980	1938	1969	1998	1969	1969	1969	1969
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1934	1934	1949	1936	1961	1951	1959	1959	1959	1934	1934	1933

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1915 - 1999	
ANNUAL TOTAL	44268.2		10181.55			
ANNUAL MEAN	121		27.9		33.8	
HIGHEST ANNUAL MEAN					283	
LOWEST ANNUAL MEAN					.012	
HIGHEST DAILY MEAN	1330	Feb 24	76	Nov 28	15500	Mar 2 1938
LOWEST DAILY MEAN	2.1	Jan 1	.00	Sep 28	.00	Nov 21 1932
ANNUAL SEVEN-DAY MINIMUM	2.3	Jan 1	.89	Sep 24	.00	Nov 21 1932
INSTANTANEOUS PEAK FLOW			149	Feb 18	52300	Mar 2 1938
INSTANTANEOUS PEAK STAGE					14.30	Mar 2 1938
ANNUAL RUNOFF (AC-FT)	87810		20200		24500	
10 PERCENT EXCEEDS	289		58		75	
50 PERCENT EXCEEDS	65		22		1.9	
90 PERCENT EXCEEDS	9.1		2.7		.00	

11051501 SANTA ANA RIVER NEAR MENTONE, CA—Continued

SANTA ANA RIVER AND SOUTHERN CALIFORNIA EDISON CO.'S CANAL NEAR MENTONE, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	e56	e61	e50	e56	e42	e41	e52	e26	e22	e23	e19
2	71	e56	e61	e49	e53	e41	e45	e52	e35	e23	e24	e20
3	70	e57	e59	e49	e53	e44	e47	e51	e29	e22	e24	e21
4	70	e57	e60	e49	e55	e43	e44	e51	e31	e22	e22	e19
5	67	e55	e60	e50	e59	e42	e43	e49	e34	e22	e22	e19
6	68	e54	e63	e51	e56	e43	e49	e48	e31	e22	e21	e19
7	67	e50	e57	e49	e54	e43	e60	e48	e29	e22	e19	e19
8	64	e62	e55	e48	e50	e43	e52	e46	e30	e35	e19	e18
9	64	e70	e54	e47	e52	e43	e61	e45	e28	e29	e19	e18
10	63	e71	e52	e47	e72	e42	e57	e45	e27	e21	e19	e19
11	61	e64	e51	e46	e61	e45	e53	e44	e25	e26	e24	e17
12	60	e58	e53	e46	e57	e44	e73	e43	e25	e59	e22	e17
13	60	e60	e52	e44	e54	e42	e69	e45	e25	e41	e21	e17
14	e61	e60	e54	e44	e52	e42	e65	e43	e25	e30	e21	e18
15	e61	e59	e52	e44	e51	e50	e58	e42	e24	e33	e21	e18
16	e65	e60	e51	e44	e49	e46	e52	e41	e23	e33	e21	e17
17	e56	e59	e51	e44	e48	e45	e53	e41	e22	e32	e23	e18
18	e55	e61	e51	e44	e56	e44	e52	e41	e21	e30	e19	e16
19	e58	e60	e51	e44	e50	e43	e51	e40	e22	e29	e19	e16
20	e57	e61	e50	e48	e46	e43	e52	e40	e22	e28	e20	e17
21	e64	e61	e50	e50	e48	e42	e48	e38	e21	e27	e20	e19
22	e58	e61	e48	e49	e47	e41	e50	e39	e22	e27	e21	e18
23	e50	e61	e48	e50	e46	e42	e51	e35	e23	e25	e21	e19
24	e48	e61	e47	e49	e45	e44	e47	e32	e24	e25	e22	e21
25	e48	e62	e49	e55	e42	e44	e45	e30	e23	e25	e23	e21
26	e60	e61	e51	e58	e41	e43	e42	e29	e23	e25	e22	e21
27	e58	e60	e50	e58	e41	e42	e43	e29	e23	e24	e21	e20
28	e57	e76	e50	e54	e41	e41	e44	e28	e23	e24	e20	e19
29	e53	e73	e49	e55	---	e41	e57	e27	e21	e25	e19	e18
30	e59	e64	e50	e54	---	e40	e52	e27	e21	e25	e18	e17
31	e57	---	e50	e56	---	e40	---	e26	---	e24	e19	---
TOTAL	1883	1830	1640	1525	1435	1330	1556	1247	758	857	649	555
MEAN	60.7	61.0	52.9	49.2	51.2	42.9	51.9	40.2	25.3	27.6	20.9	18.5
MAX	73	76	63	58	72	50	73	52	35	59	24	21
MIN	48	50	47	44	41	40	41	26	21	21	18	16
AC-FT	3730	3630	3250	3020	2850	2640	3090	2470	1500	1700	1290	1100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	49.0	45.7	58.8	91.7	124	136	117	103	74.4	63.5	56.8	54.2
MAX	122	219	538	1439	1052	1402	413	477	277	175	124	137
(WY)	1984	1966	1967	1916	1980	1938	1969	1998	1969	1922	1969	1969
MIN	10.4	12.5	14.4	19.0	18.3	21.6	20.6	19.2	15.1	9.36	9.91	9.75
(WY)	1991	1991	1991	1991	1991	1965	1961	1961	1989	1990	1990	1990

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1912 - 1999

ANNUAL TOTAL	58738	15265										
ANNUAL MEAN	161	41.8								81.1		
HIGHEST ANNUAL MEAN										366		1916
LOWEST ANNUAL MEAN										18.6		1990
HIGHEST DAILY MEAN				1330	Feb 24		76	Nov 28		16000		Jan 27 1916
LOWEST DAILY MEAN				33	Jan 31		16	Sep 18		5.3		Jul 22 1990
ANNUAL SEVEN-DAY MINIMUM				37	Jan 1		17	Sep 13		8.1		Jul 19 1990
INSTANTANEOUS PEAK FLOW							149	Feb 18		52300		Mar 2 1938
ANNUAL RUNOFF (AC-FT)	116500						30280			58730		
10 PERCENT EXCEEDS				319			61			138		
50 PERCENT EXCEEDS				108			44			49		
90 PERCENT EXCEEDS				50			20			24		

e Estimated.

11052500 MILL CREEK POWER CANALS NOS. 2 AND 3 NEAR YUCAIPA, CA

LOCATION.—Lat 34°05'23", long 117°00'49", in NW 1/4 NW 1/4 sec.17, T.1 S., R.1 W., San Bernardino County, Hydrologic Unit 18070203, on penstock, 100 ft downstream from Mill Creek Nos. 2 and 3 forebay, and 4.2 mi northeast of Yucaipa.

PERIOD OF RECORD.—October 1973 to September 1986, October 1993 to current year. Records for January 1919 to September 1973 available in files of the U.S. Geological Survey.

GAGE.—Acoustic-velocity meter and water-stage recorder. Elevation of gage is 4,840 ft above sea level, from topographic map.

REMARKS.—Mill Creek Power Canals Nos. 2 and 3 divert from points 3 mi and 6 mi upstream from station, respectively. Canal No. 2, damaged during earthquake in 1992, was not used during water year 1999. Prior to October 1993, records collected at powerplant at terminus of penstock. October 1993 to September 1995, records collected at auxiliary gage at Canal No. 3 intake. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Records were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 41 ft³/s, May 6, 1995; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	20	18	14	14	e13	12	e12	e12	9.1	.34	7.3
2	22	20	18	14	14	e13	12	e12	e12	9.0	.33	7.4
3	22	20	18	14	14	e13	12	e12	e12	9.1	.27	7.3
4	22	19	18	14	14	e13	12	e12	e12	9.0	.29	7.2
5	9.5	19	17	14	14	e13	13	e12	e12	9.0	3.8	7.3
6	.76	19	17	14	14	e13	13	e12	e12	8.9	7.7	7.2
7	.70	19	17	14	15	e13	12	e12	e12	7.2	7.8	7.1
8	.61	10	17	14	14	e13	13	e12	e12	.32	7.7	7.0
9	5.8	9.9	16	15	14	e13	13	e12	e12	4.4	8.0	7.0
10	22	19	17	14	14	e13	12	e12	e12	7.6	8.5	7.0
11	22	20	17	14	14	e13	13	e12	e12	5.3	8.5	6.9
12	22	19	17	14	14	e13	13	e12	e12	.39	8.4	6.8
13	21	19	17	14	14	e13	14	e12	e12	.42	8.2	6.6
14	21	19	17	14	14	e13	14	e12	e11	.39	8.1	6.5
15	22	18	17	14	14	e13	14	e12	e11	.45	7.9	6.6
16	22	18	17	14	14	e13	14	e12	e10	.25	7.9	6.7
17	21	18	17	14	13	e13	14	e12	e10	.26	7.9	6.7
18	21	18	16	14	13	e13	14	e12	e9.1	.26	7.7	6.6
19	21	18	17	14	13	e13	14	e12	e9.1	.30	7.6	6.5
20	21	18	17	13	13	e13	14	e12	e9.1	.26	7.8	6.5
21	20	17	17	13	13	e13	14	e12	e9.1	.25	7.8	6.7
22	20	18	16	13	13	e13	14	e12	e9.1	.31	7.6	4.7
23	20	18	16	13	13	e13	14	e12	e9.1	.31	7.6	.14
24	20	17	16	13	13	e13	14	e12	e9.1	.24	7.6	.24
25	21	17	16	13	13	e13	14	e12	e9.1	.27	7.6	.21
26	21	17	16	14	e13	e13	14	e12	e9.1	.25	7.4	.18
27	20	17	16	15	e13	e13	e13	e12	e9.1	.33	7.4	6.0
28	20	18	15	15	e13	e13	e12	e12	e9.1	.27	7.2	6.7
29	20	16	15	15	---	e12	e12	e12	e8.7	.23	7.3	7.1
30	21	16	15	14	---	e12	e12	e12	9.0	.33	7.2	7.0
31	20	---	15	14	---	e12	---	e12	---	.35	7.2	---
TOTAL	564.37	530.9	515	432	381	400	395	372	315.8	85.04	206.63	177.17
MEAN	18.2	17.7	16.6	13.9	13.6	12.9	13.2	12.0	10.5	2.74	6.67	5.91
MAX	22	20	18	15	15	13	14	12	12	9.1	8.5	7.4
MIN	.61	9.9	15	13	13	12	12	12	8.7	.23	.27	.14
AC-FT	1120	1050	1020	857	756	793	783	738	626	169	410	351

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.0	15.9	15.7	15.8	16.3	18.8	21.4	21.7	20.9	18.2	17.0	16.3
MAX	26.8	23.5	23.9	26.6	27.8	30.1	33.3	31.8	28.7	29.2	30.2	27.9
(WY)	1981	1979	1979	1979	1979	1979	1995	1995	1979	1980	1980	1978
MIN	9.77	7.40	9.86	7.90	6.02	10.3	13.2	11.3	10.5	2.74	6.67	3.01
(WY)	1988	1998	1989	1995	1998	1998	1999	1998	1999	1999	1999	1997

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1974 - 1999
ANNUAL TOTAL	5558.62	4374.91	
ANNUAL MEAN	15.2	12.0	17.9
HIGHEST ANNUAL MEAN			26.2
LOWEST ANNUAL MEAN			12.0
HIGHEST DAILY MEAN	25	Mar 11	41
LOWEST DAILY MEAN	.07	Sep 1	.00
ANNUAL SEVEN-DAY MINIMUM	.80	Sep 1	.27
ANNUAL RUNOFF (AC-FT)	11030	8680	12980
10 PERCENT EXCEEDS	23	19	27
50 PERCENT EXCEEDS	19	13	17
90 PERCENT EXCEEDS	1.0	5.6	11

e Estimated.

1105500 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 mi².

PERIOD OF RECORD.—January 1919 to current year; combined records of creek and diversions, March 1951 to current year.

REVISED RECORDS.—WSP 1635: 1924, 1926, 1935–36(M), 1943, 1944(M), 1945, 1946(M), 1947, 1950(M). WSP 1715: 1956–58(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder on creek. Since March 1951, water-stage recorder and weir on upper diversion, discontinued Sept. 30, 1991, reactivated July 27, 1993; 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 sea level, from topographic map. Prior to Oct. 1, 1969, creek gage at datum 4.00 ft higher. Diversions all at different datums.

REMARKS.—Records good except for estimated daily discharges, which are poor. No regulation upstream from station. Diversion from Alder Creek to Upper Plunge Creek area was active 1904–67. Diversions for irrigation are made at sites 0.5 mi (station 11055450), 1.0 mi (station 11055400), and 2.5 mi (station 11055350) upstream from streamflow station. Water has been diverted upstream from station for irrigation during entire period of record. For combined discharge of Plunge Creek and diversions, see station 11055501. No flow in lower diversion since May 29, 1966. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Creek only: Maximum discharge, 5,340 ft³/s, Mar. 2, 1938, on basis of slope-area measurement of peak flow; maximum recorded gage height, 7.41 ft, Nov. 29, 1970; no flow at times in some years.

Combined creek and diversions: Maximum discharge, 4,770 ft³/s, Dec. 6, 1966; no flow, Nov. 12, 1964, Sept. 29, 1965, Aug. 4, 1987, several days in November 1988, September 1991, many days in 1992.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum, from rating curve extended above 356 ft³/s on basis of slope-conveyance measurement at gage height 7.41 ft:

Date	Time	Creek only		Combined creek and diversions
		Discharge (ft ³ /s)	Gage height (ft)	Discharge (ft ³ /s)
Feb. 9	2315	37	3.47	37

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.95	2.4	1.6	4.1	1.5	2.0	3.9	1.1	.09	.00	.00
2	1.0	1.0	2.4	1.6	3.1	1.5	1.9	3.5	2.9	.01	.00	.00
3	1.0	.98	2.5	1.6	2.8	1.5	1.9	3.3	2.1	.00	.00	.00
4	1.1	.92	2.9	1.6	2.9	1.6	2.2	3.1	3.0	.00	.00	.00
5	.78	.94	3.3	1.6	3.3	1.6	1.9	2.7	2.5	.00	.00	.00
6	.83	1.6	4.1	1.6	3.1	1.6	2.6	2.3	2.0	.00	.00	.00
7	.81	2.4	3.3	1.5	2.9	1.7	8.3	2.2	1.4	.00	.00	.00
8	.78	3.4	2.4	1.5	2.8	1.7	5.1	2.2	1.1	.00	.00	.00
9	.80	3.5	2.7	1.4	5.1	1.6	4.6	2.4	1.1	.09	.00	.00
10	.83	2.6	3.4	1.4	11	1.6	3.4	2.2	1.2	.03	.00	.00
11	.81	2.2	2.9	1.4	5.8	1.7	3.7	2.0	1.1	.00	.00	.00
12	.73	2.4	2.3	1.4	4.6	1.7	8.3	1.9	.89	.09	.00	.00
13	.79	2.2	2.3	1.5	4.1	1.6	7.5	1.7	.74	.03	.00	.00
14	.90	2.0	2.0	1.4	3.9	1.5	8.1	1.7	.57	.04	.00	.00
15	1.1	1.9	1.8	1.5	3.4	2.0	6.7	1.8	.44	.02	.00	.00
16	1.0	1.7	2.0	1.5	2.7	1.9	5.1	2.0	.42	.01	.00	.00
17	.79	1.7	1.8	1.5	2.6	1.7	4.1	1.8	.40	.00	.00	.00
18	.70	1.8	1.8	1.7	2.5	1.7	3.4	1.5	.38	.00	.00	.00
19	.68	1.6	2.0	2.0	2.4	1.7	3.2	1.3	.34	.00	.00	.00
20	.74	1.5	2.1	2.5	2.3	1.9	3.0	1.3	.33	.00	.00	.00
21	.67	1.5	2.3	3.7	2.1	1.9	3.0	1.4	.35	.00	.00	.00
22	.67	1.4	2.4	3.3	2.1	1.8	3.1	1.6	.35	.00	.00	.00
23	.63	1.4	2.2	3.2	2.0	1.9	3.3	1.6	.34	.00	.00	.00
24	.61	1.5	1.8	3.2	1.8	1.9	3.9	1.4	.33	.00	.00	.00
25	.84	1.4	1.8	4.5	1.6	1.9	4.2	1.3	.31	.00	.00	.00
26	1.0	1.3	1.8	5.8	1.6	1.8	3.7	1.2	.48	.00	.00	.00
27	.94	1.4	1.9	6.5	1.6	1.8	3.4	1.1	.45	.00	.00	.00
28	.85	6.2	1.8	5.0	1.6	1.9	3.6	1.1	.41	.00	.00	.00
29	.85	5.5	1.7	4.5	---	1.7	3.8	1.0	.22	.00	.00	.00
30	1.1	3.4	1.6	4.4	---	1.7	4.4	1.0	.14	.00	.00	.00
31	1.0	---	1.7	4.8	---	1.8	---	1.0	---	.00	.00	---
TOTAL	26.43	62.29	71.4	80.7	89.8	53.4	123.4	58.5	27.39	0.41	0.00	0.00
MEAN	.85	2.08	2.30	2.60	3.21	1.72	4.11	1.89	.91	.013	.000	.000
MAX	1.1	6.2	4.1	6.5	11	2.0	8.3	3.9	3.0	.09	.00	.00
MIN	.61	.92	1.6	1.4	1.6	1.5	1.9	1.0	.14	.00	.00	.00
AC-FT	52	124	142	160	178	106	245	116	54	.8	.00	.00

11055500 PLUNGE CREEK NEAR EAST HIGHLANDS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.28	1.94	6.54	12.7	22.1	22.8	12.9	4.23	1.10	.32	.17	.34
MAX	3.47	44.7	106	170	224	176	74.2	51.7	15.1	5.52	4.87	10.9
(WY)	1984	1966	1967	1993	1969	1938	1958	1998	1998	1998	1983	1978
MIN	.000	.000	.000	.003	.000	.029	.000	.000	.000	.000	.000	.000
(WY)	1920	1921	1930	1963	1961	1961	1961	1919	1919	1919	1919	1919

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1919 - 1999
ANNUAL TOTAL	7847.96	593.72	
ANNUAL MEAN	21.5	1.63	7.09
HIGHEST ANNUAL MEAN			42.5 1969
LOWEST ANNUAL MEAN			.050 1961
HIGHEST DAILY MEAN	503 Feb 24	11 Feb 10	1840 Jan 25 1969
LOWEST DAILY MEAN	.55 Sep 18	.00 Jul 3	.00 May 1 1919
ANNUAL SEVEN-DAY MINIMUM	.64 Sep 13	.00 Jul 17	.00 May 1 1919
INSTANTANEOUS PEAK FLOW		37 Feb 9	5340 Mar 2 1938
INSTANTANEOUS PEAK STAGE		3.47 Feb 9	7.41 Nov 29 1970
ANNUAL RUNOFF (AC-FT)	15570	1180	5130
10 PERCENT EXCEEDS	56	3.5	14
50 PERCENT EXCEEDS	5.5	1.5	.18
90 PERCENT EXCEEDS	.99	.00	.00

11055501 PLUNGE CREEK NEAR EAST HIGHLANDS, CA—Continued

PLUNGE CREEK AND DIVERSIONS NEAR EAST HIGHLANDS, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	3.0	e4.3	3.5	4.8	3.2	3.7	5.7	2.5	1.2	.76	.75
2	3.5	3.1	e4.2	3.4	4.2	3.3	3.6	5.3	4.5	1.1	.73	.84
3	3.6	3.0	e4.3	3.4	4.2	3.3	3.6	5.2	3.9	1.1	.70	.89
4	3.7	2.9	e4.8	3.4	4.4	3.4	4.0	5.0	4.9	1.1	.71	.86
5	3.2	2.8	e5.0	3.5	4.9	3.4	3.6	4.4	4.3	1.0	.77	.78
6	2.9	2.6	e5.3	3.5	4.6	3.4	4.4	3.9	3.7	.96	.89	.76
7	2.9	3.4	e4.8	3.4	4.4	3.5	9.8	3.7	3.1	1.0	.88	.74
8	2.9	4.7	e4.3	3.7	4.2	3.5	6.5	3.7	2.7	1.1	.86	.72
9	2.9	4.7	e4.5	3.6	6.5	3.4	6.4	4.0	2.6	1.3	.83	.75
10	3.1	4.1	e5.3	3.4	11	3.4	5.4	3.9	2.8	1.1	.86	.72
11	3.1	4.1	e4.2	3.3	6.2	3.5	5.7	3.7	2.7	.95	.86	.69
12	2.6	4.2	3.4	3.3	5.3	3.5	11	3.5	2.4	.92	.82	.69
13	2.7	3.8	3.4	3.4	4.8	3.4	9.8	3.4	2.1	.97	.72	.68
14	2.8	3.6	3.4	3.3	4.5	3.2	10	3.6	1.9	1.1	.74	.68
15	3.2	3.5	3.4	3.4	4.5	3.9	8.6	3.5	1.6	1.2	.73	.69
16	3.3	3.5	3.5	3.3	4.5	4.0	7.2	3.6	1.6	1.0	.71	.70
17	3.0	3.7	3.4	3.3	4.3	3.7	6.1	3.3	1.6	.87	.70	.70
18	2.7	e3.8	3.4	3.3	4.2	3.7	5.1	3.1	1.5	.83	.68	.82
19	2.7	e3.6	3.5	3.3	4.1	3.6	4.8	2.9	1.4	.81	.69	.79
20	2.7	e3.5	3.6	3.3	3.8	3.7	4.4	2.9	1.3	.83	.70	.73
21	2.6	e3.5	3.7	4.0	3.6	3.7	4.4	3.1	1.4	.83	.64	.75
22	2.6	e3.4	3.7	3.6	3.8	3.5	4.6	3.4	1.4	.80	.65	.88
23	2.5	e3.5	3.7	3.5	3.5	3.6	5.0	3.4	1.3	.78	.62	.87
24	2.5	e3.6	3.6	3.5	3.4	3.6	5.8	3.2	1.3	.78	.65	.78
25	3.0	e3.6	3.6	4.8	3.3	3.6	6.1	3.1	1.3	.78	.64	.73
26	3.2	e3.5	3.6	6.0	3.3	3.5	5.5	3.1	1.3	.77	.62	.71
27	3.1	e3.6	3.6	6.7	3.3	3.5	5.2	3.1	1.3	.77	.63	.71
28	3.1	e8.2	3.7	5.2	3.2	3.5	5.4	3.0	1.3	.79	.63	.66
29	2.9	e6.7	3.7	4.7	---	3.3	5.6	2.6	1.2	.78	.62	.63
30	3.3	e5.1	3.4	4.6	---	3.2	6.3	2.5	1.1	.76	.65	.61
31	3.1	---	3.5	5.0	---	3.4	---	2.5	---	.78	.69	---
TOTAL	92.8	116.3	121.8	119.6	126.8	108.4	177.6	111.3	66.0	29.06	22.38	22.31
MEAN	2.99	3.88	3.93	3.86	4.53	3.50	5.92	3.59	2.20	.94	.72	.74
MAX	3.7	8.2	5.3	6.7	11	4.0	11	5.7	4.9	1.3	.89	.89
MIN	2.5	2.6	3.4	3.3	3.2	3.2	3.6	2.5	1.1	.76	.62	.61
AC-FT	184	231	242	237	252	215	352	221	131	58	44	44

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.44	3.50	7.65	17.6	24.0	24.7	14.4	7.64	3.69	1.88	1.34	1.47
MAX	7.23	45.2	106	170	224	126	79.0	52.5	17.1	7.44	7.43	14.1
(WY)	1984	1966	1967	1993	1969	1978	1958	1998	1998	1980	1983	1978
MIN	.033	.003	.77	1.00	1.50	1.62	1.33	.97	.63	.26	.028	.011
(WY)	1992	1992	1963	1963	1961	1961	1961	1961	1961	1992	1992	1992

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1951 - 1999

ANNUAL TOTAL	8283.6	1114.35										
ANNUAL MEAN	22.7	3.05								9.06		
HIGHEST ANNUAL MEAN										44.4		1969
LOWEST ANNUAL MEAN										1.00		1961
HIGHEST DAILY MEAN				505	Feb 24		11	Feb 10		1840		Jan 25 1969
LOWEST DAILY MEAN				2.5	Oct 23		.61	Sep 30		.00		Nov 12 1964
ANNUAL SEVEN-DAY MINIMUM				2.6	Oct 18		.63	Aug 23		.00		Nov 15 1988
INSTANTANEOUS PEAK FLOW							37	Feb 9		4770		Dec 6 1966
ANNUAL RUNOFF (AC-FT)	16430						2210			6560		
10 PERCENT EXCEEDS				56			5.0			16		
50 PERCENT EXCEEDS				6.5			3.4			2.4		
90 PERCENT EXCEEDS				3.1			.73			.60		

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1919 to current year; combined records of creek and City Creek Water Co.'s canal, June 1924 to September 1986, October 1988 to current year.

REVISED RECORDS.—WSP 1635: 1920(M), 1923(M), 1937(M), 1939(M), 1946. WSP 1928: Drainage area.

GAGE.—Water-stage recorder on creek; water-stage recorder on canal. Elevation of creek gage is 1,580 ft above sea level, from topographic map. Prior to Mar. 1, 1939, at site 0.2 mi downstream at different datum. Canal gage at different datum.

REMARKS.—Records fair. No regulation upstream from station. City Creek Water Co.'s canal (station 11055700) diverted from a site 0.5 mi upstream from station for irrigation throughout period of record until Sept. 30, 1986, and resumed diversion on Mar. 31, 1989. Diversion canal damaged by storms of January 1993, with no flow in canal from January 14, 1993, to April 5, 1995. For combined discharge of City Creek and canal see station 11055801. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Creek only: Maximum discharge, 7,000 ft³/s, Feb. 25, 1969, gage height, 9.39 ft, from rating curve extended above 580 ft³/s on basis of slope-area measurement at gage height 8.82 ft; no flow for many days in some years. Combined creek and canal: Maximum discharge, 7,000 ft³/s, Feb. 25, 1969; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 110 ft³/s, or maximum:

Date	Time	Creek only		Combined creek and canal
		Discharge (ft ³ /s)	Gage height (ft)	Discharge (ft ³ /s)
Feb. 10	0015	37	4.65	37

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.6	3.2	5.7	7.4	5.7	5.8	6.7	3.6	1.3	.54	.33
2	3.9	2.6	3.1	5.6	6.8	5.6	5.7	6.2	5.5	1.3	.50	.36
3	4.0	2.6	3.2	5.5	6.5	5.5	5.8	6.7	4.9	1.4	.42	.35
4	3.9	2.6	3.9	5.5	6.8	5.8	6.4	6.7	5.1	1.5	.37	.36
5	3.4	2.6	3.5	5.4	7.8	6.0	6.0	6.1	4.7	1.3	.39	.41
6	3.2	2.7	3.8	5.3	7.6	6.0	8.9	5.5	4.1	1.1	.44	.40
7	3.2	2.7	3.4	5.3	7.5	6.0	18	5.3	3.8	1.0	.67	.37
8	3.1	3.3	3.3	5.3	7.4	6.0	11	5.3	3.7	1.4	.74	.36
9	3.0	3.2	4.6	5.3	11	6.0	11	5.6	3.7	1.9	.73	.36
10	3.1	2.9	6.3	5.3	19	6.0	9.5	5.6	3.8	1.5	.73	.36
11	3.0	3.1	6.4	5.3	12	6.0	9.7	5.3	3.7	1.3	.77	.33
12	3.0	3.2	6.3	5.3	11	5.9	18	4.9	3.3	1.1	.74	.32
13	3.0	2.8	6.2	5.3	9.7	5.7	15	5.0	2.9	1.1	.63	.32
14	3.0	2.7	6.2	5.2	9.2	5.6	13	5.1	2.5	.99	.48	.32
15	3.2	2.7	6.2	5.1	8.7	7.4	11	5.0	2.3	1.0	.41	.34
16	3.2	2.6	6.0	5.1	8.5	7.1	9.8	4.9	2.2	1.1	.36	.35
17	2.9	2.7	6.1	5.3	8.3	6.6	8.6	4.6	2.2	1.0	.32	.35
18	2.8	2.8	6.2	5.3	8.1	6.4	7.8	4.3	2.1	.91	.29	.38
19	2.8	2.7	6.7	5.3	7.9	5.9	6.9	4.3	2.0	.85	.29	.39
20	2.7	2.6	7.3	6.0	7.4	6.2	6.5	4.5	1.9	.78	.28	.40
21	2.7	2.7	7.2	6.9	7.1	6.2	6.6	4.6	2.0	.77	.27	.38
22	2.7	2.8	6.9	5.7	7.3	5.9	6.6	4.9	2.0	.74	.26	.40
23	2.7	2.8	6.9	5.4	7.2	5.8	6.5	4.7	1.9	.68	.25	.44
24	2.7	2.9	6.6	5.3	7.0	5.9	7.1	4.3	1.8	.64	.26	.46
25	2.9	2.9	6.4	7.4	6.6	5.8	7.0	4.2	1.6	.61	.25	.44
26	2.9	2.9	6.3	9.0	6.6	5.7	6.3	4.0	1.6	.61	.25	.40
27	2.8	2.9	6.2	10	6.3	5.7	5.9	3.9	1.6	.60	.26	.40
28	2.8	4.6	6.0	7.9	6.0	5.7	6.1	3.9	1.5	.60	.26	.37
29	2.8	4.3	5.9	7.0	---	5.3	6.3	3.8	1.4	.64	.25	.32
30	2.9	3.3	5.7	6.9	---	5.3	7.2	3.9	1.3	.64	.26	.30
31	2.8	---	5.8	7.7	---	5.4	---	3.7	---	.55	.28	---
TOTAL	95.3	87.8	171.8	186.6	232.7	184.1	260.0	153.5	84.7	30.91	12.95	11.07
MEAN	3.07	2.93	5.54	6.02	8.31	5.94	8.67	4.95	2.82	1.00	.42	.37
MAX	4.2	4.6	7.3	10	19	7.4	18	6.7	5.5	1.9	.77	.46
MIN	2.7	2.6	3.1	5.1	6.0	5.3	5.7	3.7	1.3	.55	.25	.30
AC-FT	189	174	341	370	462	365	516	304	168	61	26	22

SANTA ANA RIVER BASIN

11055800 CITY CREEK NEAR HIGHLAND, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.11	3.42	8.67	16.9	31.2	29.6	18.1	7.63	2.94	1.12	.62	.65
MAX	8.48	43.4	89.5	199	451	219	148	52.3	26.1	11.7	9.56	5.70
(WY)	1984	1966	1967	1993	1969	1938	1926	1998	1998	1980	1983	1976
MIN	.000	.000	.000	.13	.35	.18	.033	.000	.000	.000	.000	.000
(WY)	1927	1922	1930	1936	1924	1926	1934	1934	1924	1924	1920	1920

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1920 - 1999	
ANNUAL TOTAL	9299.9		1511.43			
ANNUAL MEAN	25.5		4.14		10.1	
HIGHEST ANNUAL MEAN					75.3	
LOWEST ANNUAL MEAN					.46	
HIGHEST DAILY MEAN	457	Feb 24	19	Feb 10	3360	Feb 25 1969
LOWEST DAILY MEAN	2.6	Nov 1	.25	Aug 23	.00	Jul 18 1920
ANNUAL SEVEN-DAY MINIMUM	2.6	Nov 1	.25	Aug 23	.00	Jul 18 1920
INSTANTANEOUS PEAK FLOW			37	Feb 10	7000	Feb 25 1969
INSTANTANEOUS PEAK STAGE			4.65	Feb 10	9.39	Feb 25 1969
ANNUAL RUNOFF (AC-FT)	18450		3000		7280	
10 PERCENT EXCEEDS	63		7.3		20	
50 PERCENT EXCEEDS	7.4		3.9		1.4	
90 PERCENT EXCEEDS	2.9		.38		.00	

11055801 CITY CREEK NEAR HIGHLAND, CA—Continued

CITY CREEK AND CITY CREEK WATER CO.'S CANAL NEAR HIGHLAND, CA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.0	7.6	5.7	7.4	5.7	5.8	6.7	3.6	1.3	.54	.33
2	5.6	5.1	7.5	5.6	6.8	5.6	5.7	6.2	5.5	1.3	.50	e.36
3	5.8	5.0	7.6	5.5	6.5	5.5	5.8	6.7	4.9	1.4	.42	e.35
4	5.7	4.9	8.7	5.5	6.8	5.8	6.4	6.7	5.1	1.5	.37	e.36
5	4.8	5.0	8.1	5.4	7.8	6.0	6.0	6.1	4.7	1.3	.39	e.41
6	4.6	5.3	8.6	5.3	7.6	6.0	8.9	5.5	4.1	1.1	.44	e.40
7	4.6	5.5	8.0	5.3	7.5	6.0	18	5.3	3.8	1.0	.67	.37
8	4.5	7.3	7.8	5.3	7.4	6.0	11	5.3	3.7	1.4	.74	.36
9	4.5	7.3	6.6	5.3	11	6.0	11	5.6	3.7	1.9	.73	.36
10	4.8	6.6	6.3	5.3	19	6.0	9.5	5.6	3.8	1.5	.73	.36
11	4.6	7.0	6.4	5.3	12	6.0	9.7	5.3	3.7	1.3	.77	.33
12	4.5	7.4	6.3	5.3	11	5.9	18	4.9	3.3	1.1	.74	.32
13	4.6	6.5	6.2	5.3	9.7	5.7	15	5.0	2.9	1.1	.63	.32
14	4.8	6.1	6.2	5.2	9.2	5.6	13	5.1	2.5	.99	.48	.32
15	5.4	6.0	6.2	5.1	8.7	7.4	11	5.0	2.3	1.0	.41	.34
16	5.4	5.9	6.0	5.1	8.5	7.1	9.8	4.9	2.2	1.1	.36	.35
17	4.8	6.2	6.1	5.3	8.3	6.6	8.6	4.6	2.2	1.0	.32	.35
18	4.6	6.4	6.2	5.3	8.1	6.4	7.8	4.3	2.1	.91	.29	.38
19	4.5	6.1	6.7	5.3	7.9	5.9	6.9	4.3	2.0	.85	.29	.39
20	4.3	5.9	7.3	6.0	7.4	6.2	6.5	4.5	1.9	.78	.28	.40
21	4.3	5.9	7.2	6.9	7.1	6.2	6.6	4.6	2.0	.77	.27	.38
22	4.4	6.0	6.9	5.7	7.3	5.9	6.6	4.9	2.0	.74	.26	.40
23	4.4	6.0	6.9	5.4	7.2	5.8	6.5	4.7	1.9	.68	.25	.44
24	4.5	6.1	6.6	5.3	7.0	5.9	7.1	4.3	1.8	.64	.26	.46
25	5.2	6.2	6.4	7.4	6.6	5.8	7.0	4.2	1.6	.61	.25	.44
26	5.5	6.0	6.3	9.0	6.6	5.7	6.3	4.0	1.6	.61	.25	.40
27	5.4	6.1	6.2	10	6.3	5.7	5.9	3.9	1.6	.60	.26	.40
28	5.2	9.1	6.0	7.9	6.0	5.7	6.1	3.9	1.5	.60	.26	.37
29	5.2	9.6	5.9	7.0	---	5.3	6.3	3.8	1.4	.64	.25	.32
30	5.6	8.0	5.7	6.9	---	5.3	7.2	3.9	1.3	.64	.26	.30
31	5.4	---	5.8	7.7	---	5.4	---	3.7	---	.55	.28	---
TOTAL	153.5	189.5	210.3	186.6	232.7	184.1	260.0	153.5	84.7	30.91	12.95	11.07
MEAN	4.95	6.32	6.78	6.02	8.31	5.94	8.67	4.95	2.82	1.00	.42	.37
MAX	6.0	9.6	8.7	10	19	7.4	18	6.7	5.5	1.9	.77	.46
MIN	4.3	4.9	5.7	5.1	6.0	5.3	5.7	3.7	1.3	.55	.25	.30
AC-FT	304	376	417	370	462	365	516	304	168	61	26	22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.23	4.74	9.11	17.9	32.3	30.9	19.8	10.3	5.53	2.67	1.66	1.60
MAX	10.2	44.1	89.9	199	451	221	148	54.2	26.9	13.3	11.0	7.05
(WY)	1984	1966	1967	1993	1969	1938	1926	1998	1998	1998	1983	1983
MIN	.13	.36	.69	2.07	2.55	2.89	2.14	.72	.72	.11	.051	.066
(WY)	1991	1991	1991	1936	1964	1961	1961	1934	1989	1990	1989	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1924 - 1999
ANNUAL TOTAL	9760.8	1709.83	
ANNUAL MEAN	26.7	4.68	11.4
HIGHEST ANNUAL MEAN			77.8
LOWEST ANNUAL MEAN			2.04
HIGHEST DAILY MEAN	457	Feb 24	3360
LOWEST DAILY MEAN	3.9	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	4.3	Jan 1	.25
INSTANTANEOUS PEAK FLOW		37	7000
ANNUAL RUNOFF (AC-FT)	19360	3390	8290
10 PERCENT EXCEEDS	63	7.7	20
50 PERCENT EXCEEDS	10	5.3	3.8
90 PERCENT EXCEEDS	5.0	.38	.41

e Estimated.

11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA

LOCATION.—Lat 34°03'41", long 117°16'00", in NW 1/4 NE 1/4 sec.26, T.1 S., R.4 W., San Bernardino County, Hydrologic Unit 18070203, on left bank, 1,500 ft upstream from Redlands Boulevard Bridge, and 0.6 mi northwest of Loma Linda.

DRAINAGE AREA.—125 mi².

PERIOD OF RECORD.—October 1954 to September 1965, February 1968 to September 1975, April 1979 to current year. Discharge measurements only, October 1997 to September 1998.

GAGE.—Water-stage recorder. Elevation of gage is 1,040 ft above sea level, from topographic map. Prior to April 1979, water-stage recorder at site 0.45 mi downstream at different datum. Prior to Dec. 7, 1997, at site 0.25 mi downstream at different datum.

REMARKS.—Records poor. Channel is a trapezoidal concrete floodway; records for low and medium flows prior to Dec. 7, 1997, are not equivalent (channel concrete-lined since Dec. 7, 1997). No regulation upstream from station. Natural flow affected by pumping and return flow from irrigated areas. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,000 ft³/s, Feb. 25, 1969, gage height, 8.2 ft, from floodmark, from rating curve extended above 2,100 ft³/s on basis of slope-conveyance study of peak flow, at site and datum then in use; no flow for many days most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 150 ft³/s, or maximum, from rating curve extended above 79 ft³/s on basis of step-backwater analysis:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 25	0800	unknown	unknown	June 2	0315	161	1.56
Apr. 28	1800	180	1.60	July 11	2400	373	2.00

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.3	e.83	e.79	e.56	e.45	e10	.61	1.8	e.76	e2.6	.20	.35
2	e2.3	e.80	e.81	e.56	e.48	e10	1.1	1.0	11	e2.6	.21	.34
3	e2.2	e.76	e.78	e.55	e.49	e10	1.2	.88	1.4	e2.7	.22	.36
4	e2.1	e.74	e3.8	e.58	e5.0	e6.0	1.4	1.0	1.8	e2.7	.22	.38
5	e2.0	e.74	e.88	e.62	e1.1	.70	1.5	1.2	2.7	e2.8	.21	.47
6	e1.9	e.72	e3.6	e.70	e.72	.76	7.7	1.6	1.5	e2.5	.22	.50
7	e1.5	e.70	e.68	e.70	e.50	.70	16	1.7	1.5	2.4	.14	.61
8	e1.2	e8.5	e.73	e.68	e.49	.71	2.1	.79	1.5	1.4	.07	.65
9	e1.2	e3.0	e.73	e.60	e4.0	2.5	.59	.32	1.2	.93	.12	.34
10	e1.0	e2.4	e.72	e.60	e.90	2.8	.28	.16	.63	.73	.07	.17
11	e1.0	e2.2	e.72	e.66	e.88	2.9	8.6	.22	.60	3.3	.18	.14
12	e.98	e1.9	e.71	e.69	e.88	3.4	21	.28	.43	33	.25	.23
13	e.98	e1.7	e.71	e.68	e.82	3.0	6.2	.22	.45	5.2	.28	.29
14	e.97	e1.1	e.71	e.48	e.82	.72	5.0	.24	.45	2.2	.27	.29
15	e.97	e.84	e.57	e.31	e.82	1.7	1.2	.24	.41	1.3	.26	.27
16	e.96	e.64	e.55	e.35	e.70	.82	.45	.23	.27	.83	.28	.26
17	e.95	e.48	e.55	e.33	e.46	1.2	.29	.06	.37	.73	.29	.25
18	e.95	e.55	e.55	e.34	.38	1.4	.24	.03	.42	.55	.26	.21
19	e.95	e.49	e.55	e.34	.50	.82	.23	.06	.42	.42	.18	.25
20	e.94	e.42	e.55	e.86	.42	.62	.17	.27	.43	.44	.19	.27
21	e.94	e.42	e.56	e4.0	.51	.96	.29	.56	.40	.44	.18	.28
22	e.93	e.35	e.61	e.89	.50	.66	.58	2.2	.42	.32	.31	.31
23	e.93	e.34	e.68	e.86	.68	.87	.60	6.0	.44	.05	.40	.32
24	e.92	e.36	e.67	e.84	1.4	1.1	5.5	e3.0	.37	.05	.43	.41
25	e8.0	e.36	e.67	e15	10	.81	5.0	e2.8	.10	.08	.45	.44
26	e2.5	e.36	e.67	e3.1	e12	1.1	4.8	e2.0	.23	.16	.42	.47
27	e2.0	e.36	e.66	e18	e13	.96	4.7	e1.2	.33	.17	.42	.47
28	e1.5	e4.2	e.66	e.86	e11	1.1	17	e.90	.53	.18	.43	.56
29	e.90	e.53	e.66	e.50	---	.84	1.8	e.86	e2.4	.18	.41	.59
30	e.86	e.68	e.52	e.47	---	.48	9.2	e.84	e2.5	.19	.37	.59
31	e.84	---	e.56	e.44	---	.40	---	e.80	---	.19	.37	---
TOTAL	47.67	37.47	26.61	56.15	69.90	70.03	125.33	33.46	35.96	71.34	8.31	11.07
MEAN	1.54	1.25	.86	1.81	2.50	2.26	4.18	1.08	1.20	2.30	.27	.37
MAX	8.0	8.5	3.8	18	13	10	21	6.0	11	33	.45	.65
MIN	.84	.34	.52	.31	.38	.40	.17	.03	.10	.05	.07	.14
AC-FT	95	74	53	111	139	139	249	66	71	142	16	22

e Estimated.

11057500 SAN TIMOTEO CREEK NEAR LOMA LINDA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.88	1.52	2.06	9.61	12.1	6.97	1.49	.86	.79	.67	.62	.76
MAX	2.27	11.6	11.6	113	186	53.7	16.8	3.65	2.20	3.65	1.76	3.03
(WY)	1988	1983	1985	1993	1969	1991	1958	1969	1989	1968	1965	1965
MIN	.000	.000	.16	.079	.17	.000	.000	.000	.000	.000	.000	.000
(WY)	1996	1996	1996	1972	1968	1997	1979	1996	1996	1995	1995	1995

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1955 - 1999

ANNUAL TOTAL	593.30		
ANNUAL MEAN	1.63	3.17	
HIGHEST ANNUAL MEAN		21.7	1969
LOWEST ANNUAL MEAN		.74	1987
HIGHEST DAILY MEAN	33	Jul 12	3500
LOWEST DAILY MEAN	.03	May 18	.00
ANNUAL SEVEN-DAY MINIMUM	.12	Jul 23	.00
INSTANTANEOUS PEAK FLOW	373	Jul 11	15000
INSTANTANEOUS PEAK STAGE	2.00	Jul 11	8.20
ANNUAL RUNOFF (AC-FT)	1180		2300
10 PERCENT EXCEEDS	3.2		1.9
50 PERCENT EXCEEDS	.68		.60
90 PERCENT EXCEEDS	.23		.00

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 mi².

PERIOD OF RECORD.—December 1919 to current year. Prior to October 1952, published as Strawberry Creek near Arrowhead Springs.

REVISED RECORDS.—WSP 1635: 1924(M), 1927, 1928(M), 1929, 1932(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 1,590 ft above sea level, from topographic map.

REMARKS.—Records fair. No regulation upstream from station. One small diversion dam for domestic use upstream from station. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,710 ft³/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 ft³/s, or maximum, from rating curve extended above 120 ft³/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)
Apr. 7	0015	29	2.43				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	4.1	5.3	3.7	4.5	3.5	3.9	4.8	2.5	.97	.84	.53
2	3.9	3.8	5.3	3.8	4.1	3.5	3.9	4.3	5.9	1.1	.74	.65
3	4.2	3.5	5.1	3.9	4.0	3.5	4.1	5.1	3.8	1.0	.76	.74
4	4.0	3.3	6.2	3.5	4.6	4.3	4.2	4.8	3.8	1.1	.78	.83
5	3.4	3.5	4.9	3.7	5.1	3.9	3.6	4.4	3.4	1.0	.84	.77
6	3.2	3.7	5.4	3.6	5.2	3.8	7.0	3.6	3.0	.82	.84	.80
7	3.3	4.0	4.7	3.6	4.6	3.9	12	2.9	2.7	.82	1.0	.72
8	3.2	6.5	4.5	3.6	4.5	3.7	7.6	3.4	2.6	1.1	1.0	.71
9	3.2	4.8	3.7	3.6	7.2	4.0	6.8	3.9	2.7	1.1	.81	.69
10	3.6	4.4	3.5	3.6	8.9	4.2	5.9	3.6	2.6	1.0	.91	.51
11	3.4	5.3	3.3	3.4	6.1	4.0	6.3	3.4	2.4	.94	.86	.63
12	3.2	4.5	3.4	3.7	5.4	3.8	12	3.0	2.3	.82	.82	.58
13	3.5	3.8	3.5	3.6	5.1	3.4	10	3.4	2.1	.73	.72	.53
14	3.9	3.6	3.5	3.3	4.8	3.3	7.8	3.1	1.8	.72	.67	.35
15	4.2	3.5	3.6	3.3	4.8	4.7	6.1	3.5	1.7	.79	.66	.40
16	3.8	3.4	3.3	3.6	4.8	4.4	5.1	3.2	1.5	.79	.54	.60
17	3.6	3.7	3.2	3.8	4.6	4.2	4.8	2.8	1.6	.89	.51	.60
18	4.0	3.7	3.3	3.6	4.5	3.9	4.3	2.8	1.3	.87	.69	.78
19	3.3	3.7	4.0	3.9	4.4	3.6	3.8	2.7	1.5	.73	.65	.93
20	3.4	3.9	4.8	4.7	4.2	4.1	3.8	2.9	1.4	.76	.62	.63
21	3.3	3.9	4.3	5.6	4.1	3.8	4.0	3.0	1.2	.80	.60	.62
22	3.5	3.8	4.4	4.5	4.0	3.5	4.3	3.5	1.3	.77	.61	.75
23	3.2	3.6	4.2	4.1	3.6	3.6	4.2	3.2	1.0	.73	.50	.82
24	3.4	3.9	4.2	4.0	3.8	3.6	5.2	3.0	1.0	.70	.49	.64
25	4.2	3.8	4.5	7.5	3.8	3.6	4.8	2.9	.94	.92	.45	.69
26	3.9	3.8	4.5	7.6	3.8	3.5	4.2	2.7	1.1	.82	.49	.66
27	4.0	3.8	4.3	9.7	3.9	3.8	4.2	2.7	1.1	.79	.53	.62
28	3.7	9.8	3.5	6.0	3.7	3.7	4.7	2.5	.94	.81	.55	.54
29	3.9	7.2	3.7	4.9	---	3.2	4.6	2.7	.89	.80	.46	.45
30	4.1	5.5	3.6	4.5	---	3.4	6.0	2.7	.87	.79	.47	.52
31	3.9	---	3.5	5.0	---	3.7	---	2.6	---	.78	.43	---
TOTAL	113.5	129.8	129.2	136.9	132.1	117.1	169.2	103.1	60.94	26.76	20.84	19.29
MEAN	3.66	4.33	4.17	4.42	4.72	3.78	5.64	3.33	2.03	.86	.67	.64
MAX	4.2	9.8	6.2	9.7	8.9	4.7	12	5.1	5.9	1.1	1.0	.93
MIN	3.2	3.3	3.2	3.3	3.6	3.2	3.6	2.5	.87	.70	.43	.35
AC-FT	225	257	256	272	262	232	336	204	121	53	41	38

11058500 EAST TWIN CREEK NEAR ARROWHEAD SPRINGS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.53	2.54	4.88	7.96	12.5	13.6	8.26	5.03	2.96	1.70	1.29	1.17
MAX	11.4	20.3	43.6	95.7	102	101	38.3	30.6	15.9	9.40	11.9	4.94
(WY)	1984	1966	1967	1993	1993	1991	1978	1998	1998	1983	1983	1983
MIN	.20	.47	.51	.91	1.14	1.27	.56	.66	.56	.18	.20	.20
(WY)	1965	1965	1990	1963	1964	1972	1977	1934	1961	1964	1964	1964

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1921 - 1999	
ANNUAL TOTAL	5039.0		1158.73			
ANNUAL MEAN	13.8		3.17		5.25	
HIGHEST ANNUAL MEAN					23.1	
LOWEST ANNUAL MEAN					.85	
HIGHEST DAILY MEAN	200	Feb 24	12	Apr 7	795	Feb 25 1969
LOWEST DAILY MEAN	2.5	Jan 25	.35	Sep 14	.10	Aug 23 1929
ANNUAL SEVEN-DAY MINIMUM	2.7	Jan 22	.48	Aug 25	.11	Jul 11 1964
INSTANTANEOUS PEAK FLOW			29		3710	
INSTANTANEOUS PEAK STAGE			2.43		8.35	
ANNUAL RUNOFF (AC-FT)	9990		2300		3810	
10 PERCENT EXCEEDS	32		5.1		9.5	
50 PERCENT EXCEEDS	6.4		3.5		2.0	
90 PERCENT EXCEEDS	3.4		.69		.52	

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, on left bank, 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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—March 1939 to September 1954, October 1966 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 940 ft above sea level, from topographic map. Prior to Nov. 10, 1950, water-stage recorder on right bank 0.4 mi upstream at datum 964.50 ft above sea level. Nov. 11, 1950, to September 1954, water-stage recorder on both banks 0.4 mi upstream at datum 964.50 ft above sea level. October 1966 to September 1976, water-stage recorder on right bank 0.4 mi upstream at datum 954.50 ft above sea level. October 1976 to September 1977, gage was removed for channel construction. October 1977 to Jan. 28, 1981, water-stage recorder on right bank, 0.5 mi upstream at elevation 950 ft above sea level, from topographic map.

REMARKS.—Records poor. 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 upstream from station. Effluent from sewage reclamation plant 1.0 mi upstream caused sustained flow past gage from 1967 to Mar. 21, 1996. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 28,000 ft³/s, Feb. 25, 1969, gage height, 11.9 ft, site and datum then in use; no flow for many days many years prior to 1967 and since Mar. 21, 1996.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,000 ft³/s, from rating curve extended above 5,930 ft³/s on basis of critical-depth computations, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 11	2215	1,090	5.00				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	e13	e15	e12	e26	e8.8	6.0	42	.97	e3.9	11	10
2	38	e12	e17	e11	e23	e8.1	7.0	32	60	e4.0	9.3	8.6
3	33	e14	e16	e9.7	e20	e7.8	11	33	12	e3.7	7.6	11
4	31	e12	e28	e9.5	40	e7.5	14	19	14	e3.5	7.1	11
5	32	e11	e19	e8.5	36	e7.3	8.2	15	7.5	e3.2	6.6	12
6	e30	e16	e45	e8.3	26	e7.3	36	9.2	5.3	2.9	6.5	9.6
7	e22	e14	e20	e8.0	25	e7.2	154	6.7	1.7	1.7	6.7	8.0
8	e19	e75	e21	e8.0	e21	e7.1	25	7.0	e.55	2.1	7.0	6.5
9	e15	e45	e16	e8.5	e80	e7.1	22	8.1	e.58	1.7	6.9	4.5
10	e13	e19	e20	e8.4	68	e7.0	14	11	3.5	1.9	7.4	5.1
11	e13	e25	e15	e8.3	29	e7.1	23	9.1	7.8	53	6.8	6.3
12	e12	e16	e15	e8.5	21	e7.0	123	11	9.7	133	7.7	6.4
13	e12	e15	e13	e8.4	18	e6.9	40	13	10	83	7.7	6.6
14	e11	e13	e12	e8.5	e17	e6.9	41	10	8.2	66	8.7	6.5
15	e12	e12	e11	e8.3	e16	e28	27	10	6.9	23	8.9	7.7
16	e15	e11	e10	e8.3	e16	e13	22	9.6	8.0	23	7.4	8.7
17	e14	e11	e10	e8.2	e16	e10	15	6.6	8.1	23	7.1	6.8
18	e13	e11	e10	e8.1	e17	e7.0	12	2.8	7.3	19	8.2	6.9
19	e12	e10	e19	e8.4	e15	e6.0	7.6	2.6	8.2	17	8.1	7.0
20	e11	e10	e17	e22	e17	e4.7	6.6	1.7	11	18	e7.7	7.4
21	e10	e10	e19	e30	e15	e3.8	16	4.4	8.7	18	e7.5	7.5
22	e10	e10	e17	e18	e14	e3.0	22	3.2	9.7	19	e7.2	7.0
23	e9.8	e9.8	e14	e14	e17	e2.5	20	11	e7.0	17	e6.8	10
24	e9.4	e9.7	e13	e12	e16	e2.1	31	3.6	e6.6	21	e6.6	7.6
25	e70	e9.7	e18	e140	e15	e1.9	31	5.0	e6.5	21	e6.7	7.5
26	e19	e9.5	e17	70	e14	2.6	21	4.2	6.1	19	6.5	7.7
27	e15	e9.4	e16	137	e12	3.5	16	1.6	5.5	8.5	6.4	7.5
28	e14	e38	e13	27	e11	3.1	70	1.1	5.0	10	6.0	7.3
29	e12	e41	e12	e16	---	3.4	27	.82	3.9	10	5.3	6.5
30	e22	e22	e11	e14	---	3.8	65	.53	e4.0	8.5	5.8	6.3
31	e14	---	e13	e20	---	3.9	---	1.0	---	8.2	6.3	---
TOTAL	600.2	534.1	512	686.9	661	205.4	933.4	295.85	254.30	646.8	225.5	231.5
MEAN	19.4	17.8	16.5	22.2	23.6	6.63	31.1	9.54	8.48	20.9	7.27	7.72
MAX	70	75	45	140	80	28	154	42	60	133	11	12
MIN	9.4	9.4	10	8.0	11	1.9	6.0	.53	.55	1.7	5.3	4.5
AC-FT	1190	1060	1020	1360	1310	407	1850	587	504	1280	447	459

e Estimated.

11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.88	3.47	20.9	23.7	20.6	37.4	27.2	11.3	2.39	.93	.87	.63
MAX	3.35	21.3	117	109	72.2	183	237	145	31.2	9.87	8.37	6.32
(WY)	1942	1945	1946	1943	1945	1943	1941	1941	1941	1940	1940	1939
MIN	.000	.007	.000	1.90	2.41	1.70	1.14	.14	.000	.000	.000	.000
(WY)	1951	1952	1951	1948	1942	1951	1951	1942	1950	1950	1942	1948

SUMMARY STATISTICS

WATER YEARS 1939 - 1954

ANNUAL MEAN	12.7
HIGHEST ANNUAL MEAN	56.6 1941
LOWEST ANNUAL MEAN	.78 1951
HIGHEST DAILY MEAN	2350 Jan 23 1943
LOWEST DAILY MEAN	.00 Jun 19 1940
ANNUAL SEVEN-DAY MINIMUM	.00 Sep 10 1940
ANNUAL RUNOFF (AC-FT)	9190
10 PERCENT EXCEEDS	16
50 PERCENT EXCEEDS	1.0
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1995, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	33.9	43.3	77.4	158	232	253	132	103	63.9	40.8	36.8	34.6
MAX	117	191	469	1327	2096	1279	742	707	339	162	160	75.0
(WY)	1984	1984	1967	1993	1980	1980	1980	1983	1983	1969	1983	1983
MIN	12.4	13.2	14.8	13.2	11.6	10.6	12.5	9.35	13.0	9.08	9.97	9.93
(WY)	1968	1972	1970	1972	1968	1972	1972	1967	1971	1967	1967	1967

SUMMARY STATISTICS

WATER YEARS 1967 - 1995

ANNUAL MEAN	100
HIGHEST ANNUAL MEAN	441 1980
LOWEST ANNUAL MEAN	17.2 1968
HIGHEST DAILY MEAN	14800 Feb 25 1969
LOWEST DAILY MEAN	6.4 Jul 13 1967
ANNUAL SEVEN-DAY MINIMUM	8.1 Sep 16 1967
INSTANTANEOUS PEAK FLOW	28000 Feb 25 1969
INSTANTANEOUS PEAK STAGE	11.90 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	72490
10 PERCENT EXCEEDS	165
50 PERCENT EXCEEDS	35
90 PERCENT EXCEEDS	14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.5	31.2	29.8	101	253	48.0	55.4	110	31.2	9.13	18.4	22.6
MAX	38.1	56.2	42.6	230	729	114	190	430	116	20.9	66.1	75.8
(WY)	1996	1997	1998	1997	1998	1998	1998	1998	1998	1999	1998	1998
MIN	4.97	11.0	16.5	22.2	7.57	.10	.000	.000	.000	.000	.000	.000
(WY)	1998	1998	1999	1999	1997	1997	1997	1996	1996	1996	1996	1996

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1996 - 1999

ANNUAL TOTAL	55440.10	5786.95	
ANNUAL MEAN	152	15.9	59.4
HIGHEST ANNUAL MEAN			152 1998
LOWEST ANNUAL MEAN			15.9 1999
HIGHEST DAILY MEAN	5050 Feb 24	154 Apr 7	5050 Feb 24 1998
LOWEST DAILY MEAN	.00 Jan 1	.53 May 30	.00 Mar 22 1996
ANNUAL SEVEN-DAY MINIMUM	.93 Jan 22	1.5 May 26	.00 Mar 22 1996
INSTANTANEOUS PEAK FLOW		1090 Jul 11	21100 Feb 23 1998
INSTANTANEOUS PEAK STAGE		5.00 Jul 11	7.70 Feb 23 1998
ANNUAL RUNOFF (AC-FT)	110000	11480	43010
10 PERCENT EXCEEDS	283	30	138
50 PERCENT EXCEEDS	38	10	7.5
90 PERCENT EXCEEDS	6.8	4.0	.00

11059300 SANTA ANA RIVER AT E STREET, NEAR SAN BERNARDINO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1983–86, 1988 to current year.

WATER TEMPERATURE: November 1982 to September 1983.

SEDIMENT DATA: Water years 1983–86, 1988 to current year.

PERIOD OF DAILY RECORD.—October 1982 to September 1983.

WATER TEMPERATURE: November 1982 to September 1983.

SUSPENDED-SEDIMENT DISCHARGE: October 1982 to September 1983.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM (70337)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM (70338)	SED. SUSP. FALL DIAM. % FINER THAN .008 MM (70339)
DEC								
07...	1615	21	10.5	111	6.3	--	--	--
JAN								
25...	1235	208	9.5	520	292	--	--	--
MAR								
15...	1340	48	14.0	1600	207	18	27	38
25...	1225	1.9	20.0	67	.34	--	--	--
APR								
08...	1125	26	13.0	121	8.5	--	--	--
12...	1245	40	12.5	615	66	--	--	--
JUL								
12...	1240	43	25.5	10300	1200	31	34	42
AUG								
05...	1415	6.0	30.0	404	6.5	--	--	--
SEP								
01...	1440	11	27.0	463	14	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM (70340)	SED. SUSP. FALL DIAM. % FINER THAN .031 MM (70341)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM (70332)	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM (70333)	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM (70334)	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM (70335)
DEC							
07...	--	--	26	31	54	90	100
JAN							
25...	--	--	52	68	90	100	--
MAR							
15...	52	66	84	95	99	100	--
25...	--	--	80	85	94	100	--
APR							
08...	--	--	26	--	--	--	--
12...	--	--	60	64	76	96	100
JUL							
12...	58	73	86	94	97	98	100
AUG							
05...	--	--	18	--	--	--	--
SEP							
01...	--	--	42	--	--	--	--

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—February 1964 to September 1972, October 1974 to current year.

REVISED RECORDS.—WDR CA-83-1: Drainage area. WDR CA-92-1: 1978(M), 1980–81(M), 1983–86(M).

GAGE.—Water-stage recorder. Elevation of gage is 960 ft above sea level, from topographic map. Prior to Oct. 1, 1974, at site 0.1 mi upstream at different datum.

REMARKS.—Records fair. Natural channel prior to October 1972; concrete-lined channel since October 1974. Possible diversion during high flows into Warm Creek from Lytle Creek flood detention basin 3.4 mi upstream. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,500 ft³/s, Mar. 4, 1978, gage height, 4.88 ft, from rating curve extended above 420 ft³/s on basis of step-backwater analysis; maximum gage height, 6.33 ft, Nov. 22, 1965, site and datum then in use; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	2.1	6.8	3.2	3.9	3.9	13	9.7	5.3	2.9	2.4	1.3
2	3.9	2.5	4.9	3.0	3.9	4.0	7.7	8.2	48	2.8	2.2	1.4
3	3.9	2.8	4.6	3.0	4.0	4.6	6.7	12	6.0	2.6	2.1	1.4
4	2.1	2.8	27	3.2	26	5.2	6.5	8.4	4.3	3.0	2.2	1.1
5	1.3	3.3	9.5	3.4	13	4.9	6.4	7.9	3.7	2.8	2.8	1.0
6	1.0	4.0	27	4.0	5.9	4.8	31	6.5	3.6	2.5	2.6	1.1
7	2.7	5.6	3.5	5.3	3.9	5.3	44	6.6	3.4	3.0	2.5	1.2
8	4.5	40	3.3	4.1	4.3	5.0	9.0	6.8	4.5	2.9	2.5	1.1
9	5.0	2.2	2.8	4.0	25	6.9	13	5.7	3.7	2.8	2.5	1.1
10	3.9	1.9	3.3	3.9	4.6	7.9	5.5	5.2	3.5	2.0	2.4	1.0
11	2.9	4.7	2.9	4.6	3.9	7.2	37	5.7	3.2	2.0	2.2	1.1
12	2.5	2.1	3.2	4.7	3.9	5.9	77	4.9	3.2	2.2	1.9	1.0
13	1.9	1.9	3.1	3.9	3.9	5.6	7.9	4.5	3.1	2.3	1.7	1.0
14	2.1	2.1	3.0	3.9	3.9	5.3	5.7	4.9	3.1	2.4	1.8	1.1
15	3.4	2.1	2.8	4.5	3.7	11	6.0	4.8	3.1	2.4	1.8	1.2
16	3.4	2.1	2.3	4.8	3.9	6.4	6.1	4.7	3.2	2.3	1.6	1.1
17	3.2	2.4	2.1	4.6	4.5	5.8	5.7	4.7	3.4	2.3	1.4	1.2
18	3.4	2.6	2.1	4.5	4.6	5.8	5.6	4.1	3.0	2.3	1.5	1.2
19	6.4	2.8	7.0	6.2	4.1	5.9	5.6	4.1	2.8	2.4	1.4	.94
20	7.0	3.0	14	53	4.8	5.8	5.8	3.7	3.0	2.4	1.4	.99
21	2.7	3.2	4.5	12	5.4	5.8	5.9	4.6	3.1	2.3	1.3	.97
22	1.7	3.2	3.8	3.9	6.2	6.0	7.6	4.3	3.2	2.4	1.3	1.4
23	2.0	3.4	3.9	3.9	5.0	7.1	12	3.7	3.5	2.5	1.9	1.4
24	1.5	3.7	3.3	3.9	4.0	6.9	16	3.4	2.9	2.3	1.3	1.2
25	4.8	3.9	3.2	41	4.1	6.1	6.7	4.1	2.9	2.3	1.3	1.1
26	1.7	3.9	3.2	48	4.0	5.9	6.9	4.2	2.9	2.4	1.2	1.1
27	1.7	4.4	3.2	27	3.9	5.9	7.6	4.6	2.7	2.5	1.2	1.1
28	1.7	31	3.2	3.0	3.8	5.8	15	5.1	2.7	2.8	1.3	1.0
29	1.8	2.7	3.2	3.8	---	5.5	9.9	4.5	2.9	2.9	1.3	.96
30	1.8	1.9	3.4	3.3	---	5.5	45	5.1	2.9	2.6	1.3	1.1
31	1.9	---	3.6	6.8	---	5.5	---	4.7	---	2.3	1.3	---
TOTAL	91.7	154.3	173.7	288.4	172.1	183.2	437.8	171.4	146.8	77.6	55.6	33.86
MEAN	2.96	5.14	5.60	9.30	6.15	5.91	14.6	5.53	4.89	2.50	1.79	1.13
MAX	7.0	40	27	53	26	11	77	12	48	3.0	2.8	1.4
MIN	1.0	1.9	2.1	3.0	3.7	3.9	5.5	3.4	2.7	2.0	1.2	.94
AC-FT	182	306	345	572	341	363	868	340	291	154	110	67

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1972, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.11	2.77	4.73	4.68	4.19	1.15	1.82	.033	.000	.000	.003	.006
MAX	.49	13.1	14.0	32.7	29.6	4.35	11.5	.24	.000	.003	.026	.050
(WY)	1970	1966	1972	1969	1969	1970	1965	1969	1965	1968	1967	1965
MIN	.000	.000	.41	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1969	1969	1972	1967	1972	1966	1965	1965	1965	1965	1966

SUMMARY STATISTICS

WATER YEARS 1965 - 1972

ANNUAL MEAN	1.61
HIGHEST ANNUAL MEAN	5.16 1969
LOWEST ANNUAL MEAN	.33 1968
HIGHEST DAILY MEAN	488 Jan 25 1969
LOWEST DAILY MEAN	.00 Oct 1 1964
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1964
INSTANTANEOUS PEAK FLOW	2200 Jan 25 1969
INSTANTANEOUS PEAK STAGE	6.33 Nov 22 1965
ANNUAL RUNOFF (AC-FT)	1170
10 PERCENT EXCEEDS	.00
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.74	9.77	12.0	18.5	38.4	35.5	14.7	12.7	9.42	8.25	8.03	7.48
MAX	32.4	33.1	41.6	41.2	418	376	44.2	86.7	43.6	34.5	50.6	30.3
(WY)	1984	1986	1985	1993	1978	1978	1986	1980	1980	1980	1983	1983
MIN	.12	.087	.40	.11	.85	2.51	.17	.37	.067	.11	.061	.023
(WY)	1978	1996	1980	1976	1977	1977	1977	1978	1978	1979	1979	1979

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1975 - 1999

ANNUAL TOTAL	5502.13	1986.46	
ANNUAL MEAN	15.1	5.44	15.1
HIGHEST ANNUAL MEAN			70.5 1978
LOWEST ANNUAL MEAN			1.91 1977
HIGHEST DAILY MEAN	278 Feb 23	77 Apr 12	3400 Mar 1 1978
LOWEST DAILY MEAN	.58 Aug 17	.94 Sep 19	.00 Nov 29 1974
ANNUAL SEVEN-DAY MINIMUM	.85 Aug 14	1.1 Sep 8	.00 Dec 7 1974
INSTANTANEOUS PEAK FLOW		512 Jun 2	8500 Mar 4 1978
INSTANTANEOUS PEAK STAGE		2.06 Jun 2	4.88 Mar 4 1978
ANNUAL RUNOFF (AC-FT)	10910	3940	10930
10 PERCENT EXCEEDS	34	7.6	27
50 PERCENT EXCEEDS	3.8	3.5	5.5
90 PERCENT EXCEEDS	1.1	1.3	.09

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1998 to September 1999.

CHEMICAL DATA: October 1998 to September 1999.

SPECIFIC CONDUCTANCE: October 1998 to September 1999.

WATER TEMPERATURE: October 1998 to September 1999.

SEDIMENT DATA: October 1998 to September 1999.

PERIOD OF DAILY RECORD.—October 1998 to September 1999.

SPECIFIC CONDUCTANCE: October 1998 to September 1999.

WATER TEMPERATURE: October 1998 to September 1999.

INSTRUMENTATION.—Water-quality monitor recording conductivity and water temperature.

REMARKS.—Interruption in record due to malfunction of recording equipment and flow to low to record data. Specific-conductance and water-temperature values are affected by ground-water discharge. Chemical and continuous-monitoring data collected for the National Water-Quality Assessment (NAWQA) Program.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,020 microsiemens, July 24, Sept. 28, 29, 1999; minimum recorded, 76 microsiemens, Jan. 27, 1999.

WATER TEMPERATURE: Maximum recorded, 36.5°C, July 12; minimum recorded, 9.0°C, Jan. 27.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,020 microsiemens, July 24, Sept. 28, 29; minimum recorded, 76 microsiemens, Jan. 27.

WATER TEMPERATURE: Maximum recorded, 36.5°C, July 12; minimum recorded, 9.0°C, Jan. 27.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED CENT SATUR- ATION (00301)	HARD- NESS TOTAL AS CACO3 (MG/L) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
OCT											
20...	0915	9.7	549	8.1	22.0	17.0	745	10.9	115	190	23
NOV											
16...	1620	2.1	974	7.8	20.5	19.0	744	8.4	93	420	150
DEC											
08...	1540	2.6	710	8.5	17.0	16.0	751	9.3	96	210	28
JAN											
12...	1300	4.8	687	8.4	19.5	20.5	750	10.9	123	220	41
27...	0115	164	74	7.5	--	8.5	--	--	--	23	--
FEB											
09...	1900	209	127	7.8	10.0	14.0	--	--	--	31	--
10...	1620	3.9	631	8.4	12.0	18.0	755	9.4	100	180	29
MAR											
09...	1510	6.9	607	8.4	15.0	21.0	748	9.6	109	160	14
15...	1340	44	295	7.7	13.5	18.0	--	--	--	76	13
APR											
14...	1450	4.8	581	8.6	32.0	22.5	735	8.0	96	150	10
MAY											
18...	1430	3.9	673	8.2	30.5	29.5	733	9.0	125	220	47
JUN											
16...	1620	3.2	672	8.7	31.5	28.0	732	8.8	117	210	28
JUL											
13...	1450	2.1	795	8.3	37.0	32.5	730	9.8	142	290	75
27...	1330	1.6	851	8.1	32.5	31.0	735	11.1	155	350	120
AUG											
10...	1500	2.6	747	8.4	28.5	31.5	708	8.2	95	230	53
24...	1050	1.3	901	8.0	35.5	27.5	733	6.4	81	380	140
SEP											
14...	1420	1.0	823	8.1	35.0	30.0	730	9.6	132	320	110
28...	1620	.58	994	7.8	31.0	26.0	733	7.7	98	440	180

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
20...	59	11	34	27	1	3.0	208	--	171	69	23
NOV											
16...	130	24	40	17	.9	5.6	327	--	268	190	39
DEC											
08...	67	11	61	38	2	3.4	219	4	180	110	51
JAN											
12...	69	12	56	35	2	3.2	219	1	182	100	41
27...	7.7	.95	4.5	28	.4	1.4	32	--	26	4.0	3.3
FEB											
09...	10	1.3	12	44	1	1.8	41	--	34	9.2	8.6
10...	57	9.7	59	41	2	3.1	180	3	152	84	48
MAR											
09...	51	8.7	63	45	2	2.9	175	3	149	78	48
15...	25	3.6	25	40	1	4.5	77	--	63	30	21
APR											
14...	48	8.4	59	45	2	3.6	166	5	144	90	35
MAY											
18...	70	12	50	32	1	3.4	216	--	177	110	36
JUN											
16...	64	11	59	38	2	3.3	195	11	178	96	42
JUL											
13...	90	16	49	26	1	4.9	263	--	215	140	42
27...	110	19	46	22	1	5.2	276	--	226	160	43
AUG											
10...	72	13	68	38	2	4.0	206	6	180	110	55
24...	120	21	38	18	.9	5.7	290	--	237	180	42
SEP											
14...	97	18	52	26	1	4.1	257	--	211	150	46
28...	130	26	41	17	.8	6.0	318	--	260	210	43
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
20...	1.2	21	355	328	.48	.01	.96	.02	.2	<.1	<.05
NOV											
16...	.8	20	649	606	.88	<.01	.37	.04	.1	.1	.01
DEC											
08...	2.4	26	469	444	.64	<.01	.34	.03	.2	<.1	<.05
JAN											
12...	1.9	24	444	422	.60	.02	.49	<.02	.1	<.1	.02
27...	.1	2.3	45	43	.06	.03	.46	.39	1.1	.5	.22
FEB											
09...	.5	5.0	85	74	.12	.09	.79	.75	3.5	1.2	.65
10...	2.4	25	399	382	.54	.01	.48	<.02	.2	.1	<.05
MAR											
09...	2.4	25	392	371	.53	.02	.59	.02	.3	.3	.03
15...	.9	8.8	210	167	.29	.11	2.0	1.4	7.9	3.3	.83
APR											
14...	1.8	26	383	359	.52	<.01	.26	.02	.3	.2	.07
MAY											
18...	1.5	23	435	411	.59	.01	.54	.03	.3	.1	.04
JUN											
16...	2.1	24	441	411	.60	<.01	.32	.02	1.0	.3	.10
JUL											
13...	1.4	24	508	496	.69	<.01	.32	.03	.3	.3	.02
27...	1.2	23	568	542	.77	<.01	.28	.04	.5	.2	.03
AUG											
10...	2.3	27	477	463	.65	<.01	.23	<.02	.5	.3	.04
24...	1.0	23	571	567	.78	<.01	.25	.05	.5	.3	.03
SEP											
14...	1.5	27	532	527	.72	.01	.47	.03	.4	.3	.03
28...	1.0	25	600	639	.82	<.01	.28	.05	.4	.2	.03

< Actual value known to be less than value shown.

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT											
20...	<.05	.01	--	--	--	--	--	--	--	--	--
NOV											
16...	.01	.01	--	--	--	--	--	--	--	--	--
DEC											
08...	<.05	.02	--	--	--	--	--	--	--	--	--
JAN											
12...	.01	.02	--	--	--	--	--	--	--	--	--
27...	.10	.09	--	--	--	--	--	--	--	--	--
FEB											
09...	.09	.11	--	--	--	--	--	--	--	--	--
10...	<.05	.04	--	--	--	--	--	--	--	--	--
MAR											
09...	.01	.05	--	--	--	--	--	--	--	--	--
15...	.30	.25	--	--	--	--	--	--	--	--	--
APR											
14...	.05	.04	--	--	--	--	--	--	--	--	--
MAY											
18...	.01	.03	--	--	--	--	--	--	--	--	--
JUN											
16...	.01	.02	--	--	--	--	--	--	--	--	--
JUL											
13...	.01	.01	--	--	--	--	--	--	--	--	--
27...	.01	.01	--	--	--	--	--	--	--	--	--
AUG											
10...	.02	<.01	--	--	--	--	--	--	--	--	--
24...	.01	<.01	--	--	--	--	--	--	--	--	--
SEP											
14...	.01	<.01	7	<1	22	66	<1	<1	<1	<1	4
28...	.01	.02	--	--	--	--	--	--	--	--	--

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
OCT											
20...	<10	--	9	--	--	--	--	--	--	1.3	.5
NOV											
16...	11	--	24	--	--	--	--	--	--	1.5	.3
DEC											
08...	<10	--	10	--	--	--	--	--	--	1.4	1
JAN											
12...	e9	--	8	--	--	--	--	--	--	1.4	.3
27...	58	--	e3	--	--	--	--	--	--	3.7	2.9
FEB											
09...	24	--	e2	--	--	--	--	--	--	9.7	>15
10...	<10	--	15	--	--	--	--	--	--	1.9	.3
MAR											
09...	260	--	8	--	--	--	--	--	--	1.5	.5
15...	51	--	23	--	--	--	--	--	--	32	>8.1
APR											
14...	27	--	19	--	--	--	--	--	--	2.3	.4
MAY											
18...	<10	--	17	--	--	--	--	--	--	1.6	.7
JUN											
16...	e9	--	14	--	--	--	--	--	--	1.8	2.1
JUL											
13...	e10	--	19	--	--	--	--	--	--	3.3	.4
27...	e7	--	23	--	--	--	--	--	--	3.6	.9
AUG											
10...	e6	--	19	--	--	--	--	--	--	3.8	.8
24...	11	--	33	--	--	--	--	--	--	3.7	.4
SEP											
14...	e7	<1	24	5	2	<2	<1	4	7	3.3	.7
28...	e8	--	40	--	--	--	--	--	--	2.7	.6

e Estimated.

< Actual value known to be less than value shown.

> Actual value known to be greater than value shown.

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
20...N	0915	9.7	17.0	13	.34	80
NOV						
16...N	1620	2.1	19.0	4	.02	19
DEC						
08...N	1540	2.6	16.0	10	.07	83
JAN						
12...N	1300	4.8	20.5	2	.03	94
27...N	0115	164	8.5	98	43	78
FEB						
09...N	1900	209	9.0	343	194	69
10...N	1620	3.9	18.0	11	.12	92
MAR						
09...N	1510	6.9	21.0	7	.13	85
15...N	1340	44	18.0	248	29	95
APR						
14...N	1450	4.8	22.5	5	.06	93
MAY						
18...N	1430	3.9	30.5	12	.13	82
JUN						
16...N	1620	3.2	28.0	35	.30	82
JUL						
13...N	1450	2.1	32.5	9	.05	79
27...N	1330	1.6	31.0	9	.04	71
AUG						
10...N	1500	2.6	18.5	15	.11	86
24...N	1050	1.3	27.5	8	.03	70
SEP						
14...N	1420	1.0	30.0	23	.06	87
28...N	1620	.58	26.0	9	.01	82

N Suspended-sediment concentration value determined from sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	835	797	---	---	758	686	512	419	710	684
2	---	---	853	828	930	860	767	711	672	512	764	685
3	---	---	861	837	948	737	740	709	731	672	706	644
4	---	---	875	853	737	212	747	693	709	410	698	662
5	---	---	918	875	539	326	721	665	479	387	681	653
6	---	---	931	862	541	190	694	613	550	479	687	664
7	---	---	935	714	---	---	673	553	600	544	683	619
8	---	---	823	158	---	---	682	594	598	466	678	634
9	---	---	---	---	808	693	678	623	564	160	635	560
10	---	---	---	---	819	626	707	662	705	233	620	524
11	---	---	---	254	848	705	687	662	737	688	622	507
12	---	---	---	---	748	705	693	660	721	683	645	558
13	---	---	---	---	762	726	698	664	722	687	665	566
14	---	---	---	---	766	691	718	664	725	693	694	650
15	---	---	---	---	791	649	704	665	731	696	702	330
16	---	---	---	---	781	710	701	676	733	679	651	472
17	---	---	---	---	854	742	744	684	732	586	652	563
18	---	---	---	---	801	758	743	698	738	603	673	579
19	---	---	---	---	793	333	768	633	744	603	593	531
20	---	---	---	---	883	380	683	183	696	550	560	537
21	785	664	---	---	761	728	527	196	617	549	591	537
22	818	744	---	---	754	706	571	519	640	554	573	512
23	808	699	---	---	760	714	576	557	730	548	580	535
24	753	721	---	---	754	711	777	573	734	701	562	536
25	881	425	---	---	752	720	603	109	736	698	565	538
26	552	531	---	---	745	719	432	100	732	689	556	503
27	573	552	---	---	769	718	364	76	727	676	543	514
28	658	573	---	---	763	714	445	364	712	687	549	514
29	704	658	---	---	758	708	435	411	---	---	537	519
30	762	704	---	---	746	707	418	405	---	---	542	525
31	799	762	---	---	757	730	472	409	---	---	609	525
MONTH	---	---	---	---	---	---	777	76	744	160	764	330
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	600	421	550	356	600	567	703	643	829	742	859	737
2	570	517	578	550	590	156	727	684	836	744	857	698
3	618	570	572	498	532	390	714	651	830	722	765	720
4	624	560	603	536	584	526	676	649	802	738	919	741
5	574	552	640	603	599	568	693	630	770	665	920	848
6	585	181	636	551	646	597	686	638	718	680	879	852
7	386	125	582	506	640	613	671	615	707	648	855	798
8	561	313	581	516	636	612	669	641	689	653	808	790
9	553	232	610	553	671	636	674	611	695	669	798	777
10	588	553	632	609	671	655	694	627	776	686	800	779
11	597	149	680	618	668	655	731	676	828	684	800	761
12	291	128	706	631	695	666	753	723	810	692	763	750
13	483	291	691	608	696	555	789	753	808	761	788	754
14	521	483	655	602	631	549	876	789	810	742	808	779
15	521	496	641	602	670	601	859	736	826	706	807	774
16	532	498	617	599	672	651	833	756	890	733	832	784
17	548	512	605	582	697	604	902	833	862	752	823	795
18	540	513	601	566	720	620	908	883	879	746	835	804
19	545	522	586	534	773	665	883	729	876	751	917	835
20	565	529	574	552	774	694	798	726	898	751	923	889
21	566	516	605	518	694	645	818	769	903	734	924	888
22	585	463	610	533	684	647	940	818	939	728	921	877
23	502	314	649	610	696	661	1010	940	938	750	902	865
24	507	359	661	622	676	670	1020	932	916	756	916	869
25	570	507	627	608	704	675	932	850	953	778	942	897
26	557	520	648	596	719	642	850	734	949	806	997	909
27	551	523	647	594	671	653	798	764	894	759	996	941
28	577	528	700	643	676	657	793	745	913	748	1020	944
29	569	538	714	617	701	658	792	766	912	757	1020	970
30	575	171	617	572	720	694	872	792	919	750	999	974
31	---	---	627	572	---	---	940	802	911	770	---	---
MONTH	624	125	714	356	774	156	1020	611	953	648	1020	698

11060400 WARM CREEK NEAR SAN BERNARDINO, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	24.5	16.0	---	---	20.0	14.5	21.0	14.5	25.0	18.5
2	---	---	23.0	16.0	20.0	17.0	18.5	14.0	22.0	15.0	25.0	18.5
3	---	---	23.5	16.0	19.0	17.0	18.0	14.0	22.0	15.5	24.5	18.5
4	---	---	24.0	16.0	19.0	13.0	20.5	14.0	18.5	12.0	20.5	19.0
5	---	---	22.5	16.0	18.5	13.0	21.0	14.5	19.0	11.5	24.0	18.5
6	---	---	22.5	16.0	16.0	9.5	22.0	16.0	20.0	15.0	21.0	18.0
7	---	---	21.5	16.0	17.5	10.5	20.5	15.5	21.5	17.0	19.5	17.5
8	---	---	19.0	15.5	18.0	12.0	18.5	13.5	21.0	19.0	23.5	17.0
9	---	---	20.0	15.0	16.0	9.5	21.0	14.5	21.0	13.5	21.0	17.5
10	---	---	21.0	14.0	19.5	11.0	21.0	16.0	18.5	12.5	22.5	16.0
11	---	---	21.0	15.0	18.5	13.0	21.0	17.0	20.0	13.0	21.5	17.5
12	---	---	20.0	13.0	20.0	13.0	21.0	16.0	20.5	14.0	22.5	16.5
13	---	---	22.5	14.0	21.0	14.0	21.0	15.5	22.5	15.0	24.0	16.5
14	---	---	23.0	14.5	19.5	14.5	21.0	16.0	22.0	16.0	23.5	18.0
15	---	---	22.5	15.0	19.0	14.5	21.5	16.5	22.5	17.5	19.5	16.0
16	---	---	22.5	14.5	18.5	14.5	20.5	16.5	22.0	17.0	20.0	15.5
17	---	---	21.0	16.5	20.0	15.5	21.0	17.5	23.5	18.0	23.0	16.5
18	---	---	22.0	15.5	19.5	16.0	21.5	16.5	22.5	18.0	25.0	17.5
19	---	---	20.5	14.5	19.0	15.0	19.5	18.5	22.5	18.0	24.5	18.0
20	---	---	21.5	13.5	18.0	14.5	19.0	14.5	24.0	16.0	21.0	18.0
21	26.0	16.0	21.0	14.0	17.5	12.0	22.0	14.0	21.5	15.0	24.0	17.5
22	27.0	17.0	21.5	15.0	17.5	12.5	22.0	16.5	23.0	13.0	24.5	18.0
23	27.5	18.0	21.0	15.0	16.0	12.0	21.5	17.0	24.0	14.0	23.0	19.0
24	25.0	18.5	---	---	18.0	11.5	21.5	18.5	23.5	17.0	25.0	19.0
25	23.5	17.5	---	---	19.5	13.0	19.5	11.5	23.5	17.0	21.0	18.5
26	24.5	16.5	---	---	19.5	14.5	17.0	9.5	24.0	18.0	25.0	18.0
27	25.0	17.0	---	---	20.5	14.5	16.5	9.0	24.5	17.5	22.0	20.0
28	24.5	17.0	---	---	21.0	15.0	19.0	13.5	25.0	18.0	26.0	19.0
29	23.0	17.5	---	---	20.5	15.0	21.0	14.0	---	---	26.0	19.0
30	22.5	17.5	---	---	21.0	15.0	22.0	16.0	---	---	25.0	19.5
31	23.5	16.0	---	---	20.0	16.0	19.5	15.5	---	---	21.0	18.0
MONTH	---	---	---	---	---	---	22.0	9.0	25.0	11.5	26.0	15.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21.0	15.0	27.0	17.0	26.0	21.0	32.5	22.0	33.0	22.0	30.0	21.0
2	23.5	14.0	27.0	19.5	22.0	17.5	32.0	22.0	33.0	22.5	30.0	20.0
3	20.0	15.5	21.0	18.5	25.0	18.5	32.0	22.0	33.0	23.0	30.0	21.0
4	24.0	16.0	26.0	19.5	22.5	19.0	32.5	22.0	32.5	23.0	30.5	20.5
5	24.0	16.5	29.0	19.0	29.0	19.0	33.5	22.0	32.0	22.5	30.5	20.5
6	19.5	13.5	29.5	20.5	30.5	20.5	32.5	23.0	31.5	22.5	31.0	20.5
7	16.0	10.5	29.5	21.5	30.0	21.0	32.5	23.0	32.0	22.0	31.0	20.0
8	22.0	13.0	28.5	21.0	29.5	20.5	26.5	24.0	32.0	21.5	30.5	20.5
9	23.0	11.5	25.0	20.5	29.5	21.0	31.5	23.0	32.0	21.5	27.0	21.0
10	25.0	15.0	28.0	20.0	29.0	21.0	33.0	23.0	31.5	21.5	30.5	21.0
11	20.0	13.0	29.0	20.5	29.5	21.0	34.0	24.0	31.5	21.0	31.0	20.5
12	16.0	11.5	30.0	21.5	30.5	21.5	36.5	25.0	32.0	21.0	31.5	20.5
13	23.5	14.0	27.5	22.0	32.0	22.0	34.5	25.0	32.5	22.0	31.5	22.0
14	25.5	16.5	28.0	21.0	32.0	22.5	33.5	24.0	32.0	22.0	30.5	21.5
15	26.0	17.5	27.0	21.0	32.0	23.0	33.0	23.5	32.0	21.5	29.5	20.5
16	29.0	18.5	28.0	20.5	32.0	22.5	32.5	22.5	31.5	21.0	29.0	20.0
17	29.5	20.5	29.5	20.5	31.0	22.0	33.5	23.0	32.0	21.5	29.5	20.5
18	29.0	21.0	29.5	21.5	32.0	22.5	33.0	22.5	31.5	22.0	25.5	20.5
19	29.5	21.5	29.0	21.5	32.0	22.5	33.0	22.5	32.0	21.5	29.5	20.5
20	29.0	21.5	29.0	22.0	32.0	22.5	33.0	22.0	32.0	22.5	30.5	18.5
21	24.5	21.0	26.0	20.5	30.5	22.0	32.5	21.5	33.0	22.0	26.0	20.0
22	23.5	19.5	25.0	20.0	31.5	21.5	33.0	21.5	32.5	22.5	31.5	23.0
23	27.0	18.0	28.0	20.0	31.5	22.0	32.0	21.5	34.0	22.5	30.5	22.0
24	20.0	17.0	26.5	21.0	31.5	22.5	32.5	21.0	32.0	23.0	30.5	21.0
25	26.5	19.0	30.0	21.5	32.5	22.0	32.5	21.5	32.5	22.5	30.0	20.5
26	28.0	19.5	30.5	21.5	32.0	22.5	33.0	22.0	32.5	23.5	30.0	20.0
27	28.0	20.5	31.0	22.0	32.5	21.5	31.5	22.5	33.0	23.0	29.5	20.5
28	24.0	16.5	30.0	22.0	32.0	22.0	32.0	22.0	33.0	23.5	28.5	20.0
29	24.0	17.0	30.0	22.0	32.5	22.0	32.5	22.5	32.0	22.0	29.0	19.0
30	20.0	15.0	29.5	21.5	32.5	22.0	32.5	22.5	31.0	21.5	29.5	19.0
31	---	---	30.0	21.0	---	---	32.5	22.5	31.0	20.5	---	---
MONTH	29.5	10.5	31.0	17.0	32.5	17.5	36.5	21.0	34.0	20.5	31.5	18.5

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, 25 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 mi².

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.—WSP 1011: 1943. WDR CA-83-1: Drainage area. WDR CA-98-1: 1969(M).

GAGE.—Water-stage recorder and crest-stage gage on creek. Elevation of gage is 2,380 ft above sea level, 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 recorder and sharp-crested weir on conduit since June 3, 1949. Water-stage recorder and sharp-crested weir on infiltration line from Oct. 1, 1971, to Sept. 30, 1992; nonrecording flow meter on diversion pipe since Oct. 1, 1992.

REMARKS.—Records fair. No regulation upstream from station. Southern California Edison Co.'s Lytle Creek Conduit (station 11060900) diverts 2.3 mi upstream for power development and Fontana Water Co. collects water from an infiltration line (station 11061000) upstream for irrigation and domestic use. Spill can occur from Southern California Edison Co.'s Lytle Creek forebay during unusually high flows. Water can be pumped from channel by two pumps at Miller Narrows at a point approximately 2 mi upstream. No water has been pumped out of channel since 1971. For records of combined discharge of Lytle Creek and diversions, see station 11062001. Records pertaining to distribution of flows diverted from Lytle Creek are available in the files of the U.S. Geological Survey. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Records for Lytle Creek Conduit were provided by Southern California Edison Co., under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Records for Fontana Water Co.'s infiltration line were provided by Fontana Water Co.

EXTREMES FOR PERIOD OF RECORD.—Creek only: Maximum discharge, 25,200 ft³/s, Mar. 2, 1938, gage height, unknown, on basis of slope-area measurement of peak flow; maximum gage height, 15.0 ft, Jan. 25, 1969; no flow at times most years.

Combined creek and diversions: Maximum discharge, 25,200 ft³/s, Mar. 2, 1938; minimum daily, 2.6 ft³/s, Nov. 28, 1989.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Creek only Gage height (ft)	Combined creek and diversions Discharge (ft ³ /s)
Nov. 28	0815	100	2.49	120

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	29	29	12	11	6.2	4.1	6.2	.01	.00	.00	.00
2	37	27	27	12	11	6.1	4.0	5.4	.11	.00	.00	.00
3	37	26	26	12	9.9	6.1	4.7	5.2	.04	.01	.00	.00
4	37	26	25	11	10	6.2	4.4	4.7	.04	.29	.00	.00
5	37	27	24	11	11	6.0	3.7	4.1	.03	.65	.00	.00
6	36	26	26	11	10	6.0	6.9	3.6	.01	.16	.00	.00
7	36	26	26	10	9.4	6.0	10	3.3	.01	.00	.00	.00
8	36	31	25	10	8.8	6.0	8.5	3.2	.02	.00	.00	.00
9	35	27	28	10	17	6.2	8.2	3.0	.01	.00	.00	.00
10	35	27	24	9.8	19	6.0	7.6	2.9	.01	.00	.00	.00
11	35	28	22	9.5	15	6.1	9.5	3.0	.01	.00	.00	.00
12	34	26	21	9.2	13	5.6	18	3.8	.01	.00	.00	.00
13	35	25	20	8.5	12	5.0	14	2.8	.00	.00	.00	.00
14	35	25	19	8.1	11	4.6	14	2.7	.00	.00	.00	.00
15	34	24	19	7.9	10	9.1	14	2.5	.00	.00	.05	.00
16	35	23	18	7.8	9.7	7.1	14	2.4	.00	.00	.00	.00
17	34	24	17	7.7	9.0	6.1	13	2.3	.00	.00	.00	.00
18	33	23	17	7.8	8.4	5.6	11	2.2	.00	.00	.00	.00
19	33	23	18	7.8	7.7	5.2	11	1.4	.00	.00	.00	.00
20	32	23	18	8.9	7.8	5.4	10	.01	.00	.00	.00	.00
21	31	22	17	8.6	7.5	5.2	10	.04	.00	.00	.00	.00
22	31	22	17	8.4	7.5	4.7	9.8	.08	.00	.00	.00	.00
23	30	22	17	8.2	7.1	4.9	9.2	.06	.00	.00	.00	.00
24	30	22	16	7.8	6.8	4.7	9.0	.06	.00	.00	.00	.00
25	32	21	15	9.9	6.8	5.1	8.0	.03	.00	.00	.00	.00
26	31	22	15	14	6.8	4.6	6.7	.04	.00	.00	.00	.00
27	31	20	14	15	6.7	4.2	6.4	.03	.00	.00	.00	.00
28	31	45	13	13	6.4	3.8	7.8	.03	.00	.00	.00	.00
29	31	36	13	12	---	3.7	7.2	.04	.00	.00	.00	.00
30	30	31	12	11	---	3.7	7.4	.04	.00	.00	.00	.00
31	30	---	12	13	---	4.0	---	.01	---	.00	.00	---
TOTAL	1040	779	610	312.9	276.3	169.2	272.1	65.17	0.31	1.11	0.05	0.00
MEAN	33.5	26.0	19.7	10.1	9.87	5.46	9.07	2.10	.010	.036	.002	.000
MAX	37	45	29	15	19	9.1	18	6.2	.11	.65	.05	.00
MIN	30	20	12	7.7	6.4	3.7	3.7	.01	.00	.00	.00	.00
AC-FT	2060	1550	1210	621	548	336	540	129	.6	2.2	.1	.00

SANTA ANA RIVER BASIN

11062000 LYTLE CREEK NEAR FONTANA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.28	7.81	10.2	26.6	42.8	53.2	29.9	20.6	15.2	11.3	7.68	5.98
MAX	48.2	275	151	552	633	752	254	189	157	131	80.5	65.7
(WY)	1984	1966	1967	1969	1980	1938	1978	1993	1983	1983	1969	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919	1919

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1919 - 1999	
ANNUAL TOTAL	23649.60		3526.14			
ANNUAL MEAN	64.8		9.66		19.7	
HIGHEST ANNUAL MEAN					177	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	850	Feb 23	45	Nov 28	8950	Mar 2 1938
LOWEST DAILY MEAN	.24	Jan 1	.00	Jun 13	.00	Oct 1 1918
ANNUAL SEVEN-DAY MINIMUM	.41	Jan 22	.00	Jun 13	.00	Oct 1 1918
INSTANTANEOUS PEAK FLOW			100	Nov 28	25200	Mar 2 1938
INSTANTANEOUS PEAK STAGE			2.49	Nov 28	15.00	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	46910		6990		14300	
10 PERCENT EXCEEDS	112		29		45	
50 PERCENT EXCEEDS	63		6.1		.00	
90 PERCENT EXCEEDS	16		.00		.00	

11062001 LYTLE CREEK NEAR FONTANA, CA—Continued

LYTLE CREEK, SOUTHERN CALIFORNIA EDISON CO.'S LYTLE CREEK CONDUIT, AND
FONTANA WATER CO.'S INFILTRATION LINE DIVERSION

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	50	50	32	31	26	24	26	20	16	14	12
2	58	48	47	32	31	26	24	24	21	15	13	12
3	58	47	46	32	29	26	25	25	21	15	13	12
4	58	47	45	31	30	26	23	25	20	13	13	12
5	58	48	44	31	31	26	24	24	20	12	13	12
6	57	47	46	31	30	26	27	24	20	14	13	12
7	56	47	46	30	29	26	30	23	20	15	13	12
8	57	52	45	30	29	26	28	23	19	15	13	12
9	56	48	46	30	37	26	28	22	19	16	13	12
10	56	48	44	30	39	26	28	23	19	15	13	12
11	56	49	42	30	35	25	30	22	19	14	13	12
12	55	46	42	29	33	26	38	21	19	14	13	14
13	56	46	41	28	32	25	34	22	18	13	13	12
14	56	46	40	28	31	25	34	22	18	14	13	12
15	55	45	40	28	30	29	34	22	18	14	13	12
16	56	44	38	28	30	27	34	20	17	14	12	11
17	55	45	38	28	29	26	33	21	18	14	13	12
18	54	44	38	28	28	26	30	20	17	14	12	12
19	54	44	39	28	28	25	31	19	17	14	12	12
20	53	44	38	29	28	25	30	24	17	14	12	12
21	52	43	37	29	28	25	30	25	16	14	12	12
22	52	42	37	28	28	25	30	24	16	14	12	12
23	51	42	37	28	27	25	29	23	16	14	12	12
24	51	42	37	28	27	25	29	22	16	14	12	12
25	53	42	36	30	27	25	28	22	17	14	12	12
26	52	41	35	34	27	24	27	21	17	13	12	12
27	52	40	34	35	27	24	25	21	15	13	12	12
28	52	64	34	33	26	24	28	21	16	14	12	11
29	52	57	33	32	---	24	27	20	15	13	12	11
30	51	52	33	31	---	24	26	21	16	13	12	11
31	51	---	32	33	---	24	---	20	---	14	12	---
TOTAL	1690	1400	1240	934	837	788	868	692	537	435	389	358
MEAN	54.5	46.7	40.0	30.1	29.9	25.4	28.9	22.3	17.9	14.0	12.5	11.9
MAX	58	64	50	35	39	29	38	26	21	16	14	14
MIN	51	40	32	28	26	24	23	19	15	12	12	11
AC-FT	3350	2780	2460	1850	1660	1560	1720	1370	1070	863	772	710

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1899 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	26.8	28.7	31.2	56.6	68.8	79.1	57.0	47.4	39.6	33.5	30.4	27.8
MAX	71.9	285	168	650	653	785	264	225	164	131	107	81.5
(WY)	1984	1966	1967	1916	1980	1938	1978	1978	1978	1969	1969	1978
MIN	7.54	8.05	7.65	11.0	11.7	12.1	10.8	10.9	9.41	7.05	6.98	6.43
(WY)	1962	1991	1951	1951	1899	1965	1899	1961	1990	1899	1990	1990

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1899 - 1999

ANNUAL TOTAL	30066	10168		
ANNUAL MEAN	82.4	27.9	44.1	
HIGHEST ANNUAL MEAN			194	1969
LOWEST ANNUAL MEAN			10.7	1951
HIGHEST DAILY MEAN	855	Feb 23	64	Nov 28
LOWEST DAILY MEAN	18	Jan 2	11	Sep 16
ANNUAL SEVEN-DAY MINIMUM	19	Jan 1	12	Sep 24
INSTANTANEOUS PEAK FLOW			120	Nov 28
ANNUAL RUNOFF (AC-FT)	59640	20170	25200	Mar 2 1938
10 PERCENT EXCEEDS	124	50	31930	
50 PERCENT EXCEEDS	83	26	79	
90 PERCENT EXCEEDS	36	12	13	

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 Burlington Northern & Santa Fe Railway Co. bridge, 150 ft upstream from confluence with Cajon Creek, and 1.1 mi north of Keenbrook.

DRAINAGE AREA.—15.1 mi².

PERIOD OF RECORD.—December 1919 to September 1938, June 1949 to current year.

REVISED RECORDS.—WSP 1635: 1920–22(M), 1924–25(M), 1926–27, 1928(M), 1930, 1931(M), 1932–33, 1934–36(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 2,605.92 ft above sea level. 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.—Records good. No regulation or diversion upstream from station. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,180 ft³/s, Mar. 2, 1938, gage height, unknown, on basis of slope-area measurement of peak flow; maximum recorded gage height, 10.70 ft, Jan. 25, 1969; no flow Aug. 6–8, Sept. 29, 30, 1965.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 80 ft³/s, or maximum, from rating curve extended above 322 ft³/s on basis of slope-conveyance measurement at gage height 9.07 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0345	7.2	1.45				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.4	1.7	1.3	1.2	1.3	1.3	1.1	1.0	1.0	.86	.80
2	1.0	1.4	1.8	1.3	1.3	1.3	1.4	1.2	1.1	1.0	.85	.84
3	1.1	1.4	1.8	1.3	1.3	1.3	1.6	1.3	1.1	1.0	.85	.87
4	1.1	1.4	1.9	1.3	1.4	1.3	1.5	1.3	1.0	1.0	.85	.86
5	1.1	1.6	1.7	1.3	1.4	1.3	1.4	1.1	1.0	.99	.86	.85
6	1.1	1.6	1.7	1.3	1.4	1.3	1.5	.98	1.0	1.0	.87	.85
7	1.0	1.6	1.7	1.3	1.4	1.3	1.6	1.1	1.0	.98	.87	.80
8	.92	1.6	1.6	1.3	1.4	1.3	1.4	1.1	1.0	1.1	.85	.80
9	.92	1.6	1.6	1.3	1.4	1.3	1.4	1.1	1.1	.99	.85	.75
10	.97	1.6	1.6	1.3	1.4	1.3	1.4	1.1	1.0	1.1	.84	.68
11	.96	1.6	1.5	1.2	1.3	1.3	1.6	1.1	1.1	1.2	.86	.68
12	1.1	1.6	1.4	1.2	1.3	1.3	2.3	1.1	1.0	1.1	.88	.75
13	1.1	1.6	1.4	1.2	1.4	1.3	1.4	1.1	1.1	1.1	.88	.75
14	1.2	1.6	1.3	1.2	1.4	1.3	1.3	1.1	1.1	1.1	.87	.73
15	1.2	1.6	1.3	1.2	1.4	1.5	1.3	1.1	1.1	1.1	.87	.71
16	1.2	1.6	1.3	1.2	1.6	1.2	1.3	1.1	1.1	1.0	.86	.70
17	1.2	1.6	1.3	1.3	1.6	1.2	1.2	1.1	1.1	.94	.85	.68
18	1.2	1.6	1.3	1.3	1.6	1.2	1.2	1.1	1.0	.81	.86	.68
19	1.2	1.6	1.3	1.3	1.6	1.2	1.2	1.1	.99	.77	.85	.68
20	1.2	1.6	1.3	1.3	1.5	1.2	1.2	1.1	1.0	.77	.82	.68
21	1.2	1.6	1.3	1.2	1.4	1.2	1.2	1.1	1.0	.80	.84	.64
22	1.3	1.6	1.3	1.2	1.4	1.2	1.2	1.1	1.0	.80	.80	.58
23	1.3	1.6	1.3	1.2	1.4	1.2	1.1	1.1	1.0	.80	.80	.56
24	1.2	1.6	1.3	1.2	1.4	1.3	1.1	1.2	1.0	.80	.80	.47
25	1.2	1.5	1.3	1.2	1.4	1.3	1.1	1.2	1.0	.80	.80	.47
26	1.2	1.5	1.3	1.3	1.4	1.3	1.1	1.1	1.0	.92	.84	.47
27	1.3	1.6	1.3	1.2	1.3	1.3	1.1	1.1	1.0	.92	.80	.47
28	1.3	1.7	1.3	1.1	1.3	1.3	1.1	1.1	1.1	.89	.80	.45
29	1.2	1.6	1.3	1.2	---	1.3	1.1	1.1	1.1	.88	.80	.44
30	1.2	1.7	1.3	1.2	---	1.3	1.1	1.0	1.1	.88	.80	.45
31	1.4	---	1.3	1.2	---	1.3	---	1.0	---	.88	.80	---
TOTAL	35.57	47.2	44.8	38.6	39.3	39.7	39.7	34.48	31.19	29.42	26.03	20.14
MEAN	1.15	1.57	1.45	1.25	1.40	1.28	1.32	1.11	1.04	.95	.84	.67
MAX	1.4	1.7	1.9	1.3	1.6	1.5	2.3	1.3	1.1	1.2	.88	.87
MIN	.92	1.4	1.3	1.1	1.2	1.2	1.1	.98	.99	.77	.80	.44
AC-FT	71	94	89	77	78	79	79	68	62	58	52	40

11063500 LONE PINE CREEK NEAR KEENBROOK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.00	1.20	1.89	2.35	4.16	4.56	2.07	1.66	1.35	1.12	1.09	1.05
MAX	5.35	6.51	15.0	24.1	40.6	98.1	11.0	8.91	7.41	5.95	6.61	6.09
(WY)	1984	1966	1923	1969	1969	1938	1980	1980	1980	1993	1993	1993
MIN	.079	.091	.095	.094	.10	.10	.10	.10	.10	.10	.090	.093
(WY)	1991	1991	1991	1991	1964	1964	1961	1928	1928	1928	1965	1965

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1920 - 1999	
ANNUAL TOTAL	952.16		426.13			
ANNUAL MEAN	2.61		1.17		1.96	
HIGHEST ANNUAL MEAN					11.4	
LOWEST ANNUAL MEAN					.11	
HIGHEST DAILY MEAN	143	Feb 23	2.3	Apr 12	1480	Mar 2 1938
LOWEST DAILY MEAN	.47	Feb 1	.44	Sep 29	.00	Aug 6 1965
ANNUAL SEVEN-DAY MINIMUM	.56	Jan 27	.46	Sep 24	.06	Aug 2 1965
INSTANTANEOUS PEAK FLOW			7.2		6180	
INSTANTANEOUS PEAK STAGE			1.45		10.70	
ANNUAL RUNOFF (AC-FT)	1890		845		1420	
10 PERCENT EXCEEDS	3.2		1.6		4.1	
50 PERCENT EXCEEDS	1.5		1.2		.60	
90 PERCENT EXCEEDS	.92		.80		.10	

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 mi².

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 sea level, from topographic map. Oct. 1, 1971, to Sept. 30, 1977, at site 0.25 mi upstream at abandoned diversion dam at different datum.

REMARKS.—Records good except for estimated daily discharges, which are fair. Concrete control installed Oct. 1, 1987. No regulation or diversion upstream from station. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,700 ft³/s, Feb. 8, 1993, gage height, 8.48 ft, from rating curve extended above 180 ft³/s on basis of slope-area measurement at gage height 8.48 ft; minimum daily, 1.7 ft³/s, Sept. 5, 6, 1989.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum, from rating curve extended above 373 ft³/s on basis of slope-area measurement at gage height 8.48 ft:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 12	0400	42	4.74				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	5.6	6.9	e6.6	6.4	6.0	6.4	7.7	5.3	4.4	4.4	4.2
2	4.6	5.6	6.8	e6.6	6.2	6.0	6.2	7.0	5.8	4.4	4.3	4.4
3	4.6	5.5	6.8	e6.5	6.2	6.1	6.4	7.1	5.7	4.4	4.3	4.4
4	4.4	5.6	6.5	e6.5	6.3	6.2	6.4	7.0	5.7	4.4	4.3	4.4
5	4.2	5.8	6.7	e6.5	6.4	6.0	6.2	6.8	5.6	4.3	4.4	4.2
6	4.2	5.8	6.6	e6.4	6.4	6.0	7.9	6.6	5.4	4.2	4.6	4.2
7	4.2	6.0	6.4	6.4	6.3	6.0	11	6.5	5.5	4.2	4.7	4.2
8	4.2	6.4	6.6	6.4	6.4	6.0	9.1	6.5	6.2	4.6	4.6	4.1
9	4.2	6.9	6.6	6.3	6.9	6.0	8.4	6.6	6.2	4.4	4.5	4.1
10	4.3	7.0	6.5	6.0	7.2	6.0	8.1	6.6	6.2	4.4	4.7	4.1
11	4.1	7.2	6.5	6.0	6.8	6.0	9.5	6.3	6.2	4.6	4.7	4.1
12	4.4	7.0	6.5	6.0	6.8	5.9	27	6.2	5.9	4.7	4.5	4.0
13	4.5	7.0	6.6	6.0	6.8	5.9	14	6.4	5.8	4.3	4.4	4.0
14	4.7	6.9	6.6	5.9	6.8	5.9	12	6.3	5.6	4.6	4.4	4.0
15	4.6	6.9	6.6	6.0	6.8	8.2	11	6.2	5.2	4.5	4.5	4.0
16	4.6	6.7	6.7	6.0	6.6	7.7	11	6.2	5.1	4.5	4.4	4.1
17	4.5	7.0	6.5	6.0	6.4	7.4	10	6.1	5.1	4.5	4.3	4.1
18	4.5	7.0	6.6	6.0	6.4	7.2	9.5	6.0	5.0	4.4	4.3	4.3
19	4.5	6.9	6.6	6.0	6.4	7.1	8.2	5.7	5.0	4.3	4.0	4.3
20	4.4	6.9	6.6	6.2	6.3	7.1	8.5	5.8	5.0	4.3	4.0	4.2
21	4.8	7.0	6.5	6.2	6.4	7.1	8.5	5.8	5.0	4.3	4.0	4.2
22	5.1	7.0	6.6	6.2	6.3	7.1	8.4	5.9	5.0	4.3	4.0	4.1
23	5.1	7.0	6.6	6.4	6.2	7.1	8.2	5.8	4.9	4.3	4.0	4.1
24	5.2	7.1	6.5	6.4	6.2	7.1	8.3	5.7	4.8	4.3	4.0	4.0
25	5.3	7.0	6.5	6.5	6.0	7.0	8.2	5.6	4.9	4.3	3.9	4.0
26	5.2	7.0	6.5	8.6	6.2	6.8	7.8	5.5	4.7	4.3	4.0	4.0
27	5.3	7.1	6.4	9.6	6.2	6.8	7.4	5.5	4.5	4.5	4.0	4.0
28	5.2	9.3	6.5	8.0	6.1	6.6	8.1	5.5	4.5	4.6	4.0	3.9
29	5.3	7.2	6.7	7.2	---	6.4	7.8	5.5	4.4	4.6	3.9	3.8
30	5.3	7.0	6.6	6.9	---	6.3	8.1	5.4	4.4	4.6	3.9	3.8
31	5.5	---	6.6	6.9	---	6.4	---	5.3	---	4.6	4.0	---
TOTAL	145.5	202.4	204.2	203.2	180.4	203.4	277.6	191.1	158.6	137.1	132.0	123.3
MEAN	4.69	6.75	6.59	6.55	6.44	6.56	9.25	6.16	5.29	4.42	4.26	4.11
MAX	5.5	9.3	6.9	9.6	7.2	8.2	27	7.7	6.2	4.7	4.7	4.4
MIN	4.1	5.5	6.4	5.9	6.0	5.9	6.2	5.3	4.4	4.2	3.9	3.8
AC-FT	289	401	405	403	358	403	551	379	315	272	262	245

e Estimated.

11063510 CAJON CREEK BELOW LONE PINE CREEK, NEAR KEENBROOK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.46	5.97	9.48	20.2	24.7	16.7	10.5	8.34	6.28	5.22	4.89	5.76
MAX	14.8	13.2	26.5	134	121	51.5	27.7	18.1	15.8	16.0	15.1	24.5
(WY)	1984	1984	1972	1993	1993	1995	1993	1998	1993	1993	1993	1976
MIN	2.00	1.97	2.05	2.33	5.06	4.31	2.93	3.39	1.98	2.05	2.12	1.99
(WY)	1991	1992	1991	1991	1977	1990	1977	1976	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1972 - 1999	
ANNUAL TOTAL	6482.1		2158.8			
ANNUAL MEAN	17.8		5.91		10.2	
HIGHEST ANNUAL MEAN					35.5	
LOWEST ANNUAL MEAN					3.80	
HIGHEST DAILY MEAN	1100	Feb 23	27	Apr 12	1100	Feb 23 1998
LOWEST DAILY MEAN	4.1	Oct 11	3.8	Sep 29	1.7	Sep 5 1989
ANNUAL SEVEN-DAY MINIMUM	4.2	Oct 5	3.9	Sep 24	1.8	Sep 2 1989
INSTANTANEOUS PEAK FLOW			42		6700	
INSTANTANEOUS PEAK STAGE			4.74		8.48	
ANNUAL RUNOFF (AC-FT)	12860		4280		7400	
10 PERCENT EXCEEDS	26		7.2		15	
50 PERCENT EXCEEDS	7.0		6.0		5.9	
90 PERCENT EXCEEDS	4.9		4.2		2.9	

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 mi².

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.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,080 ft above sea level, 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.—Records good above 1 ft³/s and fair below. No regulation upstream from station. City of San Bernardino diverts upstream from station at times for municipal supply. No diversion since June 1993. Natural flow affected by pumping along creek. Records given below are for creek only unless otherwise indicated. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Records of diversion were provided by city of San Bernardino.

EXTREMES FOR PERIOD OF RECORD (1913–14 and since 1919).—Maximum discharge, 3,720 ft³/s, Jan. 25, 1969, gage height, 5.40 ft, site and datum then in use, on basis of slope-area measurement of peak flow; maximum gage height, 8.40 ft, Mar. 4, 1978; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum, from rating curve extended above 158 ft³/s:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	2115	16	5.42				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.2	3.4	3.0	4.4	2.9	2.8	2.5	1.3	.01	.10	.14
2	2.3	2.3	4.3	2.9	3.2	3.1	2.8	2.3	2.5	.00	.10	.14
3	2.3	2.2	2.4	2.8	3.1	3.2	2.8	2.7	2.1	.00	.10	.14
4	2.0	2.1	4.3	2.8	4.2	3.4	2.7	2.5	2.0	.00	.10	.14
5	2.1	2.2	4.1	2.7	5.4	3.2	2.5	2.4	1.9	.00	.11	.14
6	2.1	2.3	4.1	2.7	5.2	2.9	4.0	2.2	1.6	.00	.11	.13
7	2.4	2.2	3.3	2.8	5.1	2.8	5.7	2.1	1.6	.00	.11	.13
8	2.6	4.5	2.6	2.8	5.1	2.8	4.2	2.1	1.5	.04	.11	.12
9	2.8	3.1	2.9	2.7	6.9	2.8	4.2	2.3	1.3	.16	.11	.13
10	3.0	2.4	3.2	2.7	6.5	2.8	3.5	2.1	1.4	.10	.12	.13
11	2.5	2.5	2.4	2.7	5.0	2.8	4.6	2.0	1.3	.00	.13	.13
12	1.7	2.4	1.8	2.7	3.8	2.8	8.4	1.9	1.1	.00	.12	.13
13	1.8	2.4	2.0	2.5	3.2	2.8	5.9	2.0	.99	.00	.12	.12
14	1.9	2.3	2.3	1.9	3.2	2.8	5.1	1.9	.79	.00	.12	.12
15	2.1	2.3	2.4	1.9	3.0	2.9	4.4	2.0	.77	.00	.12	.12
16	2.1	2.3	2.5	1.9	2.8	2.8	3.7	1.9	.78	.00	.12	.11
17	2.1	2.3	2.5	2.0	2.9	2.8	3.4	1.7	.78	.00	.12	.09
18	2.2	2.3	2.7	2.0	2.9	2.8	3.2	1.6	.76	.00	.13	.11
19	2.1	2.4	3.0	2.0	3.0	2.8	3.0	1.7	.72	.00	.13	.11
20	2.0	2.8	2.8	3.4	2.9	2.8	2.7	1.7	.53	.00	.13	.10
21	2.0	2.8	2.5	3.7	2.9	2.8	2.6	1.8	.53	.00	.13	.10
22	2.0	2.7	3.1	3.0	2.9	2.8	2.7	1.9	.28	.00	.13	.11
23	1.9	2.5	3.4	2.5	2.8	2.8	2.9	1.8	.08	.00	.13	.11
24	2.0	2.2	3.2	2.5	2.8	2.7	3.6	1.7	.06	.00	.13	.11
25	2.3	2.1	3.2	4.4	2.8	2.5	3.4	1.6	.04	.00	.13	.11
26	2.4	2.0	3.2	6.0	2.8	2.5	3.0	1.5	.03	.00	.14	.11
27	2.5	2.1	3.3	6.2	2.8	2.1	2.8	1.5	.03	.09	.14	.11
28	2.4	5.8	3.1	4.5	2.9	1.7	3.0	1.4	.02	.11	.14	.10
29	2.4	6.4	3.1	3.9	---	1.6	2.8	1.4	.01	.11	.14	.11
30	2.4	4.6	3.1	3.9	---	2.6	2.7	1.5	.01	.11	.14	.13
31	2.2	---	3.1	5.1	---	2.9	---	1.4	---	.11	.14	---
TOTAL	68.8	82.7	93.3	96.6	104.5	85.0	109.1	59.1	26.81	0.84	3.80	3.58
MEAN	2.22	2.76	3.01	3.12	3.73	2.74	3.64	1.91	.89	.027	.12	.12
MAX	3.0	6.4	4.3	6.2	6.9	3.4	8.4	2.7	2.5	.16	.14	.14
MIN	1.7	2.0	1.8	1.9	2.8	1.6	2.5	1.4	.01	.00	.10	.09
AC-FT	136	164	185	192	207	169	216	117	53	1.7	7.5	7.1

11063680 DEVIL CANYON CREEK NEAR SAN BERNARDINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.37	.99	1.79	3.75	6.93	7.52	4.47	2.28	1.03	.55	.35	.34
MAX	3.36	12.9	14.0	44.4	108	72.9	28.3	15.2	9.49	5.09	3.83	3.33
(WY)	1984	1966	1967	1993	1980	1938	1978	1983	1998	1998	1993	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1926	1926	1926	1926	1948	1951	1951	1951	1947	1926	1925	1924

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1920 - 1999	
ANNUAL TOTAL	2788.53		734.13			
ANNUAL MEAN	7.64		2.01		2.49	
HIGHEST ANNUAL MEAN					16.1	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	114	Feb 23	8.4	Apr 12	556	Jan 25 1969
LOWEST DAILY MEAN	.93	Jan 8	.00	Jul 2	.00	Sep 23 1921
ANNUAL SEVEN-DAY MINIMUM	1.7	Sep 15	.00	Jul 11	.00	Sep 23 1921
INSTANTANEOUS PEAK FLOW			16	Feb 9	3720	Jan 25 1969
INSTANTANEOUS PEAK STAGE			5.42	Feb 9	8.40	Mar 4 1978
ANNUAL RUNOFF (AC-FT)	5530		1460		1800	
10 PERCENT EXCEEDS	15		3.6		5.5	
50 PERCENT EXCEEDS	4.1		2.2		.20	
90 PERCENT EXCEEDS	2.1		.10		.00	

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 Ave., 1,930 ft upstream from outlet end of channel, and 1.3 mi northeast of Colton.

DRAINAGE AREA.—186 mi².

PERIOD OF RECORD.—October 1957 to September 1983, October 1984 to current year.

REVISED RECORDS.—WDR CA-83-1: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 974.67 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.—Records fair except for discharges below 10 ft³/s, which are poor. Flow partly regulated by Lytle Creek spreading grounds 3.2 mi upstream. Diversions upstream from 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 ft³/s, Mar. 4, 1978, gage height, 14.8 ft, from rating curve extended above 4,200 ft³/s on basis of discharge for design flood at gage height 21.4 ft; no flow for many days most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.01	.00	.00	.00	.19	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	9.1	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.60	.00	2.6	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.18	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	2.3	.00	.00	.00	1.7	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	4.7	.00	.00	.00	.00	.00
8	.00	13	.00	.00	18	.00	.21	.00	.00	.00	.00	.00
9	.00	.65	.00	.00	4.0	.00	.00	.00	.00	.00	.00	.00
10	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	9.9	.00	2.8	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.11	.00	9.2	.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	.16	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.14	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	1.6	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.45	.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	.03	.00	.00	3.7	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	13	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	13	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	3.2	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00
29	.00	1.7	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.03	.00	.00	---	.00	.44	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.03	18.62	3.05	31.75	34.79	0.16	19.25	0.00	9.10	0.00	0.00	0.00
MEAN	.001	.62	.098	1.02	1.24	.005	.64	.000	.30	.000	.000	.000
MAX	.03	13	2.3	13	18	.16	9.2	.00	9.1	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.06	37	6.0	63	69	.3	38	.00	18	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.77	4.66	7.81	20.2	31.3	20.2	4.34	4.27	2.39	1.35	.86	.79
MAX	15.8	79.1	104	318	363	326	57.3	87.6	61.3	35.4	17.1	9.58
(WY)	1981	1966	1966	1969	1980	1978	1969	1969	1978	1978	1969	1980
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1958	1958	1959	1963	1961	1959	1961	1959	1958	1958	1958	1958

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1958 - 1999

ANNUAL TOTAL	4150.11	116.75										
ANNUAL MEAN	11.4	.32							8.14			
HIGHEST ANNUAL MEAN									65.4			1969
LOWEST ANNUAL MEAN									.008			1977
HIGHEST DAILY MEAN	1440	Feb 23				18	Feb 8		5040		Jan 25	1969
LOWEST DAILY MEAN	.00	Jan 1				.00	Oct 1		.00		Oct 1	1957
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11				.00	Oct 1		.00		Oct 1	1957
INSTANTANEOUS PEAK FLOW							341	Nov 8	17500		Mar 4	1978
INSTANTANEOUS PEAK STAGE							2.19	Nov 8	14.80		Mar 4	1978
ANNUAL RUNOFF (AC-FT)	8230					232			5900			
10 PERCENT EXCEEDS	9.3					.00			4.0			
50 PERCENT EXCEEDS	.00					.00			.00			
90 PERCENT EXCEEDS	.00					.00			.00			

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 left 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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—March 1970 to current year.

REVISED RECORDS.—WDR CA-83-1: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 685 ft above sea level, from topographic map. Prior to Apr. 15, 1985, water-stage recorder at site 300 ft upstream on left bank at different datum. From Apr. 15 to Sept. 30, 1985, water-stage recorder near right bank (atop pier 9 of MWD pipeline crossing), at same site and datum. From Oct. 1, 1985, to June 16, 1993, water-stage recorder and crest-stage gage on right bank at same site and datum.

REMARKS.—Records fair below 500 ft³/s and poor above. 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. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 31,300 ft³/s, Feb. 24, 1998, gage height, 14.69 ft, on basis of area-velocity study; maximum gage height, 20.23 ft, site and datum then in use, Mar. 4, 1978; minimum daily, 15 ft³/s, Sept. 7, 8, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge since at least 1927, 100,000 ft³/s, Mar. 2, 1938, on basis of slope-area measurement at site 1.1 mi downstream. Flood of Jan. 22, 1862, 320,000 ft³/s, on basis of slope-conveyance study at site 8.2 mi upstream. Stage at that site was 5 ft higher than that of Mar. 2, 1938.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,500 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Oct. 25	2045	1,140	8.52				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	94	109	93	115	97	123	97	98	95	84	108
2	104	98	103	93	107	94	106	98	189	90	84	105
3	104	96	99	95	108	96	101	106	106	88	89	99
4	108	98	114	88	128	98	99	97	106	92	100	101
5	108	100	100	96	189	101	99	97	112	88	106	102
6	104	99	156	99	116	92	114	97	111	87	96	100
7	129	99	105	87	99	102	307	96	105	72	95	96
8	95	149	102	93	137	101	121	103	109	82	95	97
9	90	109	105	93	174	102	110	101	110	93	94	93
10	85	100	111	96	246	100	100	101	107	87	96	87
11	90	108	117	93	120	102	121	101	110	89	96	84
12	92	107	113	89	114	102	392	104	112	178	96	84
13	92	104	114	105	110	105	112	104	112	149	95	81
14	92	100	115	104	110	102	99	105	109	155	95	81
15	94	96	108	106	106	104	110	108	114	129	85	77
16	86	99	106	102	113	103	102	104	115	118	99	77
17	84	100	109	101	118	101	105	103	112	110	104	80
18	85	100	99	94	111	111	108	97	115	109	97	85
19	83	101	100	105	107	112	112	92	108	98	99	91
20	83	101	105	142	106	123	101	101	108	91	90	93
21	88	101	101	111	109	122	95	98	109	96	91	91
22	84	95	98	90	104	124	97	102	103	94	96	94
23	87	97	92	105	92	120	96	94	100	99	100	83
24	85	97	82	111	96	116	113	89	111	102	98	97
25	148	96	95	241	101	106	92	82	107	96	89	93
26	90	96	95	205	101	114	101	86	102	107	91	99
27	84	98	91	373	95	114	98	103	108	92	88	98
28	87	110	97	125	98	117	106	97	118	83	89	101
29	95	124	98	112	---	107	135	84	101	88	80	96
30	93	105	89	118	---	111	165	90	102	89	87	93
31	95	---	84	136	---	103	---	99	---	84	99	---
TOTAL	2939	3077	3212	3701	3330	3302	3740	3036	3329	3130	2903	2766
MEAN	94.8	103	104	119	119	107	125	97.9	111	101	93.6	92.2
MAX	148	149	156	373	246	124	392	108	189	178	106	108
MIN	83	94	82	87	92	92	92	82	98	72	80	77
AC-FT	5830	6100	6370	7340	6610	6550	7420	6020	6600	6210	5760	5490

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	59.5	78.3	103	238	293	326	148	121	79.2	52.9	52.5	53.8
MAX	194	259	292	1839	1411	1806	604	666	351	145	233	129
(WY)	1988	1984	1984	1993	1980	1995	1983	1983	1983	1983	1983	1976
MIN	20.5	21.2	23.3	24.7	23.1	23.7	23.1	22.3	20.2	16.8	17.9	18.0
(WY)	1974	1975	1974	1972	1972	1972	1971	1972	1981	1981	1981	1974

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	105228		38465			
ANNUAL MEAN	288		105		134	
HIGHEST ANNUAL MEAN					416	
LOWEST ANNUAL MEAN					29.0	
HIGHEST DAILY MEAN	10800	Feb 24	392	Apr 12	11500	Mar 2 1983
LOWEST DAILY MEAN	74	Jul 12	72	Jul 7	15	Sep 7 1980
ANNUAL SEVEN-DAY MINIMUM	79	Jul 8	81	Sep 11	16	Jul 1 1981
INSTANTANEOUS PEAK FLOW			1140	Oct 25	31300	Feb 24 1998
INSTANTANEOUS PEAK STAGE			8.52	Oct 25	20.23	Mar 4 1978
ANNUAL RUNOFF (AC-FT)	208700		76300		97140	
10 PERCENT EXCEEDS	416		118		202	
50 PERCENT EXCEEDS	117		100		62	
90 PERCENT EXCEEDS	87		87		22	

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1970 to current year.

CHEMICAL DATA: Water years 1970 to current year.

SEDIMENT DATA: October 1998 to September 1999.

PERIOD OF DAILY RECORD.—Water years 1970–78, November 1998 to September 1999.

SPECIFIC CONDUCTANCE: Water years 1970–78, November 1998 to September 1999.

WATER TEMPERATURE: November 1998 to September 1999.

INSTRUMENTATION.—Water-quality monitor recording specific conductance and water temperature since November 1998, as part of National Water-Quality Assessment (NAWQA) Program. Monitor records represent water-quality conditions along the left bank of the river.

REMARKS.—Specific-conductance and water-temperature data represent conditions on left bank. Sediment, cross-sectional, and continuous-monitoring data, as well as most of the chemical data presented below, collected for the National Water-Quality Assessment (NAWQA) Program.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,320 microsiemens, Nov. 4, 1969; minimum recorded, 95 microsiemens, Nov. 27, 1970.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 11, 1999; minimum recorded, 6.0°C, Jan. 29, 1999.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,180 microsiemens, Aug. 29; minimum recorded, 312 microsiemens, Jan. 27.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 11; minimum recorded, 6.0°C, Jan. 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE OF HG) (00025)	OXYGEN, DIS- SOLVED OXYGEN, (MM DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
OCT											
02...	0740	104	851	--	--	18.5	740	--	--	--	--
16...	0850	89	877	--	--	16.0	745	--	--	--	--
21...	1130	85	897	8.3	25.0	21.0	755	8.4	95	280	54
NOV											
03...	1110	99	908	--	--	19.5	745	--	--	--	--
18...	1230	107	885	8.4	15.0	20.5	756	8.9	99	270	51
24...	1045	99	925	--	22.0	17.5	741	--	--	--	--
DEC											
07...	1015	104	869	--	13.0	12.0	--	--	--	--	--
09...	1240	105	912	8.4	13.5	12.5	760	10.8	102	270	54
14...	1045	119	860	--	16.5	15.0	745	--	--	--	--
JAN											
05...	0925	99	875	--	14.0	11.5	750	--	--	--	--
13...	1210	109	896	8.4	17.0	16.5	758	9.9	101	270	54
20...	1105	156	668	--	15.5	16.5	750	--	--	--	--
25...	1545	301	386	7.8	--	14.0	752	9.0	89	110	17
FEB											
04...	1015	107	881	--	11.5	13.5	740	--	--	--	--
11...	1050	113	815	8.5	15.0	13.0	764	10.4	102	260	63
17...	0850	119	875	--	15.5	14.0	745	--	--	--	--
MAR											
02...	0845	96	886	--	17.5	15.0	745	--	--	--	--
10...	1020	99	879	8.3	13.5	17.0	756	10.1	104	260	52
10...	1105	97	867	--	13.5	17.5	745	--	--	--	--
15...	1800	110	829	8.3	9.0	19.0	--	--	--	250	54
31...	1200	110	863	--	15.0	16.5	740	--	--	--	--
APR											
07...	1220	256	593	8.0	11.5	16.5	759	8.2	85	180	35
15...	1050	105	891	8.2	28.0	18.5	745	9.0	98	270	60
20...	0920	102	881	--	20.0	19.0	740	--	--	--	--
MAY											
03...	1120	107	869	--	17.0	18.0	740	--	--	--	--
19...	1140	94	890	8.3	22.5	24.0	742	7.1	87	280	54
21...	0855	101	998	--	15.0	17.0	740	--	--	--	--
JUN											
02...	0845	411	492	--	12.5	17.0	735	--	--	--	--
17...	1210	113	899	8.3	28.5	26.5	742	7.3	97	280	56
22...	0905	99	904	--	23.5	20.5	740	--	--	--	--
JUL											
02...	1215	96	885	--	27.0	28.5	740	--	--	--	--
12...	0950	204	743	--	30.0	25.5	740	--	--	--	--
14...	1200	168	722	7.9	33.0	28.0	742	6.9	88	220	37
AUG											
03...	0940	96	897	--	26.5	23.5	745	--	--	--	--
11...	1100	99	885	8.3	26.0	24.5	745	8.0	96	270	44
19...	1330	101	897	--	34.5	29.5	760	--	--	--	--
SEP											
03...	1005	104	847	--	--	22.5	--	--	--	--	--
15...	1040	75	901	8.3	17.0	22.5	740	8.6	100	280	46
16...	1140	77	866	--	22.0	24.0	--	--	--	--	--

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
02...	--	--	531	--	--	--	--	--	--	--	--
16...	--	--	543	--	--	--	--	--	--	--	--
21...	.7	24	564	545	.77	.02	7.5	.02	.3	.2	.69
NOV											
03...	--	--	576	--	--	--	--	--	--	--	--
18...	.5	25	561	548	.76	.01	9.0	.03	.3	.3	.75
24...	--	--	563	--	--	--	--	--	--	--	--
DEC											
07...	--	--	550	--	--	--	--	--	--	--	--
09...	.6	24	580	553	.79	.01	9.4	.02	.5	.3	.83
14...	--	--	538	--	--	--	--	--	--	--	--
JAN											
05...	--	--	554	--	--	--	--	--	--	--	--
13...	.5	23	575	555	.78	.02	--	.03	.3	.3	.81
20...	--	--	420	--	--	--	--	--	--	--	--
25...	.3	10	234	219	.32	.04	3.2	.25	2.8	.7	1.5
FEB											
04...	--	--	557	--	--	--	--	--	--	--	--
11...	.5	23	518	502	.70	.04	9.4	.08	.5	.3	.93
17...	--	--	554	--	--	--	--	--	--	--	--
MAR											
02...	--	--	553	--	--	--	--	--	--	--	--
10...	.5	23	567	524	.77	.09	9.0	.06	.4	.3	.83
10...	--	--	557	--	--	--	--	--	--	--	--
15...	.5	21	539	505	.73	.01	7.9	.03	.8	.5	.74
31...	--	--	547	--	--	--	--	--	--	--	--
APR											
07...	.4	15	361	344	.49	.04	5.3	.06	2.0	.5	.91
15...	.5	23	566	539	.77	.08	8.8	.05	.5	.3	.75
20...	--	--	556	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
19...	.6	23	557	545	.76	.02	7.9	.02	.4	.3	.86
21...	--	--	652	--	--	--	--	--	--	--	--
JUN											
02...	--	--	433	--	--	--	--	--	--	--	--
17...	.6	25	577	554	.78	.01	8.0	.03	.4	.3	.87
22...	--	--	552	--	--	--	--	--	--	--	--
JUL											
02...	--	--	563	--	--	--	--	--	--	--	--
12...	--	--	440	--	--	--	--	--	--	--	--
14...	.6	20	449	426	.61	<.01	4.4	<.02	11	.4	--
AUG											
03...	--	--	561	--	--	--	--	--	--	--	--
11...	.6	25	550	532	.75	.01	6.0	<.02	.4	.3	.92
19...	--	--	550	--	--	--	--	--	--	--	--
SEP											
03...	--	--	542	--	--	--	--	--	--	--	--
15...	.6	26	553	547	.75	.01	6.8	.03	.4	.3	.80
16...	--	--	540	--	--	--	--	--	--	--	--

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

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT											
02...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
21...	.68	.66	--	--	--	--	--	--	--	--	--
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
18...	.73	.68	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	.88	.70	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	.75	.70	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
25...	.34	.33	--	--	--	--	--	--	--	--	--
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	.77	.76	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	.81	.81	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
15...	.61	.61	--	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	.45	.40	--	--	--	--	--	--	--	--	--
15...	.75	.75	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
19...	.78	.82	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
17...	.86	.80	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
14...	.29	.25	--	--	--	--	--	--	--	--	--
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
11...	.81	.86	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	--	--	--	--	--	--	--	--	--	--	--
15...	.72	.75	7	<1	8	71	<1	<1	1	2	5
16...	--	--	--	--	--	--	--	--	--	--	--

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

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON,	LEAD,	MANGA-	MOLYB-	NICKEL,	SELE-	SILVER,	ZINC,	URANIUM	CARBON,	CARBON,
	DIS- SOLVED (UG/L AS FE) (01046)	DIS- SOLVED (UG/L AS PB) (01049)	NESE, DIS- SOLVED (UG/L AS MN) (01056)	DENUM, DIS- SOLVED (UG/L AS MO) (01060)	DIS- SOLVED (UG/L AS NI) (01065)	NIUM, DIS- SOLVED (UG/L AS SE) (01145)	DIS- SOLVED (UG/L AS AG) (01075)	DIS- SOLVED (UG/L AS ZN) (01090)	NATURAL DIS- SOLVED (UG/L AS U) (22703)	ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
OCT											
02...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
21...	<10	--	e2	--	--	--	--	--	--	1.7	.4
NOV											
03...	--	--	--	--	--	--	--	--	--	--	--
18...	<10	--	e2	--	--	--	--	--	--	1.7	.4
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
07...	--	--	--	--	--	--	--	--	--	--	--
09...	<10	--	<3	--	--	--	--	--	--	2.1	.7
14...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	--	--	--	--	--	--	--	--	--	--	--
13...	<10	--	e2	--	--	--	--	--	--	1.8	.3
20...	--	--	--	--	--	--	--	--	--	--	--
25...	20	--	5	--	--	--	--	--	--	6.6	12
FEB											
04...	--	--	--	--	--	--	--	--	--	--	--
11...	<10	--	4	--	--	--	--	--	--	2.0	1.4
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	<10	--	e2	--	--	--	--	--	--	1.9	.4
10...	--	--	--	--	--	--	--	--	--	--	--
15...	<10	--	e2	--	--	--	--	--	--	3.6	1.5
31...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	e10	--	4	--	--	--	--	--	--	5.5	4.0
15...	<10	--	5	--	--	--	--	--	--	2.3	.5
20...	--	--	--	--	--	--	--	--	--	--	--
MAY											
03...	--	--	--	--	--	--	--	--	--	--	--
19...	<10	--	e2	--	--	--	--	--	--	2.1	.4
21...	--	--	--	--	--	--	--	--	--	--	--
JUN											
02...	--	--	--	--	--	--	--	--	--	--	--
17...	<10	--	e2	--	--	--	--	--	--	2.4	.4
22...	--	--	--	--	--	--	--	--	--	--	--
JUL											
02...	--	--	--	--	--	--	--	--	--	--	--
12...	--	--	--	--	--	--	--	--	--	--	--
14...	51	--	8	--	--	--	--	--	--	3.9	>14
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
11...	<10	--	4	--	--	--	--	--	--	2.2	.4
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
03...	--	--	--	--	--	--	--	--	--	--	--
15...	<10	<1	3	10	3	1	<1	6	11	2.1	1.4
16...	--	--	--	--	--	--	--	--	--	--	--

e Estimated.

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

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	(00301)
JAN								
25...	1452	16.0	534	7.8	14.0	752	9.0	89
25...	1453	48.0	489	7.8	14.0	752	9.0	89
25...	1454	80.0	434	7.8	14.0	752	9.0	89
25...	1455	112	403	7.8	14.0	752	9.1	90
25...	1456	144	378	7.8	14.0	752	9.2	91
MAY								
19...	1301	25.0	989	8.2	25.0	742	7.3	91
19...	1302	50.0	960	8.2	25.5	742	7.2	91
19...	1303	75.0	890	8.2	26.5	742	7.1	91
19...	1304	100	829	8.3	26.5	742	7.4	95
19...	1305	125	832	8.2	26.0	742	7.1	90

Instantaneous discharge at the time of cross-sectional measurements: Jan. 25, 353 ft³/s; May 19, 95 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
21...N	1130	85	21.0	70	16	13
NOV						
18...N	1230	107	20.5	115	33	18
DEC						
09...N	1240	105	12.5	118	33	26
JAN						
13...N	1210	109	16.5	50	15	18
25...N	1545	301	14.0	1050	854	63
FEB						
11...N	1050	113	13.0	291	89	27
MAR						
10...N	1020	99	17.0	56	15	35
15...N	1800	110	19.0	96	29	47
APR						
07...N	1220	256	16.5	381	263	58
15...N	1050	105	18.5	60	17	38
MAY						
19...N	1140	94	24.0	42	11	20
JUN						
17...N	1210	113	26.5	33	10	44
JUL						
14...N	1200	168	28.0	11800	5340	97
AUG						
11...N	1100	99	24.5	57	15	71
SEP						
15...N	1040	75	22.5	38	7.7	67

N Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	1040	990	1020	997	869	825	1030	1010
2	---	---	---	---	1050	1020	1020	1000	911	868	1040	1010
3	---	---	---	---	1070	1030	1020	982	975	909	1040	981
4	---	---	---	---	1050	826	1010	993	993	691	1060	1020
5	---	---	---	---	1070	946	1010	992	833	573	1030	1020
6	---	---	---	---	1060	678	1040	1000	966	797	1040	1020
7	---	---	---	---	1030	872	1030	986	997	965	1030	1020
8	---	---	---	---	1050	885	1030	1000	1000	815	1030	1010
9	---	---	---	---	1040	862	1020	991	948	510	1030	1020
10	---	---	---	---	1010	991	1010	985	844	493	1030	993
11	---	---	---	---	1000	985	1030	1000	941	844	1000	965
12	---	---	---	---	1000	981	1020	999	968	842	989	959
13	---	---	---	---	1010	1000	1020	993	1010	963	1010	985
14	---	---	---	---	1010	948	1030	1000	999	974	1010	990
15	---	---	---	---	1030	998	1030	1000	1010	986	1040	886
16	---	---	1000	---	1030	1000	1030	1010	1020	997	1020	946
17	---	---	995	960	1030	1000	1030	1010	1020	999	1030	1010
18	---	---	989	950	1020	1000	1040	1010	1010	986	1020	985
19	---	---	977	946	1030	998	1030	1010	1020	989	1030	985
20	---	---	986	954	1010	981	1020	745	1030	1010	1030	963
21	---	---	1010	984	1000	985	976	821	1030	1000	998	987
22	---	---	1020	985	993	975	1040	976	1020	942	1000	992
23	---	---	1020	961	998	988	1040	1010	1030	1010	1030	993
24	---	---	1040	999	998	925	1040	1020	1040	1010	1030	1020
25	---	---	1040	1020	1010	994	1020	447	1040	1010	1020	1010
26	---	---	1050	1020	1010	991	791	476	1020	1000	1030	1020
27	---	---	1040	986	1010	994	765	312	1030	1000	1030	1020
28	---	---	1010	891	1020	993	777	762	1020	1000	1040	1020
29	---	---	990	859	1040	969	774	746	---	---	1080	1020
30	---	---	1020	990	1040	1020	810	762	---	---	1040	1030
31	---	---	---	---	1040	990	874	788	---	---	1060	1040
MONTH	---	---	---	---	1070	678	1040	312	1040	493	1080	886
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1080	797	1000	777	1050	1020	1050	1020	1080	1070	1100	1060
2	1040	896	1020	1000	1030	596	1030	1010	1080	1070	1080	1040
3	1060	1030	1020	1000	1020	937	1060	1030	1080	1060	1080	1050
4	1070	1040	1030	1010	1050	994	1050	1040	1070	1060	1070	1040
5	1080	1050	1030	1000	1060	1010	1040	1030	1060	1050	1060	1030
6	1070	870	1030	1010	1070	1040	1070	1030	1060	1040	1090	1050
7	870	521	1030	1000	1060	1040	1120	1050	1050	1040	1090	1050
8	1010	730	1020	1000	1070	1030	1090	1040	1040	1030	1080	1040
9	1060	937	1020	1000	1070	1050	1080	1040	1040	1030	1090	1070
10	1100	1050	1020	998	1080	1050	1050	1040	1030	1020	1080	1050
11	1110	636	1020	992	1070	1060	1040	1030	1120	1020	1070	1030
12	706	384	1020	1000	1070	1040	1080	578	1080	1040	1050	1030
13	917	674	1010	980	1080	1030	769	658	1070	1030	1060	1040
14	1020	868	995	981	1100	1020	880	735	1070	1030	1070	1030
15	1050	1000	1010	988	1070	1020	755	727	1150	1030	1040	1030
16	1060	1020	1000	994	1050	1010	787	755	1080	1020	1040	1010
17	1050	1020	1010	992	1090	1020	820	787	1110	1040	1030	1010
18	1050	965	1030	1000	1050	1020	850	817	1090	1060	1020	1000
19	1030	966	1030	1010	1100	1040	887	849	1070	1050	1040	1020
20	1050	1030	1050	1020	1060	1030	926	885	1070	1050	1040	1020
21	1050	1030	1070	1030	1050	1020	956	922	1120	1070	1030	1010
22	1040	1020	1030	990	1050	1020	982	951	1110	1060	1050	1020
23	1040	1020	1030	991	1060	1030	998	972	1070	1040	1110	1020
24	1030	866	1040	1020	1040	1030	1010	985	1140	1060	1070	1030
25	1090	1010	1090	1020	1040	1020	1020	994	1100	1060	1030	1020
26	1060	1030	1060	1000	1070	1030	1030	1010	1110	1060	1050	1010
27	1050	1030	1040	1020	1060	1020	1030	1020	1130	1070	1040	1000
28	1050	813	1030	1020	1050	1020	1050	1020	1130	1070	1030	1010
29	1010	738	1050	1030	1120	1020	1060	1040	1180	1080	1030	978
30	1010	673	1060	1040	1060	1020	1070	1050	1150	1080	1030	1010
31	---	---	1060	1040	---	---	1080	1060	1140	1070	---	---
MONTH	1110	384	1090	777	1120	596	1120	578	1180	1020	1110	978

11066460 SANTA ANA RIVER AT MWD CROSSING, NEAR ARLINGTON, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	17.0	12.5	17.0	11.0	14.5	8.0	22.5	13.0
2	---	---	---	---	19.0	15.0	16.5	10.5	14.0	7.0	22.5	13.0
3	---	---	---	---	17.5	15.5	16.0	11.5	15.0	7.0	21.5	13.0
4	---	---	---	---	17.0	13.5	17.5	10.0	14.5	9.5	20.0	15.5
5	---	---	---	---	16.0	11.5	18.0	9.5	16.0	13.0	21.0	14.5
6	---	---	---	---	14.5	9.5	18.0	11.0	18.5	13.0	17.5	14.0
7	---	---	---	---	14.0	6.5	17.0	10.5	19.0	12.5	16.5	13.0
8	---	---	---	---	16.0	9.0	16.0	11.5	17.5	15.5	21.5	12.0
9	---	---	---	---	13.5	8.5	17.5	11.0	17.0	13.0	20.0	13.0
10	---	---	---	---	14.0	8.5	18.0	11.0	16.5	10.5	19.5	11.5
11	---	---	---	---	16.5	9.0	18.0	12.0	15.5	9.5	18.0	12.5
12	---	---	---	---	17.5	9.5	17.0	10.5	17.5	8.5	20.5	10.5
13	---	---	---	---	18.0	11.0	17.5	10.0	19.5	10.0	21.5	11.0
14	---	---	---	---	16.5	10.5	17.5	10.5	19.0	11.0	21.0	12.5
15	---	---	---	---	17.0	12.0	18.0	11.0	19.5	12.5	17.0	12.0
16	---	---	---	14.0	17.0	12.0	18.0	11.5	19.0	12.5	17.0	11.0
17	---	---	19.0	15.5	18.5	12.0	19.0	13.5	20.5	13.0	21.0	11.0
18	---	---	19.5	13.0	17.0	12.0	18.5	11.5	19.5	13.5	22.0	12.0
19	---	---	17.0	13.0	17.0	14.5	17.0	14.5	20.0	14.5	22.5	12.5
20	---	---	18.5	11.5	16.0	11.5	16.5	15.5	21.5	12.0	17.5	13.0
21	---	---	17.5	11.0	12.5	8.5	19.0	13.0	19.5	13.0	21.5	13.0
22	---	---	18.5	12.0	14.5	7.5	18.5	11.0	19.0	11.5	21.0	12.5
23	---	---	18.0	12.0	13.5	7.5	18.5	11.5	22.0	11.0	18.5	14.0
24	---	---	19.0	12.5	13.5	6.5	18.5	14.0	21.0	11.5	22.5	13.0
25	---	---	19.5	12.5	16.5	8.0	15.0	11.0	20.5	12.0	16.5	13.5
26	---	---	20.0	13.0	16.5	9.5	13.5	10.0	21.0	14.0	22.0	13.5
27	---	---	17.5	12.5	17.0	10.0	15.0	9.5	22.0	12.5	19.5	15.5
28	---	---	17.0	15.0	18.0	10.0	12.0	6.5	22.5	12.5	23.0	14.0
29	---	---	18.5	14.0	18.0	10.5	13.0	6.0	---	---	23.0	13.0
30	---	---	18.0	12.5	18.0	10.5	13.5	7.5	---	---	22.0	13.5
31	---	---	---	---	17.0	11.5	16.5	9.0	---	---	19.0	14.0
MONTH	---	---	---	---	19.0	6.5	19.0	6.0	22.5	7.0	23.0	10.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.5	12.5	23.5	13.0	20.0	15.0	27.0	18.5	28.5	18.0	25.0	19.0
2	21.0	10.5	23.0	14.5	20.5	16.5	28.0	19.5	29.5	18.5	25.0	18.0
3	19.0	12.5	19.5	15.5	20.5	16.0	27.0	19.0	29.0	19.0	25.0	19.0
4	21.0	11.5	24.0	15.5	19.0	15.0	28.0	18.5	28.5	18.5	25.5	18.0
5	21.0	11.0	26.0	14.0	25.5	14.5	29.0	18.0	27.0	20.0	26.0	18.0
6	16.5	13.0	26.5	15.0	26.5	16.0	28.5	19.0	27.0	20.0	26.5	18.5
7	16.5	13.5	26.0	15.5	26.0	16.5	29.0	19.5	27.0	18.0	26.0	18.0
8	19.0	12.5	24.0	16.0	25.5	16.0	23.5	21.0	27.5	17.5	27.0	17.5
9	21.5	10.5	22.5	17.0	25.5	17.5	27.5	21.0	26.5	17.5	24.5	18.5
10	23.0	10.5	25.0	16.5	25.0	17.0	28.5	19.5	26.0	18.5	25.5	18.0
11	17.5	11.5	26.0	15.5	25.0	16.5	30.5	20.5	27.0	17.5	25.5	17.5
12	17.0	12.5	26.5	16.5	27.0	16.5	29.5	22.0	27.5	18.0	26.0	18.0
13	22.0	14.0	23.5	18.0	27.0	17.5	29.0	23.0	28.0	18.5	26.0	19.0
14	24.0	13.0	25.0	17.0	26.5	18.5	29.0	22.0	28.0	18.5	24.5	18.0
15	24.5	13.5	24.0	17.0	26.5	19.5	28.5	20.5	29.0	19.0	24.0	18.5
16	27.5	12.5	25.0	15.5	26.0	19.0	28.5	19.5	28.5	18.0	24.0	18.0
17	27.5	15.0	26.5	15.5	27.5	19.0	29.0	19.0	27.5	18.5	24.5	18.5
18	26.0	14.5	26.0	16.0	28.0	17.5	29.0	19.0	27.0	18.5	22.0	19.0
19	25.5	15.0	25.5	17.0	26.5	17.5	29.0	18.5	27.5	18.0	24.0	18.5
20	25.5	15.0	25.5	17.5	26.5	18.0	28.5	18.0	28.0	19.0	24.5	16.5
21	22.0	16.5	23.0	17.0	25.0	18.0	28.0	18.0	28.5	18.5	24.5	18.5
22	20.5	15.5	20.5	16.5	27.0	18.5	28.0	17.5	27.5	19.5	26.5	21.0
23	21.5	15.0	25.5	16.5	27.0	17.5	28.0	17.5	28.5	19.0	25.5	20.0
24	18.0	16.0	22.5	16.0	27.0	18.0	27.5	17.0	27.5	20.0	25.0	19.0
25	25.0	15.5	26.0	16.5	27.5	18.0	28.5	18.0	28.5	19.0	25.0	19.5
26	24.5	14.5	27.0	16.5	27.0	18.0	28.0	18.5	28.5	20.0	24.0	19.0
27	24.5	15.5	27.0	18.0	27.5	18.5	27.5	19.0	28.5	19.5	23.5	19.5
28	20.5	14.5	26.5	18.0	27.0	18.0	27.0	19.0	29.0	19.0	24.0	19.0
29	21.5	13.0	26.0	18.0	27.5	18.5	27.5	18.5	28.0	18.5	24.0	18.0
30	17.5	15.0	25.5	18.0	27.5	18.5	27.0	18.5	26.5	17.5	25.0	16.5
31	---	---	26.5	16.5	---	---	28.5	18.5	26.0	18.0	---	---
MONTH	27.5	10.5	27.0	13.0	28.0	14.5	30.5	17.0	29.5	17.5	27.0	16.5

11069500 SAN JACINTO RIVER NEAR SAN JACINTO, CA

LOCATION.—Lat 33°44'17", long 116°49'59", in SE 1/4 NE 1/4 sec.13, T.5 S., R.1 E., Riverside County, Hydrologic Unit 18070202, on left bank, 0.6 mi downstream from bridge on State Highway 74, 1.5 mi downstream from North Fork San Jacinto River, 7.8 mi southeast of San Jacinto, and 9.5 mi downstream from Lake Hemet.

DRAINAGE AREA.—142 mi².

PERIOD OF RECORD.—October 1920 to February 1927, March 1927 to September 1991, October 1996 to current year. River only records for October 1969 to September 1980 and October 1981 to September 1991 are at site upstream of Lake Hemet Municipal Water District's lower canal and are equivalent to other records if lower canal diversion is deducted from flow past station. Records of lower canal diversion are available at Lake Hemet Municipal Water District. Combined records of river and diversions are equivalent for October 1948 to September 1981. Combined records of river and diversion for October 1981 to September 1990, published in WDR CA-82-1 to WDR CA-90-1, are not equivalent due to diversion for municipal supply upstream of gages beginning in 1982. Monthly discharge only for October 1920 and July to September 1926 are published in WSP 1315-B.

REVISED RECORDS.—WSP 881: 1938. WSP 1635: 1950. WSP 1928: Drainage area. WDR CA-97-1: Date of peak discharge for Water Year 1991.

GAGE.—Water-stage recorder, concrete control, and crest-stage gage. Datum of gage is 1,910 ft above sea level, from topographic map. From 1927 to 1991 gage operated at various locations and datums approximately 0.6 mi upstream. See WDR CA-91-1 for further description.

REMARKS.—Records fair. Flow partly regulated by Lake Hemet. Lake Hemet Municipal Water District's upper canal diverts 4.5 mi upstream from station. Several other small diversions in the basin. Diversions upstream from station began prior to 1920. See schematic of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—(River only) Maximum discharge, 45,000 ft³/s, Feb. 16, 1927, gage height, unknown, on basis of slope area measurement of peak flow; no flow for several months in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 500 ft³/s, or maximum, from rating curve extended above 275 ft³/s on basis of critical depth computations:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 11	2115	151	3.38				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.33	3.8	.24	11	.29	.23	2.0	.22	.02	.01	.00
2	.09	.30	8.1	.23	6.8	.28	.17	1.5	.31	.01	.00	.00
3	.09	.26	5.2	.23	2.7	.28	.18	1.2	.41	.01	.00	.00
4	.07	.24	4.3	.24	3.1	.28	.21	1.2	.56	.00	.00	.00
5	.05	.24	4.8	.25	10	.26	.21	1.0	.51	.00	.00	.00
6	.05	.24	6.3	.23	15	.27	.23	.81	.42	.00	.00	.00
7	.05	.22	6.0	.23	14	.28	8.5	.73	.35	.01	.01	.00
8	.04	.33	6.1	.23	13	.26	15	.75	.35	.12	.00	.00
9	.05	4.2	6.2	.22	13	.26	16	.80	.47	.88	.00	.00
10	.10	1.2	2.2	.21	17	.26	14	.57	.42	.54	.00	.00
11	.08	.52	.32	.21	17	.27	15	.30	.39	13	.00	.00
12	.14	.40	.29	.21	14	.26	18	.27	.34	16	.00	.00
13	.11	.42	.29	.21	13	.25	18	.27	.29	7.1	.00	.00
14	.13	1.1	.31	.21	12	.24	15	.26	.23	4.2	.00	.00
15	.14	.98	.36	.21	6.4	.26	19	.25	.20	.60	.00	.00
16	.13	.48	.58	.21	3.1	.25	20	.24	.19	.06	.00	.00
17	.17	.18	.41	.22	4.4	.24	18	.23	.17	.05	.00	.00
18	.12	.18	.37	.22	3.3	.24	9.0	.24	.16	.04	.00	.00
19	2.4	.17	.39	.23	3.0	.24	6.4	.28	.14	.03	.00	.00
20	.91	.16	.48	.25	2.7	.24	1.1	.28	.13	.03	.00	.00
21	.40	.15	.51	.24	2.6	.24	.84	.29	.13	.03	.00	.00
22	1.0	.15	.49	.25	2.5	.24	2.1	.32	.13	.03	.00	.00
23	.52	.16	.41	.25	2.4	.25	1.3	.27	.12	.02	.00	.00
24	.48	.18	.29	.26	2.2	.24	.42	.23	.09	.02	.00	.00
25	1.2	.18	.27	.93	2.2	.25	.33	.23	.08	.01	.00	.00
26	9.1	.15	.24	5.6	1.3	.22	.32	.23	.06	.01	.00	.00
27	6.0	.16	.23	6.9	.38	.18	.31	.22	.04	.01	.00	.00
28	3.7	.41	.48	7.0	.32	.16	.44	.21	.03	.02	.00	.00
29	4.8	.49	.48	6.7	---	.19	1.4	.20	.03	.03	.00	.00
30	3.3	.43	.25	6.8	---	.20	1.6	.21	.02	.01	.00	.00
31	.53	---	.24	7.7	---	.20	---	.20	---	.01	.00	---
TOTAL	36.04	14.61	60.69	47.12	198.40	7.58	203.29	15.79	6.99	42.90	0.02	0.00
MEAN	1.16	.49	1.96	1.52	7.09	.24	6.78	.51	.23	1.38	.001	.000
MAX	9.1	4.2	8.1	7.7	17	.29	20	2.0	.56	16	.01	.00
MIN	.04	.15	.23	.21	.32	.16	.17	.20	.02	.00	.00	.00
AC-FT	71	29	120	93	394	15	403	31	14	85	.04	.00

SANTA ANA RIVER BASIN

11069500 SAN JACINTO RIVER NEAR SAN JACINTO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	4.18	15.3	19.6	56.2	67.8	49.4	23.0	6.51	1.28	1.13	1.21
MAX	14.2	164	283	230	1039	743	312	224	81.8	13.0	13.6	23.1
(WY)	1980	1966	1967	1969	1980	1938	1941	1983	1998	1979	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1923	1924	1930	1936	1951	1947	1934	1934	1931	1924	1923	1922

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1921 - 1999	
ANNUAL TOTAL	27196.37		633.43			
ANNUAL MEAN	74.5		1.74		20.1	
HIGHEST ANNUAL MEAN					156	
LOWEST ANNUAL MEAN					.075	
HIGHEST DAILY MEAN	492	Mar 28	20	Apr 16	7590	Feb 21 1980
LOWEST DAILY MEAN	.04	Aug 29	.00	Jul 4	.00	Oct 1 1920
ANNUAL SEVEN-DAY MINIMUM	.06	Oct 3	.00	Aug 8	.00	Oct 1 1920
INSTANTANEOUS PEAK FLOW			151	Jul 11	45000	Feb 16 1927
INSTANTANEOUS PEAK STAGE			3.38	Jul 11	a	Feb 16 1927
ANNUAL RUNOFF (AC-FT)	53940		1260		14570	
10 PERCENT EXCEEDS	229		6.3		41	
50 PERCENT EXCEEDS	10		.24		.17	
90 PERCENT EXCEEDS	.09		.00		.00	

a Instantaneous peak stage for period of record is unknown, but probably occurred on Feb. 16, 1927.

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.—47.6 mi².

PERIOD OF RECORD.—October 1987 to current year.

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 2,080 ft above sea level, from topographic map. Prior to October 1988 at datum 10.00 ft lower.

REMARKS.—Records fair. No regulation upstream from station. Sand and gravel operations upstream from station may reduce runoff and cause peak attenuation. Minor diversion upstream from station for irrigation. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,310 ft³/s, Jan. 16, 1993, gage height, 3.53 ft, from rating curve developed on basis of critical-depth computations at concrete control; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum, from rating curve developed on basis of critical-depth computations at concrete control:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
July 11	1445	240	1.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	19	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.3	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.1	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.40	0.00	0.00
MEAN	.000	.000	.000	.000	.000	.000	.000	.000	.000	1.11	.000	.000
MAX	.00	.00	.00	.00	.00	.00	.00	.00	.00	19	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	.00	.00	.00	.00	.00	.00	.00	68	.00	.00

11070020 BAUTISTA CREEK AT HEAD OF FLOOD CONTROL CHANNEL, NEAR HEMET, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.005	.018	.017	3.46	3.56	3.94	.48	.067	.001	.093	.061	.042
MAX	.061	.21	.12	31.1	22.3	26.4	3.39	.58	.011	1.11	.55	.50
(WY)	1997	1997	1988	1993	1993	1995	1998	1998	1995	1999	1994	1995
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1988	1988	1989	1989	1989	1989	1989	1988	1988	1988	1989	1988

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1988 - 1999	
ANNUAL TOTAL	791.24		34.40			
ANNUAL MEAN	2.17		.094		.97	
HIGHEST ANNUAL MEAN					4.35	1993
LOWEST ANNUAL MEAN					.000	1989
HIGHEST DAILY MEAN	221	Feb 24	19	Jul 11	298	Jan 16 1993
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 11	.00	Oct 1	.00	Oct 1 1987
INSTANTANEOUS PEAK FLOW			240	Jul 11	1310	Jan 16 1993
INSTANTANEOUS PEAK STAGE			1.85	Jul 11	3.53	Jan 16 1993
ANNUAL RUNOFF (AC-FT)	1570		68		702	
10 PERCENT EXCEEDS	.27		.00		.00	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11070150 SAN JACINTO RIVER ABOVE STATE STREET, NEAR SAN JACINTO, CA

LOCATION.—Lat 33°49'17", long 116°58'21", in NE 1/4 SW 1/4 sec.15, T.4 S., R.1 W., Riverside County, Hydrologic Unit 18070202, on left bank, 400 ft upstream from State Street Bridge, 5.5 mi downstream from confluence with Bautista Creek, and 2.5 mi northwest of San Jacinto.

DRAINAGE AREA.—252 mi².

PERIOD OF RECORD.—October 1996 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,500 ft above sea level, from topographic map.

REMARKS.—Sand and gravel operations upstream from station may reduce runoff and cause peak attenuation. Flow partly regulated by Lake Hemet. Lake Hemet Municipal Water District's upper canal diverts 4.0 mi upstream from station on San Jacinto River near San Jacinto (station 11069500). See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,570 ft³/s, Feb. 23, 1998, gage height, 4.53 ft, from rating curve extended above 880 ft³/s; no flow for most of each year.

EXTREMES FOR CURRENT YEAR.—No flow for entire water year.

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.000	.000	.027	40.6	14.4	50.5	26.6	.000	.000	.000	.000
MAX	.000	.000	.000	.081	122	43.2	152	79.9	.000	.000	.000	.000
(WY)	1997	1997	1997	1997	1998	1998	1998	1998	1997	1997	1997	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1997	1997	1997	1998	1997	1997	1997	1997	1997	1997	1997	1997

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1997 - 1999
ANNUAL TOTAL	11771.46		
ANNUAL MEAN	32.3		10.8
HIGHEST ANNUAL MEAN			32.3
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	880	Feb 24	880
LOWEST DAILY MEAN	.00	Jan 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00
INSTANTANEOUS PEAK FLOW			1570
INSTANTANEOUS PEAK STAGE			4.53
ANNUAL RUNOFF (AC-FT)	23350		7790
10 PERCENT EXCEEDS	125		.00
50 PERCENT EXCEEDS	.00		.00
90 PERCENT EXCEEDS	.00		.00

11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA

LOCATION.—Lat 33°48'04", long 117°12'19", in SW 1/4 SW 1/4 sec.21, T.4 S., R.3 W., Riverside County, Hydrologic Unit 18070202, on right bank, 1.9 mi northeast of Perris, and 2.0 mi upstream from San Jacinto River.

DRAINAGE AREA.—93.3 mi².

PERIOD OF RECORD.—October 1969 to September 1975, October 1989 to September 1997, and October 1998 to September 1999.

PRECIPITATION DATA: Water years 1990–97.

REVISED RECORDS.—WDR CA-92-1: 1991(M).

GAGE.—Water-stage recorder, crest-stage gage, and concrete control. Elevation of gage is 1,410 ft above sea level, from topographic map. October 1969 to September 1975, at same site at different datum.

REMARKS.—Some regulation by percolation basins upstream from station. Some pumping for irrigation upstream from station. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Records were provided by Riverside County Flood Control and Water Conservation District, under general supervision of the U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,400 ft³/s, Feb. 12, 1992, gage height, 7.81 ft, from rating curve extended above 2,120 ft³/s 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 1,100 ft³/s, or 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)
Apr. 7	1435	278	2.85				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	.00	.00	.00	1.0	.00	.55	4.3	.00	.00	.00	.00
2	e.00	.00	.00	.00	.04	.00	.38	.16	17	.00	.00	.00
3	e.00	.00	.00	.00	.00	.00	.05	.00	2.0	.00	.00	.00
4	e.00	.00	.00	.00	3.4	.00	.00	.00	.17	.00	.00	.00
5	e.00	.00	.00	.00	25	.00	.00	.00	.01	.00	.00	.00
6	e.00	.00	8.8	1.3	5.3	.00	.10	.00	.00	.00	.00	.00
7	e.00	.00	.70	2.0	.12	.00	52	.00	.00	.00	.00	.00
8	e.00	3.0	.00	.01	.00	.00	4.4	.00	.00	53	.00	.00
9	e.00	.29	.48	.00	.22	.00	2.4	.00	.00	4.3	.00	.00
10	e.00	.00	2.5	.00	13	.00	.12	.00	.00	.14	.00	.00
11	e.00	1.8	.02	.00	2.9	.00	.52	.00	.00	.00	.00	.00
12	e.00	1.3	.00	.00	.94	.00	42	.00	.00	.00	.00	.00
13	e.00	.04	.00	.92	.09	.00	3.2	.00	.00	.00	.00	.00
14	e.00	.31	.00	.57	.00	.00	.15	.00	.00	.00	.00	.00
15	e.00	.41	1.0	.21	.00	8.9	.00	.00	.00	.00	.00	.00
16	e.00	.13	.12	.05	.46	7.0	.02	.00	.00	.00	.00	.00
17	e.00	.11	.00	.00	1.3	2.2	.04	.00	.00	.00	.00	.00
18	e.00	.00	.00	.00	.36	.19	.00	.00	.00	.00	.00	.00
19	e.00	.00	.05	.00	.06	.06	.00	.00	.00	.00	.00	.00
20	e.00	.00	.11	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.51	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.33	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.14	.09	.00	.00	.00	.00
25	.00	.00	.00	22	.00	.00	.13	.11	.00	.00	.00	.00
26	.00	.00	.00	36	.00	.00	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	31	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.85	.00	.79	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.25	.00	.04	---	.00	1.7	.00	.00	.00	.00	.00
30	.00	.02	.00	.00	---	.00	4.3	.00	.00	.00	.00	.00
31	.00	---	.00	2.3	---	.00	---	.00	---	.00	.00	---
TOTAL	0.00	8.51	13.78	98.03	54.19	18.35	112.20	4.69	19.18	57.44	0.00	0.00
MEAN	.000	.28	.44	3.16	1.94	.59	3.74	.15	.64	1.85	.000	.000
MAX	.00	3.0	8.8	36	25	8.9	52	4.3	17	53	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	17	27	194	107	36	223	9.3	38	114	.00	.00

e Estimated.

11070270 PERRIS VALLEY STORM DRAIN AT NUEVO ROAD, NEAR PERRIS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.21	1.27	3.83	22.8	19.1	12.8	.84	.16	.19	.13	.007	.29
MAX	1.68	9.87	35.1	167	87.5	70.7	4.87	1.06	1.73	1.85	.092	4.21
(WY)	1997	1997	1993	1993	1993	1991	1994	1990	1995	1999	1996	1997
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1970	1972	1970	1975	1971	1972	1970	1970	1970	1970	1970	1970

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1970 - 1999

ANNUAL TOTAL	386.37		
ANNUAL MEAN	1.06	5.08	
HIGHEST ANNUAL MEAN		24.4	1993
LOWEST ANNUAL MEAN		.30	1971
HIGHEST DAILY MEAN	53	Jul 8	1270
LOWEST DAILY MEAN	.00	Oct 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00
INSTANTANEOUS PEAK FLOW	278	Apr 7	4400
INSTANTANEOUS PEAK STAGE	2.85	Apr 7	7.81
ANNUAL RUNOFF (AC-FT)	766		3680
10 PERCENT EXCEEDS	.88		.17
50 PERCENT EXCEEDS	.00		.00
90 PERCENT EXCEEDS	.00		.00

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 mi².

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 sea level, 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, at different datum.

REMARKS.—Records fair. Flow partly regulated by Lake Hemet, capacity, 13,500 acre-ft, and 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 took place in some years prior to water year 1994. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16,000 ft³/s, Feb. 17, 1927, gage height, 11.8 ft, from rating curve extended above 2,000 ft³/s on basis of slope-area measurement of peak flow; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.32	.51	.99	.69	1.1	.86	1.0	.99	.32	.00	.00	.02
2	.38	.56	1.1	.66	1.1	.86	1.1	.93	.69	.00	.00	.03
3	.47	.54	1.1	.61	1.0	.87	1.0	.91	.62	.00	.00	.04
4	.52	.51	1.1	.63	1.2	1.0	1.1	.83	.59	.00	.00	.06
5	.42	.53	1.2	.62	1.6	1.1	1.0	.76	.57	.00	.00	.08
6	.28	.58	1.6	.68	1.3	.97	1.0	.73	.53	.00	.00	.09
7	.21	.54	1.3	.59	1.3	.91	1.6	.70	.49	.00	.00	.07
8	.21	.71	1.2	.71	1.2	.94	1.2	.66	.47	.76	.00	.06
9	.23	.66	1.0	.88	1.2	1.0	1.1	.67	.50	.45	.00	.07
10	.29	.60	.88	.98	1.1	1.1	1.0	.64	.50	.66	.00	.07
11	.28	.66	.88	.97	1.1	1.0	1.1	.58	.49	.85	.00	.07
12	.31	.65	.86	.91	1.2	1.1	1.8	.51	.43	.21	.00	.07
13	.37	.72	.86	.81	1.3	1.1	1.5	.49	.36	.10	.00	.06
14	.36	.74	.86	.88	1.4	1.0	1.2	.60	.29	.04	.00	.06
15	.37	.65	.81	.95	1.3	1.0	1.1	.63	.65	.01	.00	.07
16	.36	.60	.84	.87	1.2	1.1	.97	.61	.42	.00	.00	.08
17	.29	.58	.83	.78	1.2	1.1	.93	.51	.26	.00	.00	.10
18	.28	.62	.87	.75	1.3	1.0	.90	.41	.21	.00	.00	.12
19	.29	.60	.91	.71	1.3	.91	.78	.39	.16	.00	.00	.14
20	.30	.54	.93	.91	1.1	.84	.67	.41	.14	.01	.00	.13
21	.30	.53	.95	.93	1.2	.80	.63	.41	.12	.15	.00	.13
22	.32	.53	.92	.88	1.1	.75	.63	.50	.27	.01	.00	.16
23	.29	.53	.93	.93	1.0	.82	.73	.60	.17	.00	.00	.17
24	.32	.58	.90	.91	1.1	.84	.87	.55	.09	.00	.00	.18
25	.37	.62	.95	1.3	1.1	.81	.81	.56	.05	.00	.00	.16
26	.48	.66	.94	1.8	.99	.86	.78	.54	.03	.00	.00	.16
27	.50	.79	.92	1.8	.97	.88	.73	.47	.02	.00	.01	.17
28	.46	1.1	.83	1.2	.88	.88	.74	.38	.01	.00	.01	.18
29	.49	1.2	.77	1.1	---	.83	.86	.31	.00	.00	.01	.14
30	.51	1.2	.75	.98	---	.78	1.0	.28	.00	.00	.01	.13
31	.50	---	.71	1.1	---	.79	---	.25	---	.00	.01	---
TOTAL	11.08	19.84	29.69	28.52	32.84	28.80	29.83	17.81	9.45	3.25	0.05	3.07
MEAN	.36	.66	.96	.92	1.17	.93	.99	.57	.31	.10	.002	.10
MAX	.52	1.2	1.6	1.8	1.6	1.1	1.8	.99	.69	.85	.01	.18
MIN	.21	.51	.71	.59	.88	.75	.63	.25	.00	.00	.00	.02
AC-FT	22	39	59	57	65	57	59	35	19	6.4	.1	6.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	.76	5.05	35.7	89.4	72.5	23.4	5.58	.79	.60	.39	.50
MAX	22.0	28.1	268	1303	2116	802	333	132	13.8	19.7	14.6	15.4
(WY)	1938	1938	1922	1916	1980	1983	1941	1983	1937	1938	1937	1938
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1917	1917	1917	1921	1921	1921	1921	1921	1919	1918	1918	1917

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1916 - 1999

ANNUAL TOTAL	8634.11	214.23										
ANNUAL MEAN	23.7	.59								17.3		
HIGHEST ANNUAL MEAN										232		1980
LOWEST ANNUAL MEAN										.000		1921
HIGHEST DAILY MEAN	3710	Feb 24					1.8	Jan 26	14000		Jan 28	1916
LOWEST DAILY MEAN	.00	Jul 16					.00	Jun 29	.00		Jul 28	1916
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 24					.00	Jun 29	.00		Jul 28	1916
INSTANTANEOUS PEAK FLOW							3.2	Jul 10	16000		Feb 17	1927
INSTANTANEOUS PEAK STAGE							2.74	Jul 10	11.80		Feb 17	1927
ANNUAL RUNOFF (AC-FT)	17130						425		12520			
10 PERCENT EXCEEDS	20						1.1		3.9			
50 PERCENT EXCEEDS	.77						.60		.10			
90 PERCENT EXCEEDS	.07						.00		.00			

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 mi², excludes 768 mi² above Lake Elsinore.

PERIOD OF RECORD.—October 1980 to July 1983, February 1984 to current year. December 1967 to September 1974, water-stage recorder at site 1.2 mi downstream at different datum (published as station 11072200, Temescal Creek at Corona).

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Elevation of gage is 600 ft above sea level, from topographic map. October 1980 to July 1983 at site 500 ft downstream at different datum.

REMARKS.—Records fair. Flow regulated by several small storage reservoirs. Many diversions upstream from station for irrigation. Water discharged to channel from Arlington Desalter at times since September 1990; records for water years 1981 to 1990 and 1991 to current year are not equivalent. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,720 ft³/s, Mar. 1, 1983, gage height, 11.67 ft, site and datum then in use, on basis of slope-conveyance study; minimum daily, 0.27 ft³/s, Sept. 25, 1981.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 8,850 ft³/s, Feb. 25, 1969, gage height, 8.17 ft, from floodmark, at old site (station 11072200) 1.2 mi downstream on basis of slope-area measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	3.2	5.2	6.3	16	11	13	13	4.7	11	4.2	14
2	11	4.7	6.8	8.6	17	14	12	14	65	13	5.7	14
3	12	4.7	8.3	9.1	16	11	14	15	7.3	13	12	15
4	12	4.7	18	9.0	25	14	11	15	6.5	13	13	16
5	11	3.8	10	8.4	33	13	8.8	16	5.4	12	12	14
6	12	3.9	61	9.2	18	13	34	16	4.7	13	11	14
7	13	5.6	8.1	11	17	15	170	15	5.3	13	12	14
8	11	49	6.1	10	19	15	65	4.9	4.6	30	7.6	14
9	11	8.1	4.5	10	25	15	47	4.0	3.9	21	3.5	13
10	11	6.8	4.4	12	17	16	26	6.0	4.2	18	4.2	16
11	10	15	4.6	14	9.2	17	47	9.1	3.8	17	6.7	14
12	9.8	5.9	4.3	11	16	15	114	6.2	4.0	15	15	13
13	10	4.6	5.0	10	15	14	38	5.4	4.1	13	14	12
14	11	4.3	5.6	11	15	15	30	5.2	3.2	13	13	11
15	11	4.4	5.1	13	17	21	25	5.0	3.5	12	13	11
16	13	5.3	6.6	14	16	13	21	6.0	4.3	12	14	13
17	12	5.1	7.1	15	16	13	19	6.2	5.6	12	14	15
18	12	5.0	7.6	15	15	12	15	5.9	11	9.0	15	15
19	9.2	4.5	11	19	14	13	14	6.4	10	8.3	13	14
20	3.8	4.4	10	27	13	12	13	6.2	8.3	8.2	13	15
21	4.2	7.4	8.3	24	13	12	16	6.4	12	8.5	14	14
22	3.7	5.3	7.8	12	13	6.1	15	6.5	10	7.8	13	13
23	3.4	5.4	7.2	15	13	9.3	18	6.4	10	4.2	12	14
24	2.7	4.1	6.7	12	12	15	6.5	5.2	12	7.2	12	9.7
25	3.2	8.2	8.2	47	11	24	4.1	5.5	15	8.4	13	14
26	4.5	5.5	9.5	73	10	14	4.1	6.0	14	7.7	14	14
27	3.5	4.6	9.2	75	10	12	3.9	6.0	7.1	7.1	14	14
28	3.6	34	9.2	17	11	12	4.0	5.3	8.4	5.2	15	12
29	2.9	7.2	9.0	12	---	9.6	8.2	5.6	7.5	4.9	14	5.1
30	3.1	5.7	8.7	12	---	5.4	14	5.5	8.7	10	16	9.9
31	3.4	---	6.8	37	---	6.4	---	5.4	---	9.8	16	---
TOTAL	253.6	240.4	289.9	578.6	442.2	407.8	830.6	244.3	274.1	357.3	368.9	396.7
MEAN	8.18	8.01	9.35	18.7	15.8	13.2	27.7	7.88	9.14	11.5	11.9	13.2
MAX	13	49	61	75	33	24	170	16	65	30	16	16
MIN	2.7	3.2	4.3	6.3	9.2	5.4	3.9	4.0	3.2	4.2	3.5	5.1
AC-FT	503	477	575	1150	877	809	1650	485	544	709	732	787

11072100 TEMESCAL CREEK ABOVE MAIN STREET, AT CORONA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1990, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	7.62	15.1	23.8	23.0	14.5	40.9	13.1	12.0	9.35	7.15	6.45	6.99
MAX	16.1	55.9	126	116	25.5	237	39.3	43.7	30.0	10.9	13.4	11.3
(WY)	1986	1981	1981	1981	1981	1983	1983	1983	1983	1985	1990	1985
MIN	2.36	4.67	2.53	7.01	7.42	6.26	4.02	3.77	1.12	1.20	1.79	1.09
(WY)	1985	1987	1982	1989	1982	1990	1989	1982	1982	1982	1982	1981

SUMMARY STATISTICS

WATER YEARS 1981 - 1990

ANNUAL MEAN	12.4
HIGHEST ANNUAL MEAN	33.7 1981
LOWEST ANNUAL MEAN	6.10 1987
HIGHEST DAILY MEAN	1720 Mar 1 1983
LOWEST DAILY MEAN	.27 Sep 25 1981
ANNUAL SEVEN-DAY MINIMUM	.56 Sep 23 1981
INSTANTANEOUS PEAK FLOW	4720 Mar 1 1983
INSTANTANEOUS PEAK STAGE	11.67 Mar 1 1983
ANNUAL RUNOFF (AC-FT)	8990
10 PERCENT EXCEEDS	27
50 PERCENT EXCEEDS	6.1
90 PERCENT EXCEEDS	2.7

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.1	14.4	17.0	50.5	107	80.6	42.6	25.9	15.9	13.5	12.1	12.3
MAX	16.3	24.3	26.4	161	351	349	190	100	34.3	24.9	20.1	15.1
(WY)	1997	1994	1993	1995	1993	1995	1995	1995	1995	1993	1993	1994
MIN	6.22	5.55	9.35	12.4	15.4	11.2	2.89	3.24	7.33	3.56	6.98	7.08
(WY)	1996	1996	1999	1998	1997	1997	1991	1992	1992	1994	1994	1995

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1991 - 1999

ANNUAL TOTAL	16469.5	4684.4	
ANNUAL MEAN	45.1	12.8	33.3
HIGHEST ANNUAL MEAN			81.8 1995
LOWEST ANNUAL MEAN			12.8 1999
HIGHEST DAILY MEAN	2090 Feb 24	170 Apr 7	2090 Feb 24 1998
LOWEST DAILY MEAN	1.3 Feb 2	2.7 Oct 24	.34 Jul 3 1992
ANNUAL SEVEN-DAY MINIMUM	1.6 Jan 22	3.4 Oct 24	.89 Jan 13 1992
INSTANTANEOUS PEAK FLOW		692 Jun 2	3660 Feb 24 1998
INSTANTANEOUS PEAK STAGE		4.28 Jun 2	6.54 Feb 24 1998
ANNUAL RUNOFF (AC-FT)	32670	9290	24100
10 PERCENT EXCEEDS	77	17	56
50 PERCENT EXCEEDS	15	11	13
90 PERCENT EXCEEDS	3.7	4.4	4.3

11073300 SAN ANTONIO CREEK AT RIVERSIDE DRIVE, NEAR CHINO, CA

LOCATION.—Lat 34°01'07", long 117°43'47", in Santa Ana del Chino Grant, San Bernardino County, Hydrologic Unit 18070203, on right bank, at south end of Riverside Drive Bridge, 0.4 mi upstream from confluence with Chino Creek, 10.2 mi downstream from San Antonio Dam, and 2.4 mi northwest of Chino.

DRAINAGE AREA.—36.6 mi².

PERIOD OF RECORD.—December 1998 to September 1999.

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Elevation of gage is 735 ft above sea level, from topographic map.

REMARKS.—Records poor. Flow mostly regulated by San Antonio Flood-Control Reservoir, capacity, 7,700 acre-ft. Natural streamflow affected by ground-water withdrawals, diversions for power, domestic use, irrigation, and return flow from irrigated areas. Flow at gage is primarily urban runoff, except when releases are made from San Antonio Dam. Releases of imported water are made to San Antonio Creek by the California Water Project at times in some years, from Rialto Pipeline below San Antonio Dam, at a site 10 mi upstream. During the current year, no California Water Project releases were made. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, unknown, Jan. 26, 1999, gage height, unknown; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	DAILY MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	.00	.00	.00	14	.00	.00	.00	.00	.00
2	---	---	---	.00	.00	.00	e3.9	.00	e21	.00	.00	.00
3	---	---	---	.00	.00	.03	e2.5	.00	.10	.00	.00	.00
4	---	---	---	2.5	e30	3.1	e2.4	.00	.19	.00	.00	.00
5	---	---	---	4.0	e13	5.2	e2.5	.00	.00	.00	.50	.00
6	---	---	---	.00	.00	2.8	19	.00	.00	.00	.30	.00
7	---	---	---	.00	.00	.00	e38	.00	.00	.00	.01	.00
8	---	---	---	.00	.25	.12	7.1	.00	.00	.10	.00	.00
9	---	---	---	.00	e23	.35	1.3	.00	.00	1.3	.00	.00
10	---	---	---	.00	.83	.00	.00	.00	.00	3.1	.00	.00
11	---	---	---	.00	.03	3.4	19	.00	.00	e2.9	1.7	.00
12	---	---	---	.00	.73	4.7	15	.00	.00	e2.6	e2.5	.00
13	---	---	---	.00	.00	4.3	.00	.00	.00	e2.4	e2.1	.07
14	---	---	---	.00	.00	3.0	.00	.00	.00	e1.4	e2.4	.06
15	---	---	---	.00	.00	e40	.00	.00	.00	e2.3	e3.5	.01
16	---	---	---	.00	.00	.00	.27	.00	.00	e2.6	e2.9	.07
17	---	---	---	.00	.00	.00	1.5	.00	.00	e2.6	e2.0	.07
18	---	---	---	.00	.00	2.3	e2.4	.00	.00	e2.5	e1.9	.22
19	---	---	---	2.2	.00	.00	3.3	e2.5	.00	2.9	e2.5	1.6
20	---	---	---	1.8	7.8	.00	1.7	e2.5	.00	.01	e1.9	.00
21	---	---	.00	.00	.00	.00	e2.6	.00	.01	e1.4	.00	.00
22	---	---	.29	.00	.00	1.2	e2.6	.00	.00	e1.1	.13	.00
23	---	---	.50	.00	.00	e2.2	3.8	.00	.00	e2.0	.00	.13
24	---	---	.10	.00	.00	2.8	.45	.19	.12	e1.8	.00	.00
25	---	---	.03	e28	.00	9.1	.00	.00	.00	e1.9	.00	.00
26	---	---	.00	e94	.00	e4.0	.00	.00	.00	e2.0	.00	.00
27	---	---	.00	e12	.00	e2.8	.00	.00	.00	e2.0	.21	.09
28	---	---	.00	.39	.00	e2.6	.12	.01	.00	e2.5	.00	.00
29	---	---	.00	.00	---	e2.4	.00	.00	.00	e1.8	.00	.00
30	---	---	.00	.00	---	e1.0	5.0	.00	.00	e1.0	.00	.00
31	---	---	.00	8.5	---	1.8	---	.00	---	.00	.00	---
TOTAL	---	---	---	157.19	67.84	104.20	148.44	0.20	24.33	45.70	21.75	1.20
MEAN	---	---	---	5.07	2.42	3.36	4.95	.006	.81	1.47	.70	.040
MAX	---	---	---	94	30	40	38	.19	21	3.1	3.5	.26
MIN	---	---	---	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	---	---	---	312	135	207	294	.4	48	91	43	2.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	5.07	2.42	3.36	4.95	.006	.81	1.47	.70	.040
MAX	---	---	---	5.07	2.42	3.36	4.95	.006	.81	1.47	.70	.040
(WY)	---	---	---	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	---	---	---	5.07	2.42	3.36	4.95	.006	.81	1.47	.70	.040
(WY)	---	---	---	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

HIGHEST DAILY MEAN	94	Jan 26
LOWEST DAILY MEAN	.00	Dec 21
ANNUAL SEVEN-DAY MINIMUM	.00	Dec 26
INSTANTANEOUS PEAK FLOW	a	Jan 26
INSTANTANEOUS PEAK STAGE	a	Jan 26
10 PERCENT EXCEEDS	3.2	
50 PERCENT EXCEEDS	.00	
90 PERCENT EXCEEDS	.00	

e Estimated.

a Instantaneous peak discharge and stage are unknown but are known to have occurred on Jan. 26, 1999.

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 mi².

PERIOD OF RECORD.—October 1969 to current year.

CHEMICAL DATA: Water year 1998.

SEDIMENT DATA: Water year 1998.

REVISED RECORDS.—WDR CA-84-1: 1983(M). WDR CA-95-1: 1992, 1993.

GAGE.—Water-stage recorder. Concrete dikes formed low-water control from October 1975 to Apr. 16, 1991. Elevation of gage is 685 ft above sea level, from topographic map.

REMARKS.—Records fair above 10 ft³/s and poor below. Flow mostly regulated by San Antonio Flood-Control Reservoir, capacity, 7,700 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversions for power, domestic use, irrigation, and return flow from irrigated areas. Releases of imported water are made to the basin by the California Water Project at times in some years, via San Antonio Creek from Rialto Pipeline below San Antonio Dam, at a site approximately 11 mi upstream. During the current year, no California Water Project releases were made. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 12,700 ft³/s, Feb. 27, 1983, gage height, 10.32 ft, from rating curve extended above 560 ft³/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 ft³/s, on basis of contracted-opening measurement at site 6.1 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.0	3.9	2.4	2.6	2.2	25	2.7	3.2	2.2	1.8	2.4
2	2.5	2.2	3.8	2.4	2.2	2.4	4.8	2.4	31	2.1	1.7	2.0
3	2.7	2.1	2.8	2.4	2.1	2.4	3.8	2.6	2.6	2.3	1.8	2.0
4	2.4	2.3	5.7	3.0	47	4.2	3.8	2.4	3.5	2.0	2.0	2.1
5	2.3	2.5	17	3.5	19	4.4	4.0	2.9	2.4	2.0	2.3	2.0
6	2.4	2.4	24	2.5	2.7	3.6	28	2.3	2.4	2.1	2.6	2.2
7	2.2	2.4	2.9	2.3	2.4	2.1	57	2.4	2.0	2.2	2.3	2.8
8	2.4	66	3.1	2.5	2.8	3.0	12	2.4	2.0	3.2	2.3	2.2
9	2.4	2.2	2.9	2.1	34	3.0	4.5	2.9	2.3	3.2	2.1	1.8
10	2.3	1.8	2.4	2.1	3.7	2.2	2.4	2.8	2.3	3.7	2.5	1.8
11	2.4	2.5	2.8	2.1	2.4	4.9	50	2.8	2.2	3.8	3.2	1.8
12	2.4	1.7	3.5	2.1	2.5	4.8	30	2.5	2.2	3.5	4.4	1.7
13	2.6	1.5	2.8	2.6	2.1	4.3	3.1	2.7	2.2	3.4	4.1	2.2
14	2.7	1.5	2.5	2.4	2.1	3.7	2.7	2.9	2.2	2.6	4.5	1.8
15	2.7	1.5	2.5	2.4	2.1	63	2.4	2.8	2.3	3.6	5.2	2.0
16	2.6	1.6	2.3	2.2	2.3	3.3	2.5	2.6	2.2	4.1	4.7	1.9
17	2.4	1.5	2.1	2.4	2.4	2.8	2.9	2.6	2.5	4.1	3.7	1.8
18	2.7	1.5	2.3	2.4	2.4	3.1	3.7	2.6	2.5	3.9	3.4	2.1
19	2.8	1.6	5.2	2.6	2.4	3.6	3.8	2.6	3.5	4.0	2.8	2.2
20	2.6	1.5	5.4	13	2.3	4.4	3.8	3.1	2.5	3.6	1.7	2.8
21	2.5	1.7	2.9	3.0	2.1	2.7	4.1	3.0	2.2	3.1	1.6	1.8
22	2.6	1.8	2.8	2.6	2.3	2.8	4.5	2.9	2.1	2.8	1.7	1.8
23	2.5	1.9	2.8	2.4	2.3	3.8	5.3	2.7	2.1	3.9	1.6	1.9
24	2.3	2.8	2.9	2.1	2.2	3.7	3.5	3.0	2.3	3.5	1.6	1.9
25	4.4	2.8	2.8	43	2.4	19	2.7	2.7	2.2	3.7	1.8	2.1
26	2.3	2.8	2.4	140	2.3	5.3	2.5	2.8	2.2	3.8	1.7	2.1
27	2.2	2.8	2.7	18	2.4	4.3	2.5	2.9	2.1	3.8	2.0	2.1
28	2.3	109	2.5	3.1	2.2	4.3	2.5	2.8	2.2	4.2	1.8	2.1
29	2.2	5.1	2.4	2.2	---	4.3	2.8	2.6	2.2	3.5	2.0	1.6
30	2.2	3.8	2.4	2.1	---	3.0	7.5	2.6	2.2	2.8	1.9	1.9
31	2.1	---	2.4	17	---	3.6	---	2.4	---	2.3	1.9	---
TOTAL	77.7	236.8	128.9	294.9	159.7	184.2	288.1	83.4	99.8	99.0	78.7	60.9
MEAN	2.51	7.89	4.16	9.51	5.70	5.94	9.60	2.69	3.33	3.19	2.54	2.03
MAX	4.4	109	24	140	47	63	57	3.1	31	4.2	5.2	2.8
MIN	2.1	1.5	2.1	2.1	2.1	2.1	2.4	2.3	2.0	2.0	1.6	1.6
AC-FT	154	470	256	585	317	365	571	165	198	196	156	121

11073360 CHINO CREEK AT SCHAEFER AVENUE, NEAR CHINO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	13.3	15.9	27.1	34.3	37.9	30.5	10.1	14.1	20.5	20.9	17.0	15.1
MAX	126	113	189	186	193	257	68.6	104	184	176	191	198
(WY)	1979	1976	1976	1976	1980	1978	1974	1997	1976	1974	1974	1997
MIN	.061	.23	.53	.55	.33	.30	.14	.22	.062	.069	.14	.13
(WY)	1978	1978	1970	1972	1972	1972	1977	1973	1977	1977	1976	1977

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1970 - 1999	
ANNUAL TOTAL	8541.2		1792.1			
ANNUAL MEAN	23.4		4.91		21.3	
HIGHEST ANNUAL MEAN					92.4	
LOWEST ANNUAL MEAN					3.24	
HIGHEST DAILY MEAN	700	Feb 7	140	Jan 26	2060	Mar 1 1978
LOWEST DAILY MEAN	1.5	Nov 13	1.5	Nov 13	.00	May 21 1977
ANNUAL SEVEN-DAY MINIMUM	1.5	Nov 13	1.5	Nov 13	.02	Oct 28 1977
INSTANTANEOUS PEAK FLOW			1080		12700	Feb 27 1983
INSTANTANEOUS PEAK STAGE			5.68		10.32	Feb 27 1983
ANNUAL RUNOFF (AC-FT)	16940		3550		15460	
10 PERCENT EXCEEDS	46		4.4		79	
50 PERCENT EXCEEDS	3.2		2.5		1.1	
90 PERCENT EXCEEDS	2.2		1.9		.32	

11073493 WEST BRANCH CUCAMONGA CHANNEL ABOVE ELY PERCOLATION BASINS, AT ONTARIO, CA

LOCATION.—Lat 34°02'15", long 117°37'09", in SE 1/4 SW 1/4 sec.33, T.1 S., R.7 W., San Bernardino County, Hydrologic Unit 18070203, on right bank, 700 ft upstream from northwest corner of westernmost of Ely Percolation Basins, in Ontario.

DRAINAGE AREA.—6.01 mi².

PERIOD OF RECORD.—October 1996 to current year.

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Elevation of gage is 850 ft above sea level, from topographic map.

REMARKS.—Records good above 30 ft³/s and poor below. No regulation or diversion upstream from station. Flow at gage is primarily urban runoff. Irrigation return flow and various industrial releases represent most of the base flow at this site. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,330 ft³/s, Feb. 7, 1998, gage height, 4.09 ft, from rating curve extended above 250 ft³/s on basis of step-backwater computations; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 300 ft³/s, or 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)
Jan. 26	2200	268	2.24				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	.03	.51	2.1	.96	2.4	13	1.9	.52	.06	.28	.17
2	1.5	.19	.44	2.2	1.5	3.7	.97	2.7	11	.08	.24	.07
3	.96	.05	.55	1.5	1.5	3.9	1.9	2.7	.31	.10	.07	.10
4	.28	.04	2.4	1.2	10	4.3	1.1	e2.6	.12	.09	.07	.14
5	.22	.07	4.9	1.8	8.6	2.8	1.5	e2.6	.09	.08	.13	.10
6	.32	.12	8.6	2.3	1.3	2.1	11	2.6	.11	.04	.25	.10
7	e1.7	.19	2.8	2.0	.23	2.0	29	2.6	.30	.15	.25	.22
8	e1.7	12	.82	1.7	.27	2.0	2.9	2.9	.61	.13	.21	.15
9	e1.7	e.20	.19	1.7	6.1	2.2	4.9	2.5	.20	.02	.40	.28
10	e1.7	e.15	.03	1.6	5.0	1.4	2.0	2.5	.26	.00	.21	1.1
11	e1.6	.34	.12	2.0	2.5	1.7	18	1.8	.23	.00	.15	1.9
12	e1.6	.05	.15	2.5	1.5	2.5	25	2.8	.34	.18	.11	1.8
13	1.5	.06	.14	2.4	1.7	2.7	.29	2.8	.29	.01	.05	1.8
14	1.5	.06	.44	1.6	2.0	.14	1.3	2.8	.91	.15	.04	1.9
15	1.6	.06	.22	1.3	2.3	12	2.3	2.4	.25	.27	.07	1.9
16	1.6	.11	1.6	2.1	2.5	1.0	2.2	1.9	.14	.30	.27	1.9
17	1.5	.19	2.1	2.0	2.7	2.0	2.2	1.5	.11	.34	3.4	1.9
18	1.9	.23	2.3	1.7	2.6	2.2	2.2	1.9	.15	.35	3.2	1.8
19	1.8	.05	2.6	1.9	2.5	2.4	2.1	2.8	.13	.65	1.9	1.8
20	1.8	.04	2.7	2.6	3.0	2.5	2.1	.60	.15	.35	2.5	1.1
21	1.6	.04	2.5	1.6	2.1	2.1	2.3	.14	.71	.31	2.8	1.1
22	.13	.03	2.4	1.5	2.1	2.1	2.4	.03	.78	.19	2.7	1.7
23	.07	.05	2.4	1.4	2.3	1.9	2.2	.04	.30	.17	2.6	1.8
24	.07	.18	2.4	1.5	2.6	2.4	2.4	.07	.22	.40	2.7	1.9
25	.33	.18	2.4	7.5	2.7	3.6	2.4	.29	.25	.47	2.9	1.8
26	e.07	.13	2.2	39	2.9	3.0	2.6	.70	.26	.74	2.0	1.9
27	e.04	.16	2.1	13	3.2	1.7	2.3	.54	.18	.32	1.9	1.9
28	e.05	22	1.1	.16	2.3	1.9	11	.25	.16	.33	1.8	1.7
29	e.05	5.4	1.8	.00	---	2.0	2.1	.21	.09	.23	1.9	1.8
30	e.04	.44	1.7	.02	---	2.9	3.0	.21	.05	.15	1.4	1.7
31	e.04	---	1.8	2.8	---	2.4	---	.16	---	.08	.95	---
TOTAL	30.87	42.84	56.41	106.68	78.96	81.94	158.66	49.54	19.22	6.74	37.45	37.53
MEAN	1.00	1.43	1.82	3.44	2.82	2.64	5.29	1.60	.64	.22	1.21	1.25
MAX	1.9	.22	8.6	39	10	12	29	2.9	.11	.74	3.4	1.9
MIN	.04	.03	.03	.00	.23	.14	.29	.03	.05	.00	.04	.07
AC-FT	61	85	112	212	157	163	315	98	38	13	74	74

e Estimated.

11073493 WEST BRANCH CUCAMONGA CHANNEL ABOVE ELY PERCOLATION BASINS, AT ONTARIO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.93	5.04	5.86	11.3	14.3	4.26	3.94	3.71	1.23	.94	1.05	1.87
MAX	3.02	8.22	10.0	20.3	38.6	8.82	5.29	8.92	2.71	2.45	1.77	2.19
(WY)	1997	1997	1997	1997	1998	1998	1999	1998	1998	1998	1998	1997
MIN	1.00	1.43	1.82	3.44	1.59	1.33	1.56	.62	.34	.16	.18	1.25
(WY)	1999	1999	1999	1999	1997	1997	1997	1997	1997	1997	1997	1999

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1997 - 1999	
ANNUAL TOTAL	2497.73		706.84			
ANNUAL MEAN	6.84		1.94		4.56	
HIGHEST ANNUAL MEAN					7.57	
LOWEST ANNUAL MEAN					1.94	
HIGHEST DAILY MEAN	234	Feb 23	39	Jan 26	234	Feb 23 1998
LOWEST DAILY MEAN	.03	Nov 1	.00	Jan 29	.00	Jun 11 1997
ANNUAL SEVEN-DAY MINIMUM	.05	Oct 26	.05	Oct 26	.01	Jul 15 1997
INSTANTANEOUS PEAK FLOW			268		1330	Feb 7 1998
INSTANTANEOUS PEAK STAGE			2.24		4.09	Feb 7 1998
ANNUAL RUNOFF (AC-FT)	4950		1400		3300	
10 PERCENT EXCEEDS	8.3		2.8		5.4	
50 PERCENT EXCEEDS	2.6		1.5		1.9	
90 PERCENT EXCEEDS	.19		.07		.13	

11073494 ELY PERCOLATION BASIN NO. 3 AT ONTARIO, CA

LOCATION.—Lat 34°02'08", long 117°36'36", in SW 1/4 SW 1/4 sec.34, T.1 S., R.7 W., San Bernardino County, Hydrologic Unit 18070203, on north wingwall, near west end of Ely Percolation Basin No. 3, on West Branch Cucamonga Channel, in Ontario.

DRAINAGE AREA.—Indeterminate.

PERIOD OF RECORD.—October 1998 to September 1999.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by U.S. Geological Survey).

REMARKS.—Basins became operational in 1950 and were formed by earthen perimeter levees, with concrete spillway. Elevation of spillway crest is 841.43 ft. Ely Percolation Basins are connected via interbasin transfer culverts, with Basin No. 3 being the final basin in the system. Flows into the Ely Percolation Basins result from storm runoff, irrigation return flows, and discharges from commercial sources. Data is collected for water conservation and flood-control purposes only. Figures given represent only those days when the gage height was above 828.97 ft. See diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum recorded gage height, 838.68 ft, Jan. 27, 1999; several days below gage height of 828.97 ft during 1999 water year.

EXTREMES FOR CURRENT YEAR.—Maximum recorded gage height, 838.68 ft, Jan. 27; many days below gage height of 828.97 ft during year.

GAGE HEIGHT, FEET, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	833.41	833.37	833.15	833.08	829.17	829.13	831.25	831.17	835.34	835.18	834.72	834.71
2	833.45	833.41	833.08	833.02	829.15	829.11	831.32	831.25	835.18	835.09	834.74	834.70
3	833.49	833.45	833.02	832.97	829.11	829.07	831.38	831.27	835.09	835.03	834.72	834.69
4	833.53	833.49	832.97	832.88	829.17	829.08	831.44	831.38	836.08	834.99	834.71	834.66
5	833.50	833.40	832.88	832.07	829.37	829.16	831.52	831.44	836.42	836.08	834.66	834.64
6	833.49	833.45	832.07	830.72	830.09	829.37	831.59	831.52	836.38	835.95	834.65	834.62
7	833.51	833.47	830.72	829.71	830.14	830.09	831.68	831.59	835.95	835.61	834.63	834.61
8	833.54	833.51	831.36	829.71	830.11	830.06	831.78	831.65	835.61	835.36	834.61	834.59
9	833.59	833.54	831.36	830.47	830.08	830.01	831.79	831.72	835.77	835.27	834.60	834.58
10	833.63	833.59	830.47	829.08	830.01	829.95	831.85	831.79	835.76	835.60	834.58	834.51
11	833.66	833.63	---	---	829.95	829.91	831.93	831.85	835.63	835.28	834.51	834.47
12	833.70	833.66	---	---	829.91	829.87	832.05	831.93	835.28	835.07	834.48	834.46
13	833.73	833.70	---	---	829.87	829.83	832.11	832.05	835.07	834.97	834.46	834.44
14	833.76	833.73	---	---	829.83	829.80	832.15	832.10	834.97	834.91	834.44	834.31
15	833.80	833.76	---	---	829.84	829.72	832.13	832.10	834.92	834.89	835.25	834.26
16	833.83	833.79	---	---	829.78	829.66	832.18	832.12	834.89	834.88	835.22	834.98
17	833.86	833.78	---	---	829.87	829.78	832.24	832.18	834.88	834.86	834.98	834.90
18	833.85	833.82	---	---	829.97	829.87	832.30	832.24	834.86	834.84	834.90	834.86
19	833.88	833.85	---	---	830.10	829.97	832.36	832.30	834.85	834.83	834.86	834.82
20	833.91	833.88	---	---	830.21	830.10	832.68	832.36	834.87	834.83	834.83	834.80
21	833.94	833.91	---	---	830.29	830.20	832.72	832.68	834.87	834.85	834.81	834.78
22	833.92	833.83	---	---	830.37	830.29	832.76	832.72	834.85	834.84	834.80	834.77
23	833.83	833.75	---	---	830.46	830.37	832.81	832.76	834.84	834.82	834.77	834.73
24	833.75	833.66	---	---	830.55	830.46	832.85	832.81	834.82	834.80	834.73	834.70
25	833.66	833.59	---	---	830.66	830.55	833.87	832.84	834.80	834.77	834.87	834.69
26	833.59	833.52	---	---	830.76	830.66	838.31	833.87	834.78	834.76	834.99	834.87
27	833.52	833.44	---	---	830.84	830.76	838.68	836.80	834.76	834.74	834.97	834.88
28	833.44	833.37	---	---	830.93	830.84	836.80	835.77	834.74	834.72	834.88	834.83
29	833.37	833.28	---	---	831.01	830.93	835.77	835.37	---	---	834.83	834.79
30	833.29	833.21	829.22	829.17	831.10	831.01	835.37	835.12	---	---	834.79	834.74
31	833.21	833.15	---	---	831.17	831.10	835.34	835.06	---	---	834.74	834.69
MONTH	833.94	833.15	---	---	831.17	829.07	838.68	831.17	836.42	834.72	835.25	834.26

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—January 1968 to July 1977, January 1979 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 660 ft above sea level, from topographic map. Prior to July 1977 at site 100 ft downstream at different datum.

REMARKS.—Records fair except for discharges below 100 ft³/s, which are poor. Channel is a trapezoidal concrete floodway; records for low and medium flows prior to July 31, 1977, are not equivalent (channel concrete lined since July 31, 1977). Inland Empire Utilities Agency Tertiary Plant No. 1 began discharging effluent 1.5 mi upstream from station on May 8, 1985. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 16,100 ft³/s, Feb. 27, 1983, gage height, 7.85 ft, from floodmark, on basis of slope-conveyance study of peak flow; prior to operation of Plant No. 1, no flow for most of some years; minimum daily, since 1985, 2.5 ft³/s, June 6, 1987.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	31	44	39	27	41	96	35	53	44	32	30
2	32	38	43	42	27	35	40	32	112	43	29	30
3	31	27	39	39	40	38	36	30	41	39	33	33
4	27	28	78	38	86	40	36	24	39	35	29	32
5	24	40	47	39	59	38	38	33	41	33	34	33
6	26	56	60	29	38	39	105	38	37	39	38	34
7	37	44	34	34	44	39	250	32	38	35	38	37
8	35	109	32	43	40	43	87	35	35	30	38	31
9	37	49	33	47	100	42	54	37	33	31	35	29
10	34	45	32	40	44	39	45	32	39	36	35	32
11	30	42	33	29	37	37	176	34	23	36	34	33
12	24	36	30	26	35	33	224	29	36	37	35	37
13	38	31	29	33	39	35	58	29	36	38	34	38
14	34	30	33	35	36	36	53	37	31	37	34	35
15	36	34	36	38	34	124	43	29	37	35	36	32
16	25	35	34	40	37	45	43	37	30	38	48	32
17	26	30	25	41	34	38	39	31	34	40	40	33
18	34	27	23	25	39	39	34	30	30	41	30	37
19	37	33	44	21	42	40	35	29	30	39	34	39
20	36	37	41	39	45	38	38	30	33	40	34	39
21	38	34	28	27	44	37	37	33	32	38	33	34
22	29	33	32	29	39	35	36	38	36	38	33	32
23	27	32	28	31	36	28	32	37	35	37	34	33
24	29	29	34	29	34	30	40	33	34	37	33	32
25	37	28	34	124	33	34	30	35	30	37	34	36
26	40	34	35	282	35	28	28	36	32	39	30	37
27	27	29	41	135	39	34	25	43	35	39	28	35
28	25	139	44	36	48	37	74	31	41	38	34	33
29	32	37	39	22	---	39	45	24	43	37	31	30
30	27	42	33	22	---	37	48	29	41	33	31	28
31	29	---	39	40	---	34	---	44	---	31	31	---
TOTAL	974	1239	1157	1494	1191	1232	1925	1026	1147	1150	1052	1006
MEAN	31.4	41.3	37.3	48.2	42.5	39.7	64.2	33.1	38.2	37.1	33.9	33.5
MAX	40	139	78	282	100	124	250	44	112	44	48	39
MIN	24	27	23	21	27	28	25	24	23	30	28	28
AC-FT	1930	2460	2290	2960	2360	2440	3820	2040	2280	2280	2090	2000

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1968 - 1977, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.021	1.15	1.55	18.2	4.65	1.91	1.35	.065	.001	.000	.000	.11
MAX	.19	6.07	7.91	149	30.7	7.94	13.1	.54	.007	.000	.000	1.03
(WY)	1972	1971	1972	1969	1969	1969	1969	1977	1969	1968	1968	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1969	1969	1970	1975	1972	1972	1968	1968	1968	1968	1968	1968

SUMMARY STATISTICS

WATER YEARS 1968 - 1977

ANNUAL TOTAL	
ANNUAL MEAN	2.73
HIGHEST ANNUAL MEAN	16.8 1969
LOWEST ANNUAL MEAN	.16 1976
HIGHEST DAILY MEAN	2600 Jan 25 1969
LOWEST DAILY MEAN	.00 Feb 1 1968
ANNUAL SEVEN-DAY MINIMUM	.00 Feb 1 1968
INSTANTANEOUS PEAK FLOW	9100 Jan 25 1969
INSTANTANEOUS PEAK STAGE	7.08 Jan 25 1969
ANNUAL RUNOFF (AC-FT)	1980
10 PERCENT EXCEEDS	.10
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1984, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.49	11.3	7.69	34.1	65.0	46.3	12.1	3.43	.48	.37	1.47	1.08
MAX	11.1	27.9	24.7	149	216	205	63.4	19.8	2.30	1.22	6.99	3.45
(WY)	1984	1983	1984	1983	1980	1983	1983	1983	1983	1983	1983	1983
MIN	.091	.002	.006	1.67	1.29	2.44	.056	.063	.008	.019	.009	.011
(WY)	1981	1980	1980	1984	1984	1984	1981	1979	1979	1981	1979	1979

SUMMARY STATISTICS

WATER YEARS 1979 - 1984

ANNUAL TOTAL	
ANNUAL MEAN	17.5
HIGHEST ANNUAL MEAN	53.4 1983
LOWEST ANNUAL MEAN	1.51 1981
HIGHEST DAILY MEAN	2530 Mar 1 1983
LOWEST DAILY MEAN	.00 Feb 6 1979
ANNUAL SEVEN-DAY MINIMUM	.00 Feb 6 1979
INSTANTANEOUS PEAK FLOW	16100 Feb 27 1983
INSTANTANEOUS PEAK STAGE	7.85 Feb 27 1983
ANNUAL RUNOFF (AC-FT)	12700
10 PERCENT EXCEEDS	10
50 PERCENT EXCEEDS	.13
90 PERCENT EXCEEDS	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	35.4	37.7	44.0	80.5	92.6	64.5	37.8	31.2	31.6	29.6	30.1	35.1
MAX	52.9	65.7	83.0	265	304	198	64.2	63.0	57.1	46.2	51.8	52.0
(WY)	1988	1997	1993	1993	1998	1995	1999	1998	1992	1992	1992	1986
MIN	20.4	23.4	21.0	26.1	34.9	25.3	20.5	18.5	18.1	19.3	18.5	16.4
(WY)	1987	1989	1987	1989	1989	1988	1987	1988	1988	1987	1987	1988

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1986 - 1999

ANNUAL TOTAL	23832	14593	
ANNUAL MEAN	65.3	40.0	45.6
HIGHEST ANNUAL MEAN			71.4 1993
LOWEST ANNUAL MEAN			26.6 1987
HIGHEST DAILY MEAN	2080	Feb 23	2490 Jan 26 1996
LOWEST DAILY MEAN	22	Sep 5	2.5 Jan 19 1987
ANNUAL SEVEN-DAY MINIMUM	25	Sep 5	12 Aug 25 1988
INSTANTANEOUS PEAK FLOW			1910 Jan 26 1993
INSTANTANEOUS PEAK STAGE			3.25 Jan 26 1993
ANNUAL RUNOFF (AC-FT)	47270	28950	33040
10 PERCENT EXCEEDS	74	44	54
50 PERCENT EXCEEDS	33	35	31
90 PERCENT EXCEEDS	27	29	19

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 1998 to September 1999.

CHEMICAL DATA: October 1998 to September 1999.

SPECIFIC CONDUCTANCE: October 1998 to September 1999.

WATER TEMPERATURE: October 1998 to September 1999.

SEDIMENT DATA: October 1998 to September 1999.

PERIOD OF DAILY RECORD.—October 1998 to September 1999.

SPECIFIC CONDUCTANCE: October 1998 to September 1999.

WATER TEMPERATURE: October 1998 to September 1999.

INSTRUMENTATION.—Water-quality monitor for specific conductance and water temperature since Oct. 20, 1998.

REMARKS.—Interruption of record in December due to maintenance of recording equipment. Loss of record May 19 due to low flow. Chemical and continuous-monitoring data collected for the National Water-Quality Assessment (NAWQA) Program.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 895 microsiemens, Apr. 28, 1999; minimum recorded, 77 microsiemens, Jan. 26, 1999.

WATER TEMPERATURE: Maximum recorded, 35.5°C, July 12, 1999; minimum recorded, 5.5°C, Dec 10, 1999.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 895 microsiemens, Apr. 28; minimum recorded, 77 microsiemens, Jan. 26.

WATER TEMPERATURE: Maximum recorded, 35.5°C, July 12; minimum recorded, 5.5°C, Dec. 10.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (MG/L) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	HARD- NESS NONCARB FLD. AS CACO3 (MG/L) (00904)
OCT											
21...	1545	36	611	9.5	26.0	25.0	754	14.6	182	130	13
NOV											
19...	1040	32	630	8.6	20.0	21.0	760	14.9	168	130	25
DEC											
10...	1450	29	642	8.1	16.5	19.0	763	12.1	130	130	38
JAN											
13...	1600	25	637	8.2	18.0	19.5	760	12.1	132	130	31
25...	1430	127	518	7.6	13.0	18.5	--	--	--	100	20
27...	0020	828	101	7.5	10.0	8.0	--	--	--	34	--
FEB											
11...	1600	46	600	8.8	15.0	19.5	762	15.2	163	120	45
MAR											
10...	1750	36	654	8.1	10.5	18.5	755	11.0	118	130	34
15...	1040	729	423	7.8	--	14.0	--	--	--	95	15
15...	1100	1380	93	7.3	9.5	17.5	--	--	--	23	3
APR											
01...	1500	621	313	7.6	--	12.5	--	--	--	63	15
15...	1620	38	588	9.7	29.5	26.0	746	18.6	233	140	32
MAY											
19...	1600	13	695	10.3	25.0	29.5	742	12.8	168	110	5
JUN											
17...	1720	42	614	9.5	28.5	29.0	742	19.1	255	130	27
JUL											
14...	1900	32	722	8.7	27.5	25.5	741	9.7	122	130	28
AUG											
11...	1640	34	670	9.6	28.0	30.5	744	14.9	199	120	16
SEP											
15...	1600	31	625	9.6	27.5	30.0	738	16.8	231	120	20

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
21...	41	7.4	66	49	2	11	86	30	120	48	70
NOV											
19...	38	8.5	71	51	3	12	125	2	106	54	72
DEC											
10...	40	8.2	68	50	3	11	115	--	95	53	75
JAN											
13...	39	7.9	69	51	3	12	120	--	98	55	70
25...	30	6.4	60	54	3	8.6	97	--	79	46	58
27...	10	2.1	4.3	20	.3	3.0	43	--	35	5.3	3.7
FEB											
11...	36	7.7	66	51	3	10	82	6	76	56	69
MAR											
10...	39	8.0	70	51	3	12	117	--	96	54	70
15...	27	6.4	40	45	2	7.6	98	--	80	36	39
15...	7.4	1.1	5.8	32	.5	2.3	24	--	20	5.5	4.2
APR											
01...	19	3.8	29	47	2	6.7	59	--	42	26	32
15...	41	8.0	67	49	3	12	59	33	104	53	77
MAY											
19...	32	6.8	87	61	4	9.1	--	69	104	120	54
JUN											
17...	37	8.3	67	51	3	10	65	27	98	58	79
JUL											
14...	38	8.5	79	54	3	13	112	6	102	60	100
AUG											
11...	37	7.8	78	55	3	12	54	38	108	53	96
SEP											
15...	37	7.8	70	52	3	12	52	37	104	54	83
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)
OCT											
21...	.4	23	389	375	.53	.08	7.5	.05	.9	.7	.51
NOV											
19...	.2	24	398	386	.54	.12	9.1	.56	2.1	1.5	.80
DEC											
10...	.3	22	403	384	.55	.02	11	.05	1.2	.8	.94
JAN											
13...	.3	23	410	389	.56	.02	11	.04	1.2	.8	1.2
25...	.2	18	324	313	.44	.04	8.1	.24	1.4	1.1	.79
27...	<.1	3.9	64	59	.09	.04	1.0	.41	1.4	.7	.31
FEB											
11...	.2	20	380	367	.52	.06	12	.12	1.1	1.0	.69
MAR											
10...	.2	23	421	397	.57	.05	13	.03	1.2	.9	1.3
15...	.3	13	284	238	.39	.17	4.0	1.5	31	3.5	6.0
15...	.1	2.0	64	49	.09	.05	1.5	1.1	4.4	2.1	.97
APR											
01...	.2	9.0	203	179	.28	.13	4.5	2.0	2.0	3.6	.33
15...	.3	25	406	386	.55	.06	8.9	.02	1.4	1.1	.88
MAY											
19...	.2	22	450	402	.61	.08	1.5	.08	3.0	1.9	.70
JUN											
17...	.3	22	395	362	.54	.03	4.6	<.02	1.5	.8	.85
JUL											
14...	.3	23	436	415	.59	.04	7.1	.03	1.3	1.0	.31
AUG											
11...	.3	24	410	394	.56	.04	4.5	.04	1.3	.7	.63
SEP											
15...	.3	27	395	379	.54	.03	4.9	.03	1.1	.9	.79

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

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTH, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT											
21...	.49	.45	--	--	--	--	--	--	--	--	--
NOV											
19...	.62	.55	--	--	--	--	--	--	--	--	--
DEC											
10...	1.0	.77	--	--	--	--	--	--	--	--	--
JAN											
13...	1.1	.99	--	--	--	--	--	--	--	--	--
25...	.74	.70	--	--	--	--	--	--	--	--	--
27...	.19	.19	--	--	--	--	--	--	--	--	--
FEB											
11...	.63	.57	--	--	--	--	--	--	--	--	--
MAR											
10...	1.3	1.2	--	--	--	--	--	--	--	--	--
15...	.69	.64	--	--	--	--	--	--	--	--	--
15...	.25	.22	--	--	--	--	--	--	--	--	--
APR											
01...	.45	.32	--	--	--	--	--	--	--	--	--
15...	.81	.77	--	--	--	--	--	--	--	--	--
MAY											
19...	.40	.31	--	--	--	--	--	--	--	--	--
JUN											
17...	.71	.62	--	--	--	--	--	--	--	--	--
JUL											
14...	.26	.20	--	--	--	--	--	--	--	--	--
AUG											
11...	.41	.46	--	--	--	--	--	--	--	--	--
SEP											
15...	.67	.65	11	<1	2	8	<1	<1	<1	<1	3

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS- SOLVED (MGL ASC) (00681)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C) (00689)
OCT											
21...	20	--	<3	--	--	--	--	--	--	5.3	2.4
NOV											
19...	24	--	e3	--	--	--	--	--	--	5.5	1.4
DEC											
10...	29	--	<3	--	--	--	--	--	--	5.5	.7
JAN											
13...	21	--	e2	--	--	--	--	--	--	5.8	.5
25...	26	--	6	--	--	--	--	--	--	7.2	1.0
27...	20	--	7	--	--	--	--	--	--	4.9	2.4
FEB											
11...	27	--	4	--	--	--	--	--	--	5.9	.4
MAR											
10...	24	--	<3	--	--	--	--	--	--	6.1	.7
15...	69	--	75	--	--	--	--	--	--	32	>42
15...	40	--	13	--	--	--	--	--	--	18	>9.8
APR											
01...	44	--	35	--	--	--	--	--	--	20	>14
15...	23	--	<3	--	--	--	--	--	--	6.7	.7
MAY											
19...	e10	--	e2	--	--	--	--	--	--	12	2.9
JUN											
17...	26	--	e2	--	--	--	--	--	--	7.1	2.6
JUL											
14...	e9	--	e3	--	--	--	--	--	--	5.9	1.8
AUG											
11...	22	--	e3	--	--	--	--	--	--	5.8	1.6
SEP											
15...	24	<1	2	11	2	<1	<1	23	<1	5.6	2.1

e Estimated.

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

> Actual value is known to be greater than value shown.

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	SAMPLE LOC- ATION, CROSS SECTION (FT FM L BANK) (00009)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SOLVED SATUR- ATION) (00300) (00301)
APR							
15...	1456	24.0	632	9.8	27.0	745	21.8
15...	1457	40.0	647	9.1	26.0	745	18.9
15...	1458	56.0	644	9.1	25.5	745	18.6
15...	1459	72.0	633	9.5	26.0	745	20.6

Instantaneous discharge at the time of cross-sectional measurements: April 15, 35 ft³/s.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
21...N	1545	36	25.0	22	2.1	82
NOV						
19...N	1040	32	21.0	20	1.7	39
DEC						
10...N	1450	29	19.0	18	1.4	65
JAN						
13...N	1600	25	19.5	7	.47	59
25...N	1430	127	18.5	25	8.6	52
27...N	0020	828	8.0	79	177	79
FEB						
11...N	1600	46	19.5	9	1.1	53
MAR						
10...N	1750	36	18.5	5	.49	55
15...N	1040	729	14.0	1096	2160	88
15...N	1100	1380	17.5	380	1420	83
APR						
01...N	1500	621	12.5	514	862	72
15...N	1620	38	26.0	7	.72	53
MAY						
19...N	1600	13	29.5	7	.25	94
JUN						
17...N	1720	42	29.0	5	.57	84
JUL						
14...N	1900	32	25.5	9	.78	94
AUG						
11...N	1640	34	30.5	7	.64	72
SEP						
15...N	1600	31	30.0	12	1.0	96

N Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	676	589	660	273	694	619	563	492	780	646
2	---	---	659	586	578	430	679	605	589	521	830	658
3	---	---	666	529	562	530	709	654	601	555	812	769
4	---	---	643	584	555	169	709	670	610	364	810	768
5	---	---	657	472	523	278	716	655	608	400	810	604
6	---	---	498	459	639	143	725	650	679	556	820	658
7	---	---	666	452	661	616	704	652	735	679	821	716
8	---	---	676	169	667	617	707	614	741	581	834	673
9	---	---	646	487	724	260	720	673	685	80	831	755
10	---	---	497	468	675	593	706	669	615	401	815	630
11	---	---	478	373	593	541	704	648	633	508	666	623
12	---	---	679	450	578	554	690	636	708	576	657	605
13	---	---	683	616	584	530	672	625	718	671	668	619
14	---	---	672	510	598	545	643	593	728	676	689	596
15	---	---	684	524	623	588	642	594	737	513	685	78
16	---	---	678	464	---	---	661	610	758	707	633	437
17	---	---	663	464	---	---	664	625	755	704	633	577
18	---	---	678	359	---	---	666	611	762	704	648	314
19	---	---	674	614	---	---	673	629	758	644	646	433
20	---	---	639	575	---	---	671	366	725	644	648	530
21	689	563	708	578	---	---	592	528	738	662	662	544
22	673	501	732	611	---	---	597	502	758	663	662	419
23	670	536	743	651	---	---	571	522	755	654	662	320
24	665	565	738	634	---	---	581	536	758	650	639	441
25	677	571	733	659	---	---	676	116	756	482	655	370
26	665	596	749	662	---	---	675	77	757	674	670	235
27	660	583	754	661	---	---	215	104	776	660	676	301
28	640	448	754	218	---	---	312	184	774	720	725	285
29	592	476	638	471	---	---	502	306	---	---	710	654
30	662	503	657	598	678	---	541	442	---	---	733	490
31	679	598	---	---	684	630	541	258	---	---	732	665
MONTH	---	---	754	169	---	---	725	77	776	80	834	78
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	735	178	682	604	673	566	720	621	710	272	708	576
2	619	198	680	574	679	200	723	572	692	530	692	565
3	653	373	581	438	514	460	736	606	711	496	702	584
4	663	576	592	496	531	495	750	588	700	592	697	571
5	676	577	590	505	547	505	753	497	710	542	692	530
6	680	173	638	588	552	510	799	631	699	616	694	514
7	453	140	646	580	550	478	762	572	702	613	679	592
8	615	199	656	593	554	382	711	617	708	591	680	599
9	652	246	644	587	575	380	722	585	707	626	682	563
10	704	622	665	594	450	391	725	616	704	635	683	590
11	710	195	660	612	631	415	740	643	713	624	688	565
12	466	186	668	597	628	449	790	651	718	610	688	564
13	630	429	665	632	645	428	766	708	734	620	699	592
14	732	630	687	631	639	429	757	684	707	596	689	607
15	742	586	729	608	580	458	755	660	702	606	679	550
16	671	609	676	633	580	434	776	588	687	628	674	584
17	696	645	668	606	622	435	747	618	705	607	673	583
18	701	650	695	647	722	488	717	624	701	614	660	599
19	708	652	675	---	737	637	730	626	704	575	667	569
20	716	411	635	483	734	632	778	647	695	581	661	596
21	696	437	641	606	731	617	757	603	696	574	661	571
22	687	461	699	600	727	538	711	608	717	562	665	588
23	697	418	666	468	669	590	709	451	715	619	660	582
24	703	600	686	506	678	590	709	524	719	606	679	550
25	700	496	675	603	719	635	697	539	713	607	685	607
26	719	492	694	420	736	647	728	627	717	580	660	583
27	740	638	719	436	718	618	703	607	703	560	679	593
28	895	278	667	520	730	605	707	611	699	580	699	594
29	649	549	599	324	736	646	691	564	695	588	666	556
30	646	331	750	265	733	609	681	489	701	578	653	549
31	---	---	749	449	---	---	667	462	703	558	---	---
MONTH	895	140	750	---	737	200	799	451	734	272	708	514

11073495 CUCAMONGA CREEK NEAR MIRA LOMA, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	27.5	17.0	21.5	15.0	22.5	15.0	23.5	13.5	24.5	17.5
2	---	---	27.5	18.0	24.0	16.0	23.5	14.5	24.5	13.0	25.0	17.0
3	---	---	28.0	17.0	21.0	17.0	20.0	13.0	22.5	12.5	24.5	17.5
4	---	---	27.5	17.0	23.0	13.0	23.0	14.0	19.0	11.0	23.0	17.5
5	---	---	26.0	14.0	23.0	12.5	23.0	15.0	19.0	11.0	24.5	17.5
6	---	---	24.0	16.5	20.0	9.0	24.0	10.0	21.5	13.5	22.0	17.5
7	---	---	22.5	15.0	22.5	11.5	22.0	10.0	22.5	15.5	20.0	16.5
8	---	---	20.0	14.0	22.5	13.5	19.0	11.5	21.0	16.5	24.0	16.5
9	---	---	24.0	16.0	15.0	7.0	23.0	10.0	20.0	11.5	22.0	16.5
10	---	---	23.5	14.5	20.5	5.5	21.5	13.5	21.0	12.0	24.0	16.5
11	---	---	20.0	15.0	22.5	13.0	23.0	11.5	21.5	9.0	22.0	16.0
12	---	---	23.5	14.5	24.0	12.5	22.5	15.5	22.0	14.0	25.0	16.0
13	---	---	26.0	15.0	24.0	14.0	22.5	14.5	22.5	15.0	25.5	16.0
14	---	---	27.0	14.5	23.0	14.5	24.0	16.5	22.5	15.5	25.0	17.5
15	---	---	25.5	16.0	21.5	14.0	23.0	16.5	23.0	15.5	19.5	11.5
16	---	---	25.5	16.5	---	---	22.5	16.0	21.5	16.5	22.5	13.5
17	---	---	23.0	17.0	---	---	23.0	18.5	23.5	17.0	24.0	16.5
18	---	---	24.0	13.5	---	---	23.0	17.5	22.0	17.5	26.0	16.5
19	---	---	22.5	14.0	---	---	20.5	18.0	22.5	17.5	25.5	16.5
20	---	---	24.5	14.5	---	---	19.0	16.0	24.5	16.5	21.5	17.0
21	29.0	17.0	24.5	12.0	---	---	23.5	17.0	23.5	17.5	25.5	17.0
22	30.5	16.5	25.0	15.0	---	---	24.5	15.5	24.5	16.5	25.5	17.5
23	30.5	18.0	25.0	16.5	---	---	24.0	15.0	25.0	16.0	22.0	17.5
24	28.0	18.5	25.5	16.5	---	---	21.5	17.0	24.5	15.5	26.0	17.5
25	27.5	18.5	25.5	15.0	---	---	19.0	10.5	23.5	15.5	20.0	16.5
26	23.5	18.0	26.0	16.0	---	---	17.0	7.0	24.0	16.0	25.5	17.0
27	28.0	17.0	22.0	14.0	---	---	16.5	7.0	26.0	16.5	23.5	18.5
28	27.5	15.5	18.5	13.5	---	---	21.0	11.0	26.0	17.5	26.5	18.0
29	27.0	18.0	24.0	16.0	---	---	23.5	10.5	---	---	27.0	18.0
30	26.5	17.5	25.5	17.0	---	---	23.0	12.5	---	---	25.5	18.0
31	27.0	15.0	---	---	22.0	16.5	19.0	13.5	---	---	23.0	17.0
MONTH	---	---	28.0	12.0	---	---	24.5	7.0	26.0	9.0	27.0	11.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	22.5	11.0	26.5	16.5	27.0	17.5	31.5	21.0	33.0	21.5	31.5	20.5
2	24.5	15.0	25.5	18.5	23.5	16.0	31.5	21.5	33.0	21.5	31.0	20.5
3	23.0	15.0	21.5	18.5	26.5	17.0	31.0	21.5	33.0	23.0	30.5	20.5
4	25.0	16.0	25.5	18.5	23.5	17.0	32.0	20.5	33.5	22.0	31.0	19.0
5	25.0	16.5	30.0	18.0	30.5	15.5	33.0	20.0	32.5	23.0	30.5	19.5
6	20.5	13.0	29.5	18.5	31.5	17.0	32.0	21.5	31.5	23.0	31.5	20.0
7	18.5	9.5	30.0	19.0	31.5	18.5	31.5	21.5	31.5	21.5	31.5	20.5
8	20.5	11.0	28.5	18.5	31.0	17.0	26.5	22.5	31.5	20.5	31.5	18.5
9	25.0	11.0	26.5	17.5	30.5	18.0	32.5	22.5	32.0	21.0	30.5	20.0
10	27.5	15.5	29.0	18.5	29.5	18.5	32.5	21.5	32.0	21.5	31.5	20.0
11	21.0	11.0	30.0	18.0	31.5	18.0	33.0	22.0	33.0	20.0	30.5	18.0
12	20.0	11.0	30.5	19.0	30.5	19.0	35.5	23.0	33.0	21.0	30.5	20.0
13	25.0	15.0	25.5	19.5	31.0	18.5	33.0	23.0	33.0	21.5	31.5	21.0
14	28.0	17.0	29.0	19.0	33.0	19.5	32.5	23.0	32.5	21.0	31.0	18.5
15	26.5	18.0	27.5	18.5	33.5	19.5	32.5	21.5	32.5	22.5	30.5	20.5
16	26.5	16.5	28.0	19.5	32.5	19.5	32.5	21.5	31.5	22.0	29.0	20.0
17	26.5	17.5	30.0	20.0	32.0	19.5	33.5	21.5	32.5	22.5	29.5	20.0
18	26.5	17.0	31.0	19.0	32.5	20.0	32.0	21.0	32.5	20.5	25.5	20.0
19	26.0	17.5	---	19.5	32.0	20.0	32.5	21.0	33.0	21.0	29.5	20.0
20	27.0	18.5	29.0	20.0	31.0	19.0	32.0	21.0	33.0	21.5	30.5	19.0
21	24.0	18.5	27.0	19.5	31.0	19.5	32.0	21.0	33.0	20.5	29.5	20.5
22	23.0	18.5	26.0	18.0	31.5	20.5	32.0	21.0	32.5	21.5	32.0	22.5
23	25.0	18.5	29.0	18.5	31.5	20.5	32.0	21.0	33.5	21.5	30.0	21.0
24	20.5	18.0	27.5	19.0	32.0	20.5	32.0	20.5	33.5	22.0	30.5	20.5
25	27.0	18.0	30.0	19.0	32.5	20.0	32.0	21.0	33.5	22.0	29.5	21.0
26	27.5	19.0	31.5	19.0	31.5	20.5	33.0	22.0	32.0	22.5	29.0	21.0
27	28.0	19.5	31.0	20.0	32.0	21.0	31.5	21.5	33.5	22.0	29.0	21.0
28	23.5	15.0	31.5	20.0	31.5	20.0	32.0	22.0	33.0	21.5	30.5	20.5
29	24.5	17.0	30.0	19.0	32.0	20.5	32.5	22.0	32.5	20.0	31.0	20.5
30	21.5	16.0	29.5	18.5	32.5	20.5	32.0	22.0	32.5	21.0	31.5	19.5
31	---	---	30.0	18.0	---	---	32.5	22.0	32.5	20.5	---	---
MONTH	28.0	9.5	---	16.5	33.5	15.5	35.5	20.0	33.5	20.0	32.0	18.0

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA

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 mi², excludes 768 mi² 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 sea level (levels by U.S. Army Corps of Engineers). Prior to Mar. 18, 1940, at about same site at various datums.

REMARKS.—Records good. Flow regulated since 1940 by Prado flood-control reservoir, capacity, 196,200 acre-ft. Natural streamflow affected by extensive ground-water withdrawals, diversion for irrigation, and return flow from irrigated areas. Releases of imported water are made to the basin by the California Water Project at times in some years, via San Antonio Creek from Rialto Pipeline below San Antonio Dam. During the current year, no California Water Project releases were made. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,440 ft³/s, Feb. 21, 1980, gage height, 6.88 ft; maximum gage height, 7.29 ft, Jan. 19, 1993; minimum daily, 2.4 ft³/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 ft³/s, on basis of slope-area measurement of peak flow at site 2.5 mi downstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	189	389	262	309	261	273	276	214	207	202	188
2	177	191	395	259	344	259	370	278	395	209	197	194
3	170	177	386	258	332	251	268	343	364	210	206	197
4	175	176	377	256	273	250	240	366	226	211	200	199
5	175	176	370	244	219	248	253	361	263	206	199	204
6	175	176	366	251	234	249	276	360	264	211	203	204
7	177	176	382	262	236	252	327	358	214	206	207	211
8	177	178	380	264	264	255	278	354	146	208	209	209
9	178	179	362	255	282	258	262	351	181	217	207	202
10	179	179	291	260	411	257	261	369	217	218	204	204
11	180	180	266	268	474	263	261	373	234	217	200	205
12	182	177	257	264	469	268	237	364	273	266	206	201
13	183	177	265	258	454	260	188	363	188	336	203	204
14	184	177	278	260	430	269	187	359	191	243	203	197
15	184	178	303	259	370	319	185	350	207	164	206	199
16	185	284	209	259	301	358	231	340	207	205	207	200
17	184	390	223	265	289	285	304	354	205	231	204	202
18	184	399	246	262	285	264	304	362	204	235	187	205
19	186	394	258	292	285	260	307	359	198	231	187	209
20	186	390	289	345	278	256	309	350	199	226	189	209
21	187	387	268	267	278	267	284	324	195	221	187	204
22	186	384	266	282	280	270	269	251	200	218	186	204
23	186	391	260	287	268	265	270	230	201	215	188	202
24	187	394	259	291	266	261	272	244	208	215	188	200
25	187	388	273	410	262	272	269	235	202	218	188	201
26	189	383	263	400	258	304	270	226	203	224	187	207
27	189	379	265	554	253	269	271	224	203	226	181	212
28	189	376	263	1710	256	267	273	220	205	221	183	210
29	190	378	260	286	---	268	276	220	205	213	178	206
30	190	375	265	181	---	258	275	215	203	203	176	201
31	189	---	272	209	---	255	---	208	---	203	183	---
TOTAL	5706	8378	9206	10180	8660	8298	8050	9587	6615	6834	6051	6090
MEAN	184	279	297	328	309	268	268	309	220	220	195	203
MAX	216	399	395	1710	474	358	370	373	395	336	209	212
MIN	170	176	209	181	219	248	185	208	146	164	176	188
AC-FT	11320	16620	18260	20190	17180	16460	15970	19020	13120	13560	12000	12080

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	103	133	201	318	402	392	244	176	144	118	94.4	90.0
MAX	344	322	709	3543	2733	2556	1101	915	736	446	352	372
(WY)	1984	1997	1967	1993	1998	1980	1980	1998	1983	1998	1983	1997
MIN	22.4	33.5	39.5	49.2	49.8	54.3	43.3	35.2	29.0	17.7	14.8	16.2
(WY)	1962	1963	1963	1963	1961	1961	1961	1961	1961	1960	1960	1960

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	226799		93655			
ANNUAL MEAN	621		257		200	
HIGHEST ANNUAL MEAN					789	
LOWEST ANNUAL MEAN					36.4	
HIGHEST DAILY MEAN	6170		1710		6440	
LOWEST DAILY MEAN	106		146		2.4	
ANNUAL SEVEN-DAY MINIMUM	175		175		3.0	
INSTANTANEOUS PEAK FLOW			2090		7440	
INSTANTANEOUS PEAK STAGE			5.28		7.29	
ANNUAL RUNOFF (AC-FT)	449900		185800		145100	
10 PERCENT EXCEEDS	817		366		344	
50 PERCENT EXCEEDS	421		244		116	
90 PERCENT EXCEEDS	186		184		38	

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 1975–81.

SPECIFIC CONDUCTANCE: Water years 1970 to current year.

WATER TEMPERATURE: Water years 1970 to current year.

SEDIMENT DATA: Water years 1974–94, October 1998 to September 1999.

PERIOD OF DAILY RECORD.—Water years 1970 to current year.

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.—Specific-conductance and water-temperature values are affected by releases from Prado Dam. Interruptions in record at times due to malfunction of recording or sensing equipment. Sediment data and a portion of chemical data collected for the National Water-Quality Assessment (NAWQA) Program.

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, 1,120 microsiemens, Dec. 19; minimum recorded, 492 microsiemens, Mar. 15.

WATER TEMPERATURE: Maximum recorded, 30.5°C, July 12; minimum recorded, 8.5°C, Dec. 24.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL AS CACO3) (00900)	HARD- NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L) (00904)
OCT											
01...	0855	243	955	--	--	19.5	750	--	--	--	--
22...	1340	185	957	8.1	25.5	18.0	763	9.3	99	270	61
23...	1340	184	981	--	--	19.0	--	--	--	--	--
NOV											
06...	1125	176	961	--	--	16.5	--	--	--	--	--
20...	1520	387	961	8.0	24.5	15.0	764	9.1	90	270	71
24...	1230	394	943	--	--	14.5	--	--	--	--	--
DEC											
08...	1200	379	1020	--	--	11.5	--	--	--	--	--
09...	1630	359	1040	8.1	17.0	11.0	769	10.6	96	290	57
15...	1200	359	1010	--	--	13.5	--	--	--	--	--
JAN											
08...	1115	257	1020	--	--	14.0	--	--	--	--	--
14...	1530	254	1010	8.2	25.0	16.0	766	11.2	113	280	70
20...	1140	379	947	--	--	16.5	--	--	--	--	--
25...	1315	433	605	7.8	13.5	13.0	--	--	--	170	46
FEB											
05...	1445	226	800	--	--	13.0	--	--	--	--	--
12...	1500	461	825	7.9	25.0	12.5	765	10.3	96	230	68
17...	1125	288	994	--	--	14.0	--	--	--	--	--
MAR											
05...	1245	243	1030	--	--	17.0	--	--	--	--	--
11...	1700	263	994	8.4	12.0	15.0	760	10.7	107	280	73
15...	1520	353	497	8.1	12.5	14.5	759	10.2	101	120	26
17...	1115	285	973	--	--	14.0	--	--	--	--	--
APR											
06...	1245	257	992	--	--	15.0	--	--	--	--	--
06...	1930	304	892	8.4	--	16.0	--	--	--	230	56
16...	0940	185	738	--	--	16.0	--	--	--	--	--
16...	1500	288	735	7.9	32.5	15.5	750	9.1	118	210	55
MAY											
07...	1200	355	935	--	--	19.0	--	--	--	--	--
20...	1410	345	978	8.2	24.5	21.5	748	9.1	105	280	55
24...	1145	233	987	--	--	20.5	--	--	--	--	--
JUN											
07...	1040	256	972	--	--	21.0	--	--	--	--	--
18...	1050	207	957	8.1	23.5	22.0	748	7.9	93	270	70
21...	1445	190	966	--	--	24.0	--	--	--	--	--
JUL											
07...	1210	205	998	--	--	24.5	--	--	--	--	--
15...	0930	163	946	8.2	27.1	23.0	749	8.4	100	250	58
21...	1245	221	960	--	--	23.5	--	--	--	--	--
AUG											
06...	1250	207	972	--	--	24.0	--	--	--	--	--
12...	1150	204	968	8.3	--	22.5	750	8.0	93	250	48
19...	1230	185	972	--	--	23.5	--	--	--	--	--
SEP											
07...	1155	208	968	--	--	22.0	--	--	--	--	--
16...	1000	200	972	8.3	18.5	20.5	746	7.9	89	270	64
20...	1250	208	948	--	--	21.5	--	--	--	--	--

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
22...	78	18	86	40	2	11	251	--	206	100	98
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
06...	--	--	--	--	--	--	--	--	--	--	--
20...	80	18	84	39	2	11	248	--	204	110	95
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
09...	84	21	90	39	2	12	290	--	238	110	100
15...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
14...	82	19	86	39	2	10	259	--	213	110	100
20...	--	--	--	--	--	--	--	--	--	--	--
25...	50	12	49	--	2	--	154	--	127	65	57
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	66	15	73	40	2	10	196	--	160	91	83
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	82	19	87	39	2	11	247	3	208	100	96
15...	35	8.0	44	42	2	7.2	116	--	95	47	46
17...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	68	16	85	43	2	10	212	3	179	98	99
16...	--	--	--	--	--	--	--	--	--	--	--
16...	61	14	62	38	2	8.7	186	--	153	80	71
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
20...	81	18	88	40	2	10	272	--	223	110	100
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
18...	78	19	88	40	2	9.9	247	--	203	110	100
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
15...	71	17	87	42	2	11	232	--	190	100	110
21...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
12...	73	17	88	42	2	10	251	--	206	110	110
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
16...	76	18	89	41	2	11	247	--	203	110	100
20...	--	--	--	--	--	--	--	--	--	--	--

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

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
22...	.83	.78	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
06...	--	--	--	--	--	--	--	--	--	--	--
20...	.88	.80	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
09...	.91	.83	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
14...	.91	.87	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
25...	.68	.64	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	.89	.81	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	1.0	1.0	--	--	--	--	--	--	--	--	--
15...	.58	.57	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	.90	.83	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
16...	.76	.69	--	--	--	--	--	--	--	--	--
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
20...	1.1	1.0	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
18...	1.0	.93	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
15...	.75	.65	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
12...	.90	1.1	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
16...	1.1	1.0	3	<1	5	44	<1	<1	<1	1	2
20...	--	--	--	--	--	--	--	--	--	--	--

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

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	URANIUM NATURAL DIS- SOLVED (UG/L AS U) (22703)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDEDED TOTAL (MG/L AS C) (00689)
OCT											
01...	--	--	--	--	--	--	--	--	--	--	--
22...	14	--	37	--	--	--	--	--	--	4.7	1.1
23...	--	--	--	--	--	--	--	--	--	--	--
NOV											
06...	--	--	--	--	--	--	--	--	--	--	--
20...	10	--	60	--	--	--	--	e15	--	5.2	.6
24...	--	--	--	--	--	--	--	--	--	--	--
DEC											
08...	--	--	--	--	--	--	--	--	--	--	--
09...	18	--	350	--	--	--	--	e15	--	5.5	1.4
15...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
14...	11	--	110	--	--	--	--	--	--	4.0	1.4
20...	--	--	--	--	--	--	--	--	--	--	--
25...	42	--	96	--	--	--	--	e13	--	11	3.9
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
12...	e10	--	34	--	--	--	--	--	--	5.5	.9
17...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	--	--	--	--	--	--	--	--	--	--	--
11...	13	--	83	--	--	--	--	e7	--	4.2	1.5
15...	39	--	69	--	--	--	--	e13	--	14	--
17...	--	--	--	--	--	--	--	--	--	--	--
APR											
06...	--	--	--	--	--	--	--	--	--	--	--
06...	10	--	48	--	--	--	--	--	--	4.9	3.0
16...	--	--	--	--	--	--	--	--	--	--	--
16...	<10	--	25	--	--	--	--	e14	--	6.3	.6
MAY											
07...	--	--	--	--	--	--	--	--	--	--	--
20...	e8	--	160	--	--	--	--	96	--	5.3	1.3
24...	--	--	--	--	--	--	--	--	--	--	--
JUN											
07...	--	--	--	--	--	--	--	--	--	--	--
18...	10	--	110	--	--	--	--	e8	--	4.6	4.5
21...	--	--	--	--	--	--	--	--	--	--	--
JUL											
07...	--	--	--	--	--	--	--	--	--	--	--
15...	e6	--	130	--	--	--	--	e12	--	5.0	2.8
21...	--	--	--	--	--	--	--	--	--	--	--
AUG											
06...	--	--	--	--	--	--	--	--	--	--	--
12...	e5	--	76	--	--	--	--	e15	--	4.2	2.9
19...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
16...	15	<1	63	10	3	1	<1	21	7	4.3	2.9
20...	--	--	--	--	--	--	--	--	--	--	--

e Estimated.

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

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT						
22...N	1340	185	18.0	24	12	78
NOV						
20...N	1520	387	15.0	15	16	63
DEC						
09...N	1630	359	11.0	90	87	100
JAN						
14...N	1530	254	16.0	114	78	85
25...N	1315	433	13.0	314	367	80
FEB						
12...N	1500	461	12.5	48	60	65
MAR						
11...N	1700	263	15.0	71	50	97
15...N	1520	353	14.5	139	132	97
APR						
06...N	1930	304	16.0	114	94	95
16...N	1500	288	15.5	14	11	80
MAY						
20...N	1410	345	21.5	89	83	89
JUN						
18...N	1050	207	22.0	1120	624	88
JUL						
15...N	0930	163	23.0	982	432	90
AUG						
12...N	1150	204	22.5	551	303	91
SEP						
16...N	1000	200	20.5	226	122	87

N Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

11074000 SANTA ANA RIVER BELOW PRADO DAM, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	969	917	1010	949	968	881	1020	1000	816	742	969	918
2	965	922	993	940	1010	965	1030	1000	875	816	978	907
3	963	929	986	886	1020	1000	1030	1010	895	875	1100	926
4	984	929	996	905	1050	1020	1060	997	911	891	1100	1030
5	971	933	998	923	1030	1010	1030	1010	896	764	1050	999
6	980	922	1010	898	1020	942	1030	1010	848	772	1020	969
7	980	932	1010	915	984	906	1020	1010	996	799	1010	972
8	973	935	1000	911	1040	969	1030	999	1000	913	1010	957
9	971	935	990	884	1060	966	999	916	1010	990	1000	957
10	970	933	986	943	1070	968	968	914	1030	818	990	953
11	982	939	1010	925	970	937	999	945	834	774	1040	935
12	975	933	1020	962	961	937	1030	988	829	785	999	933
13	973	926	1010	966	995	957	1020	999	930	802	1040	946
14	980	944	1020	944	1010	991	1020	1000	977	930	1030	977
15	968	942	---	---	1010	937	1020	999	1000	977	983	492
16	961	936	---	---	1030	944	1020	1000	1010	984	931	625
17	959	934	---	---	1020	1000	1010	993	1000	981	973	931
18	965	946	---	---	1080	993	1010	984	1000	981	958	901
19	981	938	---	---	1120	1050	989	967	1020	986	937	881
20	992	940	---	---	1060	987	970	916	1010	981	903	863
21	987	949	971	897	1080	982	986	914	1010	981	898	855
22	989	952	940	902	1080	1050	981	895	1000	980	864	837
23	1000	952	954	859	1060	998	922	851	1030	982	878	837
24	1020	934	997	915	1020	979	896	792	988	954	867	848
25	1010	920	978	952	986	976	798	589	971	955	886	739
26	1020	884	1000	957	990	977	688	611	956	944	876	728
27	1050	880	1020	964	987	976	641	536	977	943	984	867
28	1050	978	1030	985	990	979	772	526	980	927	1010	960
29	1030	916	994	908	997	979	828	772	---	---	977	943
30	1000	928	931	865	1010	988	848	828	---	---	977	950
31	1030	939	---	---	1010	998	844	778	---	---	986	952
MONTH	1050	880	---	---	1120	881	1060	526	1030	742	1100	492
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	991	690	944	905	992	950	980	937	980	958	980	966
2	960	736	924	903	975	667	1020	936	977	958	982	965
3	991	960	926	900	911	799	980	935	991	968	985	968
4	1000	963	952	918	936	899	971	920	996	981	988	967
5	1000	969	951	917	946	892	974	916	990	974	981	964
6	1000	637	944	908	983	926	987	930	980	960	987	963
7	885	578	953	861	1030	913	1010	953	984	951	985	957
8	646	558	984	892	982	940	983	961	992	947	1000	918
9	859	548	934	877	1000	957	997	952	985	959	995	952
10	899	681	881	811	980	953	1000	955	992	962	963	915
11	938	721	860	815	991	946	1000	945	995	962	975	935
12	894	728	866	807	976	952	971	901	968	941	992	957
13	769	707	860	805	971	933	978	916	973	949	977	939
14	743	700	855	813	992	952	991	940	984	949	986	947
15	773	705	843	803	973	950	966	933	979	955	985	946
16	762	697	858	809	973	959	976	940	983	965	981	956
17	721	645	872	830	968	951	965	927	986	968	987	962
18	732	648	925	835	965	947	967	927	986	968	976	954
19	778	673	972	905	974	952	978	948	986	962	965	941
20	815	715	1040	964	958	923	977	942	979	954	949	933
21	849	760	1080	980	970	929	964	933	976	943	966	923
22	871	813	1060	968	991	948	971	952	971	947	984	920
23	879	827	1060	956	988	952	995	953	973	954	978	936
24	886	854	1020	960	990	944	982	950	975	955	966	938
25	886	871	1020	981	979	948	969	945	985	964	965	937
26	908	854	999	958	995	945	964	950	971	958	970	944
27	912	865	1020	964	1040	909	966	954	976	956	960	942
28	919	873	1020	973	942	911	964	949	971	948	971	954
29	955	889	991	935	976	925	969	950	975	948	972	952
30	932	904	987	933	977	951	989	956	973	952	981	928
31	---	---	1020	943	---	---	983	961	976	959	---	---
MONTH	1000	548	1080	803	1040	667	1020	901	996	941	1000	915

11075610 SANTA ANA RIVER ABOVE SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA

LOCATION.—Lat 33°51'23", long 117°47'48", in NW 1/4 NE 1/4 sec.2, T.4 S., R.9 W., in Canon De Santa Ana, Orange County, Hydrologic Unit 18070203, 1,000 ft upstream from diversion point, 0.1 mi south of La Palma Avenue, 0.3 mi west of Imperial Highway, and 7.9 mi east of Anaheim.

DRAINAGE AREA.—1,545 mi², excludes 768 mi² above Lake Elsinore.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1998 to September 1999.

GAGE.—Water-stage recorder and collapsible rubber dam control on main channel of river; water-stage recorder and acoustic-velocity meter on each of two box culverts; water-stage recorder and Parshall flume control on diversion (see station 11075620). Elevation of gage is 280 ft above sea level, from topographic map. River and diversion gages at different datums.

REMARKS.—Daily values for this station represent total flow in river immediately below Imperial Highway and are derived by combining flows in river at rubber dam, 40 ft downstream from diversion point, with flows in diversion and gaged culverts. Culverts reroute a portion of the total flow around rubber dam and back into the channel for downstream recharge. Diversion flows (see station 11075620) are routed to various off-river recharge basins. See schematic diagram of Santa Ana River Basin.

COOPERATION.—Records were provided by Orange County Water District, in connection with the National Water-Quality Assessment (NAWQA) Program. Data not reviewed by U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,900 ft³/s, estimated, Jan. 28, 1999; minimum daily discharge, 151 ft³/s, estimated, June 8, 1999.

EXTREMES FOR CURRENT YEAR.—Maximum daily discharge, 1,900 ft³/s, estimated, Jan. 28; minimum daily discharge, 151 ft³/s, estimated, June 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e221	e194	404	257	291	263	259	258	228	e212	e207	e193
2	e182	e196	417	251	359	258	362	260	351	e214	e202	e199
3	e175	e182	402	251	344	255	314	310	432	e215	e211	e202
4	e180	e181	400	e251	322	253	250	355	287	e216	e205	e204
5	e180	e181	401	e239	239	249	258	352	252	e211	e204	e209
6	e180	e181	418	e246	249	250	284	350	281	e216	e208	e209
7	e182	e181	387	e257	250	251	405	347	e241	e211	e212	e216
8	e182	e183	395	e259	264	253	296	346	e151	e213	e214	e214
9	e183	e184	374	250	305	254	274	340	e186	e222	e212	e207
10	e184	e184	310	254	367	256	267	351	e222	e223	e209	e209
11	e185	e185	273	262	492	262	304	368	e239	e222	e205	e210
12	e187	e182	259	258	495	267	326	362	e278	e271	e211	e206
13	e188	e182	263	254	476	258	208	360	e193	e341	e208	e209
14	e189	e182	271	256	452	264	202	362	e196	e248	e208	e202
15	e189	e183	305	254	408	315	198	355	e212	e169	e211	e204
16	e190	e289	226	255	320	369	211	342	e212	e210	e212	e205
17	e189	381	218	259	298	290	294	348	e210	e236	e209	e207
18	e189	399	239	260	290	262	296	368	e209	e240	e192	e210
19	e191	398	255	264	288	265	299	366	e203	e236	e192	e214
20	e191	394	281	347	282	269	301	355	e204	e231	e194	e214
21	e192	393	265	291	283	271	287	344	e200	e226	e192	e209
22	e191	390	261	270	283	271	262	276	e205	e223	e191	e209
23	e191	392	260	278	275	269	260	245	e206	e220	e193	e207
24	e192	403	252	292	270	263	261	254	e213	e220	e193	e205
25	e192	398	265	377	267	292	259	250	e207	e223	e193	e206
26	e194	395	260	499	262	308	258	243	e208	e229	e192	e212
27	e194	392	260	392	258	276	258	238	e208	e231	e186	e217
28	e194	435	261	e1900	259	270	257	236	e210	e226	e188	e215
29	e195	398	259	e527	---	272	258	230	e210	e218	e183	e211
30	e195	386	259	228	---	266	259	230	e208	e208	e181	e206
31	e194	---	258	261	---	260	---	222	---	e208	e188	---
TOTAL	5861	8604	9358	10499	8948	8381	8227	9623	6862	6989	6206	6240
MEAN	189	287	302	339	320	270	274	310	229	225	200	208
MAX	221	435	418	1900	495	369	405	368	432	341	214	217
MIN	175	181	218	228	239	249	198	222	151	169	181	193
AC-FT	11630	17070	18560	20820	17750	16620	16320	19090	13610	13860	12310	12380

e Estimated.

11075610 SANTA ANA RIVER ABOVE SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	189	287	302	339	320	270	274	310	229	225	200	208
MAX	189	287	302	339	320	270	274	310	229	225	200	208
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999
MIN	189	287	302	339	320	270	274	310	229	225	200	208
(WY)	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999	1999

SUMMARY STATISTICS

FOR 1999 WATER YEAR

ANNUAL TOTAL	95798	
ANNUAL MEAN	262	
HIGHEST DAILY MEAN	e1900	Jan 28
LOWEST DAILY MEAN	e151	Jun 8
ANNUAL SEVEN-DAY MINIMUM	180	Oct 2
ANNUAL RUNOFF (AC-FT)	190000	
10 PERCENT EXCEEDS	368	
50 PERCENT EXCEEDS	250	
90 PERCENT EXCEEDS	189	

e Estimated.

11075610 SANTA ANA RIVER ABOVE SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—July 1999 to September 1999.

SPECIFIC CONDUCTANCE: July 1999 to September 1999.

WATER TEMPERATURE: July 1999 to September 1999.

PERIOD OF DAILY RECORD.—July 1999 to September 1999.

SPECIFIC CONDUCTANCE: July 1999 to September 1999.

WATER TEMPERATURE: July 1999 to September 1999.

INSTRUMENTATION.—Water-quality monitor for specific conductance and water temperature since July 1999.

REMARKS.—Water-quality monitor relocated from diversion channel, due to deflation of rubber dam and lack of flow in diversion. Missing specific-conductance data due to malfunction of recording equipment. Water-quality data collected for the National Water-Quality Assessment (NAWQA) Program.

EXTREMES FOR PERIOD DAILY OF RECORD:—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,070 microsiemens, Sept. 8, 1999; minimum recorded, 746 microsiemens, Sept. 2, 1999.

WATER TEMPERATURE: Maximum recorded, 26.5°C, several days in August 1999; minimum recorded, 20.0°C, Sept. 20, 1999.

EXTREMES FOR CURRENT YEAR:—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,070 microsiemens, Sept. 8; minimum recorded, 746 microsiemens, Sept. 2.

WATER TEMPERATURE: Maximum recorded, 26.5°C, several days in August; minimum recorded, 20.0°C, Sept. 20.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	---	---	---	---	---	---	770	753
2	---	---	---	---	---	---	---	---	---	---	758	746
3	---	---	---	---	---	---	---	---	---	---	795	758
4	---	---	---	---	---	---	---	---	---	---	887	785
5	---	---	---	---	---	---	---	---	---	---	1010	801
6	---	---	---	---	---	---	---	---	---	---	1030	996
7	---	---	---	---	---	---	---	---	---	---	1030	992
8	---	---	---	---	---	---	---	---	---	---	1070	1010
9	---	---	---	---	---	---	---	---	---	---	1050	1020
10	---	---	---	---	---	---	---	---	---	---	1030	965
11	---	---	---	---	---	---	---	---	---	---	969	937
12	---	---	---	---	---	---	---	---	---	---	944	918
13	---	---	---	---	---	---	---	---	---	---	987	933
14	---	---	---	---	---	---	---	---	---	---	990	979
15	---	---	---	---	---	---	---	---	---	---	1020	986
16	---	---	---	---	---	---	---	---	---	---	1040	1020
17	---	---	---	---	---	---	---	---	---	---	1040	1010
18	---	---	---	---	---	---	---	---	---	---	1020	1010
19	---	---	---	---	---	---	---	---	---	---	1020	1000
20	---	---	---	---	---	---	---	---	---	---	1010	979
21	---	---	---	---	---	---	---	---	---	---	1000	991
22	---	---	---	---	---	---	---	---	---	---	1010	994
23	---	---	---	---	---	---	---	---	---	---	1010	995
24	---	---	---	---	---	---	---	---	---	---	1010	994
25	---	---	---	---	---	---	---	---	---	---	1020	1010
26	---	---	---	---	---	---	---	---	986	824	1020	1010
27	---	---	---	---	---	---	---	---	871	827	1010	1010
28	---	---	---	---	---	---	---	---	828	766	1010	1010
29	---	---	---	---	---	---	---	---	914	757	1010	1010
30	---	---	---	---	---	---	---	---	889	768	1010	1010
31	---	---	---	---	---	---	---	---	778	766	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	1070	746

11075610 SANTA ANA RIVER ABOVE SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	---	---	---	---	---	---	---	---	26.0	22.5	24.5	22.0	
2	---	---	---	---	---	---	---	---	26.0	23.0	24.0	21.5	
3	---	---	---	---	---	---	---	---	26.5	23.0	24.0	21.5	
4	---	---	---	---	---	---	---	---	26.5	23.5	24.0	21.5	
5	---	---	---	---	---	---	---	---	25.5	23.0	23.5	21.5	
6	---	---	---	---	---	---	---	---	25.0	22.5	24.5	21.5	
7	---	---	---	---	---	---	---	---	24.5	22.0	24.5	22.0	
8	---	---	---	---	---	---	---	---	24.5	21.5	24.5	21.5	
9	---	---	---	---	---	---	---	---	24.5	21.5	23.5	21.5	
10	---	---	---	---	---	---	---	---	24.0	21.5	24.0	21.0	
11	---	---	---	---	---	---	---	---	24.5	21.5	24.0	21.0	
12	---	---	---	---	---	---	---	---	25.0	21.5	24.0	21.0	
13	---	---	---	---	---	---	---	---	25.5	22.5	25.0	22.0	
14	---	---	---	---	---	---	---	---	25.5	23.0	24.5	21.5	
15	---	---	---	---	---	---	---	---	25.5	22.5	24.0	21.5	
16	---	---	---	---	---	---	---	---	25.5	22.0	23.0	21.0	
17	---	---	---	---	---	---	---	---	25.0	22.5	23.5	21.0	
18	---	---	---	---	---	---	---	---	25.5	22.0	21.5	20.5	
19	---	---	---	---	---	---	---	---	25.5	22.0	23.0	20.5	
20	---	---	---	---	---	---	---	---	25.5	22.5	23.0	20.0	
21	---	---	---	---	---	---	---	---	26.0	22.5	22.5	21.0	
22	---	---	---	---	---	---	---	---	26.0	23.0	25.0	22.0	
23	---	---	---	---	---	---	---	---	26.5	23.0	25.0	22.5	
24	---	---	---	---	---	---	---	---	26.0	23.0	24.5	22.0	
25	---	---	---	---	---	---	---	---	26.5	23.0	24.5	22.0	
26	---	---	---	---	---	---	---	---	26.5	23.5	24.0	22.0	
27	---	---	---	---	---	---	---	---	26.5	23.5	23.5	21.5	
28	---	---	---	---	---	---	---	25.0	22.5	26.5	23.0	24.0	21.5
29	---	---	---	---	---	---	---	25.5	22.5	26.0	23.0	24.0	21.5
30	---	---	---	---	---	---	---	25.5	22.5	26.0	23.0	24.0	21.5
31	---	---	---	---	---	---	---	26.0	22.5	25.0	22.5	---	---
MONTH	---	---	---	---	---	---	---	---	26.5	21.5	25.0	20.0	

11075620 SANTA ANA RIVER SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA

LOCATION.—Lat 33°51'23", long 117°48'00", in NW 1/4 NW 1/4 sec.2, T.2 S., R.9 W., in Canon De Santa Ana, Orange County, Hydrologic Unit 18070203, on diversion channel, 100 ft downstream from diversion point, 0.1 mi south of La Palma Avenue, 0.6 mi west of Imperial Highway, and 7.8 mi east of Anaheim.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—July 1974 to December 1985, October 1998 to September 1999.

GAGE.—Water-stage recorder and Parshall flume control. Elevation of gage is 262 ft above sea level, from topographic map.

REMARKS.—Water is diverted from Santa Ana River, at diversion point 100 ft upstream, for recharge in off-river spreading basins.

COOPERATION.—Records were provided by Orange County Water District, in connection with National Water-Quality Assessment (NAWQA) Program. Data not reviewed by U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 431 ft³/s, Jan. 14, 1978; no flow for some periods in most years.

EXTREMES FOR CURRENT YEAR.—Maximum daily discharge, 395 ft³/s, Feb. 12; no flow for many days.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	305	190	218	177	170	151	128	.00	.00	.00
2	.00	.00	317	185	277	173	266	152	243	.00	.00	.00
3	.00	.00	304	185	255	170	222	199	329	.00	.00	.00
4	.00	.00	302	94	233	168	161	244	194	.00	.00	.00
5	.00	.00	303	.00	161	164	170	241	160	.00	.00	.00
6	.00	.00	318	.00	170	165	194	239	186	.00	.00	.00
7	.00	.00	291	.00	172	166	306	237	163	.00	.00	.00
8	.00	.00	298	93	179	169	208	236	.00	.00	.00	.00
9	.00	.00	280	184	214	170	187	232	.00	.00	.00	.00
10	.00	.00	226	187	272	171	181	241	.00	.00	.00	.00
11	.00	.00	193	194	392	176	215	256	.00	.00	.00	.00
12	.00	.00	179	192	395	179	237	251	.00	.00	.00	.00
13	.00	.00	183	188	378	170	127	249	.00	.00	.00	.00
14	.00	.00	190	186	356	177	122	251	.00	.00	.00	.00
15	.00	.00	225	183	315	224	118	245	.00	.00	.00	.00
16	.00	.00	154	181	235	275	126	234	.00	.00	.00	.00
17	.00	205	146	183	216	202	203	239	.00	.00	.00	.00
18	.00	224	165	184	211	176	206	258	.00	.00	.00	.00
19	.00	224	179	188	208	179	187	255	.00	.00	.00	.00
20	.00	211	206	263	203	182	183	246	.00	.00	.00	.00
21	.00	198	192	213	202	183	180	235	.00	.00	.00	.00
22	.00	197	190	193	196	181	166	172	.00	.00	.00	.00
23	.00	199	188	201	186	176	165	143	.00	.00	.00	.00
24	.00	207	180	213	183	174	166	150	.00	.00	.00	.00
25	.00	204	193	292	182	203	163	147	.00	.00	.00	.00
26	.00	202	188	378	177	219	155	141	.00	.00	.00	.00
27	.00	199	188	294	173	188	150	136	.00	.00	.00	.00
28	.00	220	189	215	173	182	150	134	.00	.00	.00	.00
29	.00	202	186	250	---	182	151	130	.00	.00	.00	.00
30	.00	258	190	160	---	177	152	130	.00	.00	.00	.00
31	.00	---	191	191	---	172	---	122	---	.00	.00	---
TOTAL	0.00	2950.00	6839	5710.1	6532	5670	5387	6296	1403.00	0.00	0.00	0.00
MEAN	.0000	98.3	221	184	233	183	180	203	46.8	.0000	.0000	.0000
MAX	.00	258	318	378	395	275	306	258	329	.00	.00	.00
MIN	.00	.00	146	1.1	161	164	118	122	.00	.00	.00	.00
AC-FT	.00	5850	13570	11330	12960	11250	10690	12490	2780	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	41.1	64.9	138	185	157	129	138	131	125	94.3	56.6	37.7
MAX	203	187	287	321	260	183	241	258	318	294	168	156
(WY)	1979	1986	1983	1978	1985	1999	1982	1982	1978	1980	1978	1978
MIN	.0000	.0000	5.81	2.31	8.75	4.45	27.0	.0000	.0000	.0000	.0000	.0000
(WY)	1978	1978	1977	1975	1975	1975	1975	1977	1977	1981	1981	1977

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	40787.10		
ANNUAL MEAN	112		103
HIGHEST ANNUAL MEAN			164
LOWEST ANNUAL MEAN			40.0
HIGHEST DAILY MEAN	395	Feb 12	431
LOWEST DAILY MEAN	.00	Oct 1	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00
ANNUAL RUNOFF (AC-FT)	80900		74470
10 PERCENT EXCEEDS	243		251
50 PERCENT EXCEEDS	150		96
90 PERCENT EXCEEDS	.00		.00

11075620 SANTA ANA RIVER SPREADING DIVERSION BELOW IMPERIAL HIGHWAY, NEAR ANAHEIM, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—July 1974 to July 1982, December 1983 to June 1985, November 1996 to March 1998, and November 1998 to September 1999.

CHEMICAL DATA: Water years 1975–79, 1981–85.

SPECIFIC CONDUCTANCE: July 1974 to July 1982, December 1983 to June 1985, November 1996 to March 1998, and November 1998 to September 1999.

pH: November 1996 to March 1998.

WATER TEMPERATURE: November 1996 to March 1998, November 1998 to September 1999.

PERIOD OF DAILY RECORD.—July 1974 to July 1982, December 1983 to June 1985, November 1996 to March 1998, and November 1998 to September 1999.

SPECIFIC CONDUCTANCE: July 1974 to July 1982, December 1983 to June 1985, November 1996 to March 1998, and November 1998 to September 1999.

pH: November 1996 to March 1998.

WATER TEMPERATURE: November 1996 to March 1998, November 1998 to September 1999.

INSTRUMENTATION.—Water-quality monitor present during water years 1974–82, 1984–85, 1997–98, and since November 1998.

REMARKS.—Interruption in record due to deflation of diversion dam or malfunction of recording equipment.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,640 microsiemens, Sept. 21, 1978; minimum recorded, 143 microsiemens, Mar. 10, 1980.

pH: Maximum recorded, 8.9 standard units, Feb. 22, 23, Mar. 26, Oct. 27–Nov. 1, 1997; minimum recorded, 6.9 standard units, Jul. 25, 26, 29, Aug. 4, 5, 1997.

WATER TEMPERATURE: Maximum recorded, 28.5°C, May 30, Aug. 4–6, Sept. 5, 1997; minimum recorded, 9.0°C, Dec. 9, 22–25, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,130 microsiemens, Dec. 10; minimum recorded, 490 microsiemens, April 7.

WATER TEMPERATURE: Maximum recorded, 25.5°C, May 27, 28; minimum recorded, 9.0°C, Dec. 9, 22–25.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	945	792	1040	1020	998	821	1090	1070
2	---	---	---	---	984	925	1050	1020	978	875	1100	1090
3	---	---	---	---	992	937	1050	1020	999	978	1100	1090
4	---	---	---	---	1040	904	1060	1030	999	977	1110	1100
5	---	---	---	---	1010	941	---	---	1020	821	1110	1100
6	---	---	---	---	1010	579	---	---	871	798	1100	1090
7	---	---	---	---	975	825	---	---	903	792	1090	1080
8	---	---	---	---	1040	898	1060	1030	929	893	1090	1070
9	---	---	---	---	1080	1020	1080	1050	955	803	1070	1060
10	---	---	---	---	1130	1080	1080	1040	966	888	1060	1050
11	---	---	---	---	1120	1070	1070	1020	923	851	1060	1010
12	---	---	---	---	1100	1080	1060	1030	904	848	1060	1010
13	---	---	---	---	---	---	1060	1040	967	834	1040	1020
14	---	---	---	---	---	---	1060	1020	1040	964	1040	1010
15	---	---	---	---	1080	1020	1030	1010	1060	1030	1030	603
16	---	---	---	---	1110	1050	1030	1010	1060	1020	989	584
17	---	---	---	---	1120	1080	1040	1000	1020	994	1040	989
18	---	---	---	---	1090	1060	1030	1010	997	982	1040	1010
19	---	---	---	---	1070	988	1030	1010	986	966	1040	1010
20	---	---	---	---	1050	995	1030	944	980	965	1040	933
21	---	---	1010	953	1080	1030	1000	945	966	946	1040	1000
22	---	---	996	965	1090	1050	1020	996	955	942	1040	1000
23	---	---	1000	978	1090	1060	1040	1020	1000	950	1040	1000
24	---	---	1010	977	1100	1070	1050	1030	1010	989	1040	1010
25	---	---	1000	984	1080	1040	1050	685	1010	1000	1030	827
26	---	---	1020	994	1070	1040	880	496	1010	994	1020	855
27	---	---	1040	1000	1070	1040	802	575	1020	1000	1030	1010
28	---	---	1030	661	1060	1030	899	516	1070	1020	1040	1010
29	---	---	1010	991	1050	1020	1060	899	---	---	1040	1000
30	---	---	1010	857	1050	1020	1060	1020	---	---	1040	1010
31	---	---	---	---	1040	1020	1070	715	---	---	1050	1010
MONTH	---	---	---	---	---	---	---	---	1070	792	1110	584

11075720 CARBON CREEK BELOW CARBON CANYON DAM, CA

LOCATION.—Lat 33°54'48", long 117°50'30", 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 mi².

PERIOD OF RECORD.—October 1961 to current year.

REVISED RECORDS.—WDR CA-88-1: 1983(M).

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Datum of gage is 396.35 ft, U.S. Army Corps of Engineers datum. Prior to Dec. 3, 1971, at datum 2.00 ft higher.

REMARKS.—Records fair except for discharges below 10 ft³/s, which are poor. Flow regulated by Carbon Canyon flood-control reservoir, capacity, 6,610 acre-ft. No diversion upstream from station. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 796 ft³/s, Mar. 1, 1983, gage height, 5.11 ft, present datum, from rating curve extended above 110 ft³/s on basis of optical current-meter measurement at 241 ft³/s and normal depth solution for discharge computation at gage height 4.27 ft; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	.50	.56	e1.0	4.0	e2.6	e1.2	e3.2	.64	.06	.00	.00
2	.54	.55	.58	e1.0	3.2	e2.6	e1.3	e3.1	2.1	.08	.00	.00
3	.66	.56	.58	e1.0	2.8	e2.5	e1.3	e3.0	1.4	.11	.00	.00
4	.63	.54	.58	e1.1	3.0	e3.0	e1.4	e2.8	1.0	.11	.00	.00
5	.67	.54	.58	e1.1	6.3	e2.4	e1.3	e2.7	.94	.10	.00	.00
6	.34	.53	2.2	e1.1	4.4	e2.3	6.2	e2.7	.71	.07	.00	.00
7	.31	.47	1.4	e1.0	3.7	e2.2	13	e2.6	.71	.04	.00	.00
8	.34	4.2	1.2	e1.0	3.7	e2.1	5.4	e2.7	.71	.05	.00	.00
9	.35	2.1	1.1	e1.1	4.6	e1.9	4.5	e2.5	.71	.30	.00	.00
10	.33	1.3	1.0	e1.1	6.5	e1.8	3.7	e2.4	.80	.05	.00	.00
11	.36	1.4	.93	e1.1	3.7	e1.7	4.2	e2.3	.31	.02	.00	.00
12	.42	.98	.71	e1.1	3.4	e1.7	11	e2.1	.42	.02	.00	.00
13	.57	.80	.71	e1.1	3.4	e1.7	5.6	e2.0	.55	.02	.00	.00
14	.71	.71	.71	e1.2	3.4	e7.0	e4.0	e1.9	.53	.02	.00	.00
15	.81	.71	.98	e1.2	3.4	19	e3.7	e1.8	.50	.02	.00	.00
16	.71	.54	.71	e1.2	3.4	3.2	e3.7	e1.9	.51	.02	.00	.00
17	.57	.41	.71	e1.2	3.4	1.9	e3.6	e1.8	.48	.02	.00	.00
18	.38	.47	.71	3.8	3.4	2.2	e3.6	e1.7	.39	.02	.00	.00
19	.35	.42	.71	4.3	3.4	1.8	e3.6	e1.6	.40	.02	.00	.00
20	.43	.35	.95	5.2	2.7	1.8	e3.5	e1.6	.41	.02	.00	.00
21	.47	.37	1.0	e4.8	e2.6	1.8	e3.3	e1.5	.47	.02	.00	.00
22	.47	.37	1.0	e4.6	e2.6	e1.8	e3.2	e1.4	.51	.01	.00	.00
23	.47	.28	1.0	e4.2	e2.7	e1.7	e3.1	e1.5	.63	.00	.00	.00
24	.47	.34	1.0	5.4	e2.7	e1.7	e3.2	e1.5	.57	.00	.00	.00
25	.47	.46	e.98	9.0	e2.6	e1.6	e3.1	e1.4	.47	.00	.00	.00
26	.48	.47	e.98	28	e2.7	e1.5	e3.1	1.4	.47	.00	.00	.00
27	.69	.47	e.99	16	e2.7	e1.3	e3.0	.73	.47	.00	.00	.00
28	.66	2.3	e1.0	4.8	e2.7	e1.3	e3.0	.70	.38	.00	.00	.00
29	.58	2.3	e1.0	3.8	---	e1.3	e2.9	.58	.26	.00	.00	.00
30	.55	.77	e.99	3.4	---	e1.2	e2.8	.58	.10	.00	.00	.00
31	.47	---	e.99	4.6	---	e1.2	---	.58	---	.00	.00	---
TOTAL	15.73	26.21	28.54	120.5	97.1	81.8	116.5	58.27	18.55	1.20	0.00	0.00
MEAN	.51	.87	.92	3.89	3.47	2.64	3.88	1.88	.62	.039	.000	.000
MAX	.81	4.2	2.2	28	6.5	19	13	3.2	2.1	.30	.00	.00
MIN	.31	.28	.56	1.0	2.6	1.2	1.2	.58	.10	.00	.00	.00
AC-FT	31	52	57	239	193	162	231	116	37	2.4	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.072	.23	.55	2.81	5.76	4.90	.87	.46	.17	.071	.026	.022
MAX	.73	1.94	6.36	32.4	46.9	36.2	6.08	7.40	1.99	.95	.36	.37
(WY)	1996	1997	1967	1993	1980	1983	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1962	1963	1963	1964	1962	1962	1962	1962	1962	1962	1962

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1962 - 1999

ANNUAL TOTAL	2182.80	564.40										
ANNUAL MEAN	5.98	1.55								1.31		
HIGHEST ANNUAL MEAN										7.27		1980
LOWEST ANNUAL MEAN										.004		1972
HIGHEST DAILY MEAN	362	Feb 24					28	Jan 26	362		Feb 24	1998
LOWEST DAILY MEAN	.00	Jan 1					.00	Jul 23	.00		Oct 1	1961
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1					.00	Jul 23	.00		Oct 1	1961
INSTANTANEOUS PEAK FLOW							68	Jan 26	796		Mar 1	1983
INSTANTANEOUS PEAK STAGE							2.78	Jan 26	5.11		Mar 1	1983
ANNUAL RUNOFF (AC-FT)	4330						1120		946			
10 PERCENT EXCEEDS	9.7						3.6		.98			
50 PERCENT EXCEEDS	1.0						.71		.00			
90 PERCENT EXCEEDS	.20						.00		.00			

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1961 to current year.

REVISED RECORDS.—WDR CA-73-1: 1969. WDR CA-86-1: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 1,210 ft above sea level, 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.—Records fair. Slight regulation by Modjeska Reservoir on Harding Creek. Santiago County Water District diverts water at Modjeska Reservoir on Harding Creek. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,520 ft³/s, Feb. 25, 1969, gage height, 6.18 ft, site and datum then in use, from rating curve extended above 840 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 12.03 ft, Feb. 23, 1998; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, from rating curve extended above 444 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 26	2330	5.6	4.46				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.0	.23	1.0	.14	.05	.32	.00	.00	.00	.00
2	.00	.00	1.3	.18	.97	.08	.10	.19	.00	.00	.00	.00
3	.00	.00	.91	.17	1.0	.07	.07	.15	.01	.00	.00	.00
4	.00	.00	1.1	.13	.75	.13	.06	.15	.03	.00	.00	.00
5	.00	.00	1.1	.13	1.5	.08	.05	.10	.00	.00	.00	.00
6	.00	.00	1.9	.11	1.7	.07	.16	.07	.00	.00	.00	.00
7	.00	.00	1.3	.10	1.6	.13	1.1	.04	.00	.00	.00	.00
8	.00	.55	1.0	.06	1.1	.10	1.0	.05	.00	.00	.00	.00
9	.00	.42	.76	e.05	1.6	.06	1.1	.05	.00	.00	.00	.00
10	.00	.16	.65	e.04	2.7	.06	.71	.04	.00	.00	.00	.00
11	.00	.12	.77	.04	2.3	.11	.94	.02	.00	.00	.00	.00
12	.00	.05	.74	.07	1.7	.11	1.9	.02	.00	.00	.00	.00
13	.00	.00	.78	.07	1.6	.05	1.7	.03	.00	.00	.00	.00
14	.00	.00	.59	.05	1.4	.03	1.5	.05	.00	.00	.00	.00
15	.00	.04	.58	.04	.95	.22	1.2	.05	.00	.00	.00	.00
16	.00	.16	.41	.02	.87	.24	1.1	.05	.00	.00	.00	.00
17	.00	.21	.37	.05	1.1	.18	.68	.04	.00	.00	.00	.00
18	.00	.27	.32	.08	.74	.11	.47	.03	.00	.00	.00	.00
19	.00	.26	.46	.09	.72	.11	.30	.02	.00	.00	.00	.00
20	.00	.23	1.2	.29	.68	.17	.24	.00	.00	.00	.00	.00
21	.00	.23	.76	.52	.73	.14	.20	.00	.00	.00	.00	.00
22	.00	.22	.61	.29	.47	.19	.23	.01	.00	.00	.00	.00
23	.00	.22	.57	.15	.35	.08	.47	.02	.00	.00	.00	.00
24	.00	.25	.42	.09	.44	.08	.49	.01	.00	.00	.00	.00
25	.00	.27	.43	.64	.27	.40	.29	.01	.00	.00	.00	.00
26	.00	.26	.52	2.3	.22	.30	.23	.00	.00	.00	.00	.00
27	.00	.26	.38	2.8	.19	.21	.19	.00	.00	.00	.00	.00
28	.00	.88	.33	1.6	.26	.22	.21	.00	.00	.00	.00	.00
29	.00	1.1	.30	.99	---	.11	.22	.00	.00	.00	.00	.00
30	.00	.69	.37	.98	---	.08	.26	.00	.00	.00	.00	.00
31	.00	---	.23	1.3	---	.05	---	.00	---	.00	.00	---
TOTAL	0.00	6.85	22.16	13.66	28.91	4.11	17.22	1.52	0.04	0.00	0.00	0.00
MEAN	.000	.23	.71	.44	1.03	.13	.57	.049	.001	.000	.000	.000
MAX	.00	1.1	1.9	2.8	2.7	.40	1.9	.32	.03	.00	.00	.00
MIN	.00	.00	.23	.02	.19	.03	.05	.00	.00	.00	.00	.00
AC-FT	.00	14	44	27	57	8.2	34	3.0	.08	.00	.00	.00

e Estimated.

11075800 SANTIAGO CREEK AT MODJESKA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.19	1.78	5.63	17.3	39.9	23.6	6.72	3.66	1.54	.41	.14	.072
MAX	5.00	33.5	97.4	179	404	137	33.7	27.0	8.76	2.84	1.68	1.07
(WY)	1984	1966	1967	1993	1998	1978	1983	1983	1998	1983	1983	1983
MIN	.000	.000	.000	.000	.050	.13	.017	.000	.000	.000	.000	.000
(WY)	1962	1962	1963	1963	1965	1999	1992	1992	1987	1963	1962	1962

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1962 - 1999	
ANNUAL TOTAL	14764.09		94.47			
ANNUAL MEAN	40.4		.26		8.24	
HIGHEST ANNUAL MEAN					47.2	
LOWEST ANNUAL MEAN					.21	
HIGHEST DAILY MEAN	3200	Feb 24	2.8	Jan 27	3590	Feb 24 1969
LOWEST DAILY MEAN	.00	Aug 9	.00	Oct 1	.00	Oct 1 1961
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 22	.00	Oct 1	.00	Oct 1 1961
INSTANTANEOUS PEAK FLOW			5.6	Jan 26	6520	Feb 25 1969
INSTANTANEOUS PEAK STAGE			4.46	Jan 26	12.03	Feb 23 1998
ANNUAL RUNOFF (AC-FT)	29280		187		5970	
10 PERCENT EXCEEDS	47		.97		11	
50 PERCENT EXCEEDS	3.0		.04		.26	
90 PERCENT EXCEEDS	.00		.00		.00	

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, 50 ft upstream from Bristol Street Bridge at Santa Ana, and 1,625 ft upstream from mouth at Santa Ana River.

DRAINAGE AREA.—98.6 mi².

PERIOD OF RECORD.—October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1315-B.

REVISED RECORDS.—WSP 1635: 1934, 1935(M), 1936. WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 120 ft above sea level, from topographic map. Prior to Sept. 8, 1969, at site 0.1 mi upstream at different datum; from Sept. 9, 1969, to July 21, 1976, at site 50 ft downstream at different datum; from July 22, 1976, to Sept. 30, 1993, at site 77 ft upstream at datum 5.25 ft lower.

REMARKS.—Records fair. Flow regulated since December 1931 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 upstream from station by Irvine Company and Serrano and Carpenter Irrigation Districts. See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 6,600 ft³/s, Feb. 25, 1969, gage height, 9.10 ft, site and datum then in use; maximum gage height, 11.57 ft, Jan. 4, 1995; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.0	.00	.00	.00	.00	.00	e.00	.00	.00	.00
2	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
3	.00	.00	.05	.00	.00	.00	.00	.00	e.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
5	.00	.00	.06	.00	.00	.00	.00	.00	e.00	.00	.00	.00
6	.00	.00	4.0	.00	.00	.00	.74	.00	e.00	.00	.00	.00
7	.00	.00	.00	.00	.00	.00	8.5	.00	e.00	.00	.00	.00
8	.00	29	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
10	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	13	.00	e.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	12	.00	e.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.95	.00	.00	e.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	.00	3.0	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	5.7	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	5.7	e.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	5.7	e.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	5.7	e.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	5.7	e.00	.00	.00	.00	.00
25	.00	.00	.00	3.5	.00	11	5.7	e.00	.00	.00	e.00	.00
26	.00	.00	.00	12	.00	.00	5.7	e.00	.00	.00	e.00	.00
27	.00	.00	.00	3.3	.00	.00	5.7	e.00	.00	.00	e.00	.00
28	.00	2.7	.00	.00	.00	.00	5.7	e.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	2.2	e.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	e.00	.00	.00	.00	.00
31	.00	---	.00	14	---	.00	---	e.00	---	.00	.00	---
TOTAL	0.00	31.70	5.11	32.80	0.00	11.95	90.74	0.00	0.00	0.00	0.00	0.00
MEAN	.000	1.06	.16	1.06	.000	.39	3.02	.000	.000	.000	.000	.000
MAX	.00	29	4.0	14	.00	11	13	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	63	10	65	.00	24	180	.00	.00	.00	.00	.00

e Estimated.

SANTA ANA RIVER BASIN

11077500 SANTIAGO CREEK AT SANTA ANA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1963, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.079	.37	2.20	5.64	9.28	29.7	7.56	.32	.002	.000	.000	.053
MAX	2.61	3.03	9.71	62.3	94.6	329	159	3.85	.050	.000	.000	1.20
(WY)	1935	1945	1937	1952	1937	1938	1941	1941	1941	1931	1931	1939
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1931	1931	1931	1936	1952	1931	1932	1931	1931	1931	1931	1931

SUMMARY STATISTICS

WATER YEARS 1931 - 1963

ANNUAL MEAN	4.60
HIGHEST ANNUAL MEAN	40.0 1941
LOWEST ANNUAL MEAN	.067 1961
HIGHEST DAILY MEAN	2320 Mar 3 1938
LOWEST DAILY MEAN	.00 Oct 1 1930
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1930
INSTANTANEOUS PEAK FLOW	4400 Mar 2 1938
INSTANTANEOUS PEAK STAGE	9.85 Jan 16 1952
ANNUAL RUNOFF (AC-FT)	3330
10 PERCENT EXCEEDS	.40
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.19	1.83	2.17	12.0	42.3	23.8	.67	.16	.010	.017	.056	.10
MAX	4.29	7.80	10.4	259	616	253	4.52	3.87	.24	.58	1.60	1.59
(WY)	1984	1983	1998	1993	1969	1978	1965	1998	1993	1984	1977	1976
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1965	1969	1964	1972	1964	1966	1966	1964	1964	1964	1964	1964

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1964 - 1999

ANNUAL TOTAL	9412.44	172.30	
ANNUAL MEAN	25.8	.47	6.75
HIGHEST ANNUAL MEAN			71.7 1969
LOWEST ANNUAL MEAN			.18 1987
HIGHEST DAILY MEAN	2800 Feb 24	29 Nov 8	4270 Feb 25 1969
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 1	.00 Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 1	.00 Oct 1	.00 Oct 1 1963
INSTANTANEOUS PEAK FLOW		379 Nov 8	6600 Feb 25 1969
INSTANTANEOUS PEAK STAGE		7.81 Nov 8	11.57 Jan 4 1995
ANNUAL RUNOFF (AC-FT)	18670	342	4890
10 PERCENT EXCEEDS	7.3	.00	.00
50 PERCENT EXCEEDS	.00	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

11078000 SANTA ANA RIVER AT SANTA ANA, CA

LOCATION.—Lat 33°45'04", long 117°54'27", in NW 1/4 SE 1/4 sec.10, T.5 S., R.10 W., Orange County, Hydrologic Unit 18070203, on right bank, 850 ft upstream from Fifth Street Bridge in Santa Ana, and 1.6 mi downstream from Santiago Creek.

DRAINAGE AREA.—1,700 mi², excludes 768 mi² above Lake Elsinore.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—January 1923 to September 1989, October 1990 to current year. Discharge measurements only, October 1989 to September 1990.

REVISED RECORDS.—WSP 1635: 1940(M), 1944. WDR CA-74-1: Drainage area. WDR CA-79-1: 1978(M).

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Elevation of gage is 70 ft above sea level, from topographic map. October 1990 to Feb. 12, 1991, at site 900 ft downstream at different datum. Feb. 13, 1991, to Apr. 4, 1994, at datum 3 ft lower. See WDR CA-90-1 for complete history of location and datum changes.

REMARKS.—Records poor. Natural flow affected by ground-water withdrawals, diversions, importation by Metropolitan Water District, municipal use, and return flow from irrigation. Since 1940, natural flow affected by Prado Flood-Control Reservoir, capacity, 196,200 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 ft³/s can be diverted from Carbon Creek to Coyote Creek 1.5 mi upstream from mouth of Carbon Creek. Gage out of operation from Apr. 5 through Nov. 14, 1994, due to channel work (lining). See schematic diagram of Santa Ana River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 46,300 ft³/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 each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	.00	23	.00	.39	.00	.00	.00	.00	.00	.00	.00
2	21	.00	2.8	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	1.2	.00	.82	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	8.2	.00	1.4	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	73	.00	.00	.00	8.7	.00	.00	.00	.00	.00
7	.00	.00	.76	.00	.00	.00	103	.00	.00	.00	.00	.00
8	.00	393	.00	.00	.00	.00	2.5	.00	.00	.92	.00	.00
9	.00	1.3	.00	.00	3.3	.00	2.5	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.84	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.00	43	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	127	.00	.00	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	2.3	.00	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	14	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	2.6	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.08	.00	.00	.00	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	21	.00	40	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	59	.00	4.6	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	94	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	54	.00	982	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	4.1	.00	196	---	.00	.00	.00	.00	.00	.00	.00
30	.00	4.0	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	51	---	.00	---	.00	---	.00	.00	---
TOTAL	57.20	456.40	108.67	1404.20	5.93	61.20	289.00	0.00	0.00	0.92	0.00	0.00
MEAN	1.85	15.2	3.51	45.3	.21	1.97	9.63	.000	.000	.030	.000	.000
MAX	35	393	73	982	3.3	40	127	.00	.00	.92	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	113	905	216	2790	12	121	573	.00	.00	1.8	.00	.00

SANTA ANA RIVER BASIN

11078000 SANTA ANA RIVER AT SANTA ANA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1923 - 1939, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.50	.46	5.97	5.50	106	137	29.0	.63	.000	.000	.000	.097
MAX	7.94	2.43	29.3	34.2	1028	2029	358	4.65	.000	.000	.000	1.65
(WY)	1935	1924	1939	1934	1927	1938	1926	1938	1923	1923	1923	1939
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1924	1925	1926	1926	1925	1929	1930	1925	1923	1923	1923	1923

SUMMARY STATISTICS

WATER YEARS 1923 - 1939

ANNUAL MEAN	23.7
HIGHEST ANNUAL MEAN	178 1938
LOWEST ANNUAL MEAN	.000 1931
HIGHEST DAILY MEAN	20300 Mar 3 1938
LOWEST DAILY MEAN	.00 Mar 16 1923
ANNUAL SEVEN-DAY MINIMUM	.00 Mar 21 1923
INSTANTANEOUS PEAK FLOW	46300 Mar 3 1938
INSTANTANEOUS PEAK STAGE	10.20 Mar 3 1938
ANNUAL RUNOFF (AC-FT)	17190
10 PERCENT EXCEEDS	3.6
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.41	12.2	37.2	175	277	254	63.4	28.2	8.74	.94	1.94	1.44
MAX	179	154	428	3962	3014	2342	889	686	433	31.0	102	40.6
(WY)	1984	1984	1985	1993	1980	1969	1980	1998	1983	1998	1983	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1940	1940	1940	1976	1949	1949	1949	1940	1940	1940	1940	1940

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1940 - 1999

ANNUAL TOTAL	131298.27	2383.52	
ANNUAL MEAN	360	6.53	70.9
HIGHEST ANNUAL MEAN			612 1993
LOWEST ANNUAL MEAN			.006 1949
HIGHEST DAILY MEAN	8770 Feb 24	982 Jan 28	11400 Feb 25 1969
LOWEST DAILY MEAN	.00 Jan 1	.00 Oct 4	.00 Oct 1 1939
ANNUAL SEVEN-DAY MINIMUM	.00 Jan 20	.00 Oct 4	.00 Oct 1 1939
INSTANTANEOUS PEAK FLOW		4240 Nov 8	31700 Jan 4 1995
INSTANTANEOUS PEAK STAGE		4.51 Nov 8	9.09 Jan 4 1995
ANNUAL RUNOFF (AC-FT)	260400	4730	51340
10 PERCENT EXCEEDS	746	.54	14
50 PERCENT EXCEEDS	5.8	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

11078000 SANTA ANA RIVER AT SANTA ANA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1968–71, 1973 to current year.

CHEMICAL DATA: Water year 1998.

WATER TEMPERATURE: Water years 1968–69, 1971, 1973–80, 1982–87.

SEDIMENT DATA: Water years 1968–71, 1973 to current year.

PERIOD OF DAILY RECORD.—October 1967 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

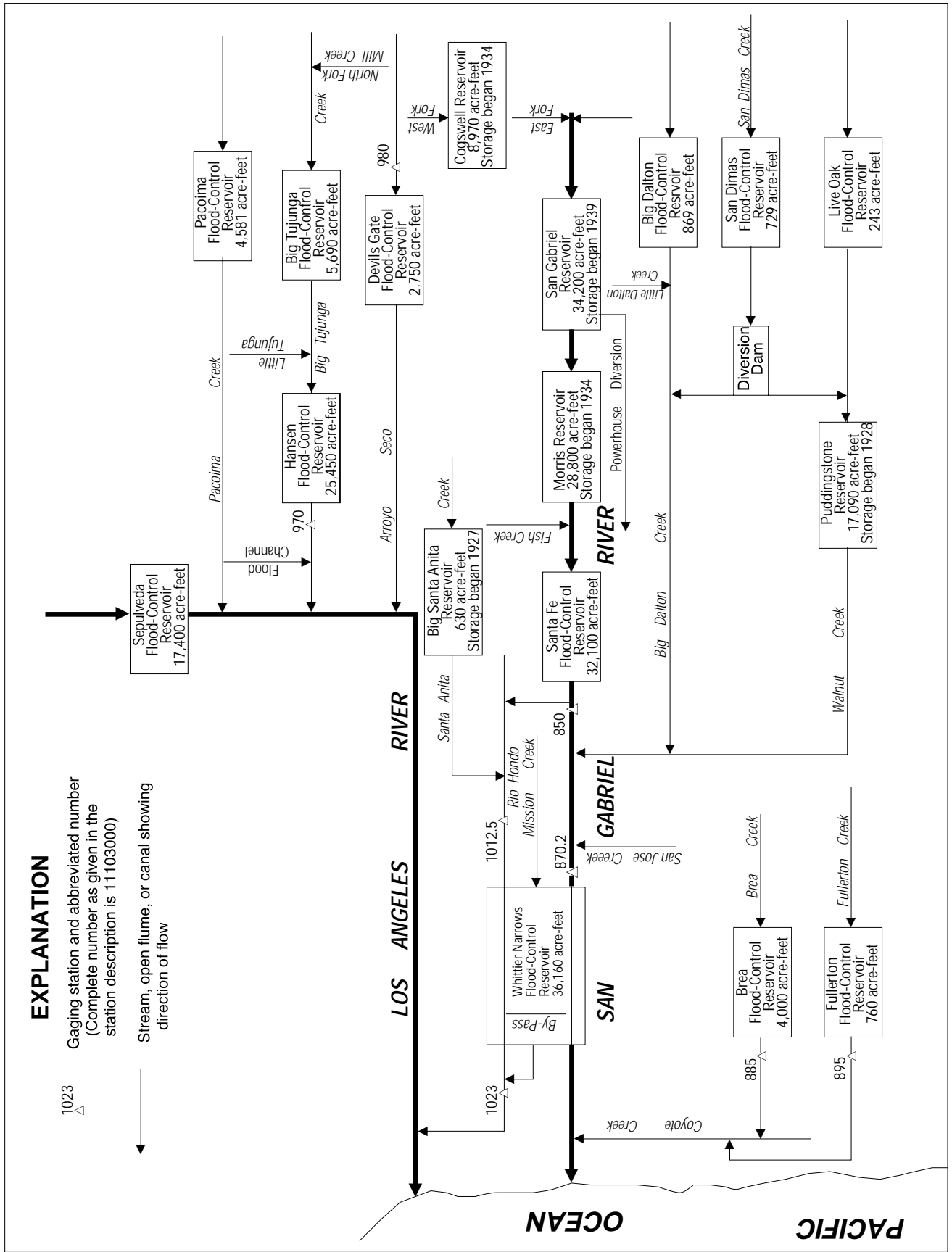
WATER TEMPERATURE: October 1967 to September 1969, October 1970 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

SUSPENDED-SEDIMENT DISCHARGE: October 1967 to September 1971, October 1972 to September 1980, October 1981 to September 1987.

REMARKS.—Chemical data collected for the National Water-Quality Assessment (NAWQA) Program during water year 1998.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-	TEMPER-	SEDI-	SEDI-	SED.	SED.	SED.	SED.	SED.
		CHARGE,		MENT,	MENT,	SUSP.	SUSP.	SUSP.	SUSP.	SUSP.
		INST.	ATURE	MENT,	DIS-	SIEVE	SIEVE	SIEVE	SIEVE	SIEVE
		CUBIC	(DEG C)	CHARGE,	CHARGE,	DIAM.	DIAM.	DIAM.	DIAM.	DIAM.
		FEET	(DEG C)	SUS-	SUS-	% FINER	% FINER	% FINER	% FINER	% FINER
		PER	WATER	PENDE	PENDE	THAN	THAN	THAN	THAN	THAN
		SECOND	(DEG C)	(MG/L)	(T/DAY)	.062 MM	.125 MM	.250 MM	.500 MM	1.00 MM
		(00061)	(00010)	(80154)	(80155)	(70331)	(70332)	(70333)	(70334)	(70335)
JAN										
25...	1350	24	14.0	46	3.0	90	95	100	--	--
MAR										
15...	1130	22	15.0	140	8.3	84	89	93	96	100
APR										
07...	1320	213	15.5	160	92	94	96	100	--	--
12...	1200	74	15.0	50	10	92	96	100	--	--



EXPLANATION

- △ 1023
Gaging station and abbreviated number
(Complete number as given in the
station description is 11103000)
- Stream, open flume, or canal showing
direction of flow

Figure 18. Diversions and storage in San Gabriel and Los Angeles River Basins.

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA

LOCATION.—Lat 34°06'44", long 117°58'07", in 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 mi².

PERIOD OF RECORD.—October 1942 to current year.

REVISED RECORDS.—WSP 1315-B and 1635: 1943(M). WSP 1928: Drainage area. WDR CA-99-1: 1998.

GAGE.—Water-stage recorder. Auxiliary gage 500 ft downstream with crest-stage gage and concrete control. Datum of gage is 400.00 ft above sea level (levels by U.S. Army Corps of Engineers).

REMARKS.—Records fair except for discharges above 500 ft³/s, which are poor. Flow regulated by Cogswell and San Gabriel Flood-Control Reservoirs, combined capacity, 43,170 acre-ft; Morris Reservoir, capacity, 28,800 acre-ft; and Santa Fe Flood-Control Reservoir, capacity, 32,100 acre-ft. Diversions upstream from station for irrigation, power development, and ground-water replenishment. At times water is diverted from side of stilling basin to headwaters of Rio Hondo; 1,570 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 provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,900 ft³/s, Jan. 26, 1969, gage height, 22.20 ft; no flow for many days each year.

REVISIONS.—The maximum discharge for water year 1998 has been revised to 12,100 ft³/s, Feb. 24, 1998, gage height, 17.39 ft. Revised figures of discharge for water year 1998, superseding those published in the report for 1998, are given below.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

(REVISED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.03	20	.04	360	34	260	.22	.02	20	.00
2	.00	.00	.03	22	.04	580	43	259	.00	418	21	.00
3	.00	.00	.02	25	8.3	624	38	1.2	18	80	8.5	.00
4	.00	.00	.02	25	11	367	2.9	9.5	90	.12	.00	.00
5	.00	.00	.01	27	.68	143	.39	260	76	.04	.00	.00
6	.00	.00	1.9	26	5.0	264	.17	2950	69	.03	.00	.00
7	.00	.00	2.5	26	13	455	.00	2350	25	.01	.00	.00
8	.00	.00	1.3	29	21	450	.00	592	.00	30	.00	.00
9	.00	.00	22	33	39	391	.00	343	.00	97	.00	.00
10	.00	.00	73	40	45	300	.00	551	.00	217	.00	.00
11	.00	.00	30	37	41	297	86	233	7.6	115	.00	.00
12	.00	.00	32	27	35	290	476	1920	13	4.8	.00	.00
13	.00	.00	32	.44	20	241	257	2630	12	1.7	.00	.00
14	.37	.00	32	.06	9.4	76	173	1890	9.5	109	.00	.00
15	129	.00	32	12	23	18	255	1460	3.7	209	.00	.00
16	115	.00	32	24	11	16	268	1090	.00	150	.00	.00
17	51	.00	32	32	12	6.4	185	1040	41	61	.00	.00
18	6.7	.00	25	32	5.2	1.1	148	738	163	47	.00	.00
19	.04	.00	29	32	2.9	186	151	389	160	4.9	.00	.00
20	.04	.00	30	32	7.4	265	150	212	149	.01	.00	.00
21	.04	.00	32	32	2.3	373	148	445	68	.04	.00	.00
22	.03	.00	32	22	18	396	189	239	.03	.03	.00	.00
23	.03	.00	32	17	45	236	233	257	.02	.03	.00	.00
24	.03	.00	34	17	10300	79	188	612	28	.03	.00	.00
25	.02	.00	34	17	3370	45	48	704	90	.02	.00	.00
26	.00	.53	34	17	2760	48	7.4	235	91	.02	.00	.00
27	.00	3.4	35	17	2890	102	31	170	89	.02	.00	.00
28	.00	2.5	35	17	1830	434	26	565	69	.01	.00	.00
29	.00	.65	110	26	---	551	85	560	22	.01	.00	.00
30	.00	.04	42	26	---	226	167	540	.04	5.8	.00	.00
31	.00	---	29	2.1	---	22	---	311	---	19	.00	---
TOTAL	302.30	7.12	855.81	711.60	21525.26	7842.5	3389.86	23815.7	1294.11	1569.64	49.50	0.00
MEAN	9.75	.24	27.6	23.0	769	253	113	768	43.1	50.6	1.60	.000
MAX	129	3.4	110	40	10300	624	476	2950	163	418	21	.00
MIN	.00	.00	.01	.06	.04	1.1	.00	1.2	.00	.01	.00	.00
AC-FT	600	14	1700	1410	42700	15560	6720	47240	2570	3110	98	.00

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.83	17.4	30.6	134	244	211	61.8	70.7	25.9	9.34	5.79	9.92
MAX	74.6	577	514	2151	3259	2465	616	768	414	170	121	206
(WY)	1993	1966	1947	1969	1969	1978	1978	1998	1958	1962	1962	1946
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1943	1943	1943	1945	1947	1947	1945	1945	1945	1943	1943	1943

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1943 - 1998	
ANNUAL TOTAL	2817.56		61363.40			
ANNUAL MEAN	7.72		168		67.7	
HIGHEST ANNUAL MEAN					540	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	235	Feb 2	10300	Feb 24	26000	Jan 26 1969
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1942
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 24	.00	Oct 1	.00	Oct 1 1942
INSTANTANEOUS PEAK FLOW			12100		30900	
INSTANTANEOUS PEAK STAGE			17.39		22.20	
ANNUAL RUNOFF (AC-FT)	5590		121700		49040	
10 PERCENT EXCEEDS	18		350		78	
50 PERCENT EXCEEDS	.00		11		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11085000 SAN GABRIEL RIVER BELOW SANTA FE DAM, NEAR BALDWIN PARK, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY 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	34
2	.00	.00	.00	.00	.00	.00	.00	.00	.00	.02	.01	19
3	.00	.00	.00	.00	.00	.07	.00	.00	.00	.51	1.5	12
4	.00	.00	.00	.00	.00	.04	.00	.00	.00	8.9	1.8	8.3
5	.00	.00	.00	.00	.02	.02	.00	.00	.00	35	1.5	6.1
6	.00	.00	.00	.00	.02	.00	.00	.00	.00	68	1.3	4.7
7	.00	.00	.00	.00	.00	.00	.00	.00	.00	74	1.3	11
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	36	1.5	41
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.6	5.2	26
10	.00	.00	.00	.00	.00	.00	.00	.00	.00	.21	20	17
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	16	12
12	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	12	8.6
13	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	9.2	18
14	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	7.7	66
15	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.5	25
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13	11
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	42	5.7
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	26	3.6
19	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	16	2.4
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11	1.8
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.3	1.4
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	6.6	1.1
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	13	.98
24	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	49	.83
25	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	32	.78
26	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	18	.69
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	11	.67
28	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	8.4	.57
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	6.5	.57
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	13	.47
31	.00	---	.00	.00	---	.00	---	.00	---	.00	52	---
TOTAL	0.00	0.00	0.00	0.00	0.04	0.13	0.00	0.00	0.00	230.24	411.31	341.26
MEAN	.000	.000	.000	.000	.001	.004	.000	.000	.000	7.43	13.3	11.4
MAX	.00	.00	.00	.00	.02	.07	.00	.00	.00	74	52	66
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.47
AC-FT	.00	.00	.00	.00	.08	.3	.00	.00	.00	457	816	677

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.77	17.0	30.0	131	239	206	60.6	69.3	25.4	9.30	5.94	9.95
MAX	74.6	577	514	2151	3259	2465	616	768	414	170	121	206
(WY)	1993	1966	1947	1969	1969	1978	1978	1998	1958	1962	1962	1946
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1943	1943	1943	1945	1947	1947	1945	1945	1945	1943	1943	1943

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1943 - 1999

ANNUAL TOTAL	60198.17	982.98	
ANNUAL MEAN	165	2.69	66.4
HIGHEST ANNUAL MEAN			540
LOWEST ANNUAL MEAN			.000
HIGHEST DAILY MEAN	10300	Feb 24	74 Jul 7
LOWEST DAILY MEAN	.00	Apr 7	.00 Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 4	.00 Oct 1
INSTANTANEOUS PEAK FLOW			116 Sep 14
INSTANTANEOUS PEAK STAGE			11.03 Sep 14
ANNUAL RUNOFF (AC-FT)	119400	1950	48100
10 PERCENT EXCEEDS	350	8.3	74
50 PERCENT EXCEEDS	.39	.00	.00
90 PERCENT EXCEEDS	.00	.00	.00

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 mi².

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 sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Flow regulated by several reservoirs, combined capacity, 123,000 acre-ft. Many diversions upstream from station for irrigation, power development, and ground-water replenishment. Colorado River water released to the San Gabriel River at 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 1,570 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 provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 46,600 ft³/s, Jan. 25, 1969, gage height, 10.90 ft, from rating curve extended above 29,000 ft³/s; no flow for part of some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73	115	115	36	31	77	212	76	73	19	17	18
2	79	119	79	40	78	73	77	69	398	18	27	16
3	86	107	74	43	64	71	74	74	100	20	37	16
4	83	98	60	41	165	74	70	69	108	21	24	15
5	86	96	70	77	290	78	77	67	82	20	19	15
6	88	104	149	78	42	69	378	33	91	25	16	23
7	95	120	112	83	40	72	396	22	98	22	15	18
8	108	837	78	81	42	75	200	16	114	32	18	18
9	107	84	49	83	268	80	171	22	e70	22	19	17
10	106	90	37	87	95	82	95	23	e25	46	14	15
11	107	134	44	88	81	78	347	18	e23	56	16	17
12	103	118	46	86	35	79	266	23	e25	41	17	17
13	90	113	48	85	32	82	90	22	e28	22	17	20
14	93	105	34	84	31	79	67	21	e25	21	17	18
15	93	111	31	85	33	329	36	21	e40	18	18	19
16	96	110	30	88	35	134	23	24	e60	21	22	18
17	104	100	32	84	87	114	23	23	e65	17	22	20
18	112	95	33	94	124	81	26	21	e70	15	20	19
19	117	101	60	89	78	80	60	22	e65	19	19	20
20	104	104	87	116	76	124	71	22	e68	19	16	19
21	101	102	45	81	77	78	68	19	e60	16	17	18
22	98	103	46	87	78	82	69	20	e35	19	15	19
23	105	105	40	84	63	78	70	29	e20	16	17	18
24	111	94	41	86	74	79	74	23	e23	20	17	19
25	107	89	42	353	73	90	73	20	e25	17	17	19
26	106	99	42	555	67	32	73	34	e24	19	18	21
27	100	97	41	289	68	32	69	68	e23	19	22	21
28	100	528	42	117	62	34	69	56	e20	19	18	20
29	97	108	41	66	---	65	72	69	e18	18	13	20
30	97	104	36	40	---	76	72	68	e20	20	18	19
31	101	---	38	153	---	75	---	73	---	16	18	---
TOTAL	3053	4290	1722	3459	2289	2652	3468	1167	1896	693	580	552
MEAN	98.5	143	55.5	112	81.8	85.5	116	37.6	63.2	22.4	18.7	18.4
MAX	117	837	149	555	290	329	396	76	398	56	37	23
MIN	73	84	30	36	31	32	23	16	18	15	13	15
AC-FT	6060	8510	3420	6860	4540	5260	6880	2310	3760	1370	1150	1090

e Estimated.

11087020 SAN GABRIEL RIVER ABOVE WHITTIER NARROWS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	89.3	147	157	380	588	402	118	116	69.1	57.6	54.8	74.2
MAX	208	782	426	4150	4497	3796	590	1001	254	230	208	205
(WY)	1979	1966	1993	1993	1980	1978	1978	1998	1976	1973	1973	1978
MIN	.000	.000	9.84	19.0	.000	.000	.47	.14	.000	.000	.000	.000
(WY)	1956	1978	1977	1968	1956	1956	1956	1957	1956	1956	1956	1957

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1956 - 1999	
ANNUAL TOTAL	127746		25821			
ANNUAL MEAN	350		70.7			
HIGHEST ANNUAL MEAN					186	1993
LOWEST ANNUAL MEAN					24.4	1977
HIGHEST DAILY MEAN	11700	Feb 24	837	Nov 8	24800	Jan 26 1969
LOWEST DAILY MEAN	30	Dec 16	13	Aug 29	.00	Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	34	Aug 23	16	Aug 29	.00	Oct 1 1955
INSTANTANEOUS PEAK FLOW			4430	Nov 8	46600	Jan 25 1969
INSTANTANEOUS PEAK STAGE			6.36	Nov 8	10.90	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	253400		51220		134500	
10 PERCENT EXCEEDS	617		111		213	
50 PERCENT EXCEEDS	97		66		68	
90 PERCENT EXCEEDS	37		18		.66	

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 mi².

PERIOD OF RECORD.—January 1942 to current year.

REVISED RECORDS.—WSP 1041: 1944(M). WSP 1635: 1956, 1958. WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Elevation of gage is 200 ft above sea level, from topographic map. Prior to Dec. 4, 1964, at datum 1.03 ft higher.

REMARKS.—Records poor below 50 ft³/s and fair above. Flow regulated by Brea Flood-Control Reservoir, capacity, 4,000 acre-ft. No diversion upstream from 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 1,700 ft³/s, Feb. 18, 1980; no flow for parts of some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	1.8	7.8	2.4	2.8	1.6	1.5	1.7	1.4	1.3	.62	e.49
2	2.3	1.9	3.1	2.6	3.1	1.5	1.8	1.5	13	1.7	1.3	e.47
3	2.5	1.8	2.6	1.8	3.0	1.7	1.4	1.7	2.0	1.1	.52	e.48
4	2.8	1.9	3.8	1.8	12	1.9	1.2	1.6	2.2	.98	.70	e.45
5	2.4	1.8	e8.0	2.0	19	1.9	1.6	2.5	2.2	.76	1.0	e.45
6	2.2	2.0	e17	2.1	4.3	1.6	37	1.6	1.5	1.3	.75	e.47
7	1.6	1.9	e5.0	2.1	2.7	1.7	25	1.7	1.6	.83	.47	e.49
8	1.8	49	e4.5	1.9	2.6	1.8	4.9	1.6	1.6	1.4	.44	e.46
9	1.3	3.5	4.0	2.0	23	2.1	3.2	1.6	1.7	1.8	.51	e.46
10	1.4	5.4	5.6	1.6	6.6	2.2	1.9	1.6	1.4	.92	.50	e.45
11	3.0	5.3	7.8	2.0	3.1	1.8	39	1.6	1.5	.55	.49	e.45
12	2.4	3.6	4.0	2.0	2.1	1.5	47	1.6	1.4	.74	.49	e.46
13	1.7	4.3	2.6	2.1	2.2	1.9	3.7	1.8	1.4	.42	.46	e.45
14	1.7	2.9	2.2	2.3	2.2	1.7	2.2	1.5	1.4	1.2	.57	e.47
15	1.8	2.1	2.0	2.0	1.7	38	1.9	1.6	1.7	.94	.63	e.44
16	1.7	2.3	2.7	2.0	1.5	5.3	2.2	1.5	1.7	.64	.44	e.42
17	1.9	2.2	1.8	1.9	1.7	3.3	2.9	1.5	1.6	.62	.46	e.41
18	1.9	e1.9	1.8	1.7	1.8	3.4	1.6	1.3	1.8	.62	.49	e.41
19	1.9	e1.9	2.5	1.7	1.8	1.7	1.6	1.4	1.7	.65	.46	e.43
20	2.2	e2.0	6.3	7.0	1.6	3.6	1.6	1.4	1.9	.66	.47	e.40
21	2.2	e2.0	2.5	2.6	1.7	2.6	1.4	1.5	2.0	.67	.53	e.39
22	1.7	e1.9	2.5	2.7	1.6	2.0	1.9	1.5	1.4	.73	.44	e.38
23	2.0	e1.9	2.2	2.3	1.6	1.7	1.5	2.2	1.6	.56	.58	e.40
24	2.2	e1.8	1.6	1.6	1.3	2.2	1.2	1.5	1.5	.70	.58	e.40
25	2.0	e1.9	1.8	24	1.6	6.9	1.6	1.4	1.2	.64	.86	e.41
26	2.3	e1.8	2.4	63	1.6	3.1	1.3	1.3	1.2	.69	.47	e.41
27	2.1	e1.8	2.1	29	1.6	2.2	1.5	1.3	1.5	.55	.47	e.42
28	2.5	e27	2.1	7.4	1.5	2.6	1.3	1.2	1.3	.47	.46	e.40
29	2.3	e8.0	1.9	2.9	---	2.2	1.8	1.2	1.4	.41	.44	e.40
30	2.1	e5.5	2.2	1.8	---	2.0	1.6	1.3	1.3	.44	.62	.39
31	1.9	---	2.2	17	---	1.6	---	1.5	---	.37	.53	---
TOTAL	65.5	153.1	118.6	199.3	111.3	109.3	198.3	48.2	59.1	25.36	17.75	13.01
MEAN	2.11	5.10	3.83	6.43	3.98	3.53	6.61	1.55	1.97	.82	.57	.43
MAX	3.7	49	17	63	23	38	47	2.5	13	1.8	1.3	.49
MIN	1.3	1.8	1.6	1.6	1.3	1.5	1.2	1.2	1.2	.37	.44	.38
AC-FT	130	304	235	395	221	217	393	96	117	50	35	26

e Estimated.

11088500 BREA CREEK BELOW BREA DAM, NEAR FULLERTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.07	3.26	4.84	10.3	14.6	10.1	3.40	1.38	.77	.53	.61	.86
MAX	15.3	31.6	26.6	95.8	165	79.9	50.3	31.9	7.83	3.92	4.68	7.02
(WY)	1984	1984	1989	1993	1980	1978	1983	1998	1998	1998	1983	1986
MIN	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1943	1943	1951	1951	1951	1951	1950	1942	1942	1942	1942	1942

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1942 - 1999	
ANNUAL TOTAL	7796.2		1118.82			
ANNUAL MEAN	21.4		3.07		4.26	
HIGHEST ANNUAL MEAN					23.9	
LOWEST ANNUAL MEAN					.001	
HIGHEST DAILY MEAN	471	Feb 22	63	Jan 26	1700	Feb 18 1980
LOWEST DAILY MEAN	1.0	Aug 2	.37	Jul 31	.00	Mar 24 1942
ANNUAL SEVEN-DAY MINIMUM	1.8	Oct 13	.40	Sep 20	.00	Apr 29 1942
INSTANTANEOUS PEAK FLOW			365		a	
INSTANTANEOUS PEAK STAGE			2.78		a	
ANNUAL RUNOFF (AC-FT)	15460		2220		3090	
10 PERCENT EXCEEDS	47		4.0		3.6	
50 PERCENT EXCEEDS	5.3		1.7		.21	
90 PERCENT EXCEEDS	1.9		.47		.00	

a Instantaneous peak discharge and stage for period of record are unknown, but probably occurred on Feb. 18, 1980.

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 mi².

PERIOD OF RECORD.—October 1941 to current year.

REVISED RECORDS.—WSP 1245: 1950(M). WSP 1928: Drainage area. WDR CA-82-1: 1981.

GAGE.—Water-stage recorder. Elevation of gage is 250 ft above sea level, 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.—Records fair except for estimated daily discharges, which are poor. Flow regulated by Fullerton flood-control reservoir, capacity, 760 acre-ft (resurvey of 1970). Small tributary formerly entering below station diverted into reservoir since December 1954. See schematic diagram of San Gabriel and Los Angeles River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 392 ft³/s, Mar. 1, 1983, gage height, 8.25 ft, present datum; no flow at times some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.45	4.4	.38	.69	.35	.51	.70	.52	.59	.36	.42
2	.44	.50	.68	.42	.41	.42	.49	.57	4.7	.60	.40	.40
3	.50	.45	.43	.33	.49	.47	.50	.54	.74	.58	.41	.42
4	.38	.44	.57	.34	5.6	.81	.48	.58	.71	.59	.39	.42
5	.36	.45	3.6	.41	4.9	.57	.46	.58	.54	.53	.39	.42
6	.42	.43	7.9	.40	1.1	.57	15	.55	.56	.57	.38	.45
7	.43	.40	.44	.40	.53	.52	11	.58	.63	.55	.35	.44
8	.43	20	.40	.47	.48	.36	1.5	.57	.66	1.1	.35	.43
9	.46	.56	.39	.38	9.1	.41	1.6	.53	.65	.56	.43	.45
10	.44	.45	.28	.41	2.8	.43	.57	.52	.66	.49	.40	.48
11	.43	.55	.30	.43	.50	.48	15	.53	.66	.44	.38	.44
12	.49	.40	.34	.47	.46	.42	26	.55	.60	.47	.40	.40
13	.48	.43	.40	.45	.51	.39	.83	.59	.56	.61	.39	.43
14	.48	.39	.32	.49	.50	.39	.60	.58	.60	.43	.44	e.42
15	.53	.39	.30	.46	.48	17	.58	.55	.67	.41	.35	e.41
16	.53	.39	.30	.49	.54	1.1	.52	.52	.60	.46	.38	e.41
17	.40	.40	.32	.43	.50	.60	.59	.50	.63	.45	.40	e.42
18	.40	.36	.36	.50	.50	.60	.54	.54	.60	.41	.38	e.41
19	.44	.34	1.2	.50	.45	.57	.49	.53	.61	.44	.44	e.41
20	.46	.35	.99	4.6	.43	1.3	.54	.54	.55	.43	.45	e.40
21	.48	.45	.38	.58	.38	.56	.56	.56	.57	.41	.46	e.40
22	.51	.85	.45	.42	.40	.49	.58	.59	.64	.44	.38	.38
23	.50	.36	.42	.42	.42	.55	.60	1.2	.59	.43	.40	.37
24	.45	.40	.41	.43	.41	.52	.58	.58	.61	.45	.36	.46
25	.44	.40	.43	13	.42	3.8	.60	.58	.62	.43	.37	.37
26	.47	.52	.47	23	.41	.96	.57	.57	.62	.48	.42	.34
27	.45	.52	.46	14	.36	.54	.56	.58	.55	.46	.41	.39
28	.47	9.5	.40	.63	.36	.48	.57	.60	.66	.39	.40	.44
29	.45	.57	.39	.46	---	.49	.57	.76	.70	.42	.47	.35
30	.45	.43	.39	.42	---	.54	.62	.49	.57	.41	.38	.36
31	.43	---	.41	8.1	---	.54	---	.47	---	.41	.41	---
TOTAL	14.00	42.13	28.53	74.22	34.13	37.23	83.61	18.13	22.58	15.44	12.33	12.34
MEAN	.45	1.40	.92	2.39	1.22	1.20	2.79	.58	.75	.50	.40	.41
MAX	.53	20	7.9	23	9.1	17	26	1.2	4.7	1.1	.47	.48
MIN	.36	.34	.28	.33	.36	.35	.46	.47	.52	.39	.35	.34
AC-FT	28	84	57	147	68	74	166	36	45	31	24	24

e Estimated.

11089500 FULLERTON CREEK BELOW FULLERTON DAM, NEAR BREA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1954, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.030	.034	.99	.41	.75	.058	.000	.002	.001	.000	.000
MAX	.000	.31	.19	6.62	3.34	4.60	.36	.003	.020	.016	.000	.000
(WY)	1942	1945	1946	1952	1944	1943	1952	1945	1942	1942	1942	1942
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1942	1942	1942	1942	1942	1942	1943	1943	1942	1942

SUMMARY STATISTICS

WATER YEARS 1942 - 1954

ANNUAL MEAN	.19
HIGHEST ANNUAL MEAN	.92 1952
LOWEST ANNUAL MEAN	.000 1948
HIGHEST DAILY MEAN	79 Jan 19 1952
LOWEST DAILY MEAN	.00 Oct 1 1941
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1941
INSTANTANEOUS PEAK FLOW	298 Mar 16 1943
INSTANTANEOUS PEAK STAGE	3.80 Mar 16 1943
ANNUAL RUNOFF (AC-FT)	137
10 PERCENT EXCEEDS	.00
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.55	1.21	2.03	4.27	5.07	3.35	.99	.51	.35	.31	.36	.45
MAX	5.31	5.76	9.96	28.0	32.1	18.6	6.28	5.87	1.66	1.01	1.72	2.53
(WY)	1984	1986	1993	1993	1998	1983	1958	1998	1995	1991	1977	1986
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1955	1955	1963	1964	1966	1955	1961	1955	1955	1955	1955

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1955 - 1999

ANNUAL TOTAL	1611.37	394.67	
ANNUAL MEAN	4.41	1.08	1.60
HIGHEST ANNUAL MEAN			5.16 1993
LOWEST ANNUAL MEAN			.028 1964
HIGHEST DAILY MEAN	141 Feb 22	26 Apr 12	221 Mar 1 1983
LOWEST DAILY MEAN	.28 Dec 10	.28 Dec 10	.00 Oct 1 1954
ANNUAL SEVEN-DAY MINIMUM	.32 Dec 10	.32 Dec 10	.00 Oct 1 1954
INSTANTANEOUS PEAK FLOW		93 Jan 26	392 Mar 1 1983
INSTANTANEOUS PEAK STAGE		5.18 Jan 26	8.25 Mar 1 1983
ANNUAL RUNOFF (AC-FT)	3200	783	1160
10 PERCENT EXCEEDS	3.7	.72	1.0
50 PERCENT EXCEEDS	.50	.47	.31
90 PERCENT EXCEEDS	.40	.38	.00

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 mi².

PERIOD OF RECORD.—May 1932 to February 1938, August 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-B. Prior to October 1975, published as Tujunga Creek below Hansen Dam.

REVISED RECORDS.—WDR CA-84-1: 1978(M).

GAGE.—Water-stage recorder and concrete-lined flood-control channel. Datum of gage is 943.32 ft above sea level (U.S. Army Corps of Engineers benchmark). See WSP 1735 for history of changes prior to Oct. 1, 1953.

REMARKS.—Records fair except for discharges below 100 ft³/s, which are poor. Flow regulated since July 1931 by Big Tujunga Flood-Control Reservoir, capacity, 5,690 acre-ft, and since September 1940 by Hansen Flood-Control Reservoir, capacity, 25,450 acre-ft. Several small diversions for domestic use and irrigation. Since about 1948, Los Angeles County Department of Public Works has diverted 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 provided by Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 15,200 ft³/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 ft³/s, estimated, Mar. 2, 1938.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	1.4	.00	.00	.00	.00	3.4	.00	15	7.3	3.4
2	.00	15	.00	.00	.00	.00	.00	3.4	.05	15	7.2	.00
3	.00	67	.00	.00	.00	.00	.00	3.4	.24	15	6.6	.00
4	.00	64	.00	.00	.00	.00	.00	3.4	.00	15	6.2	.00
5	.00	52	.00	.00	.00	.00	.00	20	.00	15	6.4	.00
6	.00	21	.00	.00	.00	.00	78	83	.00	14	6.7	.00
7	.00	13	.00	.29	.00	.00	136	59	9.0	14	6.9	.00
8	.00	14	.00	.15	.00	.00	93	22	8.4	14	6.6	.00
9	.00	4.6	.00	.00	.00	.00	31	17	.00	14	6.7	.00
10	.00	.00	.00	.00	.00	.00	.00	16	4.0	14	6.9	.00
11	.00	.00	.00	.00	.00	.00	.21	16	12	13	7.2	.00
12	.00	.00	.00	.00	.00	.00	41	16	12	4.7	8.6	.00
13	.00	.00	.00	.00	.00	.00	46	16	11	.00	8.8	.00
14	.00	.00	.00	.00	.00	.00	81	15	11	4.9	9.7	.00
15	.00	.00	.00	.00	.00	.18	84	15	11	7.2	9.3	.00
16	.00	.00	.00	.00	.00	.00	71	15	15	7.4	9.2	.00
17	.00	.00	.00	.00	.00	.00	38	14	22	7.7	6.6	.00
18	.00	.00	.00	.00	.00	.00	31	16	16	7.6	.00	.00
19	.00	.00	.00	.00	.00	.00	28	56	14	7.6	.00	.00
20	.00	.00	.00	.00	.00	.10	80	11	13	7.3	.00	.00
21	.00	.00	.00	.00	.00	.00	94	.00	13	7.3	.00	.00
22	.00	.00	.00	.00	.14	.00	77	.00	13	7.2	.00	.00
23	.00	.00	.00	.00	.00	.00	31	.00	12	7.1	.00	.00
24	.00	.00	.00	.00	.00	.00	26	11	12	7.0	.00	.00
25	.00	.00	.00	23	.00	.13	26	14	12	7.1	.22	.00
26	.81	.00	.00	.43	.00	.00	24	14	12	7.3	3.4	.00
27	.00	.00	.00	.00	.00	.00	24	9.4	12	11	3.7	.00
28	.00	8.5	.00	.00	.00	.00	24	.00	13	9.0	4.0	.00
29	.00	.00	.00	.00	---	.00	18	.00	12	8.1	4.2	.00
30	.00	.00	.00	.00	---	4.6	3.9	.00	13	7.9	4.6	.00
31	.00	---	.00	5.4	---	1.8	---	.00	---	7.4	4.8	---
TOTAL	0.81	259.10	1.40	29.27	0.14	6.81	1186.11	469.00	282.69	298.80	151.82	3.40
MEAN	.026	8.64	.045	.94	.005	.22	39.5	15.1	9.42	9.64	4.90	.11
MAX	.81	67	1.4	23	.14	4.6	136	83	22	15	9.7	3.4
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	1.6	514	2.8	58	.3	14	2350	930	561	593	301	6.7
a	332	1020	336	644	174	629	3290	1190	850	798	498	187

a Combined discharge, in acre-feet, of creek and diversion.

11097000 BIG TUJUNGA CREEK BELOW HANSEN DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1948 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.53	7.84	3.92	40.4	97.1	82.3	28.9	25.0	7.35	2.69	2.16	3.20
MAX	32.2	153	65.3	742	1218	1387	252	446	81.1	52.4	33.1	41.4
(WY)	1984	1984	1984	1993	1993	1983	1983	1998	1998	1998	1998	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1948	1948	1950	1949	1949	1950	1950	1949	1948	1948	1948	1948

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1948 - 1999	
ANNUAL TOTAL	39629.60		2689.35			
ANNUAL MEAN	109		7.37		24.9	
HIGHEST ANNUAL MEAN					224	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	4760	Feb 24	136	Apr 7	11400	Mar 2 1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1947
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 1	.00	Oct 1	.00	Oct 1 1947
INSTANTANEOUS PEAK FLOW			235		15200	
INSTANTANEOUS PEAK STAGE			1.55		7.64	
ANNUAL RUNOFF (AC-FT)	78610		5330		18030	
10 PERCENT EXCEEDS	248		16		20	
50 PERCENT EXCEEDS	20		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 mi².

PERIOD OF RECORD.—December 1910 to January 1913 (fragmentary), April 1913 to November 1915, April 1916 to current year.

REVISED RECORDS.—WSP 1315-B: 1914(M), 1918(M), 1920–21(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder. Broad-crested weir since November 1938. Datum of gage is 1,397.88 ft above sea level. 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.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. See schematic diagram of San Gabriel and Los Angeles River Basins.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,620 ft³/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 ft³/s, or maximum, from rating curve extended above 1,170 ft³/s on basis of slope-area measurement of peak flow:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	2145	62	2.34				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	3.1	3.8	3.1	7.2	3.3	3.3	3.6	1.9	1.0	.55	e.31
2	3.8	3.1	3.9	3.0	5.5	3.2	3.6	3.5	6.1	1.0	.51	e.31
3	4.0	3.0	4.1	2.9	4.9	3.2	3.5	3.6	4.9	1.1	.46	e.30
4	4.1	2.9	4.4	2.8	4.5	3.5	3.2	3.5	3.4	1.0	.47	e.30
5	4.0	2.9	3.9	2.9	5.1	3.4	3.0	3.2	2.7	.93	.52	e.30
6	3.6	3.1	4.0	2.9	4.6	3.4	7.8	2.9	2.4	.88	.60	e.29
7	3.6	3.1	3.8	2.9	4.4	3.3	13	2.7	2.4	.85	.58	e.29
8	3.6	4.5	3.7	2.9	4.3	3.2	9.3	2.8	2.3	.89	.53	e.29
9	3.8	3.9	3.1	2.9	18	3.3	8.4	2.9	1.9	.85	.47	.29
10	3.7	3.3	3.1	2.8	17	3.3	6.4	2.8	1.9	.74	.44	.28
11	3.3	3.5	3.3	2.8	8.3	3.3	6.3	2.7	1.9	.69	.44	.29
12	3.1	3.7	3.4	2.8	6.7	3.3	12	2.5	1.8	.64	.41	.29
13	3.1	3.3	3.4	2.9	5.7	3.0	10	2.5	1.8	.62	.38	.28
14	3.1	3.2	3.4	2.8	5.1	2.9	8.6	2.5	1.9	.65	.38	.27
15	3.1	3.2	3.1	2.8	4.9	6.4	6.9	2.5	1.8	.68	.39	.30
16	3.0	3.2	2.9	2.7	4.7	5.5	5.8	2.4	1.7	.64	.36	.31
17	2.9	3.2	3.0	2.7	4.5	4.0	5.1	2.2	e1.6	.63	.33	.32
18	2.9	3.4	3.3	2.8	4.3	3.6	4.9	2.1	e1.5	.61	.33	.40
19	2.9	3.3	3.7	2.8	4.3	3.4	5.3	2.1	e1.4	.61	.34	.37
20	2.9	3.2	3.7	3.5	4.2	4.0	4.7	2.3	e1.3	.59	.32	.31
21	2.9	3.1	3.5	3.3	3.9	3.9	4.2	2.4	1.3	.60	.32	.28
22	2.8	2.8	3.4	3.0	3.7	3.3	4.3	2.7	1.2	.58	.33	.31
23	2.8	3.0	3.4	2.8	3.7	3.2	4.4	3.0	1.1	.57	.32	.30
24	2.9	3.0	3.3	2.8	3.5	3.3	4.4	2.9	1.0	.56	.30	.31
25	3.0	3.0	3.2	7.6	3.5	4.3	4.1	2.5	1.0	.58	.30	.30
26	3.1	2.9	3.1	11	3.6	4.6	3.8	2.2	1.0	.57	.29	.30
27	3.3	2.8	3.1	9.7	3.5	3.6	3.6	2.1	1.0	.56	.30	.31
28	3.3	9.2	3.1	6.2	3.5	3.3	3.6	1.9	.95	.58	.29	.30
29	3.3	6.2	3.1	5.0	---	3.1	3.5	1.9	.92	.56	.29	.30
30	3.2	4.1	3.0	4.3	---	3.1	3.7	2.0	.96	.53	.32	.29
31	3.1	---	3.0	7.6	---	3.1	---	2.0	---	.54	.32	---
TOTAL	102.1	106.2	106.2	121.0	157.1	111.3	170.7	80.9	57.03	21.83	12.19	9.10
MEAN	3.29	3.54	3.43	3.90	5.61	3.59	5.69	2.61	1.90	.70	.39	.30
MAX	4.1	9.2	4.4	11	18	6.4	13	3.6	6.1	1.1	.60	.40
MIN	2.8	2.8	2.9	2.7	3.5	2.9	3.0	1.9	.92	.53	.29	.27
AC-FT	203	211	211	240	312	221	339	160	113	43	24	18

e Estimated.

11098000 ARROYO SECO NEAR PASADENA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.18	3.89	8.82	18.7	33.7	28.4	14.2	7.29	3.56	1.72	1.03	1.06
MAX	8.54	97.4	132	251	344	235	91.5	77.1	22.9	10.7	7.70	8.26
(WY)	1984	1966	1922	1969	1914	1938	1941	1998	1998	1969	1983	1976
MIN	.000	.060	.12	.58	.93	1.16	.69	.50	.35	.042	.000	.000
(WY)	1927	1934	1991	1991	1924	1961	1961	1961	1961	1960	1925	1925

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1911 - 1999

ANNUAL TOTAL		10363.6		1055.65								
ANNUAL MEAN		28.4		2.89						10.2		
HIGHEST ANNUAL MEAN										57.8		1969
LOWEST ANNUAL MEAN										.75		1951
HIGHEST DAILY MEAN			1530	Feb 23		18	Feb 9		3690		Feb 20	1914
LOWEST DAILY MEAN			2.1	Jan 1		.27	Sep 14		.00		Aug 18	1920
ANNUAL SEVEN-DAY MINIMUM			2.9	Oct 17		.28	Sep 8		.00		Aug 18	1920
INSTANTANEOUS PEAK FLOW						62	Feb 9		8620		Mar 2	1938
INSTANTANEOUS PEAK STAGE						2.34	Feb 9		9.42		Mar 2	1938
ANNUAL RUNOFF (AC-FT)			20560			2090			7380			
10 PERCENT EXCEEDS			59			4.9			16			
50 PERCENT EXCEEDS			6.6			3.0			1.9			
90 PERCENT EXCEEDS			3.1			.32			.20			

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 mi².

PERIOD OF RECORD.—February 1956 to current year.

GAGE.—Water-stage recorder. Concrete trapezoidal channel. Datum of gage is 217.8 ft above sea level.

REMARKS.—Records fair. 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 upstream from station for domestic use and irrigation. Los Angeles County Department of Public Works diverted 1,570 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 provided by the Los Angeles County Department of Public Works.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 18,200 ft³/s, Feb. 16, 1980, gage height, 7.35 ft; no flow for some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.4	11	1.1	20	1.2	11	1.2	2.5	2.2	1.1	2.4
2	1.4	1.5	1.8	1.1	34	23	6.4	1.3	401	2.0	1.1	1.8
3	1.1	1.3	3.8	2.9	22	59	1.1	2.3	45	1.3	1.2	1.9
4	.93	1.2	3.5	1.7	22	46	.79	1.6	6.2	.91	1.2	2.0
5	.95	1.1	4.4	1.4	88	34	5.6	1.2	3.2	.94	1.0	1.6
6	1.4	1.4	21	2.3	15	23	609	1.1	3.1	1.8	.99	1.4
7	.82	1.4	.68	1.5	8.1	16	218	1.2	2.7	2.1	.93	2.2
8	.78	195	.47	1.2	8.8	6.6	12	1.2	2.1	4.4	.81	1.4
9	.92	1.5	.76	1.0	317	3.7	4.3	1.8	2.1	2.0	.99	1.7
10	1.1	1.2	.79	3.5	20	1.9	1.1	1.2	1.9	2.1	1.1	1.3
11	1.2	7.9	.74	2.0	17	1.5	340	1.4	2.0	1.8	1.2	1.5
12	1.1	1.3	.76	1.3	12	1.0	128	1.1	1.4	1.3	1.2	1.4
13	1.3	1.2	.70	1.5	8.1	1.0	2.1	1.3	1.2	1.3	1.1	1.6
14	1.4	1.2	.93	2.1	6.5	.95	62	1.1	1.9	1.6	1.1	1.4
15	1.4	1.1	.73	1.9	4.6	296	94	1.2	2.0	1.1	1.5	1.6
16	1.4	1.3	2.4	1.2	3.6	2.3	55	1.3	1.9	1.3	1.5	2.2
17	1.2	1.7	4.6	1.3	2.9	1.1	35	1.0	1.1	1.0	1.9	1.7
18	1.1	8.5	3.7	2.9	2.5	1.4	25	1.0	1.4	.98	1.6	1.9
19	1.0	13	4.7	1.5	2.1	3.3	11	1.1	1.1	1.1	1.9	1.5
20	1.2	9.6	4.2	37	1.7	53	4.1	1.1	1.3	2.6	1.9	2.7
21	1.2	7.4	4.2	1.4	1.3	1.1	2.6	1.2	1.3	3.8	3.3	1.6
22	1.0	5.9	2.2	1.8	2.3	1.4	10	4.7	1.2	2.9	1.9	2.4
23	1.4	4.4	1.5	1.3	1.4	1.1	58	17	1.8	1.0	2.4	2.0
24	1.6	3.6	1.0	1.3	1.5	.94	31	1.6	1.3	1.0	2.4	1.9
25	1.2	2.4	.68	209	1.2	98	27	1.8	1.4	1.0	2.2	1.6
26	1.8	2.8	1.2	486	1.3	3.0	30	1.4	1.6	1.1	2.6	1.4
27	3.0	1.2	1.2	6.8	1.2	2.3	31	1.4	1.3	1.3	2.3	1.1
28	1.2	350	1.3	1.0	1.2	.90	22	2.2	1.8	1.5	2.4	1.0
29	1.3	2.8	1.8	.89	---	1.1	14	1.3	1.4	1.3	2.1	1.0
30	1.3	2.0	1.7	.93	---	3.4	3.0	1.2	1.7	.98	1.2	.99
31	1.2	---	1.4	247	---	5.7	---	.99	---	1.2	1.5	---
TOTAL	38.90	636.3	89.84	1027.82	627.3	694.89	1854.09	60.49	499.9	50.91	49.62	50.19
MEAN	1.25	21.2	2.90	33.2	22.4	22.4	61.8	1.95	16.7	1.64	1.60	1.67
MAX	3.0	350	21	486	317	296	609	17	401	4.4	3.3	2.7
MIN	.78	1.1	.47	.89	1.2	.90	.79	.99	1.1	.91	.81	.99
AC-FT	77	1260	178	2040	1240	1380	3680	120	992	101	98	100

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.5	38.8	45.6	94.6	152	100	40.1	27.6	26.1	17.4	9.44	11.3
MAX	253	284	178	834	860	796	236	260	166	187	112	109
(WY)	1984	1966	1978	1993	1969	1983	1983	1998	1996	1983	1991	1982
MIN	.59	.087	.49	.95	.34	.31	.47	.41	.13	.26	.035	.097
(WY)	1978	1957	1959	1976	1961	1956	1977	1959	1956	1956	1956	1956

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1956 - 1999

ANNUAL TOTAL	40952.22	5680.25	
ANNUAL MEAN	112	15.6	48.2
HIGHEST ANNUAL MEAN			187
LOWEST ANNUAL MEAN			6.01
HIGHEST DAILY MEAN	4590	Feb 23	609
LOWEST DAILY MEAN	.47	Dec 8	.47
ANNUAL SEVEN-DAY MINIMUM	.70	Dec 7	.70
INSTANTANEOUS PEAK FLOW			6230
INSTANTANEOUS PEAK STAGE			4.41
ANNUAL RUNOFF (AC-FT)	81230	11270	34940
10 PERCENT EXCEEDS	317	21	93
50 PERCENT EXCEEDS	2.4	1.5	1.9
90 PERCENT EXCEEDS	1.1	1.0	.50

11102300 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 mi².

PERIOD OF RECORD.—October 1966 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 175 ft above sea level, from topographic map.

REMARKS.—Records good except for discharges below 500 ft³/s, which are poor. 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.

COOPERATION.—Discharge records for current year provided by Los Angeles County Department of Public Works for the following dates: Oct. 1 to Nov. 7, Nov. 9–27, Nov. 29 to Jan. 19, Jan. 21–24, Jan. 27–30, Feb. 1–4, 6–8, Feb. 10 to Mar. 14, Mar. 16 to Apr. 5, 7–10, Apr. 12 to June 1, and June 3 to Sept. 30.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 38,800 ft³/s, Jan. 25, 1969, gage height, 13.82 ft, from rating curve extended above 15,000 ft³/s on basis of gate openings at dam at gage heights 12.32 and 13.82 ft; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	3.8	34	45	30	97	87	.00	74	.40	18	15
2	87	4.7	30	46	47	104	116	.00	204	.43	19	2.0
3	62	3.4	18	51	61	140	97	.00	1.5	.39	36	1.5
4	76	3.0	26	51	100	133	94	.00	1.5	.40	34	1.5
5	95	2.3	23	67	176	123	100	.00	1.5	.42	29	1.5
6	59	2.6	68	87	55	83	804	.00	1.5	.43	27	1.5
7	86	2.5	51	100	44	60	212	.00	.50	.42	23	1.5
8	100	386	60	102	53	92	52	.00	.00	.61	25	1.5
9	101	.00	43	99	298	92	110	.00	.00	.50	29	1.5
10	100	5.4	50	107	93	90	94	.00	.00	.48	25	1.5
11	101	29	50	111	104	87	422	.00	.00	.49	23	1.5
12	108	18	53	107	70	86	263	.00	.00	10	26	1.5
13	102	15	57	104	56	83	66	.00	.00	23	26	1.5
14	103	14	52	102	53	73	109	.00	.00	30	25	2.5
15	103	13	38	97	51	351	131	.00	.00	21	21	30
16	104	14	45	96	46	45	76	.00	.35	32	20	35
17	107	33	43	95	33	101	53	.00	.38	26	24	35
18	106	97	45	101	15	77	48	.00	.36	30	26	35
19	110	111	53	67	14	16	71	.00	.36	33	31	35
20	106	113	52	223	14	59	95	.00	.35	32	28	35
21	102	109	55	19	13	15	99	.00	.36	27	31	23
22	100	108	42	17	41	39	86	.00	.48	26	20	15
23	102	110	47	16	74	95	113	.00	.47	23	17	35
24	99	111	39	15	87	88	98	.00	.55	25	28	35
25	100	104	38	252	87	100	94	.00	.44	46	28	35
26	109	73	38	566	84	26	99	.00	.51	36	23	35
27	108	91	36	247	73	16	117	.00	.33	33	24	35
28	66	667	42	101	72	15	113	.00	.43	29	21	35
29	8.9	50	47	88	---	17	77	.00	.45	23	6.3	35
30	7.4	21	48	56	---	15	.09	.00	.43	19	5.5	35
31	9.9	---	48	236	---	19	---	.00	---	23	5.2	---
TOTAL	2638.2	2314.70	1371	3471	1944	2437	3996.09	0.00	290.75	551.97	724.0	559.0
MEAN	85.1	77.2	44.2	112	69.4	78.6	133	.000	9.69	17.8	23.4	18.6
MAX	110	667	68	566	298	351	804	.00	204	46	36	35
MIN	7.4	.00	18	15	13	15	.09	.00	.00	.39	5.2	1.5
AC-FT	5230	4590	2720	6880	3860	4830	7930	.00	577	1090	1440	1110

11102300 RIO HONDO BELOW WHITTIER NARROWS DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	103	139	160	352	527	348	120	114	104	71.9	54.5	73.7
MAX	302	362	522	2378	3459	2265	371	323	355	205	244	413
(WY)	1984	1992	1992	1993	1969	1983	1983	1998	1992	1993	1991	1991
MIN	.001	7.08	10.3	29.2	22.1	15.6	4.25	.000	.093	1.10	2.57	.13
(WY)	1978	1978	1977	1976	1984	1972	1977	1999	1977	1972	1995	1972

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1967 - 1999	
ANNUAL TOTAL	87452.20		20297.71			
ANNUAL MEAN	240		55.6		179	
HIGHEST ANNUAL MEAN					638	
LOWEST ANNUAL MEAN					40.9	
HIGHEST DAILY MEAN	8120	Feb 24	804	Apr 6	21200	Mar 2 1983
LOWEST DAILY MEAN	.00	Apr 29	.00	Nov 9	.00	Oct 29 1966
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 26	.00	May 1	.00	Sep 10 1969
INSTANTANEOUS PEAK FLOW			2560		38800	
INSTANTANEOUS PEAK STAGE			3.59		13.82	
ANNUAL RUNOFF (AC-FT)	173500		40260		129500	
10 PERCENT EXCEEDS	453		107		254	
50 PERCENT EXCEEDS	71		35		79	
90 PERCENT EXCEEDS	4.7		.00		3.1	

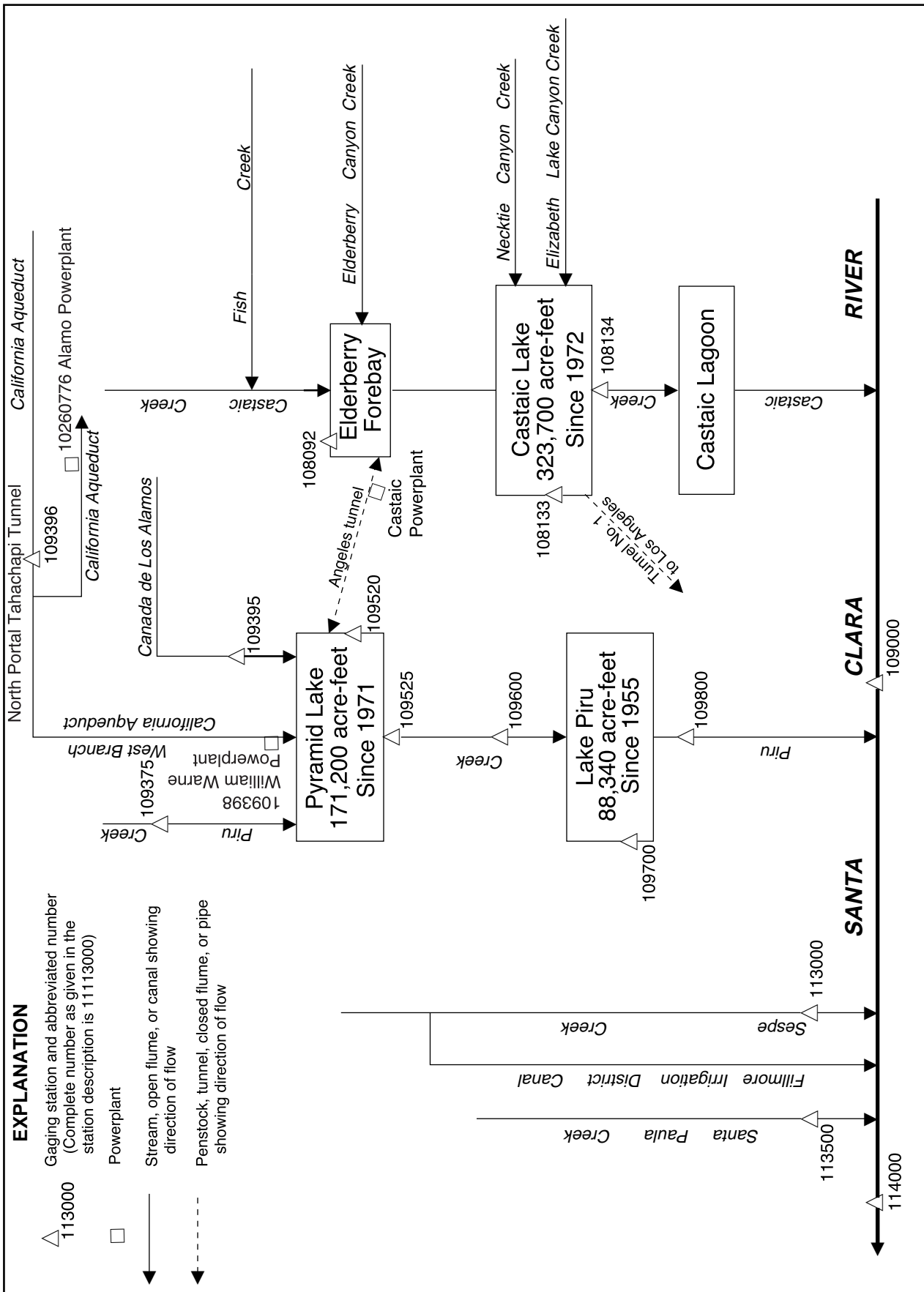


Figure 19. Diversions and storage in Santa Clara River Basin.

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA

LOCATION.—Lat 34°10'46", long 119°02'20", in Guadaluca Grant, Ventura County, Hydrologic Unit 18070103, on downstream side of county road bridge, 1.0 mi northeast of Camarillo State Hospital, and 1.4 mi downstream from Conejo Creek.

DRAINAGE AREA.—248 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—Water years 1969-83, October 1996 to current year.

GAGE.—Water-stage recorder. Datum of gage is 58.42 ft above sea level (levels by Ventura County Flood Control District).

REMARKS.—No regulation above station. Pumping for irrigation in valley 1.0 mi above station. Sustained flow from city of Thousand Oaks reclamation plant.

COOPERATION.—Records were furnished by Ventura County Flood Control District and reviewed by U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 25,900 ft³/s, Mar. 1, 1983, gage height, 10.08 ft; maximum gage height, 10.54 ft, Feb. 16, 1980, from rating curve extended above 4,600 ft³/s on basis of slope-conveyance study of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 11	2330	1,590	3.38				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	22	67	53	45	37	21	23	33	19	16	17
2	19	22	41	23	33	38	23	24	39	19	16	20
3	21	22	27	24	30	37	23	22	45	19	19	17
4	23	20	30	24	29	36	23	21	32	20	15	14
5	22	20	42	23	51	35	21	22	27	18	18	17
6	21	22	59	24	43	29	47	25	29	19	17	18
7	21	20	41	24	37	29	44	23	31	17	14	18
8	24	69	29	24	36	30	29	27	28	17	17	18
9	22	26	25	24	117	42	27	27	29	18	15	19
10	19	22	22	35	76	34	26	25	26	17	13	17
11	24	28	23	27	32	42	222	25	31	21	14	17
12	20	26	24	25	30	40	355	29	35	18	19	16
13	20	21	23	28	31	33	39	28	35	18	18	19
14	21	21	27	20	31	31	32	29	29	13	17	16
15	22	24	24	20	29	166	31	26	21	15	19	13
16	21	23	25	27	27	59	29	25	28	14	21	14
17	24	20	29	31	28	34	24	26	26	15	18	13
18	24	21	26	31	30	29	21	27	30	16	18	15
19	22	21	27	30	28	29	23	26	28	18	21	16
20	22	21	27	43	32	125	25	27	29	16	23	15
21	21	19	26	40	32	47	23	28	25	16	15	16
22	23	21	24	33	31	34	23	29	23	16	19	19
23	22	22	25	33	30	34	26	32	21	17	18	16
24	29	16	24	39	26	36	24	31	23	18	17	15
25	26	13	22	179	27	299	23	30	23	20	16	17
26	23	12	25	88	30	117	23	29	19	17	14	19
27	21	13	25	143	33	40	26	30	23	14	13	19
28	20	84	25	34	39	34	24	32	18	14	13	17
29	21	28	24	33	---	30	21	35	19	15	17	18
30	21	23	23	31	---	28	21	35	17	18	19	15
31	21	---	54	164	---	25	---	35	---	19	16	---
TOTAL	680	742	935	1377	1043	1659	1319	853	822	531	525	500
MEAN	21.9	24.7	30.2	44.4	37.2	53.5	44.0	27.5	27.4	17.1	16.9	16.7
MAX	29	84	67	179	117	299	355	35	45	21	23	20
MIN	19	12	22	20	26	25	21	21	17	13	13	13
AC-FT	1350	1470	1850	2730	2070	3290	2620	1690	1630	1050	1040	992

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1969 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	12.4	27.4	48.7	101	180	111	25.0	18.0	13.0	10.8	10.5	13.2
MAX	33.5	119	227	462	1147	677	72.4	73.0	33.7	24.5	23.6	36.4
(WY)	1997	1971	1998	1969	1998	1983	1983	1998	1998	1983	1983	1983
MIN	1.83	2.61	2.84	3.94	5.61	6.17	3.45	1.83	1.20	.47	.090	1.07
(WY)	1971	1969	1969	1970	1971	1972	1970	1970	1971	1971	1970	1970

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1969 - 1999	
ANNUAL TOTAL	48189		10986			
ANNUAL MEAN	132		30.1		46.9	
HIGHEST ANNUAL MEAN					149	
LOWEST ANNUAL MEAN					8.46	
HIGHEST DAILY MEAN	5150	Feb 23	355	Apr 12	9690	Mar 1 1983
LOWEST DAILY MEAN	12	Nov 26	12	Nov 26	.00	Apr 24 1970
ANNUAL SEVEN-DAY MINIMUM	17	Nov 21	15	Sep 14	.00	Jul 19 1970
INSTANTANEOUS PEAK FLOW			1590	Apr 11	25900	Mar 1 1983
INSTANTANEOUS PEAK STAGE			3.38	Apr 11	10.54	Feb 16 1980
ANNUAL RUNOFF (AC-FT)	95580		21790		33950	
10 PERCENT EXCEEDS	152		39		42	
50 PERCENT EXCEEDS	30		24		13	
90 PERCENT EXCEEDS	20		16		2.5	

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1969–78, October 1996 to current year.

WATER TEMPERATURES: Water years 1971–78, October 1996 to current year.

SEDIMENT RECORDS: Water years 1969–78, October 1996 to current year.

PERIOD OF DAILY RECORD.—Water years 1969–78, October 1996 to current year.

SEDIMENT RECORDS: Water years 1969–78, October 1996 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SEDIMENT CONCENTRATIONS: Maximum daily mean, 62,900 mg/L, Jan. 25, 1969; minimum daily mean, no flow for many days.

SEDIMENT DISCHARGE: Maximum daily, 1,700,000 tons, Jan. 25, 1969; minimum daily, 0 ton on many days during most years.

EXTREMES FOR CURRENT YEAR.—

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,040 mg/L, Mar. 25; minimum daily mean, 15 mg/L, Apr. 29.

SEDIMENT DISCHARGE: Maximum daily, 1,430 tons, Apr. 12; minimum daily, 0.64 ton, Sept. 17.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.5	---	14.0	---	10.0	---	---	---	22.0	27.0	---	---
2	---	---	---	---	18.0	23.0	---	18.0	---	---	---	---
3	24.0	19.0	16.0	---	17.0	20.0	17.0	21.5	---	---	---	---
4	---	16.0	15.0	15.0	13.0	---	---	---	---	---	---	---
5	22.0	---	13.0	---	13.0	---	---	25.0	---	28.0	21.5	---
6	---	18.0	---	9.5	---	---	15.0	---	---	29.0	---	---
7	---	---	---	---	17.0	---	18.0	---	26.0	26.0	---	---
8	---	18.0	14.5	12.0	---	13.0	---	---	---	---	---	---
9	23.0	---	---	---	15.0	14.0	---	---	---	---	---	---
10	---	---	8.0	15.0	---	---	---	27.0	---	28.0	---	---
11	21.0	---	---	---	---	16.0	12.0	---	23.0	---	---	---
12	---	---	13.0	16.0	---	---	---	26.0	---	29.0	---	---
13	16.0	---	---	---	---	20.0	---	---	---	---	---	---
14	17.0	---	13.0	---	---	---	11.0	---	27.0	28.0	---	---
15	15.5	---	---	11.0	18.0	12.0	---	---	---	---	---	---
16	---	18.0	11.0	---	---	---	---	---	---	27.0	---	---
17	19.0	---	---	---	---	13.0	---	---	27.0	---	---	---
18	---	---	16.0	17.0	---	---	---	---	---	---	---	---
19	14.0	---	15.0	19.0	14.0	---	---	27.0	---	---	---	---
20	14.0	17.0	---	16.0	---	10.0	---	---	25.0	19.0	---	---
21	---	---	9.0	---	---	---	23.0	22.0	---	---	---	---
22	17.5	---	---	---	19.0	---	---	---	28.0	26.0	---	---
23	---	---	---	15.0	---	---	---	19.0	---	---	---	---
24	---	13.0	---	16.0	---	---	---	---	---	---	---	---
25	22.0	---	---	14.5	---	14.0	---	24.0	---	---	---	---
26	---	17.0	---	---	15.0	---	---	---	---	---	---	---
27	---	---	16.0	15.0	---	---	---	---	---	---	---	---
28	---	3.0	---	---	---	---	---	22.0	20.0	---	---	---
29	16.0	---	15.0	17.0	---	---	24.0	---	---	---	---	---
30	---	17.0	---	---	---	---	---	---	28.0	---	---	---
31	16.0	---	13.0	---	---	---	---	---	---	25.0	---	---

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	20	43	2.4	22	35	2.1	67	409	109
2	19	35	1.8	22	29	1.7	41	192	26
3	21	28	1.7	22	25	1.4	27	35	2.6
4	23	27	1.6	20	21	1.1	30	30	2.4
5	22	26	1.5	20	27	1.5	42	202	25
6	21	26	1.5	22	39	2.3	59	400	63
7	21	26	1.5	20	38	2.0	41	149	17
8	24	27	1.8	69	458	128	29	45	3.6
9	22	29	1.7	26	48	3.3	25	32	2.2
10	19	31	1.6	22	34	2.0	22	34	2.0
11	24	33	2.2	28	77	6.9	23	39	2.4
12	20	36	1.9	26	120	8.5	24	46	3.0
13	20	39	2.1	21	74	4.2	23	54	3.3
14	21	41	2.3	21	73	4.2	27	62	4.5
15	22	45	2.7	24	73	4.7	24	62	4.0
16	21	51	2.9	23	72	4.5	25	61	4.1
17	24	58	3.7	20	59	3.2	29	60	4.7
18	24	53	3.4	21	46	2.6	26	58	4.1
19	22	46	2.8	21	45	2.6	27	49	3.6
20	22	40	2.4	21	47	2.6	27	47	3.4
21	21	37	2.1	19	41	2.1	26	47	3.2
22	23	35	2.2	21	34	1.9	24	46	2.9
23	22	32	2.0	22	28	1.7	25	45	3.1
24	29	30	2.4	16	24	1.1	24	45	2.9
25	26	28	2.0	13	22	.78	22	44	2.6
26	23	27	1.6	12	20	.67	25	44	3.0
27	21	25	1.4	13	19	.64	25	44	2.9
28	20	23	1.3	84	656	248	25	49	3.3
29	21	23	1.3	28	107	9.1	24	56	3.6
30	21	30	1.7	23	75	4.6	23	50	3.2
31	21	37	2.1	---	---	---	54	42	6.1
TOTAL	680	---	63.6	742	---	459.99	935	---	326.7
	JANUARY			FEBRUARY			MARCH		
1	53	40	5.7	45	85	11	37	117	12
2	23	38	2.3	33	48	4.2	38	122	12
3	24	36	2.4	30	35	2.8	37	50	5.0
4	24	35	2.3	29	33	2.6	36	42	4.1
5	23	52	3.2	51	156	26	35	44	4.2
6	24	62	4.2	43	60	8.7	29	47	3.7
7	24	44	2.9	37	38	3.8	29	46	3.6
8	24	43	2.8	36	38	3.6	30	36	2.9
9	24	64	4.1	117	396	268	42	132	19
10	35	88	8.2	76	220	73	34	105	10
11	27	57	4.1	32	33	2.8	42	139	18
12	25	33	2.3	30	33	2.6	40	133	15
13	28	34	2.5	31	33	2.7	33	58	5.1
14	20	40	2.1	31	33	2.8	31	56	4.7
15	20	45	2.4	29	33	2.6	166	652	465
16	27	41	3.1	27	31	2.3	59	289	51
17	31	38	3.2	28	30	2.3	34	48	4.6
18	31	35	2.9	30	28	2.3	29	40	3.1
19	30	38	3.1	28	28	2.1	29	40	3.1
20	43	37	4.3	32	31	2.7	125	278	106
21	40	34	3.6	32	36	3.1	47	74	10
22	33	31	2.7	31	41	3.4	34	49	4.5
23	33	28	2.5	30	47	3.8	34	43	4.0
24	39	37	4.9	26	54	3.7	36	43	4.1
25	179	1010	603	27	62	4.5	299	1040	1410
26	88	403	123	30	71	5.7	117	514	231
27	143	474	355	33	83	7.6	40	80	8.9
28	34	82	7.5	39	99	10	34	54	4.9
29	33	76	6.8	---	---	---	30	48	3.9
30	31	70	5.8	---	---	---	28	43	3.3
31	164	604	403	---	---	---	25	38	2.6
TOTAL	1377	---	1585.9	1043	---	470.7	1659	---	2439.3

11106550 CALLEGUAS CREEK AT CAMARILLO STATE HOSPITAL, CA—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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	21	37	2.1	23	17	1.0	33	23	2.1
2	23	37	2.3	24	19	1.2	39	70	7.7
3	23	37	2.3	22	32	1.9	45	192	25
4	23	34	2.1	21	31	1.7	32	103	9.1
5	21	32	1.8	22	25	1.5	27	32	2.3
6	47	108	17	25	24	1.6	29	30	2.3
7	44	90	11	23	24	1.5	31	33	2.8
8	29	78	6.2	27	24	1.8	28	37	2.8
9	27	67	5.0	27	24	1.8	29	42	3.3
10	26	58	4.0	25	24	1.6	26	48	3.4
11	222	507	1340	25	24	1.6	31	51	4.2
12	355	689	1430	29	24	1.9	35	37	3.5
13	39	49	5.2	28	25	1.9	35	26	2.4
14	32	46	4.0	29	25	1.9	29	19	1.5
15	31	44	3.7	26	25	1.7	21	23	1.3
16	29	41	3.2	25	25	1.7	28	32	2.4
17	24	39	2.5	26	25	1.8	26	43	3.0
18	21	37	2.1	27	25	1.8	30	41	3.3
19	23	35	2.2	26	25	1.8	28	36	2.7
20	25	33	2.2	27	31	2.2	29	31	2.5
21	23	31	1.9	28	40	3.0	25	26	1.7
22	23	29	1.8	29	60	4.7	23	21	1.3
23	26	26	1.9	32	85	7.3	21	22	1.2
24	24	24	1.6	31	67	5.7	23	24	1.5
25	23	22	1.4	30	46	3.7	23	27	1.6
26	23	20	1.3	29	42	3.3	19	30	1.5
27	26	18	1.3	30	40	3.2	23	33	2.0
28	24	17	1.1	32	38	3.3	18	34	1.7
29	21	15	.88	35	35	3.3	19	28	1.4
30	21	16	.89	35	32	3.0	17	24	1.1
31	---	---	---	35	29	2.7	---	---	---
TOTAL	1319	---	2862.97	853	---	77.1	822	---	102.6
		JULY			AUGUST			SEPTEMBER	
1	19	41	2.1	16	43	1.9	17	19	.86
2	19	45	2.3	16	43	1.9	20	19	1.0
3	19	44	2.3	19	42	2.2	17	19	.89
4	20	42	2.3	15	42	1.6	14	19	.70
5	18	41	2.0	18	41	2.0	17	19	.87
6	19	36	1.9	17	41	1.9	18	19	.92
7	17	35	1.6	14	40	1.6	18	19	.93
8	17	34	1.6	17	40	1.8	18	19	.94
9	18	34	1.6	15	39	1.6	19	19	.98
10	17	33	1.5	13	39	1.3	17	19	.89
11	21	32	1.8	14	38	1.4	17	19	.85
12	18	31	1.5	19	38	1.9	16	19	.82
13	18	37	1.7	18	37	1.8	19	19	.99
14	13	47	1.7	17	37	1.7	16	19	.82
15	15	48	2.0	19	36	1.8	13	19	.67
16	14	45	1.7	21	36	2.0	14	19	.70
17	15	42	1.7	18	37	1.8	13	19	.64
18	16	39	1.7	18	37	1.8	15	19	.77
19	18	36	1.7	21	37	2.1	16	19	.81
20	16	36	1.5	23	38	2.3	15	19	.78
21	16	42	1.8	15	38	1.5	16	19	.85
22	16	50	2.2	19	38	2.0	19	19	.95
23	17	52	2.4	18	39	1.9	16	19	.80
24	18	51	2.5	17	39	1.8	15	19	.76
25	20	50	2.7	16	39	1.7	17	19	.89
26	17	49	2.3	14	40	1.5	19	19	.99
27	14	48	1.9	13	40	1.5	19	19	.99
28	14	47	1.8	13	41	1.4	17	19	.86
29	15	46	1.8	17	40	1.9	18	19	.92
30	18	45	2.2	19	31	1.6	15	19	.79
31	19	44	2.2	16	21	.92	---	---	---
TOTAL	531	---	60.0	525	---	54.12	500	---	25.63
YEAR	10986		8528.61						

11108092 ELDERBERRY FOREBAY NEAR CASTAIC, CA

LOCATION.—Lat 34°33'46", long 118°37'58", in SW 1/4 SE 1/4 sec.36, T.6 N., R.17 W., Los Angeles County, Hydrologic Unit 18070102, Angeles National Forest, in outlet tower in Elderberry Forebay, and 5 mi north of Castaic.

PERIOD OF RECORD.—October 1995 to current year. Prior to October 1995 in files of California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is sea level (levels by Los Angeles Department of Water and Power).

REMARKS.—Forebay is formed by a concrete dam on Castaic Creek completed in 1974. Capacity, 32,476 acre-ft, at spillway crest on dam, at elevation 1,540 ft. Storage at normal minimum pool, 12,228 acre-ft, at elevation 1,490 ft. Forebay receives water from Pyramid Lake (station 11109520) via Castaic Powerplant. Water is pumped at times to Pyramid Lake during off-peak periods to be re-released through the powerplant. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were provided by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400 HOURS) FOR PERIOD OF RECORD.—Maximum contents, 30,720 acre-ft, June 7, 1996, elevation, 1,536.41 ft; minimum, 15,716 acre-ft, Feb. 9, 1996, elevation, 1,500.54 ft.

EXTREMES (AT 2400 HOURS) FOR CURRENT YEAR.—Maximum contents, 29,709 acre-ft, July 30, elevation, 1,534.31 ft; minimum, 15,877 acre-ft, Mar. 7, elevation, 1,501.00 ft.

Capacity table (elevation in feet, and contents, in acre-feet)
Based on table provided by California Department of Water Resources dated Jan. 27, 1995)

1,490	12,228	1,520	23,240
1,500	15,527	1,530	27,680
1,510	19,183	1,540	32,476

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23016	19338	19715	20676	18141	21881	19731	23339	19096	24706	22421	22736
2	25509	20974	20841	19610	19119	22384	23398	19637	17397	21185	22774	23245
3	24908	20644	22371	18536	21388	23875	21625	21396	18775	20421	23467	25829
4	20970	24339	22707	19793	22367	19575	20096	20135	21877	18612	24044	24039
5	20405	25968	22749	19946	23134	23126	20092	22703	20628	23394	24422	25362
6	21848	25709	21630	21152	21031	21564	21295	24921	18291	25731	25919	22660
7	22812	24113	23600	21918	18291	15877	20453	27298	21831	24308	24365	23369
8	23832	20608	22505	23356	19377	17947	25309	24217	21930	26121	18809	28155
9	24697	21169	23660	21572	20361	20572	23168	19134	24640	28450	21523	27913
10	22146	22451	23450	19054	21307	21621	23548	20278	25807	24763	23394	28183
11	18828	22484	23270	19104	21638	20092	20636	22593	28727	19934	23245	25469
12	20171	20520	22446	19238	21262	18604	21140	24877	25070	23810	23510	19188
13	22568	21893	18506	20345	20199	19315	20970	26004	19938	25825	26509	22812
14	23471	21124	17585	21523	16579	18089	23177	25397	22837	24653	23505	23970
15	22459	19958	18741	22854	17966	19746	22825	23617	22342	26080	19130	26877
16	24404	18197	20773	21319	18332	16104	21881	19590	23892	28803	22905	25624
17	21782	20021	22438	18070	18653	16308	23015	23416	24548	26121	23514	27663
18	17925	20187	22404	18329	19676	17714	21010	23100	27179	19031	27225	24439
19	25198	21560	20425	17284	19466	18445	22509	24317	23949	19852	28263	17832
20	24829	24052	19188	18242	19350	18805	24877	23966	18299	22753	28595	21761
21	26373	23845	22694	20001	19180	18310	22030	26577	19127	23845	26116	23458
22	26473	22724	23621	23092	19180	20246	23206	23527	22050	28076	21063	28963
23	26004	28737	24065	22079	18581	19447	24439	18748	24518	28011	23845	26627
24	23953	27069	24579	18059	18479	20167	23066	21893	25664	24274	24269	28812
25	18216	26049	21405	18855	18426	21490	19505	22350	27566	18646	24952	24130
26	23287	22455	22229	20045	19978	18179	22267	23096	23075	20841	26568	18801
27	22952	22034	19923	20437	21006	19797	21914	24287	18893	19911	27312	21679
28	22724	19211	20119	20817	21769	19715	21802	26080	22359	23334	24326	22539
29	22745	18231	20636	21753	---	16451	23759	26026	24195	25123	19770	25704
30	22846	19571	22606	20437	---	19180	24308	21572	25780	29709	21877	27032
31	20187	---	23070	17423	---	20286	---	18250	---	29394	21299	---
MAX	26473	28737	24579	23356	23134	23875	25309	27298	28727	29709	28595	28963
MIN	17925	18197	17585	17284	16579	15877	19505	18250	17397	18612	18809	17832
a	1512.57	1511.00	1519.60	1505.31	1516.49	1512.82	1522.48	1507.54	1525.82	1533.65	1515.34	1528.59
b	-1291	-616	+3419	-5647	+4346	-1483	+4022	-6058	+7530	+3614	-8095	+5733

CAL YR 1998 b +6992

WTR YR 1999 b +5554

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11108133 CASTAIC LAKE NEAR CASTAIC, CA

LOCATION.—Lat 34°31'22", long 118°36'43", in NW 1/4 NE 1/4 sec.13, T.5 N., R.16 W., Los Angeles County, Hydrologic Unit 18070102, in intake tower in Castaic Lake and 2.3 mi north of Castaic.

DRAINAGE AREA.—137 mi², excludes 18.1 mi² noncontributing area in Elizabeth Canyon Creek Basin.

PERIOD OF RECORD.—October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Lake is formed by earthfill dam. Storage began April 1972. Dead storage below outlet tower to downstream distribution system, 1,799 acre-ft, elevation, 1,213 ft. Capacity below spillway level, 323,699 acre-ft, elevation, 1,515 ft. Lake receives California Aqueduct water diverted from Pyramid Lake (station 11109520) via Castaic Powerplant to Elderberry Forebay (station 11108092). Water is released downstream through Castaic Tunnel No. 1 and to Castaic Lagoon. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (AT 2400 HOURS) FOR PERIOD OF RECORD.—Maximum contents, 322,962 acre-ft, Mar. 25, 1998, elevation, 1,514.67 ft; minimum, 142,325 acre-ft, Jan. 7, 1995, elevation, 1,415.48 ft.

EXTREMES (AT 2400 HOURS) FOR CURRENT YEAR.—Maximum contents, 307,536 acre-ft, Oct. 8, elevation, 1,507.66 ft; minimum, 228,494 acre-ft, Feb. 28, elevation, 1,468.12 ft.

Capacity table (elevation in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources in 1978)

1,450	196,414	1,490	270,629
1,460	213,807	1,500	291,186
1,470	231,964	1,510	310,451
1,480	250,894	1,520	334,985

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305178	294769	282939	270148	247274	229617	272847	297208	297144	287254	283290	284056
2	306150	294347	282733	269585	246641	230392	273535	296698	296465	286442	282361	285050
3	305523	294981	282320	268561	246010	229396	277152	296252	297868	285694	283435	285403
4	304509	294072	281846	268561	245608	235089	277948	298080	297485	285071	282382	284532
5	305869	293776	281414	258119	245035	234138	280550	297548	297038	284387	284201	283725
6	304919	293185	281167	267659	244654	233412	283063	299616	296443	283642	283270	284739
7	303475	292743	280735	267038	244025	237034	287712	299125	295998	285133	282341	285424
8	307536	292322	280735	266379	243150	238311	289614	298570	296762	284304	281393	284491
9	305027	291901	280735	265979	243150	237447	294051	298102	296125	285797	280468	286067
10	303733	291459	280529	265361	242561	238969	293207	297527	297485	285050	281949	287212
11	302873	290829	280529	264764	242087	241973	292511	298421	296783	284594	280961	286317
12	301799	291039	280324	263948	241708	241177	294283	297910	296210	283828	282444	285569
13	301799	290619	280119	262936	241121	240383	296359	298933	295574	283146	283745	284636
14	301370	290179	279708	261628	240591	240837	299573	298421	294918	283890	282815	285631
15	302185	289760	279073	260266	239817	240157	301756	297846	295680	283001	282011	284822
16	301285	289760	278438	258868	239440	242713	302486	297336	294918	284014	281085	286379
17	300407	289593	277887	257278	238781	247696	301606	296804	294325	283394	282692	287316
18	298954	289341	277254	255888	236959	250082	300492	298272	293671	282712	281702	286442
19	298443	288860	276846	254639	236491	252443	302293	297697	292975	284636	283766	285818
20	299530	288171	276418	253452	235929	252094	300963	299104	292301	283952	283890	284822
21	298443	287525	275746	252947	235238	251687	301563	298485	291670	285444	282960	286067
22	299018	287108	275340	252365	234492	251222	301778	298038	291039	284636	282093	285320
23	298272	286359	274771	251784	233654	253861	300557	297591	290410	285964	281229	287170
24	297421	285943	274142	251377	232650	256416	299317	297144	289593	284967	282960	286255
25	296677	285735	273737	250797	231594	259300	298080	297910	288840	284076	284760	285320
26	296677	285092	273332	250411	230540	262717	296911	297399	288025	284146	283766	284387
27	297102	284408	272908	249812	229488	262262	297229	298805	287149	285569	285818	283704
28	295574	284201	272504	249234	228494	261846	297719	298230	286400	284573	284428	284698
29	297527	283787	271838	248637	---	264226	297017	297591	286983	286317	283435	285943
30	296040	283352	271233	248253	---	267378	297591	297144	296171	285278	282506	288380
31	295828	---	270710	247657	---	268741	---	296571	---	284346	283249	---
MAX	307536	294981	282939	270148	247274	268741	302486	299616	297868	287254	285818	288380
MIN	295574	283352	270710	247657	228494	229396	272847	296252	286400	282712	280468	283704
a	1502.20	1496.24	1490.04	1478.32	1468.12	1489.06	1503.03	1502.55	1497.60	1496.72	1496.19	1498.66
b	-9955	-12476	-12642	-23053	-19163	+40247	+28850	-1020	-400	-11825	-1097	+5131

CAL YR 1998 b -16377

WTR YR 1999 b -17403

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11108134 CASTAIC CREEK RELEASE FLOW BELOW CASTAIC LAKE, NEAR CASTAIC, CA

LOCATION.—Lat 34°31'10", long 118°36'34", in NE 1/4 SE 1/4 sec.13, T.5 N., R.17 W., Los Angeles County, Hydrologic Unit 18070102, in outlet structure below Castaic Dam and 1.9 mi north of Castaic.

DRAINAGE AREA.—138 mi², excludes 18.1 mi² noncontributing area in Elizabeth Canyon Creek Basin.

PERIOD OF RECORD.—October 1994 to current year. Records for 1995 water year published as station 11108135. Records for station 11108135 for October 1976 to September 1978 and October 1988 to September 1994 are not equivalent at low flows due to evaporation and seepage.

GAGE.—Flow meters on outlet pipes. Elevation of gage is 1,200 ft above sea level, from topographic map.

REMARKS.—Flow regulated by Castaic Lake (station 11108133). See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 3080 ft³/s, Feb. 23,1998; no flow for many days each year.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge, 7,670 ft³/s, Mar. 2, 1983, at station 11108135; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	10	16	9	27	.00	15	13	15	.00	.00	.00
2	.00	11	16	10	22	.00	15	13	15	.00	.00	.00
3	.00	11	16	10	20	.00	38	13	15	.00	.00	.00
4	.00	11	16	10	20	.00	100	13	.00	.00	.00	.00
5	.00	11	16	10	20	.00	100	13	.00	.00	.00	.00
6	.00	11	16	10	20	.00	100	13	.00	.00	.00	.00
7	.00	11	16	10	20	.00	100	13	.00	.00	.00	.00
8	.00	11	16	10	20	.00	100	13	.00	.00	.00	.00
9	6	11	16	10	20	.00	100	13	.00	.00	.00	.00
10	6	11	16	10	20	.00	100	20	.00	.00	.00	.00
11	6	11	16	10	20	.00	100	22	.00	.00	.00	.00
12	6	11	15	10	20	.00	100	22	.00	.00	.00	.00
13	6	11	15	10	20	.00	100	22	.00	.00	.00	.00
14	6	11	15	10	20	.00	100	22	.00	.00	.00	.00
15	6	11	15	10	20	.00	90	22	.00	.00	.00	.00
16	6	11	15	10	20	.00	60	22	.00	.00	.00	.00
17	7	11	15	10	20	.00	30	22	.00	.00	.00	.00
18	7	11	15	10	.00	.00	30	22	.00	.00	.00	.00
19	7	11	15	10	.00	.00	30	22	.00	.00	.00	.00
20	7	11	15	10	.00	.00	30	22	.00	.00	.00	.00
21	7	11	15	10	.00	.00	30	22	.00	.00	.00	.00
22	7	11	15	10	.00	.00	20	22	.00	.00	.00	.00
23	7	11	14	10	.00	.00	20	22	.00	.00	.00	.00
24	7	11	14	10	.00	.00	20	22	.00	.00	.00	.00
25	7	11	14	10	.00	.00	20	22	.00	.00	.00	.00
26	7	11	14	10	.00	.00	19	22	.00	.00	.00	.00
27	7	11	14	10	.00	.00	10	22	10	.00	.00	.00
28	7	11	14	10	.00	.00	10	22	10	.00	.00	.00
29	7	11	14	10	---	.00	10	22	10	.00	.00	.00
30	7	11	14	10	---	.00	10	23	.00	.00	.00	.00
31	7	---	14	10	---	.00	---	23	---	.00	.00	---
TOTAL	153.00	329	467	309	349.00	0.00	1607	601	75.00	0.00	0.00	0.00
MEAN	4.94	11.0	15.1	9.97	12.5	.000	53.6	19.4	2.50	.000	.000	.000
MAX	7.0	11	16	10	27	.00	100	23	15	.00	.00	.00
MIN	.00	10	14	9.0	.00	.00	10	13	.00	.00	.00	.00
AC-FT	303	653	926	613	692	.00	3190	1190	149	.00	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1995 - 1999, BY WATER YEAR (WY)

MEAN	.99	2.19	4.03	5.85	72.4	63.4	45.3	30.7	6.27	11.3	7.40	1.56
MAX	4.94	11.0	15.1	19.3	352	175	81.4	123	28.0	34.2	29.9	7.80
(WY)	1999	1999	1999	1998	1998	1998	1996	1998	1995	1995	1995	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1995	1995	1995	1995	1995	1995	1995	1995	1996	1996	1996	1995

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1995 - 1999	
ANNUAL TOTAL	24105.80		3890.00			
ANNUAL MEAN	66.0		10.7		20.6	
HIGHEST ANNUAL MEAN					63.9	
LOWEST ANNUAL MEAN					7.60	
HIGHEST DAILY MEAN	3080	Feb 23	100	Apr 4	3080	Feb 23 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1994
ANNUAL SEVEN-DAY MINIMUM	.00	Feb 14	.00	Oct 1	.00	Oct 1 1994
ANNUAL RUNOFF (AC-FT)	47810		7720		14940	
10 PERCENT EXCEEDS	200		22		35	
50 PERCENT EXCEEDS	10		7.0		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

11109000 SANTA CLARA RIVER NEAR PIRU, CA

LOCATION.—Lat 34°24'13", long 118°44'18", in San Francisco Grant, Ventura County, Hydrologic Unit 18070102, on right downstream bank, on private property owned by Newhall Farms, 0.1 mi south of Highway 126, 3 mi east of Piru, and 8 mi west of intersection of Highway 126 and Interstate Highway 5.

DRAINAGE AREA.—645 mi².

PERIOD OF RECORD.—October 1927 to September 1932, October 1996 to current year.

GAGE.—Water-stage recorder and crest-stage gage.

REMARKS.—Records poor. Base flow affected by pumping from wells along stream for irrigation. Flow partly regulated since January 1972 by Castaic Lake (station 11108133), capacity, 323,700 acre-ft. Imported water from California Water Project stored and released at Castaic Dam. See schematic diagram of Santa Clara River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, unknown, Feb. 3, 1998, gage height, unknown; minimum daily, no flow for many days during the summers of 1929–32.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAILY MEAN VALUES

(NOT PREVIOUSLY PUBLISHED)

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e25	31	71	e20	e30	691	256	e54	e120	74	58	51
2	e25	36	63	e20	e500	e680	256	e54	e115	71	62	57
3	e26	31	60	e81	e10000	e650	252	e52	e115	71	63	43
4	e26	26	57	e103	e2500	e610	246	e52	e110	64	59	38
5	e26	24	e350	e93	e700	e590	245	1820	e110	62	57	52
6	e27	24	e940	e45	e1900	e570	251	2150	e105	66	60	47
7	e27	26	e220	e40	e5500	e550	252	e1200	e105	65	62	38
8	25	26	e100	e35	e3000	e520	259	e700	104	66	63	43
9	24	34	e55	e120	e1900	e510	261	e580	105	65	65	42
10	22	42	33	e1000	e1000	e490	251	e400	98	63	64	37
11	26	54	28	e400	e600	e470	249	e360	89	66	74	36
12	28	48	49	e180	e400	e450	244	e600	88	64	62	38
13	25	e40	36	e140	e750	e430	230	e1800	97	66	60	e39
14	22	e38	28	e120	e1300	e410	e210	e1500	93	65	59	e38
15	24	e38	25	e90	e990	e400	e180	e1000	e91	63	59	e37
16	25	e36	23	e45	e800	e390	e130	e800	e89	62	57	e42
17	24	e36	21	e40	e1600	e380	e100	e650	e86	60	55	e41
18	22	e36	e21	e35	e1400	e370	e85	e500	e84	61	57	e40
19	24	e34	e21	e35	e1200	e350	e75	e450	e82	62	57	e38
20	28	e34	e21	e30	e950	e330	e70	e400	e80	63	56	e35
21	30	e34	e21	e30	e800	e320	e68	e380	e78	67	58	e40
22	29	e32	e21	e28	e2700	e300	e67	e320	e76	65	53	e45
23	32	e32	e20	e28	e7000	e290	e66	e310	e73	62	54	e40
24	32	e32	e20	e26	e2000	e280	e65	e300	e71	61	54	e59
25	34	e30	e20	e24	915	e270	e64	e290	69	62	53	e56
26	37	e150	e20	e22	744	e270	e62	e220	67	61	52	e54
27	32	e67	e20	e20	738	e260	e60	e180	74	61	52	e46
28	28	e50	e20	e22	712	e250	e60	e140	64	61	52	e47
29	29	e48	e20	e25	---	e230	e58	e135	66	62	51	e42
30	27	e160	e20	e35	---	e240	e56	e125	74	62	49	e39
31	27	---	e20	e30	---	243	---	e120	---	61	46	---
TOTAL	838	1329	2444	2962	52629	12794	4728	17642	2678	1984	1783	1300
MEAN	27.0	44.3	78.8	95.5	1880	413	158	569	89.3	64.0	57.5	43.3
MAX	37	160	940	1000	10000	691	261	2150	120	74	74	59
MIN	22	24	20	20	30	230	56	52	64	60	46	35
AC-FT	1660	2640	4850	5880	104400	25380	9380	34990	5310	3940	3540	2580

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

MEAN	15.6	24.4	43.0	42.3	319	100	40.6	89.8	17.8	14.0	12.4	10.1
MAX	61.0	62.2	92.7	95.5	1880	413	158	569	89.3	64.0	57.5	43.3
(WY)	1997	1928	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	4.03	7.32	20.4	16.6	15.5	2.93	3.00	.000	.000	.000	.000
(WY)	1931	1931	1930	1929	1930	1931	1931	1930	1930	1930	1929	1930

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1928 - 1998

ANNUAL TOTAL	18543	103111	
ANNUAL MEAN	50.8	282	59.2
HIGHEST ANNUAL MEAN			282
LOWEST ANNUAL MEAN			8.04
HIGHEST DAILY MEAN	940	Dec 6	10000
LOWEST DAILY MEAN	11	Jun 2	20
ANNUAL SEVEN-DAY MINIMUM	13	May 29	20
INSTANTANEOUS PEAK FLOW			unknown
INSTANTANEOUS PEAK STAGE			unknown
ANNUAL RUNOFF (AC-FT)	36780	204500	42910
10 PERCENT EXCEEDS	88	662	74
50 PERCENT EXCEEDS	28	62	15
90 PERCENT EXCEEDS	20	25	.00

e Estimated.

11109000 SANTA CLARA RIVER NEAR PIRU, CA—Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e37	e46	85	66	74	71	95	72	81	31	4.9	48
2	e38	e44	80	62	70	62	98	69	75	32	5.5	58
3	e38	e37	66	65	68	67	99	70	77	36	10	58
4	e40	e37	77	65	69	66	105	72	64	30	11	54
5	e42	e38	75	65	75	67	116	71	69	31	9.5	37
6	e42	e39	74	69	74	69	131	67	74	34	9.0	47
7	e42	e37	69	70	76	67	119	63	81	24	10	34
8	e40	e41	70	70	78	67	131	58	84	26	7.8	31
9	e38	e38	75	70	88	70	137	60	83	26	10	31
10	e37	e37	69	70	66	64	141	68	83	21	18	33
11	e36	e46	e61	69	59	65	144	73	87	15	15	31
12	e36	e50	e64	72	59	63	187	73	62	20	16	35
13	e36	e54	e61	73	59	74	128	74	50	25	15	32
14	e35	e52	e78	75	59	69	119	82	52	22	12	27
15	e34	e56	e80	76	59	75	119	89	59	22	18	26
16	e34	e48	e82	76	70	55	114	77	64	20	19	27
17	e34	e41	e80	72	74	60	99	72	62	17	20	39
18	e33	e40	76	73	63	63	92	82	65	15	23	47
19	e32	e40	73	76	85	68	89	76	79	13	29	37
20	e32	e37	71	78	95	75	96	82	64	13	33	37
21	e37	e39	72	73	87	42	93	83	e56	11	31	47
22	e41	e50	72	76	91	55	112	85	48	13	29	48
23	e38	e69	70	75	90	59	113	76	42	11	23	44
24	e36	e72	e68	80	86	66	93	85	39	8.8	32	43
25	e38	e58	68	81	84	75	80	85	38	8.2	42	35
26	e41	e55	68	56	84	81	90	89	36	6.8	43	35
27	e56	e56	73	69	71	88	95	89	36	9.2	47	21
28	e56	75	e72	55	68	93	92	90	34	7.8	39	16
29	e55	54	69	56	---	98	82	90	34	5.6	44	14
30	e52	71	67	55	---	92	81	92	32	6.5	55	19
31	e49	---	67	94	---	93	---	86	---	6.5	45	---
TOTAL	1235	1457	2232	2182	2081	2179	3290	2400	1810	567.4	725.7	1091
MEAN	39.8	48.6	72.0	70.4	74.3	70.3	110	77.4	60.3	18.3	23.4	36.4
MAX	56	75	85	94	95	98	187	92	87	36	55	58
MIN	32	37	61	55	59	42	80	58	32	5.6	4.9	14
AC-FT	2450	2890	4430	4330	4130	4320	6530	4760	3590	1130	1440	2160

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

MEAN	18.6	27.4	46.6	45.8	288	96.4	49.2	88.2	23.1	14.6	13.7	13.4
MAX	61.0	62.2	92.7	95.5	1880	413	158	569	89.3	64.0	57.5	43.3
(WY)	1997	1928	1997	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	.000	4.03	7.32	20.4	16.6	15.5	2.93	3.00	.000	.000	.000	.000
(WY)	1931	1931	1930	1929	1930	1931	1931	1930	1930	1930	1929	1930

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1928 - 1999
ANNUAL TOTAL	103424	21250.1	
ANNUAL MEAN	283	58.2	59.1
HIGHEST ANNUAL MEAN			282
LOWEST ANNUAL MEAN			8.04
HIGHEST DAILY MEAN	10000	Feb 3	187
LOWEST DAILY MEAN	20	Jan 1	4.9
ANNUAL SEVEN-DAY MINIMUM	24	Jan 23	6.6
INSTANTANEOUS PEAK FLOW		277	Apr 12
INSTANTANEOUS PEAK STAGE		5.66	Apr 12
ANNUAL RUNOFF (AC-FT)	205100	42150	42820
10 PERCENT EXCEEDS	650	90	82
50 PERCENT EXCEEDS	66	62	19
90 PERCENT EXCEEDS	37	20	.00

e Estimated.

11109375 PIRU CREEK BELOW BUCK CREEK, NEAR PYRAMID LAKE, CA

LOCATION.—Lat 34°39'58", long 118°49'24", in SE 1/4 SE 1/4 sec.30, T.7 N., R.18 W., Ventura County, Hydrologic Unit 18070102, Los Padres National Forest, on left bank, 300 ft downstream from the confluence of Piru Creek and Buck Creek, 2.3 mi southeast of U.S. Forest Service Hardluck Campground, and 3.7 mi northwest of Pyramid Dam.

DRAINAGE AREA.—198 mi².

PERIOD OF RECORD.—October 1976 to September 1978, October 1988 to current year. February 1975 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,700 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,700 ft³/s, Feb. 23, 1998; maximum gage height, 16.45 ft, Feb. 23, 1998; no flow for many days in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	19	25	21	36	22	28	29	15	7.0	6.5	4.5
2	20	19	30	20	28	22	28	27	17	6.9	6.4	4.3
3	20	19	27	20	25	22	27	26	19	6.6	6.3	4.4
4	20	19	25	19	25	22	28	26	19	6.5	6.2	4.6
5	18	19	25	19	25	22	28	25	17	6.4	6.1	4.6
6	18	19	25	20	25	22	32	25	15	6.2	6.0	4.8
7	18	19	24	20	25	22	35	24	14	6.1	6.0	4.8
8	18	20	23	19	26	22	32	24	14	6.1	5.8	4.7
9	18	20	24	20	37	22	32	23	13	6.0	5.7	4.6
10	18	20	23	19	81	22	30	23	13	6.0	5.6	4.5
11	18	21	23	19	42	22	57	23	13	6.9	5.5	4.5
12	17	22	23	20	32	22	119	22	13	8.9	5.4	4.6
13	17	21	24	20	30	22	85	22	12	69	5.4	4.5
14	18	21	24	19	28	22	134	21	12	37	5.3	4.5
15	18	20	24	19	27	36	122	22	12	19	5.3	4.4
16	18	20	24	19	26	27	90	21	12	9.7	5.2	4.4
17	18	20	24	19	26	29	75	21	11	9.1	4.8	4.3
18	18	20	23	19	26	28	66	20	11	8.8	5.0	4.4
19	17	20	22	19	26	27	59	20	10	8.6	4.6	4.5
20	17	20	22	19	26	34	54	20	10	8.5	4.2	4.4
21	17	20	21	20	25	32	48	20	9.7	8.2	4.0	4.5
22	17	20	17	19	24	30	44	19	9.4	8.0	4.0	5.2
23	17	20	20	19	24	28	41	19	9.1	7.8	4.1	5.7
24	17	20	21	28	23	27	39	19	8.8	7.6	4.3	9.0
25	18	20	24	65	24	44	36	20	8.6	7.4	4.4	6.7
26	19	20	26	40	23	52	33	20	8.3	7.2	4.5	5.6
27	19	20	23	31	23	43	31	19	8.1	6.9	4.5	5.2
28	19	46	21	26	23	38	31	18	7.8	6.8	4.5	4.9
29	19	30	21	24	---	33	30	17	7.5	6.6	4.5	4.7
30	19	26	21	23	---	30	29	16	7.3	6.6	4.4	4.6
31	19	---	21	41	---	29	---	15	---	6.5	4.4	---
TOTAL	564	640	720	725	811	875	1523	666	356.6	328.9	158.9	146.4
MEAN	18.2	21.3	23.2	23.4	29.0	28.2	50.8	21.5	11.9	10.6	5.13	4.88
MAX	20	46	30	65	81	52	134	29	19	69	6.5	9.0
MIN	17	19	17	19	23	22	27	15	7.3	6.0	4.0	4.3
AC-FT	1120	1270	1430	1440	1610	1740	3020	1320	707	652	315	290

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, BY WATER YEAR (WY)

MEAN	6.18	7.69	20.8	88.5	255	178	97.8	52.7	22.4	10.5	6.16	6.19
MAX (WY)	18.2	21.3	63.3	501	1062	674	235	237	93.7	37.3	19.1	19.7
MIN (WY)	1999	1999	1998	1995	1998	1978	1978	1998	1998	1998	1998	1998
MIN (WY)	.099	1.16	1.62	2.28	5.36	5.31	2.67	1.21	.46	.001	.000	.000
(WY)	1978	1978	1991	1991	1990	1990	1990	1990	1990	1990	1989	1990

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1977 - 1999

ANNUAL TOTAL	59270	7514.8		
ANNUAL MEAN	162	20.6		
HIGHEST ANNUAL MEAN			61.5	1998
LOWEST ANNUAL MEAN			2.45	1990
HIGHEST DAILY MEAN	11700	Feb 23	134	Apr 14
LOWEST DAILY MEAN	13	Jan 1	4.0	Aug 21
ANNUAL SEVEN-DAY MINIMUM	13	Jan 1	4.2	Aug 20
INSTANTANEOUS PEAK FLOW			182	Apr 14
INSTANTANEOUS PEAK STAGE			3.17	Apr 14
ANNUAL RUNOFF (AC-FT)	117600	14910	44560	
10 PERCENT EXCEEDS	305	32	154	
50 PERCENT EXCEEDS	32	20	11	
90 PERCENT EXCEEDS	18	4.8	.96	

11109395 CANADA DE LOS ALAMOS ABOVE PYRAMID LAKE, CA

LOCATION.—Lat 34°41'31", long 118°47'25", in SW 1/4 SE 1/4 sec.16, T.7 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, on right bank, 1.1 mi south of Hungry Valley Road off-ramp from Interstate Highway 5, and 0.4 mi above Pyramid Landing on Pyramid Lake.

DRAINAGE AREA.—61.9 mi².

PERIOD OF RECORD.—October 1976 to September 1978, October 1988 to current year. March 1965 to September 1976, October 1978 to September 1988 in files of California Department of Water Resources.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 2,800 ft above sea level, from topographic map.

REMARKS.—No regulation or diversion upstream from station. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,640 ft³/s, Dec. 6, 1997, gage height, 5.73 ft; minimum daily, 0.30 ft³/s, May 10, 1977.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.6	5.2	3.9	3.5	3.6	3.9	3.6	3.4	3.0	2.9	3.4
2	3.0	2.6	3.2	3.9	3.6	3.5	4.2	3.6	3.3	3.0	2.9	3.1
3	3.0	2.7	3.0	3.9	3.6	3.6	4.3	3.7	3.2	3.0	2.8	3.0
4	3.0	2.7	3.1	4.0	3.6	3.7	4.4	3.8	3.1	3.0	2.9	2.9
5	3.0	2.8	3.0	4.0	3.6	3.8	4.5	3.9	3.1	3.0	3.0	2.9
6	3.0	2.9	3.3	4.0	3.5	3.8	4.6	3.8	3.1	3.1	3.2	2.8
7	3.0	3.0	3.0	4.0	3.5	3.9	4.7	3.7	3.0	3.1	3.3	2.8
8	3.0	3.2	3.4	4.0	3.5	4.0	4.6	3.6	2.9	3.1	3.3	2.7
9	3.0	3.4	3.4	4.0	3.5	4.0	4.5	3.7	2.9	3.1	3.2	2.6
10	2.9	3.3	3.4	4.0	3.5	4.0	4.4	3.8	2.9	3.1	3.2	2.6
11	2.9	3.3	3.4	4.1	3.6	4.0	4.5	3.5	2.9	10	3.1	2.6
12	2.9	3.3	3.4	4.1	3.6	4.0	4.4	3.3	3.0	12	3.1	2.6
13	2.9	3.3	3.4	4.2	3.6	4.0	4.3	3.3	3.0	8.8	3.1	2.8
14	2.9	3.3	3.4	4.2	3.5	4.7	4.2	3.3	3.0	5.0	3.0	2.8
15	2.8	3.3	3.4	4.3	3.5	12	4.1	3.3	3.1	3.1	2.9	2.8
16	2.8	3.2	3.4	4.4	3.5	4.0	4.1	3.3	3.1	3.2	2.9	2.8
17	2.8	3.2	3.4	4.4	3.5	4.0	4.1	3.4	3.0	3.3	2.8	2.8
18	2.8	3.2	3.5	4.6	3.5	4.0	4.0	3.4	2.9	3.0	2.7	2.8
19	2.7	3.2	3.5	4.7	3.6	4.0	3.9	3.5	2.9	3.2	2.6	2.8
20	2.7	3.4	3.5	4.9	3.6	4.0	3.7	3.5	2.9	3.2	2.6	2.8
21	2.7	3.5	3.4	4.7	3.6	3.9	3.5	3.6	2.8	3.1	2.6	3.0
22	2.7	3.5	3.4	4.5	3.6	3.9	3.4	3.6	2.7	3.0	2.7	3.1
23	2.7	3.5	3.4	4.3	3.6	3.9	3.4	3.6	2.6	3.0	2.8	3.1
24	2.7	3.5	3.5	4.0	3.6	3.9	3.4	3.6	2.6	3.0	2.9	3.2
25	2.7	3.4	3.5	3.5	3.6	3.8	3.4	3.6	2.6	2.9	3.0	3.5
26	2.7	3.4	3.5	3.4	3.7	3.9	3.5	3.6	2.6	2.9	3.0	3.4
27	2.6	3.4	3.6	3.4	3.7	3.9	3.5	3.5	2.8	2.9	3.4	3.3
28	2.6	3.4	3.7	3.4	3.7	3.9	3.5	3.5	2.9	2.9	3.0	3.3
29	2.6	3.5	3.8	3.4	---	3.9	3.5	3.5	2.9	2.9	3.1	3.0
30	2.6	3.6	3.8	3.5	---	3.9	3.5	3.5	2.9	2.9	3.1	3.1
31	2.6	---	3.9	3.4	---	3.9	---	3.5	---	2.9	3.1	---
TOTAL	87.3	96.6	107.8	125.1	100.0	129.4	120.0	110.1	88.1	117.7	92.2	88.4
MEAN	2.82	3.22	3.48	4.04	3.57	4.17	4.00	3.55	2.94	3.80	2.97	2.95
MAX	3.0	3.6	5.2	4.9	3.7	12	4.7	3.9	3.4	12	3.4	3.5
MIN	2.6	2.6	3.0	3.4	3.5	3.5	3.4	3.3	2.6	2.9	2.6	2.6
AC-FT	173	192	214	248	198	257	238	218	175	233	183	175

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1999, BY WATER YEAR (WY)

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	
MEAN	2.21	2.63	6.01	5.12	14.2	7.67	3.15	2.58	2.10	1.89	1.79	1.94												
MAX	3.34	3.53	42.0	22.0	64.3	40.5	6.28	5.15	3.15	3.80	2.97	2.95												
(WY)	1997	1998	1998	1995	1978	1978	1998	1998	1998	1999	1999	1999												
MIN	1.40	1.56	1.93	2.38	1.80	1.80	1.50	.83	1.18	.97	1.32	1.27												
(WY)	1977	1978	1977	1978	1977	1977	1977	1977	1978	1977	1977	1977												

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR
ANNUAL TOTAL	2468.3	1262.7				
ANNUAL MEAN	6.76	3.46				
HIGHEST ANNUAL MEAN					10.1	1998
LOWEST ANNUAL MEAN					1.54	1977
HIGHEST DAILY MEAN	473	Feb 23	12	Mar 15	1220	Feb 10 1978
LOWEST DAILY MEAN	1.9	Aug 28	2.6	Oct 27	.30	May 10 1977
ANNUAL SEVEN-DAY MINIMUM	2.0	Aug 22	2.6	Oct 27	.36	May 10 1977
INSTANTANEOUS PEAK FLOW			13	Jul 11	3640	Dec 6 1997
INSTANTANEOUS PEAK STAGE			2.88	Jul 11	5.73	Dec 6 1997
ANNUAL RUNOFF (AC-FT)	4900	2500			3060	
10 PERCENT EXCEEDS	6.1	4.0			3.9	
50 PERCENT EXCEEDS	3.3	3.4			2.5	
90 PERCENT EXCEEDS	2.3	2.8			1.4	

11109396 NORTH PORTAL TEHACHAPI TUNNEL NEAR GORMAN, CA

LOCATION.—Lat 34°55'46", long 118°48'17", unsurveyed, in Los Alamos Y Caliente Grant, T.10 N., R.18 E., Kern County, Hydrologic Unit 18030003, at entrance to Tehachapi Tunnel, 1.5 mi southeast of A.D. Edmonston Pumping Plant, and 10 mi north of Gorman.

PERIOD OF RECORD.—October 1995 to current year. Prior to October 1995 in files of California Department of Water Resources.

GAGE.—Acoustic-velocity meter. Elevation of gage is 3,220 ft above sea level, from topographic map.

REMARKS.—Records represent flow pumped from the California Aqueduct through the A.D. Edmonston Pumping Plant to southern California. Downstream, the flow splits as it leaves Tehachapi Afterbay. The California Aqueduct continues through Alamo Powerplant (station 10260776), and the West Branch California Aqueduct flows through William Warne Powerplant (station 11109398). See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were computed by California Department of Water Resources, under the general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 3,560 ft³/s, Apr. 14, 1996; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	591	277	633	.00	1200	2150	951	1220	1490	1680	1870
2	1130	605	191	632	.00	898	2070	907	1240	1490	1550	1800
3	1080	630	303	658	.00	1230	1840	905	1350	1140	1600	1930
4	1050	547	370	.00	.00	2040	2000	973	1290	1120	1730	1900
5	907	534	221	.00	.00	2020	2100	991	896	1320	1790	2110
6	1010	536	110	14	.00	2070	2070	989	762	1350	1710	1980
7	1190	492	439	.00	.00	3030	2130	921	1090	1400	1630	1950
8	1200	665	232	.00	.00	2040	2060	759	1220	1680	1490	1930
9	1210	380	173	.00	.00	2030	2110	726	1300	1760	1220	1840
10	1220	388	151	.00	.00	2050	1990	1240	1300	1630	1130	1840
11	1140	396	151	.00	.00	2030	2070	1100	1290	1610	1850	1770
12	1190	357	151	.00	.00	2030	2110	951	968	1690	2000	1680
13	1200	399	41	.00	.00	2050	2110	1120	1100	1780	1960	1800
14	1220	399	83	.00	.00	3140	2130	786	1310	1560	1740	1840
15	1150	536	249	.00	.00	2050	1980	744	1460	1700	1570	1770
16	1110	232	124	.00	.00	2030	2060	797	1320	1790	1850	1810
17	1030	248	96	.00	.00	1980	943	1120	1350	1620	1630	1780
18	703	384	96	.00	.00	2030	917	1280	1170	2270	2000	1720
19	669	384	110	.00	.00	2030	1010	1320	1140	1760	2000	1550
20	671	400	83	.00	.00	1920	1000	1320	1330	1890	1900	1610
21	643	385	314	.00	.00	661	1120	1070	1320	1960	1620	1650
22	726	509	248	.00	.00	1310	1130	924	1300	1970	1860	1490
23	712	276	177	.00	.00	1340	976	1000	1140	1950	1860	1390
24	741	275	174	.00	.00	1530	940	1180	934	1750	1910	1390
25	685	330	161	.00	.00	1500	1030	991	881	1960	1950	1400
26	741	358	177	.00	520	1600	1320	1250	785	1840	1940	1770
27	726	293	334	.00	361	1590	1320	1310	1100	2000	1870	1510
28	685	254	249	.00	465	1430	1340	1290	1310	1940	1630	1590
29	701	440	243	.00	---	1800	1320	951	1360	1890	1770	1640
30	669	263	426	.00	---	2010	1300	894	1360	1850	1910	1490
31	631	---	447	.00	---	2070	---	997	---	1720	1960	---
TOTAL	28790	12486	6601	1937.00	1346.00	56739	48646	31757	35596	52880	54310	51800
MEAN	929	416	213	62.5	48.1	1830	1622	1024	1187	1706	1752	1727
MAX	1220	665	447	658	520	3140	2150	1320	1460	2270	2000	2110
MIN	631	232	41	.00	.00	661	917	726	762	1120	1130	1390
AC-FT	57100	24770	13090	3840	2670	112500	96490	62990	70600	104900	107700	102700
a	36590	16180	11940	3790	0	46570	39450	43240	53660	63860	62550	64390
b	19020	7810	0	0	0	65240	53530	16370	10570	24060	33270	31380

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	767	644	546	414	336	1016	1678	1374	1275	1518	1600	1545
MAX	1218	1185	1079	620	814	1830	2345	2063	1474	1706	1752	1761
(WY)	1998	1998	1998	1998	1996	1999	1997	1997	1996	1999	1999	1996
MIN	104	349	213	62.5	48.1	219	970	859	1008	1220	1489	1160
(WY)	1996	1996	1999	1999	1999	1998	1998	1998	1998	1998	1997	1998

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1996 - 1999
ANNUAL TOTAL	284414.50	382888.00	
ANNUAL MEAN	779	1049	1063
HIGHEST ANNUAL MEAN			1199
LOWEST ANNUAL MEAN			941
HIGHEST DAILY MEAN	2720	3140	3560
LOWEST DAILY MEAN	.00	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00
ANNUAL RUNOFF (AC-FT)	564100	759500	769800
ANNUAL DIVERSION (AC-FT) a	430000	442200	425800
ANNUAL DIVERSION (AC-FT) b	123900	261300	266500
10 PERCENT EXCEEDS	1400	1990	1960
50 PERCENT EXCEEDS	799	1120	1060
90 PERCENT EXCEEDS	28	.00	96

a Diversion, in acre-feet, to Alamo Powerplant, provided by California Department of Water Resources.

b Diversion, in acre-feet, to William Warne Powerplant, provided by California Department of Water Resources.

11109520 PYRAMID LAKE NEAR GORMAN, CA

LOCATION.—Lat 34°38'41", long 118°45'47", in NE 1/4 NW 1/4 sec.2, T.6 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, Angeles National Forest, in control structure near left abutment of Pyramid Dam on Piru Creek, and 11.7 mi southeast of Gorman.

DRAINAGE AREA.—295 mi².

PERIOD OF RECORD.—October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.—Water-stage recorder. Datum of gage is sea level.

REMARKS.—Reservoir is formed by earthfill dam. Storage began August 1974. Dead storage below outlet to Angeles Tunnel, 5,720 acre-ft, elevation, 2,345 ft, included in contents. Capacity below invert of radial gate, 133,600 acre-ft, elevation, 2,547.72 ft; below top of radial gate, 169,901 acre-ft, elevation, 2,578 ft; below spillway level, 171,196 acre-ft, elevation, 2,579 ft. Lake receives imported water from West Branch California Aqueduct via William Warne Powerplant (station 11109398). Water is released through the Angeles Tunnel to Castaic Powerplant and during periods of low electricity demand, water from Elderberry Forebay (station 11108092) is pumped back to Pyramid Lake. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project. Contents not rounded to U.S. Geological Survey standards.

EXTREMES (at 2400 hours) FOR PERIOD OF RECORD.—Maximum contents, 170,457 acre-ft, Feb. 9, 1996, elevation, 2,578.43 ft; minimum, 137,883 acre-ft, Nov. 26, 1991, elevation, 2,551.53 ft.

EXTREMES (AT 2400 hours) FOR CURRENT YEAR.—Maximum contents, 169,115 acre-ft, Mar. 15, elevation, 2,577.39 ft; minimum, 153,582 acre-ft, July 30, elevation, 2,564.94 ft.

Capacity table (elevation in feet, and contents, in acre-feet)
(Based on table provided by California Department of Water Resources in 1978)

2,545	130,601	2,565	153,364
2,550	136,154	2,570	159,778
2,555	141,850	2,575	166,057
2,560	147,680	2,580	172,497

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159815	163438	164093	161708	164637	160847	165955	162998	165688	158862	162258	162183
2	157900	162433	162822	162747	163640	161171	163929	166668	167959	162960	162797	160685
3	159146	161658	161096	163955	161333	161933	164371	165866	165346	164207	160834	157974
4	162998	158036	160598	162647	160237	161420	166006	164877	162722	166057	161271	160797
5	162058	157028	160374	162484	159468	160486	165752	163375	164599	161059	158961	159716
6	161208	157753	161320	161246	161633	164662	164030	159419	166859	159443	158393	161645
7	160735	160076	159258	160436	164396	168742	162183	157605	163866	159270	161046	160685
8	157777	163539	160287	158924	163338	166719	157175	161470	162672	158097	166617	156979
9	157482	163073	159122	160747	162521	165917	156942	166630	160411	154163	163854	156183
10	160585	161908	159295	163262	161595	164258	159431	165981	157716	158788	159567	155110
11	163854	162158	159518	163249	161246	163589	165320	162998	155159	163766	161196	159233
12	163048	163841	160337	163086	161620	166745	165676	161196	159753	160984	160001	165828
13	159666	162559	164295	162008	162722	167652	165917	158986	165181	161645	156232	163287
14	159196	163577	165308	160747	166400	168126	162785	160088	162659	161009	160984	160884
15	159134	164599	164144	159431	164902	169115	163099	162421	162446	160411	165498	159023
16	157617	166171	162133	160959	164624	168922	165422	166413	161358	156563	163023	158877
17	160847	164371	160411	164270	164308	168716	164940	163099	160598	160063	161009	155890
18	164725	164093	160449	164030	163325	166808	166974	161820	157925	167588	158430	160237
19	158048	162622	162446	165067	163551	164814	163212	161121	161196	165004	155488	167051
20	156893	160039	163778	164119	163589	166108	161558	159927	166859	162898	155196	163866
21	155805	160101	159989	162346	163854	166655	163149	157802	165930	160697	159010	161108
22	155050	161383	159060	159109	163892	166961	161083	161383	162935	157077	164561	156269
23	155537	155183	158553	160188	164396	166885	160685	166210	160324	155732	162960	156795
24	158652	156881	157839	164384	164460	165803	162847	163551	159184	160262	161046	155256
25	164308	157728	161196	163803	164510	163766	166439	162396	157200	165879	158776	160834
26	159741	161455	160250	162571	162923	166082	164535	162108	161708	164776	158418	166528
27	159493	161808	162647	162158	161883	166987	164434	159840	165930	163375	155622	164750
28	160262	164738	162358	161745	161071	167064	163703	158467	162873	160921	160026	162986
29	159035	165726	161770	160772	---	167511	162371	159010	160362	157274	164953	158665
30	159493	164169	159828	162120	---	167255	161158	163602	159184	153582	163980	154879
31	162734	---	159283	165295	---	167281	---	167396	---	154418	163766	---
MAX	164725	166171	165308	165295	166400	169115	166974	167396	167959	167588	166617	167051
MIN	155050	155183	157839	158924	159468	160486	156942	157605	155159	153582	155196	154879
a	2572.37	2573.51	2569.60	2574.40	2571.04	2575.96	2571.11	2576.05	2569.52	2565.63	2573.19	2569.10
b	+1974	+1435	-4886	+6012	-4224	+6210	-6123	+6238	-8212	-4766	+9348	-8887

CAL YR 1998 b -8138

WTR YR 1999 b -5881

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

11109525 PIRU CREEK BELOW PYRAMID LAKE, NEAR GORMAN, CA

LOCATION.—Lat 34°38'30", long 118°45'49", in SW 1/4 NW 1/4 sec.2, T.6 N., R.18 W., Los Angeles County, Hydrologic Unit 18070102, Los Padres National Forest, at downstream base of dam, and 11.7 mi southeast of Gorman.

DRAINAGE AREA.—295 mi².

PERIOD OF RECORD.—October 1988 to current year. Prior to October 1988 in files of California Department of Water Resources.

GAGE.—Flow meters with totalizer. Elevation of gage is 2,200 ft above sea level, from topographic map.

REMARKS.—Flow regulated beginning December 1971 by Pyramid Lake (station 11109520). See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records were collected by California Department of Water Resources, under general supervision of the U.S. Geological Survey, in connection with a Federal Energy Regulatory Commission project.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily discharge, 6,000 ft³/s, Feb. 23 1998; minimum daily, 4.0 ft³/s, Nov. 1–5, 1996.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	80	100	30	35	30	25	24	25	25	25	26
2	58	80	100	30	35	30	25	24	25	25	25	26
3	65	80	100	30	35	30	25	24	25	25	25	26
4	72	80	100	30	30	30	25	24	25	25	25	26
5	75	80	100	30	30	30	25	24	25	25	25	26
6	77	80	100	25	30	30	50	24	25	25	25	26
7	77	80	96	20	30	30	50	24	25	25	25	26
8	77	80	30	20	30	30	50	24	25	25	25	26
9	77	80	30	20	30	30	40	24	25	25	25	26
10	77	80	30	20	30	30	40	24	25	25	25	26
11	78	80	30	20	60	30	40	24	25	25	41	26
12	78	80	30	20	41	30	59	24	25	25	40	26
13	78	80	30	20	30	30	100	24	26	25	25	26
14	78	80	30	20	30	30	100	24	26	25	25	26
15	78	80	30	20	30	30	100	24	26	25	25	26
16	78	80	30	20	30	30	100	24	26	25	25	26
17	78	80	30	20	30	30	75	24	26	25	25	26
18	78	103	30	20	30	30	75	25	26	25	25	26
19	78	103	30	20	30	30	60	25	26	25	25	26
20	78	103	30	20	30	30	50	25	26	25	25	26
21	78	103	30	20	30	30	50	25	26	25	24	26
22	78	103	30	20	30	30	45	25	26	26	24	26
23	78	103	30	20	30	30	45	25	26	26	24	25
24	78	103	30	20	30	30	45	25	26	26	24	25
25	78	104	30	35	30	30	45	25	26	26	24	25
26	78	104	30	50	30	30	45	25	26	26	24	25
27	78	104	30	50	30	23	25	25	26	26	24	25
28	78	104	30	40	30	23	25	25	26	26	24	25
29	78	104	30	40	---	23	25	25	26	26	24	25
30	78	104	30	35	---	22	25	25	26	26	24	25
31	78	---	30	34	---	22	---	25	---	26	24	---
TOTAL	2344	2705	1416	819	896	893	1489	758	768	785	795	772
MEAN	75.6	90.2	45.7	26.4	32.0	28.8	49.6	24.5	25.6	25.3	25.6	25.7
MAX	78	104	100	50	60	30	100	25	26	26	41	26
MIN	51	80	30	20	30	22	25	24	25	25	24	25
AC-FT	4650	5370	2810	1620	1780	1770	2950	1500	1520	1560	1580	1530

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1999, BY WATER YEAR (WY)

MEAN	23.3	29.7	29.8	94.0	180	81.8	40.5	30.4	24.4	23.6	22.1	21.5
MAX	75.6	90.2	64.0	422	780	242	132	97.3	41.0	32.9	25.8	29.4
(WY)	1999	1999	1996	1995	1998	1992	1993	1991	1993	1993	1993	1998
MIN	5.00	4.80	5.03	5.00	5.00	5.10	5.57	10.6	12.5	13.6	12.9	13.0
(WY)	1997	1998	1995	1991	1991	1995	1992	1990	1990	1989	1989	1990

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1989 - 1999

ANNUAL TOTAL	38397.0	14440		
ANNUAL MEAN	105	39.6	49.3	
HIGHEST ANNUAL MEAN			119	1993
LOWEST ANNUAL MEAN			10.8	1990
HIGHEST DAILY MEAN	6000	Feb 23	104	Nov 25
LOWEST DAILY MEAN	5.0	Jan 1	20	Jan 7
ANNUAL SEVEN-DAY MINIMUM	5.0	Jan 1	20	Jan 7
ANNUAL RUNOFF (AC-FT)	76160	28640	35720	
10 PERCENT EXCEEDS	104	80	75	
50 PERCENT EXCEEDS	26	26	25	
90 PERCENT EXCEEDS	10	24	5.0	

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 mi².

PERIOD OF RECORD.—October 1955 to current year.

CHEMICAL DATA: Water years 1972–80.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 1,058.55 ft above sea level (levels by U.S. Forest Service). Prior to Dec. 15, 1972, at site 0.3 mi upstream at different datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Flow regulated beginning December 1971 by Pyramid Lake (station 11109520). Imported water from the California Water Project stored and released at Pyramid Dam. See schematic diagram of Santa Clara River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 38,000 ft³/s, Feb. 23, 1998, gage height, 13.38 ft, from floodmark, from rating curve extended above 20,000 ft³/s on basis of slope-area measurement at gage height 11.36 ft; maximum gage height, 18.6 ft, Feb. 25, 1969, site and datum then in use; no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 2, 1938, reached a discharge of 35,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e73	88	109	43	52	e39	50	e31	30	25	e25	29
2	e74	89	107	43	e52	e39	51	e30	32	26	e25	30
3	e75	88	106	44	e52	37	52	e31	31	27	e25	31
4	e77	88	105	44	e47	38	53	e32	31	27	e26	30
5	e78	87	105	44	e47	38	51	30	30	26	26	30
6	e79	88	105	44	e47	39	55	29	31	25	26	29
7	e80	88	98	38	e47	39	69	29	29	e25	26	29
8	e82	90	63	37	e47	40	63	29	26	e25	26	29
9	e83	89	52	37	e47	40	62	31	27	e25	26	29
10	e84	88	41	37	e47	40	61	29	26	e26	26	27
11	e86	89	37	37	e55	41	78	30	26	e26	26	27
12	e87	89	38	37	e100	41	111	29	24	e26	26	27
13	e88	92	39	37	e70	42	104	29	28	e26	26	27
14	88	100	39	37	e50	42	96	30	24	e25	26	28
15	88	100	40	38	e50	50	92	29	23	e25	26	27
16	87	101	40	38	e50	47	84	29	23	e25	26	27
17	88	102	39	38	e45	43	77	50	23	e25	26	27
18	89	101	39	38	e45	44	65	29	30	e25	27	26
19	89	101	40	38	e45	44	57	29	24	e25	27	27
20	88	101	40	39	e45	49	55	30	22	e25	27	27
21	88	101	39	39	e42	45	52	30	22	e26	27	29
22	88	101	39	38	e42	46	47	31	20	e26	27	28
23	89	102	38	38	e42	46	45	32	20	e26	27	27
24	89	102	38	40	e42	47	43	31	23	e25	26	26
25	89	102	39	54	e40	50	42	31	25	e25	26	26
26	89	103	39	57	e40	56	e38	30	25	e26	27	25
27	88	104	40	58	e40	48	e35	30	25	e26	27	26
28	88	129	40	53	e40	50	e33	31	25	e25	27	25
29	88	110	40	53	---	49	e33	32	25	e25	27	23
30	88	107	40	50	---	49	e32	34	25	e25	27	24
31	88	---	41	60	---	50	---	31	---	e25	28	---
TOTAL	2635	2920	1715	1328	1368	1368	1786	958	775	790	816	822
MEAN	85.0	97.3	55.3	42.8	48.9	44.1	59.5	30.9	25.8	25.5	26.3	27.4
MAX	89	129	109	60	100	56	111	50	32	27	28	31
MIN	73	87	37	37	40	37	32	29	20	25	25	23
AC-FT	5230	5790	3400	2630	2710	2710	3540	1900	1540	1570	1620	1630

e Estimated.

SANTA CLARA RIVER BASIN

11109600 PIRU CREEK ABOVE LAKE PIRU, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1971, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.14	54.7	52.8	106	229	100	102	33.7	12.6	4.22	2.00	1.86
MAX	11.9	503	291	992	1657	569	741	165	53.4	22.4	11.3	9.63
(WY)	1970	1966	1966	1969	1969	1969	1958	1967	1969	1969	1969	1969
MIN	.000	.34	2.91	9.24	7.50	7.26	3.96	1.34	.12	.000	.000	.000
(WY)	1956	1965	1957	1965	1965	1961	1961	1961	1961	1960	1957	1956

SUMMARY STATISTICS

WATER YEARS 1956 - 1971

ANNUAL MEAN	57.2
HIGHEST ANNUAL MEAN	294 1969
LOWEST ANNUAL MEAN	5.66 1961
HIGHEST DAILY MEAN	15600 Feb 25 1969
LOWEST DAILY MEAN	.00 Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1955
INSTANTANEOUS PEAK FLOW	31200 Feb 25 1969
INSTANTANEOUS PEAK STAGE	18.6 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	41470
10 PERCENT EXCEEDS	84
50 PERCENT EXCEEDS	8.2
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.2	21.0	39.9	117	272	192	84.3	51.5	30.7	21.1	17.4	15.9
MAX	85.0	97.3	180	1154	2110	1126	289	204	93.7	47.3	40.0	56.4
(WY)	1999	1999	1984	1995	1998	1983	1983	1983	1978	1998	1998	1998
MIN	2.17	4.09	4.05	5.64	13.9	11.2	6.11	5.46	3.84	6.32	.80	.16
(WY)	1973	1978	1990	1991	1987	1977	1977	1972	1976	1972	1972	1972

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1972 - 1999

ANNUAL TOTAL	92356.0	17281	
ANNUAL MEAN	253	47.3	72.2
HIGHEST ANNUAL MEAN			240 1998
LOWEST ANNUAL MEAN			9.52 1990
HIGHEST DAILY MEAN	15000	Feb 23	129 Nov 28 15000 Feb 23 1998
LOWEST DAILY MEAN	6.0	Jan 28	20 Jun 22 .07 Jun 9 1972
ANNUAL SEVEN-DAY MINIMUM	8.7	Jan 22	22 Jun 19 .09 Sep 3 1972
INSTANTANEOUS PEAK FLOW			165 Nov 28 38000 Feb 23 1998
INSTANTANEOUS PEAK STAGE			2.95 Nov 28 18.60 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	183200	34280	52270
10 PERCENT EXCEEDS	260	89	118
50 PERCENT EXCEEDS	83	39	22
90 PERCENT EXCEEDS	38	25	6.2

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 mi².

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 sea level (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. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Santa Clara River Basin.

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, 81,500 acre-ft, Oct. 1; maximum elevation, 1,049.32 ft, Oct. 1; minimum contents, 61,000 acre-ft, Jan. 4; minimum elevation, 1,030.58 ft, Jan. 4.

Capacity table (elevation, in feet, and contents, in acre-feet)
(Based on survey by United Water Conservation District in October 1985)

970	14,800	1,000	33,900	1,040	70,900
980	20,300	1,010	42,000	1,050	82,300
990	26,700	1,020	50,800	1,060	94,600
1,030	60,500				

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81500	73000	67900	61700	63100	65400	67700	71700	73000	73800	74500	74900
2	81100	72800	68100	61400	63100	65500	67700	71800	73000	73800	74500	74900
3	80800	72500	68100	61100	63200	65500	67800	71800	73200	73900	74500	74900
4	80500	72500	68100	61000	63300	65600	67800	71900	73200	73900	74500	74900
5	80200	72400	68000	61100	63400	65700	67900	71900	73200	74000	74500	74900
6	79800	72100	67900	61200	63500	65700	68000	72000	73300	74000	74500	75000
7	79500	71800	67800	61200	63600	65800	68100	72000	73300	74000	74500	74800
8	79200	71500	67600	61300	63600	65800	68300	72000	73300	74100	74500	74500
9	78900	71200	67400	61300	63900	65900	68400	72100	73400	74100	74600	74100
10	78600	71000	67100	61400	64000	66000	68400	72100	73400	74100	74600	73700
11	78300	71000	66900	61400	64100	66100	68800	72100	73400	74100	74600	73100
12	77900	70800	66700	61500	64200	66100	69100	72200	73400	74100	74600	72600
13	77600	70600	66400	61500	64300	66200	69400	72200	73500	74200	74600	72100
14	77300	70400	66200	61500	64300	66200	69700	72200	73500	74200	74700	71600
15	77100	70200	66000	61600	64400	66400	69900	72400	73500	74200	74700	71100
16	76800	70000	65800	61600	64500	66500	70200	72400	73500	74300	74700	70600
17	76500	69900	65600	61700	64500	66600	70400	72400	73600	74300	74700	70100
18	76200	69700	65300	61700	64600	66600	70600	72500	73600	74300	74700	69600
19	75900	69500	65100	61800	64700	66700	70700	72500	73600	74300	74700	69100
20	75700	69300	64900	61800	64700	66800	70800	72500	73600	74300	74700	68500
21	75500	69100	64700	61900	64800	66900	70900	72600	73600	74300	74700	68100
22	75200	68900	64400	61900	64900	66900	71000	72600	73700	74300	74700	67700
23	75000	68700	64100	62000	64900	67100	71100	72700	73700	74300	74800	67200
24	74700	68500	63900	62100	65000	67200	71300	72700	73700	74300	74800	66700
25	74400	68300	63600	62200	65200	67300	71400	72700	73700	74400	74800	66200
26	74100	68100	63300	62400	65200	67400	71400	72800	73700	74400	74800	65700
27	73900	67900	63000	62500	65300	67400	71500	72800	73700	74400	74800	65200
28	73800	67900	62800	62600	65300	67500	71600	72800	73800	74400	74800	64700
29	73800	67700	62500	62700	---	67500	71600	72900	73800	74400	74800	64200
30	73600	67700	62200	62800	---	67600	71700	72900	73800	74400	74800	63600
31	73300	---	62000	63000	---	67600	---	72900	---	74400	74800	---
MAX	81500	73000	68100	63000	65300	67600	71700	72900	73800	74400	74800	75000
MIN	73300	67700	62000	61000	63100	65400	67700	71700	73000	73800	74500	63600
a	1042.15	1036.97	1031.47	1032.47	1034.68	1036.89	1040.69	1041.83	1042.62	1043.18	1043.54	1033.13
b	-8600	-5600	-5700	-1000	+2300	+2300	+4100	+1200	+900	+600	+400	-11200

CAL YR 1998 b +19300

WTR YR 1999 b -18300

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

PERIOD OF RECORD.—October 1955 to September 1968, October 1973 to current year.

CHEMICAL DATA: Water years 1969, 1974–80.

WATER TEMPERATURE: Water year 1969.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder and concrete control. Datum of gage is 858.8 ft above sea level (levels by United Water Conservation District).

REMARKS.—Records good. Since May 1955, flow regulated by Lake Piru (station 11109700), and since December 1971, by Pyramid Lake (station 11109520). Imported water from the California Water Project stored by Pyramid Lake. Spill from Lake Piru bypasses gage. See schematic diagram of Santa Clara River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 623 ft³/s, Aug. 2, 1982, gage height, 3.82 ft; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	215	4.3	168	5.0	5.2	5.2	5.0	4.8	5.5	5.2	6.3
2	230	200	48	168	5.0	5.2	5.2	5.0	4.7	5.5	5.3	3.2
3	228	199	94	168	5.0	5.2	5.2	5.0	4.8	5.5	5.5	2.4
4	229	83	104	59	5.0	5.2	5.2	5.1	4.8	5.5	5.5	4.3
5	229	123	130	5.9	5.0	5.2	5.2	5.2	4.8	5.4	5.5	7.2
6	242	220	139	6.0	5.0	5.2	5.2	5.3	4.8	5.2	5.5	7.2
7	240	222	139	5.7	5.0	5.2	5.2	5.2	4.8	5.2	5.5	80
8	246	222	139	5.1	5.0	5.2	5.1	5.2	5.5	6.0	5.5	167
9	234	221	140	5.1	5.0	5.2	5.0	5.2	6.0	5.0	5.5	169
10	231	158	140	5.2	5.0	5.2	5.0	5.2	6.0	5.0	5.5	224
11	231	125	139	5.2	3.9	5.2	5.1	4.4	6.0	5.0	5.5	262
12	227	173	141	5.2	5.3	5.2	5.2	4.5	6.0	5.2	5.5	262
13	226	184	140	5.2	4.8	5.2	5.2	4.5	6.0	5.2	5.5	260
14	225	177	139	5.2	4.8	5.2	5.2	4.5	6.0	5.2	5.5	258
15	213	176	140	5.2	4.8	5.2	5.2	4.5	6.0	5.2	5.5	256
16	218	177	133	5.2	4.9	5.2	5.2	4.6	6.0	5.2	5.5	256
17	213	176	140	5.2	5.0	5.2	5.2	4.8	6.0	5.2	5.5	256
18	211	176	139	5.2	5.0	5.2	5.2	4.8	6.0	5.2	5.5	256
19	194	177	138	5.3	5.0	5.2	5.2	4.8	6.4	5.2	5.5	253
20	211	190	138	5.5	5.0	5.2	5.2	4.8	6.6	5.2	5.6	269
21	172	195	137	5.5	5.1	5.2	5.1	4.8	6.6	5.2	5.7	227
22	188	194	156	5.2	5.2	5.2	5.0	4.8	6.6	5.2	5.7	216
23	212	194	167	5.0	5.2	5.2	5.0	4.8	6.6	5.2	5.7	246
24	211	193	160	5.0	5.2	5.2	5.0	4.8	5.8	5.2	5.7	254
25	210	194	167	5.2	5.2	5.2	5.0	4.8	5.2	5.2	5.9	259
26	209	194	168	5.2	5.2	5.2	5.0	4.8	5.2	5.2	6.0	259
27	208	192	169	5.2	5.2	5.2	5.0	4.8	5.2	5.2	6.0	258
28	114	191	168	5.2	5.2	5.2	5.1	4.8	5.3	5.2	6.0	261
29	57	191	168	5.2	---	5.2	5.0	4.8	5.5	5.2	6.0	263
30	210	117	168	5.2	---	5.2	5.0	4.8	5.5	5.2	6.2	261
31	216	---	168	5.1	---	5.2	---	4.8	---	5.2	6.3	---
TOTAL	6517	5449	4260.3	705.4	140.0	161.2	153.6	150.4	169.5	162.8	174.8	5762.6
MEAN	210	182	137	22.8	5.00	5.20	5.12	4.85	5.65	5.25	5.64	192
MAX	246	222	169	168	5.3	5.2	5.2	5.3	6.6	6.0	6.3	269
MIN	57	83	4.3	5.0	3.9	5.2	5.0	4.4	4.7	5.0	5.2	2.4
AC-FT	12930	10810	8450	1400	278	320	305	298	336	323	347	11430

a Combined discharge, in acre-feet, of Piru Creek below Santa Felicia Dam and spill from Santa Felicia Dam.

11109800 PIRU CREEK BELOW SANTA FELICIA DAM, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1968, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	11.0	13.9	33.1	10.4	14.2	25.3	49.7	46.0	56.8	94.4	88.0	44.3
MAX	29.8	97.7	235	34.6	35.7	115	136	194	245	465	396	248
(WY)	1961	1967	1959	1966	1966	1963	1964	1966	1962	1958	1958	1967
MIN	.000	.86	.003	.15	.018	.006	5.59	6.76	6.76	6.82	6.93	5.94
(WY)	1956	1956	1956	1968	1957	1957	1957	1964	1964	1959	1959	1968

SUMMARY STATISTICS

WATER YEARS 1956 - 1968

ANNUAL MEAN	40.8
HIGHEST ANNUAL MEAN	102 1958
LOWEST ANNUAL MEAN	10.0 1961
HIGHEST DAILY MEAN	526 Sep 26 1959
LOWEST DAILY MEAN	.00 Oct 1 1955
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1955
INSTANTANEOUS PEAK FLOW	544 Aug 18 1958
INSTANTANEOUS PEAK STAGE	3.66 Aug 18 1958
ANNUAL RUNOFF (AC-FT)	29540
10 PERCENT EXCEEDS	101
50 PERCENT EXCEEDS	8.6
90 PERCENT EXCEEDS	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	113	54.4	22.4	14.4	23.6	30.2	25.8	44.1	49.6	68.7	82.6	112
MAX	446	323	137	86.6	139	139	109	224	241	271	322	294
(WY)	1993	1993	1999	1994	1998	1998	1980	1988	1987	1986	1982	1979
MIN	4.17	4.68	3.91	.000	.049	.16	.088	.004	1.49	4.09	3.94	4.32
(WY)	1987	1987	1978	1978	1983	1983	1983	1983	1983	1983	1991	1991

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1974 - 1999

ANNUAL TOTAL	38306.22	23806.6	
ANNUAL MEAN	105	65.2	53.5
HIGHEST ANNUAL MEAN			138 1993
LOWEST ANNUAL MEAN			7.03 1983
HIGHEST DAILY MEAN	306 Feb 15	269 Sep 20	526 Jul 14 1986
LOWEST DAILY MEAN	.00 Jul 16	2.4 Sep 3	.00 Feb 10 1976
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 16	4.5 May 11	.00 Feb 10 1976
INSTANTANEOUS PEAK FLOW		278 Sep 20	623 Aug 2 1982
INSTANTANEOUS PEAK STAGE		3.27 Sep 20	3.82 Aug 2 1982
ANNUAL RUNOFF (AC-FT)	75980	47220	38780
10 PERCENT EXCEEDS	217	221	194
50 PERCENT EXCEEDS	101	5.3	7.0
90 PERCENT EXCEEDS	5.8	4.9	3.7

11113000 SESPE CREEK NEAR FILLMORE, CA

LOCATION.—Lat 34°26'32", long 118°55'35", in SE 1/4 NW 1/4 SE 1/4 sec.12, T.4 N., R.20 W., Ventura County, Hydrologic Unit 18070102, on right bank, 0.6 mi downstream from Little Sespe Creek, and 2.9 mi north of Fillmore.

DRAINAGE AREA.—251 mi².

PERIOD OF RECORD.—September 1911 to September 1913, October 1927 to September 1985, October 1990 to January 1993, October 1993 to current year; combined records of creek and canal, October 1927 to September 1939 monthly only, October 1939 to September 1985, October 1990 to January 1993. Prior to 1935, published as "at Sespe."

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 580 ft above sea level, from topographic map. See WSP 1315-B for history of changes prior to Jan. 17, 1946. Oct. 1, 1990, to Jan. 15, 1993, at site 0.5 mi upstream at same elevation. Gage on diversion canal discontinued Jan. 15, 1993.

REMARKS.—Records fair except those for estimated daily discharges, which are poor. No regulation upstream from station. Fillmore Irrigation Co. has diverted water 1 mi upstream since September 1911. See schematic diagram of Santa Clara River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 73,000 ft³/s, Feb. 10, 1978, gage height, 22.40 ft, from rating curve extended above 17,000 ft³/s on basis of slope-area measurement at gage height 22.40 ft; maximum gage height, 24.95 ft, Feb. 25, 1969, from debris wave; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 1,300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	1800	445	6.77				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	22	e29	31	72	38	50	53	26	4.3	3.8	.90
2	32	21	e29	30	59	40	49	48	29	4.3	3.6	.90
3	32	21	e30	30	51	40	49	48	32	4.1	3.2	.85
4	32	20	e30	32	48	40	49	49	31	4.1	3.2	.83
5	31	20	e30	31	49	40	49	47	30	3.9	3.3	.83
6	30	e21	e31	30	48	39	55	46	28	3.8	3.1	.78
7	28	e21	e31	29	48	37	57	46	23	4.4	3.3	1.0
8	28	e21	e32	29	47	32	57	41	20	3.9	3.1	.77
9	28	e22	e32	28	146	34	57	40	19	4.9	3.2	.77
10	28	e25	33	27	199	34	56	40	19	4.5	3.1	.77
11	28	e31	33	27	97	32	117	40	18	4.5	2.9	.74
12	28	e32	34	28	66	34	263	37	16	4.4	2.9	.72
13	28	e32	33	28	58	33	233	35	16	4.3	2.9	.72
14	28	e30	33	27	57	33	222	34	15	4.4	2.7	.72
15	29	e28	34	27	54	59	191	34	14	4.9	2.7	.72
16	29	e26	32	27	50	53	143	33	13	4.8	2.7	.72
17	27	e26	32	27	49	47	114	33	12	4.9	2.6	.72
18	27	e26	31	27	47	42	97	35	12	4.9	2.6	.72
19	26	e27	31	26	49	43	92	32	12	5.2	2.5	.68
20	26	e27	30	26	48	48	83	31	11	4.3	2.1	.67
21	25	e27	31	26	46	53	74	31	11	3.9	1.3	.67
22	25	e28	31	27	45	53	70	30	10	4.0	1.3	.67
23	25	e28	31	27	44	49	71	30	10	4.2	1.2	.67
24	24	e28	31	30	43	49	70	29	9.8	4.2	1.1	.67
25	25	e27	31	62	42	74	67	35	9.6	4.2	1.0	.67
26	25	e27	32	73	42	79	60	37	9.1	4.0	.93	.67
27	24	e27	31	60	41	79	58	30	8.7	3.3	.97	.62
28	24	e33	30	52	39	72	58	34	8.3	3.8	.87	.60
29	23	e31	31	48	---	61	55	30	8.0	4.0	.79	.52
30	22	e28	30	47	---	57	48	26	6.5	4.0	.93	.46
31	22	---	31	85	---	52	---	27	---	3.8	.92	---
TOTAL	843	783	970	1104	1684	1476	2714	1141	487.0	132.2	70.81	21.75
MEAN	27.2	26.1	31.3	35.6	60.1	47.6	90.5	36.8	16.2	4.26	2.28	.73
MAX	34	33	34	85	199	79	263	53	32	5.2	3.8	1.0
MIN	22	20	29	26	39	32	48	26	6.5	3.3	.79	.46
AC-FT	1670	1550	1920	2190	3340	2930	5380	2260	966	262	140	43

e Estimated.

11113000 SESPE CREEK NEAR FILLMORE, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	5.43	40.9	99.9	245	500	362	166	55.0	20.0	7.99	4.14	3.96
MAX	55.4	1285	698	3378	4333	2301	1632	426	203	90.9	49.3	45.6
(WY)	1984	1966	1966	1969	1998	1978	1958	1998	1998	1998	1998	1939
MIN	.000	.000	.000	1.35	4.74	2.82	.67	.25	.000	.000	.000	.000
(WY)	1913	1930	1930	1948	1951	1961	1961	1961	1928	1928	1912	1912

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1911 - 1999

ANNUAL TOTAL	191212		11426.76									
ANNUAL MEAN	524		31.3							124		
HIGHEST ANNUAL MEAN										641		1969
LOWEST ANNUAL MEAN										1.78		1951
HIGHEST DAILY MEAN	21700	Feb 3				263	Apr 12		29100		Jan 25	1969
LOWEST DAILY MEAN	20	Nov 4				.46	Sep 30			.00	Jul 11	1912
ANNUAL SEVEN-DAY MINIMUM	21	Nov 2				.60	Sep 24			.00	Jul 11	1912
INSTANTANEOUS PEAK FLOW						445	Feb 9		73000		Feb 10	1978
INSTANTANEOUS PEAK STAGE						6.77	Feb 9			24.95	Feb 25	1969
ANNUAL RUNOFF (AC-FT)	379300		22660						89710			
10 PERCENT EXCEEDS	821		57						178			
50 PERCENT EXCEEDS	108		29						10			
90 PERCENT EXCEEDS	28		1.0						.20			

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 mi².

PERIOD OF RECORD.—October 1927 to current year. October 1995 to current year, operated by Ventura County Public Works Agency. March 1912 to September 1913, at site 1.2 mi upstream; records not equivalent.

CHEMICAL DATA: 1969–80.

WATER TEMPERATURE: 1969–71, 1974–75.

REVISED RECORDS.—WSP 1635: 1933(M), 1934, 1936(M), 1941(M). WDR CA-95-1: 1994. WSP 1715: Drainage area.

GAGE.—Water-stage recorder, crest-stage gage, and ultra-sonic sensor. Elevation of gage is 785 ft above sea level, from topographic map. Prior to Oct. 22, 1980, at various sites and datums 1.3 mi downstream. See WDR CA-79-1 for history of changes prior to Oct. 22, 1980. Prior to Feb. 12, 1992, at datum 5.0 ft higher at same site. High-flow data for 1996 recorded by sonic sensor gage set to sea level datum.

REMARKS.—Natural flow affected by pumping and return flow from irrigated areas. See schematic diagram of Santa Clara River Basin.

COOPERATION.—Records of discharge collected and provided by Ventura County Public Works Agency.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,000 ft³/s, Feb. 25, 1969, gage height, 15.18 ft, from floodmark, site and datum then in use, from rating curve extended above 2,300 ft³/s on basis of critical-depth measurement at gage height 12.2 ft; maximum gage height, 769.55 ft, Apr. 11, 1999, at present datum; no flow at times in 1927, 1949, 1951–52, 1965.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 11	1745	97	769.55				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	9.2	9.2	8.8	e12	8.6	9.7	8.0	6.8	3.3	3.0	2.1
2	14	9.6	10	7.6	e9.2	8.9	10	8.6	6.4	3.2	3.0	2.1
3	14	8.9	10	7.6	e9.2	6.8	8.5	8.2	6.7	3.3	2.6	2.0
4	13	8.6	11	8.4	e9.2	7.0	9.4	7.3	6.7	3.3	2.7	2.0
5	13	8.8	9.8	8.0	e9.7	8.3	9.1	8.5	6.3	3.6	2.7	2.0
6	13	8.5	10	8.7	e9.4	8.0	9.5	8.0	6.0	3.3	2.6	2.0
7	12	9.0	10	8.8	e9.2	7.9	11	6.8	5.5	e3.1	2.7	1.9
8	12	9.7	9.5	9.5	e9.4	8.2	9.3	6.7	5.3	e3.0	2.7	1.7
9	11	11	9.2	8.2	e39	8.5	9.3	6.4	5.2	2.8	2.6	1.8
10	11	9.8	9.6	8.7	e19	8.7	10	7.0	4.9	2.9	2.5	1.8
11	11	10	9.2	9.2	21	7.7	33	6.8	4.8	3.1	2.6	1.9
12	10	10	9.6	9.1	17	9.8	22	6.7	4.8	3.2	2.6	2.0
13	10	8.9	8.4	9.6	16	9.1	20	6.4	5.0	3.1	2.5	2.0
14	11	8.5	9.6	8.9	14	7.9	26	6.4	4.6	2.9	2.4	2.0
15	11	9.2	8.4	9.3	13	16	24	6.6	4.1	2.8	2.4	1.9
16	10	9.1	8.0	8.0	12	10	17	6.6	4.0	2.9	2.5	2.0
17	9.4	10	7.6	8.6	12	8.7	14	6.8	4.0	3.0	2.3	2.1
18	10	10	8.4	8.9	10	8.3	12	6.3	4.1	3.0	2.2	2.0
19	10	9.2	8.4	8.9	10	7.9	12	5.5	4.0	3.0	2.2	1.9
20	9.3	10	9.6	10	11	12	9.8	5.9	4.1	3.0	2.2	2.1
21	9.7	9.2	9.2	10	9.2	9.1	8.8	6.2	3.7	3.1	2.2	2.4
22	9.6	9.3	10	9.8	12	9.4	8.9	6.1	3.8	3.1	2.2	2.0
23	9.6	9.5	9.2	10	12	7.8	9.6	6.7	4.2	2.9	2.2	1.9
24	9.5	10	9.2	10	11	9.0	9.2	6.5	4.0	3.0	2.2	1.9
25	10	10	8.0	12	8.4	20	8.4	5.8	4.0	2.9	2.2	1.9
26	9.5	9.2	8.4	13	9.3	16	8.7	5.3	3.8	2.9	2.3	1.9
27	10	9.4	7.6	15	9.3	10	8.2	5.6	3.7	2.9	2.1	1.9
28	10	10	7.6	14	9.8	12	7.9	5.4	3.7	2.9	2.2	2.0
29	9.6	10	7.6	13	---	13	8.3	6.1	3.5	3.0	2.2	2.1
30	9.6	9.9	8.0	11	---	10	8.0	5.9	3.3	2.9	2.2	1.9
31	9.1	---	8.0	e17	---	9.6	---	6.8	---	2.9	2.2	---
TOTAL	334.9	284.5	278.3	309.6	352.3	304.2	371.6	205.9	141.0	94.3	75.2	59.2
MEAN	10.8	9.48	8.98	9.99	12.6	9.81	12.4	6.64	4.70	3.04	2.43	1.97
MAX	14	11	11	17	39	20	33	8.6	6.8	3.6	3.0	2.4
MIN	9.1	8.5	7.6	7.6	8.4	6.8	7.9	5.3	3.3	2.8	2.1	1.7
AC-FT	664	564	552	614	699	603	737	408	280	187	149	117

e Estimated.

11113500 SANTA PAULA CREEK NEAR SANTA PAULA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.14	8.15	15.8	46.1	85.6	68.9	34.5	14.1	8.10	4.96	3.22	3.10
MAX	18.8	183	128	718	841	454	375	78.7	46.4	26.9	16.5	24.5
(WY)	1984	1966	1967	1969	1969	1978	1958	1983	1983	1983	1983	1983
MIN	.000	.000	.000	.76	.97	1.69	.000	.081	.000	.000	.000	.000
(WY)	1929	1930	1930	1928	1930	1961	1928	1928	1928	1928	1928	1928

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1928 - 1999

ANNUAL TOTAL	2811.0		
ANNUAL MEAN	7.70	24.3	
HIGHEST ANNUAL MEAN		156	1969
LOWEST ANNUAL MEAN		1.37	1951
HIGHEST DAILY MEAN	39	Feb 9	8900
LOWEST DAILY MEAN	1.7	Sep 8	.00
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 5	.00
INSTANTANEOUS PEAK FLOW	97	Apr 11	21000
INSTANTANEOUS PEAK STAGE	769.55	Apr 11	769.55
ANNUAL RUNOFF (AC-FT)	5580		17610
10 PERCENT EXCEEDS	12		36
50 PERCENT EXCEEDS	8.4		4.9
90 PERCENT EXCEEDS	2.2		.90

1114000 SANTA CLARA RIVER AT MONTALVO, CA

LOCATION.—Lat 34°16'44", long 119°08'28" in Santa Clara Del Norte Grant, Ventura County, Hydrologic Unit 18070102, on right bank, downstream side of State Highway 118 bridge, and 0.8 mi southeast of Saticoy.

DRAINAGE AREA.—1,577 mi².

PERIOD OF RECORD.—October 1927 to September 1932, October 1949 to September 1988, October 1989 to September 1993, October 1995 to September 1996. Discharge measurements only October 1993 to September 1994 at site 3.9 mi downstream, October 1994 to November 1998 at present site. November 1998 to June 1999 at site upstream of Freeman Diversion, June 1999 to current year at present site. Monthly discharge only for 1950–65, published in WSP 2128 (daily discharge available in the files of the U.S. Geological Survey).

CHEMICAL DATA.—Water years 1968–85, 1989, 1991–1993.

REVISED RECORDS.—WSP 2128: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 120 ft above sea level, from topographic map. Oct. 1, 1927, to Sept. 30, 1932, Oct. 1, 1949, to Sept. 30, 1967, and Feb. 3, 1970, to Sept. 30, 1993, at site 3.9 mi downstream at different datums. Oct. 1, 1967, to Feb. 2, 1970, at present site at different datum. Feb. 9, 1984, to Jan. 27, 1993, supplementary gage 3.2 mi downstream at different datum. Oct. 1, 1995, to Nov. 23, 1998, at present site. Nov. 23, 1998, to June 25, 1999, at site 1.8 mi upstream at different datum. June 25, 1999, to current year at present site.

REMARKS.—Records poor. Flow partly regulated by Lake Piru (station 11109700), capacity, 88,340 acre-ft, 33 mi upstream since May 1955; by Pyramid Lake (station 11109520), capacity, 171,196 acre-ft, 42 mi upstream since December 1971; by Castaic Lake (station 11108133), 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. Discharge represents flow to the ocean regardless of upstream development. See schematic diagram of Santa Clara River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 165,000 ft³/s, Jan. 25, 1969, gage height, 17.41 ft, at datum 5.0 ft higher; no flow for long periods in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 2, 1938, reached a discharge of 120,000 ft³/s, estimated by Ventura County Flood Control District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e9.0	e12	e54	e17	e45	e.00	e3.0	e1.0	e.00	3.0	.00	.00
2	e5.0	e9.0	e43	e3.0	e32	e.00	e.00	e3.0	e8.0	3.1	.00	.00
3	e26	e.00	e47	e6.0	e34	e.00	e15	e1.0	e.00	3.0	.00	.00
4	e13	e6.0	e5.0	e.00	e.00	e.00	e2.0	e1.0	e5.0	2.9	.00	.00
5	e3.0	e.00	e2.0	e.00	e.00	e1.0	.00	e1.0	e4.0	2.6	.00	.00
6	e.00	e23	e32	e.00	e36	e7.0	.00	e1.0	e4.0	2.8	.00	.00
7	e9.0	e51	e1.0	e.00	e.00	e2.0	e34	e1.0	e.00	1.1	.00	.00
8	e4.0	e66	e.00	e2.0	e33	e.00	e164	e8.0	e.00	.02	.00	.00
9	e9.0	e40	e.00	e3.0	e225	e.00	e34	e1.0	e.00	.00	.00	.00
10	e17	e27	e.00	e3.0	e256	e34	e58	e5.0	e.00	.00	.00	.00
11	e8.0	e16	e10	.00	e64	e3.0	e263	e1.0	e.00	.00	.00	.00
12	e6.0	e.00	e.00	e.00	e40	e10	e668	e1.0	e1.0	.00	.00	.00
13	e2.0	e12	e3.0	.00	e46	e.00	e238	e1.0	e3.0	.00	.00	.00
14	e8.0	e.00	e2.0	.00	e.00	e2.0	e134	e1.0	e1.0	.00	.00	.00
15	e7.0	e3.0	e.00	e.00	e.00	e3.0	e77	e1.0	e.00	.00	.00	.00
16	e2.0	e1.0	e.00	e1.0	e.00	e178	e27	e1.0	e.00	.00	.00	.00
17	e15	e.00	e.00	e2.0	e1.0	e42	e.00	e2.0	e.00	.00	.00	.00
18	e7.0	e.00	e1.0	e.00	e.00	e39	e.00	e1.0	e.00	.00	.00	.00
19	e2.0	e3.0	e15	e.00	e.00	e37	e.00	e1.0	e.00	.00	.00	.00
20	e.00	e1.0	e5.0	e3.0	e1.0	e103	e.00	e1.0	e11	.00	.00	.00
21	e3.0	e53	e.00	e1.0	e.00	e210	e.00	e7.0	e.00	.00	.00	.00
22	e.00	e11	e.00	.00	e.00	e47	e.00	e1.0	e.00	.00	.00	.00
23	e65	e6.0	e35	.00	e.00	e36	e.00	e2.0	e.00	.00	.00	.00
24	e19	e.00	e3.0	e3.0	e.00	e38	e14	e4.0	e.00	.00	.00	.00
25	e9.0	e.00	e.00	e167	e.00	e39	e.00	e1.0	e1.9	.00	.00	.00
26	e9.0	e3.0	e2.0	e235	e.00	e44	e.00	e1.0	2.2	.00	.00	.00
27	e.00	e5.0	e.00	e116	e.00	e55	e.00	e1.0	1.9	.00	.00	.00
28	e.00	e47	e37	e99	e.00	e40	e6.0	e1.0	3.1	.00	.00	.00
29	e.00	e148	e.00	e140	---	e40	e.00	e1.0	2.8	.00	.00	.00
30	e.00	e62	e.00	e58	---	e40	e.00	e4.0	2.8	.00	.00	.00
31	e72	---	e.00	e87	---	e40	---	e4.0	---	.00	.00	---
TOTAL	329.00	605.00	297.00	946.00	813.00	1090.00	1737.00	61.0	51.70	18.52	0.00	0.00
MEAN	10.6	20.2	9.58	30.5	29.0	35.2	57.9	1.97	1.72	.60	.000	.000
MAX	72	148	54	235	256	210	668	8.0	11	3.1	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	1.0	.00	.00	.00	.00
AC-FT	653	1200	589	1880	1610	2160	3450	121	103	37	.00	.00

e Estimated.

11114000 SANTA CLARA RIVER AT MONTALVO, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.23	52.4	105	319	893	538	205	46.0	10.8	4.16	.66	1.40
MAX	72.0	1603	917	5477	7314	5985	2668	1102	268	97.4	23.9	31.7
(WY)	1997	1966	1966	1969	1969	1983	1958	1998	1998	1998	1998	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1928	1928	1930	1951	1951	1931	1950	1932	1928	1928	1928	1928

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1928 - 1999	
ANNUAL TOTAL	331371.50		5948.22			
ANNUAL MEAN	908		16.3		178	
HIGHEST ANNUAL MEAN					1229	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	60000	Feb 23	668	Apr 12	92300	Feb 25 1969
LOWEST DAILY MEAN	.00	Oct 6	.00	Oct 6	.00	Oct 1 1927
ANNUAL SEVEN-DAY MINIMUM	.86	Dec 12	.00	Feb 21	.00	Oct 1 1927
INSTANTANEOUS PEAK FLOW			763	Apr 12	165000	Jan 25 1969
INSTANTANEOUS PEAK STAGE			13.88	Apr 12	17.41	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	657300		11800		128600	
10 PERCENT EXCEEDS	1800		42		96	
50 PERCENT EXCEEDS	62		1.0		.00	
90 PERCENT EXCEEDS	2.0		.00		.00	

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 mi².

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 1565: 1957. WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage 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.—Records fair except for estimated daily discharges, which are poor. Flow partly regulated since March 1948 by Matilija Reservoir (station 11115000), usable capacity, 1,480 acre-ft, and since October 1959 by Lake Casitas (station 11119700), capacity, 267,000 acre-ft. Water diverted to Lake Casitas on Coyote Creek since January 1959. Diversion by city of Ventura for municipal supply began prior to 1911. For records of combined discharge of river and Ventura City Diversion (station 11118400), see station 11118501.

EXTREMES FOR PERIOD OF RECORD.—River only: Maximum discharge, 63,600 ft³/s, Feb. 10, 1978, gage height, 24.14 ft, from rating curve extended above 34,000 ft³/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 ft³/s, Feb. 10, 1978; no flow, Nov. 28, 29, 1977, Oct. 23–26, 1989, July 9–11, 1990, and many days during 1994.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	e17	29	15	28	18	17	29	13	6.6	6.4	e3.5
2	33	e17	26	16	24	19	17	22	14	6.9	5.8	e3.5
3	33	e16	24	16	23	20	17	22	14	7.1	6.8	e3.3
4	e28	e16	22	16	e24	21	17	22	14	7.1	6.7	e3.3
5	e27	e15	22	15	e25	21	17	22	14	6.8	4.8	e3.1
6	e25	e15	24	15	26	20	21	22	13	6.8	4.8	e2.8
7	e23	e15	22	15	27	20	25	21	13	6.4	5.0	e2.8
8	e23	e16	23	15	27	20	17	21	13	6.1	4.6	e2.7
9	e23	e16	22	14	43	20	19	21	13	5.7	4.4	e2.5
10	e23	e17	21	14	51	20	16	21	13	6.1	4.6	3.4
11	e23	25	20	14	39	20	36	21	13	6.8	4.9	3.3
12	e22	26	19	15	36	19	50	20	13	6.1	4.8	2.7
13	e22	26	18	14	34	19	30	19	13	6.2	4.7	2.8
14	e21	25	18	13	33	18	34	20	13	6.8	4.1	2.8
15	e21	23	18	13	31	31	34	22	12	7.1	2.9	2.5
16	e20	23	17	13	29	26	27	24	12	6.3	2.9	2.6
17	e20	23	18	13	30	18	27	26	12	7.1	2.8	2.6
18	e20	25	17	13	29	17	27	27	12	6.0	2.7	2.6
19	e20	24	17	13	28	17	25	24	12	4.7	3.1	2.8
20	e19	24	18	13	27	35	26	21	11	5.2	2.9	2.8
21	e19	23	18	12	26	20	25	19	11	5.7	2.8	2.6
22	e19	23	18	13	27	17	25	17	9.1	7.0	4.2	2.6
23	e19	21	17	13	27	16	28	17	7.7	6.0	4.8	2.6
24	e18	21	18	15	23	16	25	18	7.7	5.9	4.4	2.6
25	e18	20	19	53	21	33	25	17	7.5	6.1	4.3	3.0
26	e18	20	18	32	20	37	22	17	7.4	8.0	4.9	2.8
27	e18	21	18	33	19	29	24	15	7.4	6.3	4.4	1.4
28	e17	30	17	22	18	26	20	15	7.4	6.2	3.9	1.3
29	e17	25	17	20	---	24	25	15	7.4	6.3	4.3	e1.5
30	e17	22	16	20	---	18	31	15	7.2	6.4	4.2	e1.7
31	e17	---	15	43	---	18	---	12	---	6.0	e3.7	---
TOTAL	676	630	606	561	795	673	749	624	336.8	197.8	135.6	80.5
MEAN	21.8	21.0	19.5	18.1	28.4	21.7	25.0	20.1	11.2	6.38	4.37	2.68
MAX	33	30	29	53	51	37	50	29	14	8.0	6.8	3.5
MIN	17	15	15	12	18	16	16	12	7.2	4.7	2.7	1.3
AC-FT	1340	1250	1200	1110	1580	1330	1490	1240	668	392	269	160

e Estimated.

11118500 VENTURA RIVER NEAR VENTURA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.29	5.15	36.5	121	192	237	78.0	26.1	12.1	6.15	3.59	2.51
MAX	21.4	38.8	174	1103	1058	1951	874	226	103	56.1	35.8	21.2
(WY)	1942	1947	1932	1952	1941	1938	1941	1941	1941	1941	1941	1941
MIN	.000	.000	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000
(WY)	1930	1930	1930	1931	1930	1951	1949	1934	1934	1931	1930	1930

SUMMARY STATISTICS

WATER YEARS 1930 - 1957

ANNUAL MEAN	59.7
HIGHEST ANNUAL MEAN	354 1941
LOWEST ANNUAL MEAN	.000 1951
HIGHEST DAILY MEAN	17900 Mar 2 1938
LOWEST DAILY MEAN	.00 Oct 1 1929
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1929
INSTANTANEOUS PEAK FLOW	39200 Mar 2 1938
INSTANTANEOUS PEAK STAGE	19.20 Mar 2 1938
ANNUAL RUNOFF (AC-FT)	43230
10 PERCENT EXCEEDS	71
50 PERCENT EXCEEDS	1.9
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.93	14.5	25.7	145	331	207	75.8	36.2	15.9	8.14	4.19	3.43
MAX	40.9	278	234	1880	2919	1797	758	408	158	63.7	32.2	29.0
(WY)	1984	1966	1966	1969	1998	1983	1983	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1962	1965	1969	1976	1961	1990	1961	1961	1961	1961	1961	1961

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1960 - 1999

ANNUAL TOTAL	132936.6	6064.7	
ANNUAL MEAN	364	16.6	71.1
HIGHEST ANNUAL MEAN			383 1995
LOWEST ANNUAL MEAN			.29 1961
HIGHEST DAILY MEAN	20600	Feb 23	53 Jan 25
LOWEST DAILY MEAN	4.0	Jan 8	1.3 Sep 28
ANNUAL SEVEN-DAY MINIMUM	4.7	Jan 2	2.0 Sep 24
INSTANTANEOUS PEAK FLOW			106 Jan 31
INSTANTANEOUS PEAK STAGE			2.34 Apr 11
ANNUAL RUNOFF (AC-FT)	263700	12030	51480
10 PERCENT EXCEEDS	547	27	54
50 PERCENT EXCEEDS	41	17	3.4
90 PERCENT EXCEEDS	18	3.5	.00

VENTURA RIVER BASIN

11118501 VENTURA RIVER NEAR VENTURA, CA—Continued

VENTURA RIVER AND VENTURA CITY DIVERSION NEAR VENTURA

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	18	30	15	28	18	17	29	13	6.7	6.4	3.5
2	34	18	27	16	24	19	17	22	14	7.0	5.8	3.5
3	34	17	24	16	23	20	17	22	14	7.1	6.8	3.3
4	29	17	22	16	24	21	17	22	14	7.1	6.7	3.3
5	28	16	22	15	25	21	17	22	14	6.8	4.8	3.1
6	25	16	25	15	26	20	21	22	13	6.8	4.8	2.8
7	24	16	23	15	27	20	25	21	13	6.4	5.0	2.8
8	23	17	24	15	27	20	17	21	13	6.1	4.6	2.7
9	23	17	23	14	43	20	19	21	13	5.7	4.4	2.5
10	23	18	22	14	51	20	17	21	13	6.1	4.6	3.4
11	23	26	21	14	39	20	36	21	13	6.8	4.9	3.3
12	22	26	20	15	36	19	50	20	13	6.1	4.8	2.7
13	23	27	19	14	34	19	30	19	13	6.2	4.7	2.8
14	22	26	19	13	33	18	34	20	13	6.8	4.1	2.8
15	22	24	19	13	31	31	34	22	12	7.1	2.9	2.5
16	21	24	18	13	29	26	27	24	12	6.3	2.9	2.6
17	21	24	18	13	30	18	28	26	12	7.1	2.8	2.6
18	21	26	18	13	29	17	27	27	12	6.0	2.7	2.6
19	20	25	17	13	28	17	25	24	12	4.7	3.1	2.8
20	20	25	18	13	27	36	26	21	11	5.2	2.9	2.8
21	20	24	18	12	26	21	25	19	11	5.7	2.8	2.6
22	19	24	18	13	27	17	25	17	9.4	7.0	4.2	2.6
23	19	22	18	13	27	16	28	17	8.0	6.0	4.8	2.6
24	19	22	19	15	23	16	25	18	8.0	5.9	4.4	2.6
25	19	21	19	53	22	33	25	17	7.6	6.1	4.3	3.0
26	19	21	18	32	21	37	22	17	7.4	8.0	4.9	2.8
27	19	22	18	33	20	29	24	15	7.4	6.3	4.4	1.4
28	18	30	17	22	19	26	20	15	7.4	6.2	3.9	1.3
29	18	25	17	20	---	24	25	15	7.4	6.3	4.3	1.5
30	18	23	16	20	---	18	31	15	7.2	6.4	4.2	1.7
31	18	---	15	43	---	18	---	12	---	6.0	3.7	---
TOTAL	698	657	622	561	799	675	751	624	337.8	198.0	135.6	80.5
MEAN	22.5	21.9	20.1	18.1	28.5	21.8	25.0	20.1	11.3	6.39	4.37	2.68
MAX	34	30	30	53	51	37	50	29	14	8.0	6.8	3.5
MIN	18	16	15	12	19	16	17	12	7.2	4.7	2.7	1.3
AC-FT	1380	1300	1230	1110	1580	1340	1490	1240	670	393	269	160

11118501 VENTURA RIVER NEAR VENTURA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1933 - 1957, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.12	9.68	33.2	138	191	266	91.0	35.4	20.8	13.2	9.67	8.33
MAX	27.8	45.3	115	1106	1061	1953	877	232	110	65.0	43.2	28.7
(WY)	1942	1947	1937	1952	1941	1938	1941	1941	1941	1941	1941	1941
MIN	.39	.29	.14	2.16	1.72	2.71	2.54	1.34	1.64	.92	.37	.23
(WY)	1936	1937	1933	1949	1949	1951	1951	1933	1936	1936	1935	1935

SUMMARY STATISTICS

WATER YEARS 1933 - 1957

ANNUAL TOTAL	
ANNUAL MEAN	72.9
HIGHEST ANNUAL MEAN	359 1941
LOWEST ANNUAL MEAN	2.31 1951
HIGHEST DAILY MEAN	17900 Mar 2 1938
LOWEST DAILY MEAN	.00 Apr 27 1934
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1934
INSTANTANEOUS PEAK FLOW	63600 Feb 10 1978
INSTANTANEOUS PEAK STAGE	29.30 Feb 25 1969
ANNUAL RUNOFF (AC-FT)	52800
10 PERCENT EXCEEDS	84
50 PERCENT EXCEEDS	11
90 PERCENT EXCEEDS	2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	8.75	19.9	30.7	150	337	214	83.7	44.8	24.5	16.4	11.7	10.1
MAX	50.3	282	240	1883	2919	1804	766	409	160	65.8	33.0	29.0
(WY)	1984	1966	1966	1969	1998	1983	1983	1998	1998	1998	1998	1998
MIN	.000	.000	.11	1.88	2.04	3.17	3.19	2.89	2.07	1.48	.63	.005
(WY)	1995	1995	1995	1991	1961	1961	1961	1961	1961	1961	1994	1994

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1960 - 1999

ANNUAL TOTAL	133270.6	6138.9	
ANNUAL MEAN	365	16.8	77.9
HIGHEST ANNUAL MEAN			384 1995
LOWEST ANNUAL MEAN			2.22 1961
HIGHEST DAILY MEAN	20600 Feb 23	53 Jan 25	22000 Feb 9 1978
LOWEST DAILY MEAN	4.0 Jan 8	1.3 Sep 28	.00 Nov 28 1977
ANNUAL SEVEN-DAY MINIMUM	4.7 Jan 2	2.0 Sep 24	.00 Sep 7 1994
ANNUAL RUNOFF (AC-FT)	264300	12180	56420
10 PERCENT EXCEEDS	547	28	61
50 PERCENT EXCEEDS	43	18	12
90 PERCENT EXCEEDS	18	3.5	3.2

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, 1975–81, 1986.

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, and October 1985 to September 1986.

SUSPENDED-SEDIMENT DISCHARGE: October 1968 to September 1973, October 1974 to September 1981, and October 1985 to September 1986.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE D (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE D (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
DEC 1998						
23...	1205	18	10.0	14	.69	--
JAN 1999						
11...	1330	13	15.5	8	.28	--
25...	1420	41	15.0	49	5.5	--
MAR						
15...	1725	45	14.0	18	2.1	54
25...	1215	28	13.5	28	2.1	--

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 mi².

PERIOD OF RECORD.—January 1941 to September 1977, October 1978 to current year.

REVISED RECORDS.—WSP 1061: 1943. WSP 1928: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 130 ft above sea level, 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.—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 from Gobernador Creek by Gobernador Land and Water Co. At times this lake is drained by pumping water back into Gobernador Creek 1,000 ft upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 8,880 ft³/s, Dec. 27, 1971, gage height, 14.10 ft, from floodmark, from rating curve extended above 130 ft³/s on basis of slope-area measurement of peak flow; no flow at times each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 125 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	2015	45	3.90				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.59	1.9	.16	1.4	.36	1.1	.43	.18	.00	.00	.00
2	2.3	.75	1.2	.18	.90	.32	.84	.47	.22	.00	.00	.00
3	2.3	.88	.62	.17	.85	.32	.92	.50	.23	.00	.00	.00
4	2.2	.83	.54	.21	.83	.34	.80	.54	.23	.00	.00	.00
5	2.1	.83	.49	.25	.84	.36	.70	.51	.14	.00	.00	.00
6	1.9	.80	.70	.23	.77	.35	2.3	.36	.12	.00	.00	.00
7	1.9	.69	.42	.25	.62	.32	3.0	.28	.04	.00	.00	.00
8	1.9	2.2	.38	.26	.62	.32	1.6	.25	.00	.00	.00	.00
9	1.7	1.3	.36	.27	12	1.1	1.3	.27	.03	.00	.00	.00
10	1.6	.97	.25	.31	8.0	.68	1.1	.31	.08	.00	.00	.00
11	1.5	.87	.23	.33	3.1	.59	13	.32	.03	.00	.00	.00
12	1.4	.83	.25	.37	3.0	.57	12	.29	.06	.00	.00	.00
13	1.2	.83	.25	.35	3.7	.36	4.8	.23	.00	.00	.00	.00
14	1.3	.78	.23	.36	1.4	.36	3.1	.25	.00	.00	.00	.00
15	1.3	.69	.23	.37	1.0	6.2	2.4	.25	.00	.00	.00	.00
16	1.2	.62	.22	.35	.83	3.3	1.8	.24	.00	.00	.00	.00
17	1.1	.62	.20	.41	.83	1.2	1.2	.19	.00	.00	.00	.00
18	.95	.62	.15	.43	.73	.75	.84	.11	.00	.00	.00	.00
19	.81	.62	.19	.49	.70	.59	.82	.13	.00	.00	.00	.00
20	.70	.57	.20	.81	.64	4.7	.66	.18	.00	.00	.00	.00
21	.62	.50	.20	.79	.52	1.5	.57	.26	.00	.00	.00	.00
22	.55	.47	.20	.60	.44	.92	.58	.29	.00	.00	.00	.00
23	.52	.47	.19	.54	.62	.72	.77	.36	.00	.00	.00	.00
24	.50	.47	.19	1.8	.59	.77	.82	.36	.00	.00	.00	.00
25	.59	.41	.18	3.5	.38	7.9	.62	.28	.00	.00	.00	.00
26	.57	.41	.18	2.3	.36	4.8	.60	.20	.00	.00	.00	.00
27	.58	.41	.17	2.5	.36	2.0	.58	.22	.00	.00	.00	.00
28	.63	1.5	.14	.80	.36	1.5	.55	.18	.00	.00	.00	.00
29	.64	1.3	.15	.71	---	1.3	.36	.20	.00	.00	.00	.00
30	.61	.66	.15	.81	---	1.1	.38	.24	.00	.00	.00	.00
31	.53	---	.14	3.8	---	1.0	---	.24	---	.00	.00	---
TOTAL	37.90	23.49	10.90	24.71	46.39	46.60	60.11	8.94	1.36	0.00	0.00	0.00
MEAN	1.22	.78	.35	.80	1.66	1.50	2.00	.29	.045	.000	.000	.000
MAX	2.3	2.2	1.9	3.8	12	7.9	13	.54	.23	.00	.00	.00
MIN	.50	.41	.14	.16	.36	.32	.36	.11	.00	.00	.00	.00
AC-FT	75	47	22	49	92	92	119	18	2.7	.00	.00	.00

11119500 CARPINTERIA CREEK NEAR CARPINTERIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.12	.81	2.57	13.3	18.1	9.84	4.31	1.12	.47	.24	.12	.12
MAX	3.59	16.7	38.9	242	274	83.8	67.8	13.7	6.24	4.35	3.07	3.32
(WY)	1984	1966	1967	1995	1998	1995	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1946	1944	1948	1945	1948	1947	1947	1945	1942	1942	1942	1942

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1941 - 1999	
ANNUAL TOTAL	11051.99		260.40			
ANNUAL MEAN	30.3		.71		4.02	
HIGHEST ANNUAL MEAN					33.5	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	1690	Feb 23	13	Apr 11	4000	Jan 10 1995
LOWEST DAILY MEAN	.00	Jan 1	.00	Jun 8	.00	Jan 4 1941
ANNUAL SEVEN-DAY MINIMUM	.16	Dec 25	.00	Jun 13	.00	Nov 18 1941
INSTANTANEOUS PEAK FLOW			45		8880	
INSTANTANEOUS PEAK STAGE			3.90		14.10	
ANNUAL RUNOFF (AC-FT)	21920		517		2910	
10 PERCENT EXCEEDS	51		1.6		3.5	
50 PERCENT EXCEEDS	4.3		.34		.00	
90 PERCENT EXCEEDS	.47		.00		.00	

1119745 MISSION CREEK AT ROCKY NOOK PARK, AT SANTA BARBARA, CA

LOCATION.—Lat 34°26'26", long 119°42'39", in Santa Barbara County, Hydrologic Unit 18060013, on right bank, 50 ft southeast of entrance to Rocky Nook Park, 75 ft upstream from bridge on Los Olivos Street, in Santa Barbara.

DRAINAGE AREA.—6.60 mi².

PERIOD OF RECORD.—Water years 1984–86, October 1997 to current year.

WATER TEMPERATURE: Water years 1984–86 (storm season only).

SEDIMENT DATA: Water years 1984–86 (storm season only).

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 335 ft above sea level, from topographic map.

REMARKS.—Records poor.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,010 ft³/s, Feb. 3, 1998, gage height, 9.52 ft, from rating curve extended above 838 ft³/s; no flow at times in most years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e. 59	.38	.57	.48	.67	.97	e. 44	e. 31	.29	.18	.20	.18
2	e. 58	.39	.55	.44	.61	.92	e. 42	e. 31	.32	.19	.20	.23
3	e. 57	.38	.51	.43	.63	.89	e. 40	e. 32	.34	.23	.17	.23
4	e. 56	.36	.50	.42	.64	.89	e. 45	e. 30	.36	.23	.12	.25
5	e. 55	.36	.51	.42	.75	.88	e. 41	.28	.35	.20	.14	.26
6	e. 54	.37	.68	.43	.67	.84	e. 63	.27	.31	.16	.15	.27
7	e. 53	.40	.58	.41	.64	.82	e. 46	.26	.27	.14	.14	.26
8	e. 52	.55	.64	.43	.64	.79	e. 39	.26	.26	.14	.10	.25
9	e. 51	.55	.69	.40	6.8	.99	e. 47	.26	.25	.13	.08	.24
10	e. 50	.55	.68	.38	1.8	.90	e. 36	.26	.23	.12	.08	e. 23
11	e. 49	.60	.60	.38	.90	1.1	e. 55	.25	.22	.11	.16	e. 22
12	e. 48	.59	.52	.38	.76	.79	e. 89	.23	.22	.11	.12	e. 21
13	e. 47	.48	.53	.39	.71	.62	e. 53	.23	.21	.09	.13	e. 20
14	e. 46	.35	.55	.38	.70	.62	e. 53	.23	.19	.06	.14	e. 19
15	e. 45	.36	.54	.36	.69	1.8	e. 49	.24	.17	.07	.12	e. 18
16	e. 44	.35	.53	.44	.75	.99	e. 44	.24	.24	.07	.09	e. 17
17	e. 43	.36	.74	.36	.84	.72	e. 41	.23	.13	.06	.06	e. 16
18	e. 42	.36	.55	.36	.81	.67	e. 39	.22	.14	.05	.05	e. 15
19	e. 41	.36	.57	.39	.79	.82	e. 39	.21	.14	.05	.04	e. 14
20	e. 40	.36	.56	.56	.66	1.6	e. 37	.22	.15	.06	.04	e. 13
21	e. 40	.35	.54	.53	.85	.79	e. 36	.23	.17	.04	.03	e. 12
22	.40	.36	.54	.51	.90	.73	e. 36	.24	.19	.03	.03	e. 12
23	.39	.38	.54	.53	.91	.73	e. 35	.27	.18	.03	.03	e. 11
24	.39	.40	.53	.91	.92	.70	e. 35	.27	.24	.03	.03	e. 10
25	.45	.40	.52	.98	.93	9.0	e. 35	.26	.18	.03	.03	e. 10
26	.46	.37	.54	1.4	.96	e2.3	e. 33	.26	.18	.03	.02	e. 09
27	.46	.37	.51	1.2	.98	e. 70	e. 32	.26	.19	.05	.01	e. 08
28	.41	.58	.48	.95	.98	e. 60	e. 32	.27	.20	.16	.01	e. 08
29	.40	.33	.49	.93	---	e. 53	e. 30	.29	.19	.16	.02	e. 07
30	.39	.28	.48	.98	---	e. 49	e. 29	.29	.19	.17	.02	e. 07
31	.37	---	.47	2.6	---	e. 45	---	.27	---	.19	.10	---
TOTAL	14.42	12.28	17.24	19.76	28.89	35.64	12.75	8.04	6.70	3.37	2.66	5.09
MEAN	.47	.41	.56	.64	1.03	1.15	.43	.26	.22	.11	.086	.17
MAX	.59	.60	.74	2.6	6.8	9.0	.89	.32	.36	.23	.20	.27
MIN	.37	.28	.47	.36	.61	.45	.29	.21	.13	.03	.01	.07
AC-FT	29	24	34	39	57	71	25	16	13	6.7	5.3	10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1999, BY WATER YEAR (WY)

MEAN	.13	.51	3.69	1.67	31.0	3.84	1.66	1.83	.85	.49	.34	.20
MAX	.47	1.52	9.47	5.79	138	9.55	6.20	8.39	3.18	2.27	1.60	.79
(WY)	1999	1984	1998	1998	1998	1986	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.39	.20	.67	.29	.28	.039	.029	.010	.007	.008
(WY)	1998	1998	1986	1986	1984	1985	1984	1985	1984	1984	1984	1984

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1984 - 1999
ANNUAL TOTAL	4997.63	166.84	
ANNUAL MEAN	13.7	.46	4.36
HIGHEST ANNUAL MEAN			14.4
LOWEST ANNUAL MEAN			.46
HIGHEST DAILY MEAN	524 Feb 3	9.0 Mar 25	524 Feb 3 1998
LOWEST DAILY MEAN	.28 Nov 30	.01 Aug 27	.00 Aug 15 1984
ANNUAL SEVEN-DAY MINIMUM	.36 Nov 14	.02 Aug 24	.00 Aug 15 1984
INSTANTANEOUS PEAK FLOW		34 Mar 25	1010 Feb 3 1998
INSTANTANEOUS PEAK STAGE		5.51 Mar 25	9.52 Feb 3 1998
ANNUAL RUNOFF (AC-FT)	9910	331	3160
10 PERCENT EXCEEDS	14	.82	3.4
50 PERCENT EXCEEDS	2.0	.37	.33
90 PERCENT EXCEEDS	.45	.09	.01

e Estimated.

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 mi².

PERIOD OF RECORD.—October 1970 to current year.

GAGE.—Water-stage recorder, low-flow concrete control and crest-stage gage. Concrete-lined channel. Elevation of gage is 105 ft above sea level, from topographic map.

REMARKS.—Records good. At times water is released to creek for ground-water recharge from Gibraltar Tunnel several miles upstream. Control installed Nov. 26, 1979.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,090 ft³/s, Feb. 23, 1998, gage height, 5.67 ft, from rating curve extended above 41 ft³/s on basis of computation of flow in concrete-lined channel; maximum gage height, 6.60 ft, Jan. 10, 1995; no flow most of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 31	0345	204	2.76				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.00	3.0	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	2.6	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.00	.00	6.8	.00	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	2.9	.00	.00	.00	.00	.00	.00	.00	.00	.00
5	.00	.00	.00	.00	2.0	.00	.00	.00	.00	.00	.00	.00
6	.00	.00	.42	.00	.68	.00	1.6	.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	.66	.00	.00	.00	.00	.00
9	.00	.00	.00	.00	11	.00	.00	.00	.00	.00	.00	.00
10	.00	.00	.00	.00	.68	.00	.00	.00	.00	.00	.00	.00
11	.00	.00	.00	.00	.00	.14	16	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.41	.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	6.2	.00	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	.00	3.7	.00	.00	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	1.2	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	.00	.00	.00	.73	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	.00	.00	.00	25	.00	.00	.00	.00	.00	.00
26	.00	.00	.00	2.5	.00	1.3	.00	.00	.00	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
28	.00	.66	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	.00	8.7	---	.00	---	.00	---	.00	.00	---
TOTAL	0.03	0.66	15.72	11.93	14.36	37.54	18.67	0.00	0.00	0.00	0.00	0.00
MEAN	.001	.022	.51	.38	.51	1.21	.62	.000	.000	.000	.000	.000
MAX	.03	.66	6.8	8.7	11	25	16	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.06	1.3	31	24	28	74	37	.00	.00	.00	.00	.00

11119750 MISSION CREEK NEAR MISSION STREET, AT SANTA BARBARA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.15	1.07	2.61	8.94	15.8	9.07	2.17	1.10	.19	.022	.038	.14
MAX	2.01	14.0	13.9	79.9	176	62.3	17.2	11.3	1.97	.49	1.08	1.37
(WY)	1984	1973	1972	1995	1998	1978	1983	1998	1998	1983	1983	1983
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1975	1973	1976	1972	1972	1972	1972	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	6508.24		98.91			
ANNUAL MEAN	17.8		.27		3.37	
HIGHEST ANNUAL MEAN					18.4	
LOWEST ANNUAL MEAN					.12	
HIGHEST DAILY MEAN	718	Feb 23	25	Mar 25	1390	Jan 10 1995
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 2	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 27	.00	Oct 2	.00	Oct 1 1970
INSTANTANEOUS PEAK FLOW			204		3090	
INSTANTANEOUS PEAK STAGE			2.76		6.60	
ANNUAL RUNOFF (AC-FT)	12910		196		2440	
10 PERCENT EXCEEDS	25		.00		3.7	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 mi².

PERIOD OF RECORD.—October 1970 to current year.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 60 ft above sea level, from topographic map.

REMARKS.—Records fair, except for estimated daily discharges, which are poor. No regulation upstream from station. Some pumping for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,600 ft³/s, Mar. 10, 1995, gage height, 10.16 ft, from rating curve extended above 3,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	1430	56	1.93				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	.09	2.4	e.12	.57	.39	.34	.54	.00	.00	.00	.00
2	1.5	.06	e.51	e.12	.42	.26	.24	.70	.00	.07	.00	.00
3	1.5	.01	e.40	e.12	.39	.08	.12	.64	.06	.00	.00	.00
4	1.5	.05	e.33	e.13	.39	.09	.09	.40	.00	.00	.00	.00
5	1.1	.10	e.28	e.13	.49	.16	.07	.26	.00	.00	.00	.00
6	.72	.11	e.24	e.14	.63	.16	.73	.42	.00	.00	.00	.00
7	.72	.08	e.22	e.15	.63	.26	.23	.41	.00	.00	.00	.00
8	.67	.41	e.19	e.15	.63	.16	.15	.39	.00	.00	.00	.00
9	.89	.11	e.17	e.16	8.7	.90	.14	e.25	.00	.00	.00	.00
10	.64	.00	e.16	e.17	2.0	.48	.03	.16	.00	.00	.00	.00
11	1.0	.05	e.15	e.18	1.1	1.1	4.6	.52	.00	.00	.00	.00
12	.87	.10	e.14	e.19	.84	.42	1.4	.56	.00	.00	.00	.00
13	.80	.07	e.13	e.20	.79	.07	.32	e.30	.00	.00	.00	.00
14	.90	.00	e.12	e.21	.80	.03	.13	e.30	.00	.00	.00	.00
15	.65	.01	e.11	e.23	.86	2.7	.18	e.30	.00	.00	.00	.00
16	.65	.02	e.11	e.25	.79	.52	.14	e.24	.00	.00	.00	.00
17	.37	.04	e.10	e.27	.71	.36	.09	e.35	.00	.00	.00	.00
18	.43	.05	e.10	e.29	.69	.21	.14	e.35	.00	.00	.00	.00
19	.19	.00	e.09	e.31	.68	1.9	.08	e.35	.00	.00	.00	.00
20	.11	.00	e.08	e.34	.66	3.9	.09	e.35	.00	.00	.00	.00
21	.08	.01	e.07	e.39	.62	.89	.07	e.30	.00	.00	.00	.00
22	.07	.01	e.07	.28	.49	.66	.16	e.30	.00	.00	.00	.00
23	.15	.04	e.08	.23	.47	.53	.19	.38	.00	.00	.00	.00
24	.08	.00	e.08	.74	.69	.45	.85	.15	.00	.00	.00	.00
25	.23	.01	e.08	1.2	.60	21	1.0	.00	.00	.00	.00	.00
26	.12	.03	e.09	3.3	.58	2.6	.80	.00	.00	.00	.00	.00
27	.00	.10	e.10	1.2	.58	.79	.69	.00	.00	.00	.00	.00
28	.00	2.2	e.10	.92	.55	.79	1.2	.00	.00	.00	.00	.00
29	.00	.55	e.11	.92	---	.61	.68	.00	.00	.00	.00	.00
30	.00	.39	e.11	.79	---	.39	.68	.00	.00	.00	.00	.00
31	.01	---	e.11	3.7	---	.35	---	.00	---	.00	.00	---
TOTAL	17.35	4.70	7.03	17.53	27.35	43.21	15.63	8.92	0.06	0.07	0.00	0.00
MEAN	.56	.16	.23	.57	.98	1.39	.52	.29	.002	.002	.000	.000
MAX	1.5	2.2	2.4	3.7	8.7	21	4.6	.70	.06	.07	.00	.00
MIN	.00	.00	.07	.12	.39	.03	.03	.00	.00	.00	.00	.00
AC-FT	34	9.3	14	35	54	86	31	18	.1	.1	.00	.00

e Estimated.

11119940 MARIA YGNACIO CREEK AT UNIVERSITY DRIVE, NEAR GOLETA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.12	.26	1.37	5.74	9.12	7.37	1.50	.77	.37	.29	.12	.083
MAX	2.05	2.35	8.18	61.2	70.4	32.9	15.9	14.4	8.10	7.47	2.66	1.36
(WY)	1984	1983	1984	1995	1998	1978	1998	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.002	.001	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1975	1990	1989	1977	1972	1972	1972	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR	FOR 1999 WATER YEAR	WATER YEARS 1971 - 1999
ANNUAL TOTAL	4068.73	141.85	
ANNUAL MEAN	11.1	.39	2.23
HIGHEST ANNUAL MEAN			11.4 1998
LOWEST ANNUAL MEAN			.039 1990
HIGHEST DAILY MEAN	324 Feb 23	21 Mar 25	629 Jan 10 1995
LOWEST DAILY MEAN	.00 Jan 6	.00 Oct 27	.00 Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.01 Nov 19	.00 May 25	.00 Oct 1 1970
INSTANTANEOUS PEAK FLOW		56 Mar 25	4600 Mar 10 1995
INSTANTANEOUS PEAK STAGE		1.93 Mar 25	10.16 Mar 10 1995
ANNUAL RUNOFF (AC-FT)	8070	281	1610
10 PERCENT EXCEEDS	19	.80	1.9
50 PERCENT EXCEEDS	5.5	.10	.00
90 PERCENT EXCEEDS	.08	.00	.00

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 mi².

PERIOD OF RECORD.—October 1941 to current year. Prior to October 1947, published as "Alascadero Creek near Goleta."

SEDIMENT CONCENTRATION: Water year 1982.

SUSPENDED-SEDIMENT DISCHARGE: Water year 1982.

WATER TEMPERATURE: Water year 1982.

REVISED RECORDS.—WSP 1635: 1943–45(M), 1947(M). WSP 1928: Drainage area.

GAGE.—Water-stage recorder and broad-crested weir. 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; Oct. 1, 1976, to Sept. 30, 1978, at datum 2.00 ft higher, both at present site.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Small diversions for irrigation upstream from station. Some low-flow results from return irrigation wastewater.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 10,200 ft³/s, Mar. 10, 1995, gage height, 12.45 ft, present datum, from rating curve extended above 6,900 ft³/s; maximum gage height, 17.3 ft, from floodmark, Dec. 3, 1974, present datum; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 260 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	1115	311	3.12	Apr. 11	1415	275	3.02

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.1	e.05	27	e.26	3.2	.27	.97	1.6	.08	1.1	.01	.04
2	e.95	e.04	1.6	e.26	.55	.22	.74	1.6	.08	.35	.00	.05
3	e.78	e.04	e.78	e.27	.42	.21	.59	1.5	.12	.25	.00	.04
4	e.64	.04	e.60	e.27	.39	.19	.59	1.5	.11	.20	.11	.04
5	e.51	.03	e.50	e.27	.48	.21	.51	1.6	.20	.13	.13	.04
6	e.45	.03	e.45	e.27	.39	.21	14	1.5	.49	.17	.03	.06
7	e.39	.04	e.42	e.28	.35	.22	3.4	1.5	.46	.90	.01	.04
8	e.33	3.1	e.38	e.28	.36	.21	3.6	1.5	.45	.10	.01	.04
9	e.29	.08	e.35	e.29	41	1.9	1.2	1.5	.36	.04	.00	.08
10	e.25	.03	e.33	e.29	5.9	.37	.55	1.5	.36	.04	.00	.05
11	e.23	.04	e.32	e.30	2.7	3.2	82	1.3	.36	.04	.03	.04
12	e.20	.37	e.30	e.30	.89	.48	16	1.3	.33	.03	.02	.04
13	e.18	.08	e.29	e.31	.61	.38	7.2	1.3	.26	.03	.02	.05
14	e.16	.05	e.28	e.31	.51	.30	2.5	1.3	.33	.03	.05	.05
15	e.14	.06	e.28	e.32	.45	6.8	2.4	1.3	.31	.05	.05	.06
16	e.13	.17	e.27	e.32	.45	3.4	2.2	1.3	.29	.23	.01	.23
17	e.12	.09	e.26	e.33	.45	.90	2.0	1.3	1.2	.51	.00	.08
18	e.11	.14	e.26	e.34	.43	.69	2.0	1.3	1.3	.51	.00	.06
19	e.10	.11	e.26	e.34	.37	2.0	1.9	1.3	1.4	.53	.00	.08
20	e.09	.03	e.25	e.35	.32	7.8	1.8	1.3	1.4	.54	.01	.07
21	e.08	.04	e.25	e.37	.32	3.0	1.6	1.3	1.3	.57	.01	.05
22	e.08	.07	e.25	.23	.27	1.7	1.6	1.3	1.3	.55	.02	.06
23	e.07	.49	e.25	.20	.24	1.8	1.6	1.3	1.2	.19	.02	.07
24	e.07	.03	e.25	5.5	.27	1.4	1.6	1.3	1.2	.06	.11	.05
25	e.06	.02	e.25	3.2	.26	121	1.6	1.3	1.2	.03	.03	.06
26	e.06	.02	e.25	22	.24	13	1.6	1.3	.52	.02	.07	.04
27	e.06	.02	e.25	2.6	.24	3.5	1.6	e1.3	.28	.04	.05	.04
28	e.05	22	e.25	.71	.22	2.1	2.2	e1.2	.29	.02	.05	.04
29	e.05	1.3	e.25	.46	---	1.7	1.6	e1.1	.90	.04	.05	.04
30	e.05	.55	e.26	.38	---	1.3	1.6	e1.0	1.2	.04	.04	.04
31	e.05	---	e.26	29	---	.92	---	e.90	---	.01	.04	---
TOTAL	7.83	29.16	37.95	70.61	62.28	181.38	162.75	41.60	19.28	7.35	0.98	1.73
MEAN	.25	.97	1.22	2.28	2.22	5.85	5.43	1.34	.64	.24	.032	.058
MAX	1.1	22	27	29	41	121	82	1.6	1.4	1.1	.13	.23
MIN	.05	.02	.25	.20	.22	.19	.51	.90	.08	.01	.00	.04
AC-FT	16	58	75	140	124	360	323	83	38	15	1.9	3.4

e Estimated.

11120000 ATASCADERO CREEK NEAR GOLETA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.35	3.27	5.44	17.8	23.0	16.7	4.11	.99	.24	.11	.090	.26
MAX	8.08	49.8	41.5	230	266	158	63.5	24.5	4.50	3.42	1.84	4.68
(WY)	1984	1966	1967	1969	1998	1998	1958	1998	1998	1998	1998	1976
MIN	.000	.000	.000	.000	.000	.010	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1943	1951	1948	1990	1950	1942	1942	1942	1942	1942

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1942 - 1999	
ANNUAL TOTAL	14751.07		622.90			
ANNUAL MEAN	40.4		1.71		5.95	
HIGHEST ANNUAL MEAN					40.7	
LOWEST ANNUAL MEAN					.018	
HIGHEST DAILY MEAN	979	Feb 3	121	Mar 25	2410	Jan 25 1969
LOWEST DAILY MEAN	.02	Nov 25	.00	Aug 2	.00	Oct 1 1941
ANNUAL SEVEN-DAY MINIMUM	.04	Nov 1	.01	Aug 16	.00	Oct 1 1941
INSTANTANEOUS PEAK FLOW			311		10200	
INSTANTANEOUS PEAK STAGE			3.12		17.30	
ANNUAL RUNOFF (AC-FT)	29260		1240		4310	
10 PERCENT EXCEEDS	127		1.8		3.3	
50 PERCENT EXCEEDS	3.7		.29		.03	
90 PERCENT EXCEEDS	.12		.04		.00	

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 mi².

PERIOD OF RECORD.—January 1941 to January 1995, October 1995 to current year.

CHEMICAL DATA: Water years 1978–91.

REVISED RECORDS.—WSP 1928: Drainage area.

GAGE.—Water-stage recorder, crest-stage gage, 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.—Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Many small diversions upstream from station for irrigation.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,000 ft³/s, Jan. 25, 1969, gage height, 10.10 ft, from rating curve extended above 400 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	unknown	unknown	unknown				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.49	e.19	1.3	.13	1.0	1.2	e.84	e.52	e.41	e.30	.15	.08
2	.88	e.19	1.0	.14	.87	.89	e.80	e.52	e.41	e.30	.15	.08
3	.83	e.18	.86	.17	.87	e.80	e.76	e.51	e.40	e.30	.12	.08
4	.52	e.18	.69	.18	.73	e.73	e.72	e.51	e.40	e.30	.14	.08
5	.67	e.19	.54	.12	.59	e.70	e.70	e.51	e.39	e.29	.15	.14
6	e.62	.28	.87	.10	.47	e.67	e.67	e.51	e.39	e.29	.12	.32
7	e.56	.34	.61	.10	.39	e.66	e.65	e.50	e.38	.27	.12	.13
8	e.50	.64	.45	.11	.33	e.64	e.63	e.50	e.38	.23	.12	.07
9	e.46	.56	.42	.11	18	e.62	e.62	e.50	e.38	.08	.10	.07
10	e.43	.51	.39	.12	18	e.61	e.60	e.49	e.37	.20	.11	e.07
11	e.40	.63	.35	.15	9.9	e.60	e.58	e.49	e.37	.15	.12	e.07
12	e.38	.63	.45	.14	9.5	e.59	e.57	e.49	e.36	.20	.11	e.07
13	e.36	.49	1.3	.10	8.6	e.58	e.56	e.48	e.36	.27	.10	e.07
14	e.34	.42	1.5	.11	7.7	.90	e.54	e.48	e.36	.67	.10	e.07
15	e.32	.51	1.1	.10	7.5	10	e.54	e.48	e.36	.23	.10	e.07
16	e.31	.41	.99	.09	7.5	8.0	e.54	e.47	e.35	.23	.10	e.07
17	e.29	.21	.89	.15	7.5	11	e.54	e.47	e.35	.27	.10	e.07
18	e.28	.17	1.1	.16	6.7	6.6	e.54	e.47	e.34	.24	.09	e.07
19	e.27	.19	1.5	.64	5.8	5.5	e.54	e.46	e.34	.23	.08	e.07
20	e.26	.33	1.6	2.5	5.8	26	e.54	e.46	e.34	.23	.08	e.08
21	e.25	.15	1.5	.71	5.0	14	e.54	e.45	e.33	.20	.08	e.08
22	e.24	.30	1.3	.53	4.7	7.8	e.54	e.45	e.33	.19	.08	e.08
23	e.23	.24	1.2	.48	3.8	3.9	e.54	e.45	e.33	.23	.08	e.08
24	e.23	.21	1.2	1.7	2.8	1.2	e.53	e.44	e.32	.21	.08	e.08
25	e.22	.12	1.1	2.6	2.2	e35	e.53	e.44	e.32	.18	.08	e.10
26	e.22	.14	.95	3.8	2.4	e2.0	e.53	e.43	e.32	.18	.08	e.10
27	e.21	.27	.48	3.3	1.3	e1.3	e.53	e.43	e.32	.17	.08	e.10
28	e.20	1.1	.50	1.1	1.8	e1.1	e.52	e.42	e.31	.15	.08	e.10
29	e.20	.79	.22	1.1	---	e1.0	e.52	e.42	e.31	.18	.08	e.10
30	e.20	1.1	.15	1.1	---	e.95	e.52	e.42	e.31	.18	.08	e.10
31	e.19	---	.11	5.2	---	e.90	---	e.41	---	.15	.08	---
TOTAL	11.56	11.67	26.62	27.04	141.75	146.44	17.78	14.58	10.64	7.30	3.14	2.75
MEAN	.37	.39	.86	.87	5.06	4.72	.59	.47	.35	.24	.10	.092
MAX	.88	1.1	1.6	5.2	18	35	.84	.52	.41	.67	.15	.32
MIN	.19	.12	.11	.09	.33	.58	.52	.41	.31	.08	.08	.07
AC-FT	23	23	53	54	281	290	35	29	21	14	6.2	5.5

e Estimated.

11120500 SAN JOSE CREEK NEAR GOLETA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.26	1.10	2.42	5.71	12.5	7.21	2.87	.94	.36	.21	.15	.15
MAX	6.40	21.2	23.5	35.6	308	98.8	29.0	13.9	4.26	3.58	1.45	1.40
(WY)	1984	1966	1967	1952	1998	1998	1958	1998	1998	1998	1998	1954
MIN	.000	.000	.000	.000	.021	.10	.021	.000	.000	.000	.000	.000
(WY)	1947	1948	1948	1948	1948	1990	1990	1948	1946	1946	1946	1946

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1941 - 1999

ANNUAL TOTAL	13550.01		421.27				2.65	
ANNUAL MEAN	37.1		1.15				37.4	
HIGHEST ANNUAL MEAN							1998	
LOWEST ANNUAL MEAN							.042	
HIGHEST DAILY MEAN	1000	Feb 3	35	Mar 25	1000	Feb 3	1998	
LOWEST DAILY MEAN	.11	Dec 31	.07	Sep 8	.00	Jan 2	1941	
ANNUAL SEVEN-DAY MINIMUM	.19	Oct 30	.07	Sep 8	.00	Aug 18	1942	
INSTANTANEOUS PEAK FLOW			unknown		2000	Jan 25	1969	
INSTANTANEOUS PEAK STAGE			unknown		12.74	Jan 21	1943	
ANNUAL RUNOFF (AC-FT)	26880		836		1920			
10 PERCENT EXCEEDS	90		1.6		2.3			
50 PERCENT EXCEEDS	4.1		.40		.26			
90 PERCENT EXCEEDS	.32		.09		.00			

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 mi².

PERIOD OF RECORD.—October 1970 to September 1992, October 1997 to September 1999 (discontinued). November 1955 to September 1970 in files of Santa Barbara County Flood Control and Water Conservation District and Water Agency.

REVISED RECORDS.—WDR CA-75-1: 1973(M).

GAGE.—Water-stage recorder and concrete channel. Elevation of gage is 10 ft above sea level, from topographic map.

REMARKS.—Records poor. No regulation upstream from station. Diversions for irrigation and domestic use upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,470 ft³/s, Feb. 7, 1998, gage height, 5.68 ft; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	1345	161	2.02				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.10	4.3	.14	.67	.02	.29	2.0	e.50	.00	.00	e.00
2	e.00	e.10	.56	.20	.53	.03	.27	2.0	.20	.00	.00	e.00
3	e.00	e.10	.39	.16	.52	.02	.24	e2.0	.01	.00	.00	e.00
4	e.00	e.10	.34	.23	.56	.01	.27	e2.0	.01	.00	.00	e.00
5	e.00	e.10	.22	.20	.70	.00	.28	e2.0	.00	.00	.00	e.00
6	e.01	e.10	1.9	.18	.67	.00	2.8	e1.7	.00	.01	.00	e.00
7	e.01	e.10	.21	.21	.77	.00	.61	e1.7	.00	.01	.00	e.00
8	e.01	e.10	.21	.20	.86	.02	.70	e1.7	.00	.01	.00	e.00
9	e.01	e.10	.20	.18	29	.18	.45	e1.7	.00	.00	.00	e.00
10	e.01	e.10	.20	.20	4.0	.02	.37	e1.7	.00	.00	e.00	e.00
11	e.05	e.10	.21	.31	1.4	.45	21	e1.4	.00	.00	e.00	e.00
12	e.05	e.10	.17	.27	1.1	.05	5.7	e1.4	.00	.00	e.00	e.00
13	e.05	e.10	.15	.26	.86	.02	1.5	e1.4	.00	.00	e.00	e.00
14	e.05	e.10	.17	.28	.76	.02	1.0	e1.4	.00	.00	e.00	e.00
15	e.05	e.10	.19	.27	.74	3.9	.90	e1.4	.00	.00	e.00	e.00
16	e.10	e.20	.18	.21	.71	.27	.89	e1.1	.00	.00	e.00	e.00
17	e.10	e.20	.17	.25	.66	.25	.97	e1.1	.00	.00	e.00	e.00
18	e.10	e.20	.17	.29	.62	.18	1.2	e1.1	.00	.00	e.00	e.00
19	e.10	e.20	.17	.63	.60	5.5	1.5	e1.1	.00	.00	e.00	e.00
20	e.10	e.20	.18	1.7	.56	4.0	1.9	e1.1	.00	.00	e.00	e.00
21	e.10	e.20	.21	.49	.48	.65	2.2	e.80	.00	.00	e.00	e.00
22	e.10	e.20	.20	.44	.54	.31	2.4	e.80	.00	.00	e.00	e.00
23	e.10	e.20	.17	.45	.50	.27	2.2	e.80	.00	.00	e.00	e.00
24	e.10	e.30	.15	1.9	.39	.22	2.2	e.80	.00	.00	e.00	e.00
25	e.10	.31	.14	1.7	.22	55	2.3	e.80	.00	.00	e.00	e.00
26	e.10	.25	.16	4.6	.04	4.4	2.8	e.50	.00	.00	e.00	e.00
27	e.10	.39	.14	1.0	.02	1.1	3.2	e.50	.00	.00	e.00	e.00
28	e.10	6.4	.21	.53	.02	.50	4.2	e.50	.02	.00	e.00	e.00
29	e.10	.35	.23	.45	---	.41	2.5	e.50	.00	.00	e.00	e.00
30	e.10	.37	.20	.42	---	.35	2.5	e.50	.00	.00	e.00	e.00
31	e.10	---	.13	4.4	---	.31	---	e.50	---	.00	e.00	---
TOTAL	1.90	11.47	12.23	22.75	48.50	78.46	69.34	38.00	0.74	0.03	0.00	0.00
MEAN	.061	.38	.39	.73	1.73	2.53	2.31	1.23	.025	.001	.000	.000
MAX	.10	6.4	4.3	4.6	29	55	21	2.0	.50	.01	.00	.00
MIN	.00	.10	.13	.14	.02	.00	.24	.50	.00	.00	.00	.00
AC-FT	3.8	23	24	45	96	156	138	75	1.5	.06	.00	.00

e Estimated.

11120510 SAN JOSE CREEK AT GOLETA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.38	1.19	2.97	5.29	16.8	10.3	2.39	1.08	.46	.25	.12	.18
MAX	7.11	7.65	16.5	40.5	174	52.7	16.1	9.01	5.80	3.81	1.85	1.67
(WY)	1984	1973	1984	1983	1998	1978	1983	1998	1998	1998	1983	1983
MIN	.000	.000	.000	.005	.083	.000	.000	.000	.000	.000	.000	.000
(WY)	1981	1981	1990	1976	1972	1990	1972	1972	1972	1971	1972	1971

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	7033.17		283.42			
ANNUAL MEAN	19.3		.78		3.38	
HIGHEST ANNUAL MEAN					20.0	
LOWEST ANNUAL MEAN					.15	
HIGHEST DAILY MEAN	593	Feb 3	55	Mar 25	649	Mar 4 1978
LOWEST DAILY MEAN	.00	Sep 28	.00	Oct 1	.00	Jun 30 1971
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 28	.00	Jun 5	.00	Jun 30 1971
INSTANTANEOUS PEAK FLOW			161		2470	Feb 7 1998
INSTANTANEOUS PEAK STAGE			2.02		5.68	Feb 7 1998
ANNUAL RUNOFF (AC-FT)	13950		562		2450	
10 PERCENT EXCEEDS	51		1.7		3.3	
50 PERCENT EXCEEDS	1.7		.14		.05	
90 PERCENT EXCEEDS	.06		.00		.00	

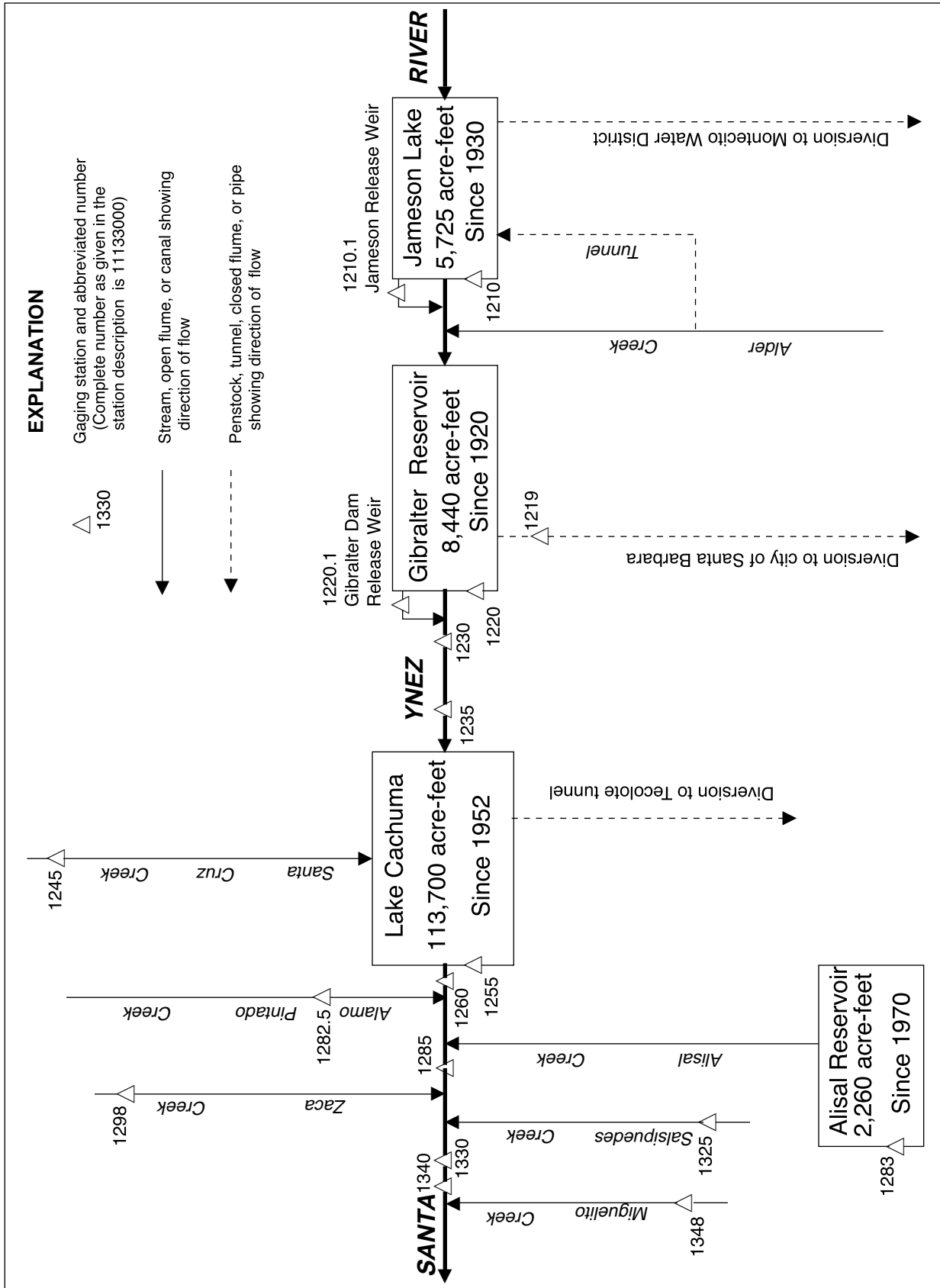


Figure 20. Diversions and storage in Santa Ynez River Basin.

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 mi², excludes area 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, Bureau of Reclamation Datum or 2,000 ft above sea level. 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 (station 11121010) 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 1994. Lake capacity at spillway level, gage height, 223.82 ft, 5,213 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 upstream from 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. See schematic diagram of Santa Ynez River Basin.

COOPERATION.—Reservoir-operation records and related data provided by Montecito Water District.

AVERAGE DISCHARGE.—68 years (water years 1932–99), spill and release, 10.05 ft³/s, 7,281 acre-ft/yr.

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (ft) ^a	Contents (acre-ft)	Change in contents (acre-ft)	Draft (acre-ft)	Spill and release (acre-ft)	Evaporation and seepage (acre-ft)	Total inflow (acre-ft)	Rain on reservoir (acre-ft)	Net inflow (acre-ft)
Sept. 30	2,223.62	5,190	—	—	—	—	—	—	—
Oct. 31	2,223.09	5,120	-70	169	0	26	125	1	124
Nov. 30	2,222.85	5,090	-30	137	0	4	111	9	102
Dec. 31	2,223.12	5,130	+40	84	0	6	50	7	43
CAL YR 1998	—	—	+410	1,160	113,100	279	114,885	693	114,102
Jan. 31	2,223.58	5,180	+50	104	0	11	165	41	124
Feb. 28	2,223.90	5,220	+40	76	185	8	309	29	280
Mar. 31	2,223.93	5,230	+10	105	3	6	124	42	82
Apr. 30	2,223.91	5,220	-10	109	0	8	107	33	74
May 31	2,223.41	5,160	-60	140	0	31	111	0	111
June 30	2,222.03	5,000	-160	179	0	36	55	2	55
July 31	2,220.15	4,780	-220	204	0	67	51	0	51
Aug. 31	2,217.90	4,520	-260	214	0	54	8	0	8
Sept. 30	2,215.98	4,310	-210	208	0	36	34	0	34
WTR YR 1999	—	—	-880	1,729	188	293	1,250	164	1,088

^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.

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 mi².

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.—WSP 706: 1921–22. WSP 1041: 1944. WSP 1395: DA. WSP 1635: 1914, 15 (M). WDR CA-86-1: 1934–43.

GAGE.—Two water-stage recorders. Datum of gage is sea level. 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 station (11123000) downstream from dam.

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—station 11121900) to city of Santa Barbara, spill and release (station 11123000) 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 1998. Reservoir capacity, 7,220 acre-ft, at spillway level, elevation, 1,399.82 ft. Lowest outlet at elevation, 1,333.86 ft. Flow regulated by Jameson Lake (station 11121000) since December 1930. See schematic diagram of Santa Ynez River Basin.

COOPERATION.—Reservoir-operation records and related data provided by city of Santa Barbara.

MONTHLY NET INFLOW, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

Date	Elevation (ft) ^a	Contents (acre-ft)	Change in contents (acre-ft)	Draft (acre-ft)	Spill and release (acre-ft)	Evaporation and seepage (acre-ft)	Total inflow (acre-ft)	Rain on reservoir (acre-ft)	Net inflow (acre-ft)
Sept. 30	1,399.73	7,200	—	—	—	—	—	—	—
Oct. 31	1,399.08	7,040	-160	546	168	90	644	3	641
Nov. 30	1,397.78	6,740	-300	441	909	51	1,101	26	1,075
Dec. 31	1,397.97	6,780	+40	453	511	39	1,043	15	1,028
CAL YR 1998	—	—	-1,640	11,426	295,634	1,216	307,856	1,459	306,397
Jan. 31	1,399.42	7,120	+340	439	162	38	979	84	895
Feb. 28	1,399.70	7,190	+70	423	891	43	1,427	45	1,382
Mar. 31	1,399.72	7,200	+10	552	977	51	1,590	92	1,498
Apr. 30	1,399.72	7,200	0	581	1,300	86	1,967	60	1,907
May 31	1,399.13	7,050	-150	615	374	127	966	0	966
June 30	1,393.21	5,700	-1,350	813	1,210	144	817	3	814
July 31	1,384.15	3,920	-1,780	863	1,699	144	926	4	922
Aug. 31	1,379.21	3,070	-850	461	495	120	226	0	226
Sept. 30	1,378.87	3,010	-60	0	0	90	30	0	30
WTR YR 1999	—	—	-5,410	6,187	8,696	1,023	11,716	332	11,384

^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.

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 mi².

PERIOD OF RECORD.—April 1920 to current year. Monthly discharge only prior to October 1933. Daily records for water years 1934–43 in files of U.S. Geological Survey.

REVISED RECORDS.—WDR CA-86-1: 1934–43.

GAGE.—Two water-stage recorders. Datum of gage on main channel is 1,227 ft above sea level. Supplementary gage and sharp-crested weir on the release channel from Gibraltar Dam to river at different datum (station 11122010). See WSP 1735 for history of changes on both gages prior to May 20, 1958.

REMARKS.—Records fair. Flow regulated by Jameson Lake (station 11121000) and Gibraltar Reservoir (station 11122000). City of Santa Barbara diverted 6,187 acre-ft during current year from Gibraltar Reservoir; Montecito Water District diverted 1,730 acre-ft during current year from Jameson Lake. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 54,200 ft³/s, Jan. 25, 1969, gage height, 25.8 ft, from rating curve extended above 2,100 ft³/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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	.24	8.8	1.8	7.4	e6.0	15	8.3	e4.8	9.8	11	.00
2	16	.20	13	1.8	9.6	e6.0	12	9.3	e4.7	12	11	.00
3	12	.18	12	1.8	11	e6.0	13	13	4.6	13	12	.00
4	e12	.15	11	1.8	12	6.0	13	e12	3.5	13	8.7	.00
5	e6.0	.13	11	1.7	12	6.0	17	e11	2.4	14	5.4	.00
6	e4.0	.09	12	1.7	14	6.0	20	e9.2	2.3	15	5.0	.00
7	e2.5	.07	12	1.7	19	5.9	26	e8.3	5.1	15	4.9	.00
8	e1.5	.08	12	1.7	15	5.9	24	e7.5	7.0	15	5.1	.00
9	e1.0	.53	12	1.8	16	6.3	16	e6.8	7.6	15	5.6	.00
10	e.75	2.0	6.6	1.9	e100	6.6	13	e6.2	8.3	15	5.3	.00
11	e.55	1.9	1.4	1.8	e45	11	80	e5.8	8.5	14	5.2	.00
12	e.45	2.2	1.5	1.9	e30	7.8	55	e5.4	9.1	14	3.5	.00
13	e.40	6.5	1.6	2.0	e22	5.9	35	e5.1	9.0	14	2.6	.00
14	e.35	13	1.8	2.1	e17	6.0	56	e4.8	8.9	13	2.6	.00
15	e.32	14	1.8	2.1	e15	21	45	e4.6	8.9	13	2.7	.00
16	e.30	14	1.8	2.2	e13	21	23	e4.4	9.1	12	2.8	.00
17	e.26	14	1.8	2.2	e11	10	21	e4.1	9.2	12	2.2	.00
18	e.23	14	2.0	2.4	e10	18	24	e3.9	9.7	12	.87	.00
19	e.22	14	1.9	2.3	e9.0	17	22	e3.7	11	12	1.5	.00
20	e.19	14	2.0	2.4	e8.3	21	19	e3.5	12	12	1.5	.00
21	e.19	14	2.0	2.5	e7.6	22	17	e3.4	12	11	1.5	.00
22	.26	14	2.0	2.9	e7.2	21	16	e3.3	11	11	1.7	.00
23	.26	14	2.1	3.0	e6.8	19	15	e3.2	12	11	1.8	.00
24	.31	14	2.2	3.0	e6.6	17	14	e3.2	12	e12	1.1	.00
25	.43	14	2.3	3.1	e6.4	79	13	e3.2	11	e12	.09	.00
26	.46	14	2.3	3.4	e6.2	27	7.7	e7.0	11	12	.00	.00
27	.47	14	2.2	3.7	e6.1	31	6.1	e6.4	11	12	.00	.00
28	.41	15	2.0	4.3	e6.1	28	6.0	e6.0	11	12	.00	.00
29	.37	14	1.9	4.8	---	16	5.1	e5.6	12	12	.00	.00
30	.31	11	1.9	5.3	---	13	7.0	e5.4	12	11	.00	.00
31	.28	---	1.9	6.4	---	20	---	e5.0	---	11	.00	---
TOTAL	84.77	249.27	150.8	81.5	449.3	492.4	655.9	188.6	260.7	391.8	105.66	0.00
MEAN	2.73	8.31	4.86	2.63	16.0	15.9	21.9	6.08	8.69	12.6	3.41	.000
MAX	22	15	13	6.4	100	79	80	13	12	15	12	.00
MIN	.19	.07	1.4	1.7	6.1	5.9	5.1	3.2	2.3	9.8	.00	.00
AC-FT	168	494	299	162	891	977	1300	374	517	777	210	.00

e Estimated.

SANTA YNEZ RIVER BASIN

11123000 SANTA YNEZ RIVER BELOW GIBRALTAR DAM, NEAR SANTA BARBARA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.72	6.30	26.4	129	261	244	105	31.1	8.48	3.67	1.55	.57
MAX	32.6	336	607	2077	3090	1712	1168	441	126	43.6	24.1	13.5
(WY)	1984	1966	1967	1969	1998	1983	1958	1998	1998	1983	1995	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1959	1944	1938	1949	1948	1948	1940	1960	1960	1960	1960

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1934 - 1999	
ANNUAL TOTAL	148741.34		3110.70			
ANNUAL MEAN	408		8.52		67.0	
HIGHEST ANNUAL MEAN					437	1969
LOWEST ANNUAL MEAN					.000	1961
HIGHEST DAILY MEAN	10500	Feb 23	100	Feb 10	26600	Jan 25 1969
LOWEST DAILY MEAN	.07	Nov 7	.00	Aug 26	.00	Dec 16 1933
ANNUAL SEVEN-DAY MINIMUM	.13	Nov 2	.00	Aug 26	.00	Dec 16 1933
INSTANTANEOUS PEAK FLOW			322	Apr 11	54200	Jan 25 1969
INSTANTANEOUS PEAK STAGE			9.51	Apr 11	25.80	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	295000		6170		48540	
10 PERCENT EXCEEDS	946		16		81	
50 PERCENT EXCEEDS	43		6.0		.10	
90 PERCENT EXCEEDS	1.7		.04		.00	

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 mi².

WATER-DISCHARGE RECORDS

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 sea level.

REMARKS.—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. Satellite telemeter at station. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 67,500 ft³/s, Jan. 25, 1969, gage height, 18.88 ft, from rating curve extended above 11,600 ft³/s on basis of peak flow for station below Gibraltar Dam plus tributary inflow; no flow for many days in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7.2	3.2	29	7.0	23	11	42	12	4.9	12	12	.74
2	e7.4	2.9	23	7.1	18	12	30	13	4.8	12	12	.63
3	e7.4	4.3	20	6.8	18	12	26	15	6.3	13	12	.71
4	e7.6	3.8	20	6.4	18	12	26	17	8.0	13	11	.57
5	e8.1	3.7	16	6.2	20	11	24	20	8.1	12	11	.75
6	e8.5	4.4	17	6.6	19	11	34	17	6.9	12	7.1	.60
7	8.1	4.6	16	6.9	23	11	35	13	6.5	12	5.3	.58
8	7.4	6.1	15	6.8	26	11	42	12	5.4	12	5.2	.46
9	6.5	6.3	15	6.6	85	11	39	10	8.6	12	5.0	.49
10	5.8	6.5	16	6.5	202	12	27	9.3	12	13	5.0	.44
11	6.0	7.2	15	5.6	95	13	88	8.4	14	12	4.9	.43
12	5.3	6.5	12	5.8	69	16	163	7.3	14	12	4.7	.41
13	4.5	5.6	11	5.7	51	16	125	6.7	15	14	4.5	.39
14	4.7	6.7	9.5	5.9	42	12	87	6.2	14	13	3.9	.53
15	6.2	16	8.5	5.7	32	23	119	6.2	14	12	2.9	.59
16	5.3	21	8.3	6.1	25	61	75	5.3	14	12	2.5	.51
17	4.3	22	7.9	6.4	23	41	44	5.1	14	12	2.0	.52
18	3.7	22	7.7	6.1	22	24	46	4.2	14	12	1.9	.55
19	3.4	20	8.1	6.3	22	36	43	3.6	14	12	1.7	.52
20	3.1	21	8.2	7.7	21	55	37	3.9	14	12	1.6	.51
21	2.8	20	8.5	7.5	19	49	34	3.2	14	12	1.5	.42
22	2.6	21	8.5	7.0	17	46	31	2.9	14	12	1.4	.48
23	3.6	21	8.1	6.7	17	42	29	4.0	13	12	1.1	.50
24	3.7	20	7.8	8.5	24	37	26	3.3	13	12	1.1	.35
25	4.7	19	7.7	11	13	165	24	3.1	13	12	.92	.34
26	4.2	18	7.5	12	9.9	141	25	4.5	13	12	.87	.40
27	3.8	19	7.1	12	8.7	88	23	6.4	13	12	.96	.26
28	3.5	28	7.1	11	9.7	80	16	5.5	13	12	.80	.25
29	4.0	23	7.2	9.8	---	67	15	5.7	12	11	.84	.29
30	4.9	20	7.2	9.4	---	39	13	4.4	12	12	.75	.15
31	4.0	---	7.0	30	---	35	---	4.3	---	12	.74	---
TOTAL	162.3	402.8	366.9	253.1	972.3	1200	1388	242.5	342.5	377	127.18	14.37
MEAN	5.24	13.4	11.8	8.16	34.7	38.7	46.3	7.82	11.4	12.2	4.10	.48
MAX	8.5	28	29	30	202	165	163	20	15	14	12	.75
MIN	2.6	2.9	7.0	5.6	8.7	11	13	2.9	4.8	11	.74	.15
AC-FT	322	799	728	502	1930	2380	2750	481	679	748	252	29

e Estimated.

11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.58	8.03	38.1	191	372	308	129	43.0	12.5	4.05	1.16	.42
MAX	18.8	315	608	2755	4250	2525	1480	542	201	79.3	15.8	7.57
(WY)	1984	1966	1967	1969	1998	1995	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000
(WY)	1948	1948	1948	1948	1948	1990	1951	1951	1948	1948	1947	1947

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1947 - 1999	
ANNUAL TOTAL	214795.6		5848.95			
ANNUAL MEAN	588		16.0		90.8	
HIGHEST ANNUAL MEAN					595	
LOWEST ANNUAL MEAN					.013	
HIGHEST DAILY MEAN	18000	Feb 23	202	Feb 10	33700	Jan 25 1969
LOWEST DAILY MEAN	2.2	Sep 22	.15	Sep 30	.00	Jun 24 1947
ANNUAL SEVEN-DAY MINIMUM	3.3	Oct 18	.29	Sep 24	.00	Jul 5 1947
INSTANTANEOUS PEAK FLOW			404	Mar 25	67500	Jan 25 1969
INSTANTANEOUS PEAK STAGE			4.18	Mar 25	18.88	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	426000		11600		65810	
10 PERCENT EXCEEDS	1510		34		95	
50 PERCENT EXCEEDS	63		11		.10	
90 PERCENT EXCEEDS	5.7		.94		.00	

11123500 SANTA YNEZ RIVER BELOW LOS LAURELES CANYON, NEAR SANTA YNEZ, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 06...	924	--	--	--	--	--	--	--	--	--
NOV 05...	884	--	--	--	--	--	--	--	--	--
JAN 06...	940	--	--	--	--	--	--	--	--	--
FEB 11...	998	--	--	--	--	--	--	--	--	--
MAR 01...	970	901	1.32	<.01	.06	<.02	.01	377	e10	6
APR 02...	926	--	--	--	--	--	--	--	--	--
MAY 12...	928	--	--	--	--	--	--	--	--	--
JUN 02...	858	--	--	--	--	--	--	--	--	--
JUL 13...	1010	--	--	--	--	--	--	--	--	--
AUG 12...	1020	--	--	--	--	--	--	--	--	--
SEP 14...	992	--	--	--	--	--	--	--	--	--

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

e Estimated.

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 mi².

WATER-DISCHARGE RECORDS

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 sea level. 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.—Records good, except for estimated daily discharges, which are fair. No regulation or diversion upstream from station. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 7,050 ft³/s, Feb. 24, 1969, gage height, 14.45 ft, from floodmark, present datum, from rating curve extended above 2,500 ft³/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 ft³/s, from rating curve extended above 5,000 ft³/s on basis of slope-area measurement at gage height 12.10 ft, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	1745	272	8.43				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e8.2	6.8	14	6.9	18	7.9	13	12	6.1	1.6	.47	.21
2	e8.1	6.7	13	6.9	13	7.8	13	12	6.3	1.6	.45	.25
3	e8.0	6.6	10	6.8	11	7.8	12	11	6.7	1.6	.43	.25
4	e7.9	6.5	10	6.8	10	7.8	12	11	7.0	1.5	.46	.25
5	e7.7	6.5	9.4	6.8	10	7.7	11	11	6.7	1.5	.42	.25
6	7.4	6.4	10	6.8	9.7	7.9	15	9.9	6.0	1.4	.46	.23
7	7.1	6.9	10	6.7	10	8.0	14	9.8	5.2	1.4	.38	.22
8	7.1	9.2	9.4	6.8	9.6	8.0	14	9.4	5.0	1.2	.35	.17
9	7.2	8.8	9.2	6.8	56	8.2	15	9.4	5.0	1.0	.36	.15
10	7.2	8.0	8.8	6.8	44	8.3	13	9.2	4.8	.94	.40	.13
11	7.0	8.7	8.6	6.7	20	8.6	27	8.8	4.7	.86	.40	.13
12	6.7	9.5	8.5	6.6	15	8.2	37	8.7	4.4	.61	.35	.12
13	6.7	8.3	8.3	6.8	13	7.6	34	8.6	4.1	.61	.33	.08
14	e6.5	7.9	7.9	6.8	11	7.4	39	8.4	3.7	.93	.29	.10
15	e6.6	7.9	7.9	6.5	11	15	30	8.4	3.5	.96	.27	.11
16	e6.4	7.8	7.7	6.4	10	19	24	8.3	3.4	.94	.27	.16
17	e6.5	7.8	7.6	6.5	10	16	21	7.9	3.2	.95	.26	.24
18	e6.6	7.8	7.6	6.6	9.5	14	19	7.5	3.1	.89	.25	.23
19	e6.3	7.6	7.6	6.8	9.4	13	17	7.2	3.0	.80	.26	.23
20	e6.5	7.5	7.8	10	9.2	26	16	7.4	2.8	.75	.25	.15
21	e6.4	7.1	8.0	9.7	8.8	25	15	7.7	2.7	.75	.24	.00
22	e6.4	7.0	7.9	8.1	8.4	22	14	7.5	2.7	.74	.23	.04
23	6.3	6.9	7.4	7.5	8.3	18	14	7.5	2.6	.75	.21	.06
24	6.3	7.0	7.2	9.3	7.9	15	14	7.2	2.5	.74	.20	.04
25	6.6	7.2	7.1	13	8.0	39	13	6.9	2.4	.73	.20	.00
26	6.7	7.0	6.9	13	7.9	36	13	6.6	2.3	.68	.21	.00
27	6.8	7.0	6.9	14	8.0	25	13	6.2	2.1	.64	.25	.00
28	6.9	9.4	6.8	11	8.0	20	12	6.0	2.0	.57	.22	.00
29	6.9	10	6.8	9.7	---	17	12	5.9	1.9	.50	.20	.00
30	7.0	8.5	6.8	8.9	---	15	12	6.0	1.8	.49	.21	.00
31	6.9	---	6.8	18	---	14	---	6.1	---	.46	.22	---
TOTAL	214.9	230.3	261.9	260.0	374.7	460.2	528	259.5	117.7	29.09	9.50	3.80
MEAN	6.93	7.68	8.45	8.39	13.4	14.8	17.6	8.37	3.92	.94	.31	.13
MAX	8.2	10	14	18	56	39	39	12	7.0	1.6	.47	.25
MIN	6.3	6.4	6.8	6.4	7.9	7.4	11	5.9	1.8	.46	.20	.00
AC-FT	426	457	519	516	743	913	1050	515	233	58	19	7.5

e Estimated.

SANTA YNEZ RIVER BASIN

11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.66	3.13	12.1	38.0	73.6	61.5	37.0	15.2	6.31	2.32	.97	.56
MAX	12.4	50.4	205	510	743	355	378	141	63.0	27.9	13.7	8.68
(WY)	1984	1966	1967	1969	1969	1995	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.10	.23	.11	.000	.000	.000	.000	.000
(WY)	1954	1954	1954	1963	1951	1948	1961	1961	1961	1959	1953	1953

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1942 - 1999	
ANNUAL TOTAL	44107.0		2749.59			
ANNUAL MEAN	121		7.53		20.7	
HIGHEST ANNUAL MEAN					134	
LOWEST ANNUAL MEAN					.066	
HIGHEST DAILY MEAN	2240	Feb 3	56	Feb 9	5000	Feb 24 1969
LOWEST DAILY MEAN	6.3	Oct 19	.00	Sep 21	.00	Jul 6 1953
ANNUAL SEVEN-DAY MINIMUM	6.4	Oct 18	.01	Sep 24	.00	Jul 6 1953
INSTANTANEOUS PEAK FLOW			272	Feb 9	7050	Feb 24 1969
INSTANTANEOUS PEAK STAGE			8.43	Feb 9	14.45	Feb 24 1969
ANNUAL RUNOFF (AC-FT)	87490		5450		14970	
10 PERCENT EXCEEDS	320		14		34	
50 PERCENT EXCEEDS	26		7.0		1.3	
90 PERCENT EXCEEDS	7.0		.25		.00	

11124500 SANTA CRUZ CREEK NEAR SANTA YNEZ, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 05...	729	--	--	--	--	--	--	--	--	--
NOV 05...	744	--	--	--	--	--	--	--	--	--
JAN 07...	780	--	--	--	--	--	--	--	--	--
FEB 11...	636	--	--	--	--	--	--	--	--	--
MAR 04...	790	709	1.07	<.01	<.05	<.02	.03	230	<10	<3
APR 02...	--	--	--	--	--	--	--	--	--	--
JUN 03...	719	--	--	--	--	--	--	--	--	--
JUL 13...	679	--	--	--	--	--	--	--	--	--
AUG 12...	638	--	--	--	--	--	--	--	--	--
SEP 16...	654	--	--	--	--	--	--	--	--	--

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

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 mi².

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."

CHEMICAL DATA: Water Year 1998.

GAGE.—Water-stage recorder. Datum of gage is sea level (U.S. Bureau of Reclamation benchmark). 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, 531 acre-ft, included in contents. Capacity below sill of inlet to Tecolote Tunnel, elevation, 660 ft, 26,771 acre-ft; below spillway level, elevation, 720 ft, 113,716 acre-ft; and below top of four radial gates, elevation, 750 ft, 190,409 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, Santa Ynez River Water Conservation District, and Cachuma Recreation Area. Records, including extremes, represent total contents at 0800 hours. See schematic diagram of Santa Ynez River Basin.

COOPERATION.—Reservoir elevation, contents, and diversion figures 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, 27,681 acre-ft, Feb. 27, 1991, elevation, 661.06 ft.

EXTREMES (AT 0800) FOR CURRENT YEAR.—Maximum contents, 186,756 acre-ft, Apr. 27, elevation, 748.79 ft; minimum, 168,772 acre-ft, Sept. 30, elevation, 742.57 ft.

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

680	47,346	710	93,627	740	161,730
690	60,576	720	113,716	750	190,409
700	75,972	730	136,306	760	222,431

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY OBSERVATION AT 0800 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	185381	181675	180212	179219	178752	180534	183773	186666	184099	181205	177364	172812
2	185231	181616	180329	179161	178781	180504	183833	186607	183980	181118	177220	172642
3	185112	181528	180329	179102	178810	180446	183862	186517	183892	181030	177104	172473
4	184962	181439	180387	179044	178810	180358	183833	186457	183773	180884	176989	172304
5	184843	181322	180358	178985	178839	180300	183803	186397	183685	180767	176845	172135
6	184753	181205	180358	178898	178839	180271	183862	186338	183626	180621	176700	171966
7	184603	181088	180387	178810	178927	180212	183951	186278	183567	180475	176556	171797
8	184454	181059	180387	178752	178956	180183	184039	186248	183478	180358	176412	171629
9	184305	180972	180358	178722	179102	180154	184128	186158	183389	180212	176268	171460
10	184128	180884	180358	178664	179716	180125	184187	186068	183301	180095	176152	171319
11	183951	180796	180300	178576	180095	180125	184305	185979	183183	179949	176037	171121
12	183833	180738	180300	178518	180241	180125	185231	185949	183094	179832	175893	170953
13	183714	180680	180241	178489	180387	180095	185530	185889	183005	179716	175748	170812
14	183655	180563	180154	178431	180475	180125	185859	185799	182917	179628	175604	170699
15	183537	180446	180095	178374	180534	180271	186098	185710	182857	179511	175433	170558
16	183389	180417	180066	178316	180592	180621	186308	185650	182680	179365	175320	170389
17	183301	180358	180037	178287	180621	180709	186487	185560	182562	179219	175177	170221
18	183153	180300	179949	178287	180680	180855	186547	185440	182473	179102	175063	170108
19	183035	180271	179891	178230	180709	180855	186637	185291	182385	178985	174892	169995
20	182916	180241	179803	178258	180738	181147	186726	185171	182325	178869	174750	169884
21	182798	180212	179745	178230	180738	181293	186696	185052	182207	178752	174579	169745
22	182650	180124	179716	178201	180738	181469	186666	184932	182119	178635	174408	169633
23	182532	180124	179657	178143	180709	181528	186666	184872	182060	178518	174237	169522
24	182444	180095	179599	178172	180680	181646	186726	184813	181941	178403	174094	169411
25	182325	180066	179540	178230	180680	181971	186726	184753	181823	178287	173923	169300
26	182237	180037	179511	178258	180650	182887	186726	184693	181675	178172	173724	169189
27	182178	179949	179482	178345	180621	183183	186756	184633	181587	178028	173609	169077
28	182060	180124	179424	178827	180563	183360	186696	184543	181469	177912	173438	168994
29	182000	180124	179394	178345	---	183508	186696	184454	181381	177768	173267	168883
30	181882	180095	179336	178345	---	183626	186666	184364	181293	177624	173096	168772
31	181764	---	179248	178664	---	183714	---	184246	---	177479	172954	---
MAX	185381	181675	180387	179219	180738	183714	186756	186666	184099	181205	177364	172812
MIN	181764	179949	179248	178143	178752	180095	183773	184246	181293	177479	172954	168772
a	747.11	746.54	746.25	746.05	746.70	747.77	748.76	747.95	746.95	745.64	744.06	742.57
b	-3736	-1669	-847	-584	+1899	+3151	+2952	-2420	-2953	-3814	-4525	-4182
c	2938	2281	1606	1865	1091	1329	1437	2429	2355	2871	3146	2889

CAL YR 1998 b +47413

WTR YR 1999 b -16728

- a Elevation, in feet, at end of month.
- b Change in contents, in acre-feet.
- c Diversion, in acre-feet, to Tecolote Tunnel.

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA

LOCATION.—Lat 34°35'21", long 119°59'16", in Canada de los Pinos Grant, Santa Barbara County, Hydrologic Unit 18060010, on right bank, 0.7 mi downstream from Bradbury Dam, and 5.5 mi southeast of Santa Ynez.

DRAINAGE AREA.—422 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—December 1928 to September 1931, October 1932 to September 1976, May 1994 to current year (seasonal records only).

GAGE.—Water-stage recorder. Datum of gage is 545.66 ft above sea level (Bureau of Reclamation benchmark). Prior to Oct. 1, 1955, at site 2.5 mi downstream at different datum. Oct. 1, 1955, to Sept. 16, 1969, at site 0.4 mi downstream at datum 7.2 ft higher.

REMARKS.—Records fair, no records computed above 250 ft³/s. Flow regulated by Jameson Lake since December 1930, Gibraltar Reservoir, and Lake Cachuma since November 1952 (stations 11121000, 11122000, 11125500). Water diverted out of basin from Jameson Lake, Gibraltar Reservoir, and Lake Cachuma to the cities of Montecito and Santa Barbara, and to the Santa Ynez Valley for municipal supply. Some water pumped from wells along river banks for irrigation. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 79,000 ft³/s, Jan. 25, 1969, gage height, 22.00 ft, from floodmark, present datum, on basis of computation of maximum flow over dam; no flow at times in some years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e7.9	e5.0	---	---	---	---	3.3	4.5	4.3	2.3	.16	.53
2	e8.0	e4.8	---	---	---	---	4.3	5.0	4.5	2.0	.07	.53
3	e8.1	e4.6	---	---	---	---	4.8	5.4	3.8	2.3	.03	.53
4	e8.0	e4.3	---	---	---	---	5.4	6.3	3.4	2.5	.02	.56
5	e8.1	e4.0	---	---	---	---	6.1	7.1	3.8	2.7	.01	.48
6	e8.1	e3.8	---	---	---	---	6.5	7.2	3.1	2.4	.00	.44
7	e8.0	e3.6	---	---	---	---	6.9	7.4	2.7	1.8	.02	.38
8	e7.8	e3.5	---	---	---	---	6.1	7.2	2.6	2.4	.13	.29
9	e7.6	e3.4	---	---	---	---	6.2	6.8	2.6	2.9	.19	.31
10	e7.6	e3.3	---	---	---	---	6.5	6.2	2.5	1.6	.26	.32
11	e7.4	e3.2	---	---	---	---	17	5.7	2.3	1.3	.21	.32
12	e7.5	e3.1	---	---	---	---	5.6	5.0	2.3	.98	.10	.32
13	e7.4	e3.1	---	---	---	---	5.6	5.2	2.6	1.2	.04	.41
14	e7.3	3.1	---	---	---	---	7.5	4.4	2.7	1.2	.04	.36
15	e7.2	3.2	---	---	---	---	7.8	4.5	2.6	.40	.04	.46
16	e7.1	3.1	---	---	---	---	8.0	5.3	2.3	.24	.01	.61
17	e7.0	3.1	---	---	---	---	8.0	5.3	2.2	.25	.01	.53
18	e6.8	3.2	---	---	---	---	8.5	5.2	2.1	.38	.04	.44
19	e6.7	3.3	---	---	---	---	5.9	5.5	2.2	.43	.24	.56
20	e6.8	3.4	---	---	---	---	3.2	5.4	2.3	.39	.17	.58
21	e6.9	4.7	---	---	---	---	3.7	5.1	2.6	1.1	.10	.49
22	e6.7	4.1	---	---	---	---	4.1	5.9	2.6	1.5	.07	1.1
23	e6.5	4.3	---	---	---	---	4.2	8.2	1.8	1.6	.06	2.7
24	e6.2	4.1	---	---	---	---	4.4	7.8	1.6	1.7	.06	1.6
25	e6.1	4.2	---	---	---	---	4.0	7.8	2.0	1.6	.06	1.5
26	e6.0	4.0	---	---	---	---	3.5	5.9	2.3	1.5	.15	1.5
27	e5.8	4.0	---	---	---	---	3.7	4.5	2.2	.92	.49	1.5
28	e5.6	5.3	---	---	---	---	3.8	4.1	2.0	.45	.84	1.6
29	e5.4	4.9	---	---	---	---	4.2	3.3	2.1	.16	.83	1.5
30	e5.3	4.4	---	---	---	---	4.6	3.5	2.4	.11	.73	1.5
31	e5.1	---	---	---	---	---	---	3.9	---	.13	.58	---
TOTAL	216.0	116.1	---	---	---	---	173.4	174.6	78.5	40.44	5.76	23.95
MEAN	6.97	3.87	---	---	---	---	5.78	5.63	2.62	1.30	.19	.80
MAX	8.1	5.3	---	---	---	---	17	8.2	4.5	2.9	.84	2.7
MIN	5.1	3.1	---	---	---	---	3.2	3.3	1.6	.11	.00	.29
AC-FT	428	230	---	---	---	---	344	346	156	80	11	48

e Estimated.

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.— October 1991 to current year.

CHEMICAL DATA: October 1991 to current year.

SPECIFIC CONDUCTANCE: July 1994 to November 1994, October 1995 to current year.

WATER TEMPERATURE: July 1994 to current year.

PERIOD OF DAILY RECORD.— July 1994 to current year.

SPECIFIC CONDUCTANCE: July 1994 to November 1994, October 1995 to current year.

WATER TEMPERATURE: July 1994 to current year.

INSTRUMENTATION.— Water-quality monitor since July 1994.

REMARKS.— Water-quality samples collected below spillway. Continuous water quality is not collected Dec. 1 to Mar. 31.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,020 microsiemens, Aug. 31, 1999, and several days in September 1999; minimum recorded, 194 microsiemens, Dec. 6, 1997.

WATER TEMPERATURE: Maximum recorded, 29.5°C, Aug 3, 1999; minimum recorded, 9.0°C, Nov. 15, 1994, Jan. 6, 1998.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum recorded, 1,020 microsiemens, Aug. 31 and several days in September 1999; minimum recorded, 780 microsiemens, Oct. 1, 1999.

WATER TEMPERATURE: Maximum recorded, 29.5°C, Aug. 3, 1999; minimum recorded, 11.5°C, Apr. 12, 1999.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (MG/L) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
DATE		SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	
OCT											
06...	1640	8.2	786	8.4	18.0	--	--	--	--	--	--
NOV											
13...	1200	3.1	898	7.8	14.0	--	--	--	--	--	--
JAN											
13...	1530	6.3	890	8.0	13.0	--	--	--	--	--	--
MAR											
08...	1215	3.7	939	8.1	14.5	762	9.1	90	440	98	46
APR											
27...	1355	4.1	899	8.0	17.0	--	--	--	--	--	--
JUN											
03...	1200	3.6	938	7.9	20.0	--	--	--	--	--	--
JUL											
14...	1430	1.0	959	8.0	27.0	--	--	--	--	--	--
SEP											
15...	1600	.45	966	8.2	24.0	--	--	--	--	--	--

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P) (00671)	BORON, DIS- SOLVED (UG/L) AS B) (01020)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
OCT 06...	615	--	--	--	--	--	--	--	--	--
NOV 13...	638	--	--	--	--	--	--	--	--	--
JAN 13...	675	--	--	--	--	--	--	--	--	--
MAR 08...	682	631	.93	<.01	<.05	.03	.04	279	e7	36
APR 27...	675	--	--	--	--	--	--	--	--	--
JUN 03...	684	--	--	--	--	--	--	--	--	--
JUL 14...	695	--	--	--	--	--	--	--	--	--
SEP 15...	692	--	--	--	--	--	--	--	--	--

e Estimated.

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

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	876	780	878	862	---	---	---	---	---	---	---	---
2	858	834	883	870	---	---	---	---	---	---	---	---
3	840	823	880	865	---	---	---	---	---	---	---	---
4	834	805	883	869	---	---	---	---	---	---	---	---
5	816	792	889	874	---	---	---	---	---	---	---	---
6	805	785	889	872	---	---	---	---	---	---	---	---
7	795	782	889	877	---	---	---	---	---	---	---	---
8	796	783	897	883	---	---	---	---	---	---	---	---
9	801	789	893	882	---	---	---	---	---	---	---	---
10	801	786	895	881	---	---	---	---	---	---	---	---
11	802	785	902	888	---	---	---	---	---	---	---	---
12	804	791	902	889	---	---	---	---	---	---	---	---
13	808	797	911	896	---	---	---	---	---	---	---	---
14	814	807	906	898	---	---	---	---	---	---	---	---
15	818	806	908	900	---	---	---	---	---	---	---	---
16	818	802	907	899	---	---	---	---	---	---	---	---
17	820	808	912	901	---	---	---	---	---	---	---	---
18	827	810	914	899	---	---	---	---	---	---	---	---
19	828	812	903	892	---	---	---	---	---	---	---	---
20	832	814	904	893	---	---	---	---	---	---	---	---
21	846	824	904	890	---	---	---	---	---	---	---	---
22	848	837	907	897	---	---	---	---	---	---	---	---
23	852	840	908	897	---	---	---	---	---	---	---	---
24	855	842	910	902	---	---	---	---	---	---	---	---
25	857	849	910	898	---	---	---	---	---	---	---	---
26	865	844	908	896	---	---	---	---	---	---	---	---
27	861	849	905	897	---	---	---	---	---	---	---	---
28	866	851	905	897	---	---	---	---	---	---	---	---
29	869	860	902	893	---	---	---	---	---	---	---	---
30	870	858	908	897	---	---	---	---	---	---	---	---
31	879	857	---	---	---	---	---	---	---	---	---	---
MONTH	879	780	914	862	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	878	856	917	892	932	916	956	942	950	878	1020	962
2	878	856	919	900	933	919	958	937	950	877	1010	968
3	886	858	924	909	977	919	953	937	944	869	1020	959
4	874	856	931	906	984	972	953	935	943	866	1020	969
5	884	862	933	906	986	974	951	935	924	864	1010	967
6	882	861	931	908	984	967	949	937	923	861	1020	966
7	887	864	934	911	980	960	953	936	927	849	1020	969
8	873	859	932	906	973	961	951	936	914	854	1020	954
9	874	855	929	908	968	959	950	933	916	854	1020	958
10	865	847	933	909	967	957	954	935	915	854	1010	963
11	875	838	939	912	964	952	952	936	914	855	1020	945
12	865	850	935	907	964	948	963	946	921	852	1020	957
13	857	841	930	911	963	944	963	947	919	853	1010	963
14	865	851	933	910	959	944	1010	797	919	855	1010	969
15	864	843	930	904	955	937	989	962	919	849	1010	941
16	860	846	932	906	956	937	1000	959	934	855	958	941
17	872	853	936	909	960	936	1000	958	929	852	957	937
18	875	852	927	906	956	938	1000	948	931	862	954	934
19	870	858	932	912	951	938	1000	936	956	875	949	933
20	872	850	931	915	964	940	1010	924	958	882	954	928
21	875	859	935	914	953	938	976	935	965	890	949	928
22	878	858	930	905	960	938	982	947	982	885	950	927
23	880	859	930	908	960	940	981	950	997	899	951	926
24	881	867	933	910	961	940	976	945	994	906	948	938
25	882	866	932	914	960	942	965	934	983	903	949	934
26	881	867	934	911	957	939	966	929	943	918	944	927
27	881	859	933	911	958	940	974	913	987	911	940	921
28	883	870	934	913	959	937	982	904	1000	929	936	909
29	894	868	929	911	955	939	968	888	1010	958	935	905
30	900	887	933	912	960	941	974	882	1010	963	931	911
31	---	---	932	913	---	---	957	884	1020	963	---	---
MONTH	900	838	939	892	986	916	1010	797	1020	849	1020	905

11126000 SANTA YNEZ RIVER NEAR SANTA YNEZ, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

11128250 ALAMO PINTADO CREEK NEAR SOLVANG, CA

LOCATION.—Lat 34°37'06", long 120°07'11", in NW 1/4 NW 1/4 sec.11, T.6 N., R.31 W., Santa Barbara County, Hydrologic Unit 18060010, on right bank, at downstream side of bridge on Alamo Pintado Road, and 1.5 mi northeast of Solvang.

DRAINAGE AREA.—29.4 mi².

PERIOD OF RECORD.—October 1970 to September 1985, October 1989 to September 1992, October 1994 to current year. Records prior to October 1970 in files of Santa Barbara County Flood Control District.

CHEMICAL DATA: Water year 1997.

REVISED RECORDS.—WDR CA-98-1: 1997.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 540.49 ft, Santa Barbara County datum.

REMARKS.—Records poor. No regulation upstream from station. Pumping from wells along stream for irrigation. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,680 ft³/s, Feb. 3, 1998, gage height, 11.69 ft, from rating curve extended above 1,050 ft³/s; no flow most of each year.

EXTREMES FOR OUTSIDE PERIOD OF RECORD.—Flood of Jan. 25, 1969, reached a stage of 10.32 ft, from information provided by Santa Barbara County Flood Control District.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 20	0300	73	2.98				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.7	e3.1	e3.1	e3.4	3.7	3.2	2.6	3.8	e3.3	4.9	3.3	3.2
2	e3.0	e3.0	e3.1	e3.3	3.7	2.4	3.1	3.9	e2.8	5.1	3.1	3.2
3	e2.8	e3.0	e3.0	e3.4	3.8	2.3	3.5	3.8	2.7	5.0	3.0	3.2
4	e2.6	e3.0	e3.2	e3.3	3.7	2.4	4.0	3.8	2.9	4.9	2.9	3.1
5	e2.7	e3.1	e3.2	e3.5	3.4	2.6	4.2	4.4	3.1	4.7	2.9	2.2
6	e2.8	e3.4	e3.1	e3.6	3.1	3.1	5.5	4.5	3.5	5.1	3.2	2.3
7	e2.7	e3.3	e3.2	e3.7	3.2	2.9	4.1	4.7	3.8	4.8	3.2	2.3
8	e3.3	e3.3	e3.1	e3.8	3.4	2.9	4.1	4.5	4.1	3.2	3.0	2.3
9	e3.2	e3.4	e3.0	e3.9	12	2.8	3.4	4.5	4.3	3.8	2.8	2.4
10	e3.1	e3.6	e3.3	e4.0	4.8	2.2	2.6	4.3	4.2	4.0	2.3	2.5
11	e3.2	e3.5	e3.3	e4.1	3.2	2.7	21	4.1	4.2	3.8	2.1	2.4
12	e3.1	e3.5	e3.2	e4.2	3.4	2.3	16	4.0	4.0	2.6	2.2	2.2
13	e3.0	e3.4	e3.1	4.3	3.6	2.6	5.8	3.9	4.1	2.7	2.1	2.0
14	e3.2	e3.3	e3.1	4.4	3.6	3.1	4.9	3.8	4.1	3.0	2.2	1.7
15	e3.1	e3.3	e3.2	4.4	3.6	6.3	6.8	3.9	3.1	2.9	2.3	1.6
16	e3.1	e3.4	e3.3	4.5	3.7	3.6	6.6	3.8	3.2	2.3	2.2	1.7
17	e3.0	e3.3	e3.4	4.8	3.9	3.9	4.7	3.6	3.2	2.3	2.5	1.7
18	e3.1	e3.2	e3.2	4.3	4.6	3.9	4.7	4.3	3.6	2.4	3.0	1.7
19	e3.2	e3.2	e3.4	4.2	4.3	5.6	4.5	5.9	4.0	2.3	2.8	1.8
20	e3.3	e3.2	e4.1	5.1	5.0	14	4.3	7.6	4.7	2.3	2.8	1.9
21	e3.3	e3.3	e3.5	4.5	6.1	3.6	4.6	8.1	4.8	2.4	2.9	1.9
22	e3.2	e3.3	e3.3	4.5	5.9	4.8	4.4	8.2	5.1	2.4	2.9	1.8
23	e3.1	e3.3	e3.3	4.5	5.4	5.3	4.5	8.4	5.5	2.4	2.7	1.7
24	e3.1	e3.3	e3.2	4.8	4.5	3.3	4.5	7.7	5.0	2.6	2.6	1.7
25	e3.2	e3.8	e3.4	4.2	4.2	11	4.4	6.7	5.0	2.7	2.6	1.6
26	e3.3	e4.1	e3.6	4.8	4.3	3.0	4.4	6.0	5.2	2.7	2.9	1.7
27	e3.1	e3.8	e3.5	4.1	4.4	2.2	4.4	5.9	5.2	2.6	2.9	1.7
28	e3.2	e7.1	e3.5	3.9	4.3	2.1	4.4	7.0	5.1	2.8	3.2	1.6
29	e3.1	e5.0	e3.5	3.9	---	2.1	3.8	e5.3	4.8	3.0	3.2	1.6
30	e3.0	e3.4	e3.6	3.9	---	2.3	3.7	e4.5	5.0	3.3	3.3	1.6
31	e3.0	---	e3.5	5.8	---	2.9	---	e3.8	---	3.0	3.3	---
TOTAL	94.8	105.9	102.5	129.1	122.8	117.4	159.5	158.7	123.6	102.0	86.4	62.3
MEAN	3.06	3.53	3.31	4.16	4.39	3.79	5.32	5.12	4.12	3.29	2.79	2.08
MAX	3.3	7.1	4.1	5.8	12	14	21	8.4	5.5	5.1	3.3	3.2
MIN	2.6	3.0	3.0	3.3	3.1	2.1	2.6	3.6	2.7	2.3	2.1	1.6
AC-FT	188	210	203	256	244	233	316	315	245	202	171	124

e Estimated.

11128250 ALAMO PINTADO CREEK NEAR SOLVANG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.35	.54	.62	4.17	14.0	8.08	2.08	.91	.72	.43	.47	.37
MAX	3.06	5.73	3.31	56.8	219	44.8	22.9	7.62	4.83	3.29	3.38	3.53
(WY)	1999	1996	1999	1995	1998	1995	1998	1998	1995	1999	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1971	1973	1971	1971	1971	1971	1971	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR			FOR 1999 WATER YEAR			WATER YEARS 1971 - 1999			
ANNUAL TOTAL	9404.50			1365.0						
ANNUAL MEAN	25.8			3.74			2.66			
HIGHEST ANNUAL MEAN							25.3			
LOWEST ANNUAL MEAN							.000			
HIGHEST DAILY MEAN	1150	Feb	3	21	Apr	11	1150	Feb	3	1998
LOWEST DAILY MEAN	.60	Jan	1	1.6	Sep	15	.00	Oct	1	1970
ANNUAL SEVEN-DAY MINIMUM	1.3	Jan	1	1.6	Sep	24	.00	Oct	1	1970
INSTANTANEOUS PEAK FLOW				73			3680			
INSTANTANEOUS PEAK STAGE				2.98			11.69			
ANNUAL RUNOFF (AC-FT)	18650			2710			1930			
10 PERCENT EXCEEDS	57			5.0			3.1			
50 PERCENT EXCEEDS	3.6			3.3			.00			
90 PERCENT EXCEEDS	3.0			2.3			.00			

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 mi².

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 sea level.

REMARKS.—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. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Santa Ynez River Basin.

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, 2,420 acre-ft, Mar. 25, Apr. 11, maximum elevation, 600.47 ft, Mar. 25; minimum contents, 2,100 acre-ft, Sept. 28–30, minimum elevation, 596.86 ft, Sept. 30.

Capacity table (elevation in feet, and contents, in acre-feet)
(Based on data provided by Santa Barbara County Flood Control District in 1971)

590	1,540	600	2,380
595	1,940	605	2,840

RESERVOIR STORAGE (ACRE-FEET), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY OBSERVATION AT 2400 HOURS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	2250	2260	2280	2310	2380	2380	2380	2360	2320	2250	2170
2	2290	2250	2260	2280	2320	2380	2380	2380	2360	2320	2250	2160
3	2280	2250	2260	2280	2320	2380	2380	2380	2360	2320	2240	2160
4	2280	2250	2260	2280	2320	2380	2380	2380	2360	2310	2240	2160
5	2280	2240	2260	2280	2320	2380	2380	2380	2360	2310	2240	2160
6	2280	2240	2270	2280	2320	2380	2380	2380	2360	2310	2240	2160
7	2280	2240	2270	2280	2320	2380	2380	2380	2360	2310	2240	2150
8	2280	2240	2270	2280	2320	2380	2380	2380	2360	2300	2230	2150
9	2280	2240	2270	2280	2350	2380	2380	2380	2360	2300	2230	2150
10	2270	2240	2270	2280	2360	2380	2380	2380	2360	2300	2230	2140
11	2270	2240	2270	2280	2360	2380	2420	2370	2360	2300	2220	2140
12	2270	2240	2270	2280	2360	2380	2400	2370	2350	2290	2220	2140
13	2270	2240	2270	2280	2360	2380	2390	2370	2350	2300	2220	2140
14	2270	2240	2270	2280	2370	2380	2390	2370	2350	2300	2220	2130
15	2270	2240	2270	2280	2370	2390	2380	2370	2350	2300	2210	2130
16	2270	2240	2270	2280	2370	2390	2380	2370	2350	2290	2210	2130
17	2260	2240	2270	2280	2370	2380	2380	2370	2350	2290	2210	2130
18	2260	2240	2270	2280	2370	2380	2380	2370	2340	2290	2210	2130
19	2260	2240	2270	2280	2370	2400	2380	2370	2340	2290	2200	2130
20	2260	2240	2270	2280	2370	2390	2380	2370	2340	2280	2200	2120
21	2260	2240	2270	2280	2380	2390	2380	2370	2340	2280	2200	2120
22	2250	2240	2270	2280	2380	2380	2380	2370	2340	2280	2200	2120
23	2250	2240	2270	2290	2380	2380	2380	2370	2340	2280	2190	2110
24	2250	2240	2270	2290	2380	2380	2380	2370	2340	2270	2190	2110
25	2260	2240	2270	2290	2380	2420	2380	2370	2330	2270	2190	2110
26	2250	2240	2280	2300	2380	2390	2380	2370	2330	2270	2190	2110
27	2250	2240	2280	2300	2380	2390	2380	2370	2330	2260	2180	2110
28	2250	2250	2280	2300	2380	2380	2380	2370	2330	2260	2180	2100
29	2250	2250	2280	2300	---	2380	2380	2360	2330	2260	2180	2100
30	2250	2250	2280	2300	---	2380	2380	2360	2320	2260	2170	2100
31	2250	---	2280	2310	---	2380	---	2360	---	2250	2170	---
MAX	2290	2250	2280	2310	2380	2420	2420	2380	2360	2320	2250	2170
MIN	2250	2240	2260	2280	2310	2380	2380	2360	2320	2250	2170	2100
a	598.54	598.55	598.88	599.25	599.96	600.02	599.98	599.83	599.58	598.85	597.67	596.86
b	-40	0	+30	+30	+70	0	0	-20	-40	-70	-80	-70

CAL YR 1998 b -50

WTR YR 1999 b -190

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1928 to November 1936, June 1937 to November 1940 (irrigation seasons only), October 1946 to September 1999 (discontinued).

REVISED RECORDS.—WSP 2128: Drainage area.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 357.43 ft above sea level. 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 7.00 ft higher. Oct. 1, 1968, to Sept. 30, 1988, water-stage recorder at datum 10.00 ft higher. Oct. 1, 1988, to Aug. 6, 1998, water-stage recorder at datum 5.00 ft higher.

REMARKS.—Records fair. Flow regulated by Jameson Lake, Gibraltar Reservoir, and since November 1952, by Lake Cachuma (stations 11121000, 11122000, and 11125500). Additional water may be added by releases from Alisal Reservoir (11128300). 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. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD (water years 1928–36, 1946–99).—Maximum discharge, 82,000 ft³/s, Jan. 25, 1969, estimated on basis of discharge measurements up to 81,000 ft³/s for Santa Ynez River near Buellton, gage height, 17.1 ft, from floodmark; no flow for several months in many years.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	17	27	22	26	12	33	18	4.6	6.0	1.5	1.1
2	19	17	22	22	23	12	29	17	8.5	5.8	1.5	1.1
3	19	16	e21	21	22	12	27	17	8.0	5.6	1.1	1.1
4	e18	15	e20	21	21	12	26	18	8.4	5.4	1.0	1.1
5	e17	15	19	19	20	12	23	16	5.1	4.9	1.1	.96
6	e17	15	19	18	21	11	32	14	2.2	4.9	1.2	1.0
7	e18	17	18	16	21	11	32	14	2.4	5.4	1.1	1.1
8	17	20	18	17	22	11	28	14	2.6	4.0	1.2	.98
9	19	20	19	17	47	11	29	13	4.3	4.1	1.3	1.2
10	19	19	19	17	49	12	26	12	6.8	4.2	1.4	1.1
11	18	18	19	17	23	14	130	11	6.6	3.5	1.2	1.4
12	21	18	20	17	18	14	110	9.9	6.9	2.9	1.1	1.3
13	21	18	21	17	15	15	62	9.7	6.9	4.9	1.3	1.2
14	19	18	22	17	14	15	54	9.2	7.3	4.2	1.1	1.3
15	19	17	22	16	13	39	49	8.9	8.0	3.6	1.1	1.0
16	20	18	22	16	12	29	45	8.1	8.1	3.0	1.1	1.3
17	20	17	22	16	11	23	41	8.0	7.6	2.7	1.0	1.3
18	20	17	22	17	11	18	37	7.6	8.5	2.8	.96	1.3
19	20	17	22	17	10	24	32	6.7	8.4	2.8	1.0	1.1
20	20	17	23	19	11	56	32	6.4	8.4	2.7	.87	1.3
21	20	18	23	18	11	23	29	6.0	8.8	2.5	.88	1.2
22	18	19	24	19	10	14	26	6.3	8.1	2.6	.91	1.1
23	19	19	24	20	10	11	23	5.5	7.5	2.4	.83	1.1
24	19	18	23	23	10	10	22	5.0	7.2	2.2	.82	1.3
25	19	19	23	23	11	133	21	5.2	6.9	2.0	.90	1.4
26	19	20	23	25	11	83	20	5.5	7.6	2.0	.84	1.4
27	18	20	23	24	11	54	19	3.6	7.6	1.9	.96	1.1
28	18	28	23	22	12	46	19	2.6	8.2	2.0	1.0	1.4
29	17	21	23	23	---	40	19	3.9	7.1	2.2	1.1	1.3
30	17	19	23	23	---	37	18	3.5	6.3	1.8	1.1	1.2
31	16	---	23	35	---	35	---	4.6	---	1.6	1.2	---
TOTAL	580	547	672	614	496	849	1093	290.2	204.9	106.6	33.67	35.74
MEAN	18.7	18.2	21.7	19.8	17.7	27.4	36.4	9.36	6.83	3.44	1.09	1.19
MAX	21	28	27	35	49	133	130	18	8.8	6.0	1.5	1.4
MIN	16	15	18	16	10	10	18	2.6	2.2	1.6	.82	.96
AC-FT	1150	1080	1330	1220	984	1680	2170	576	406	211	67	71

e Estimated.

11128500 SANTA YNEZ RIVER AT SOLVANG, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1950, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.92	7.04	32.8	62.0	176	52.4	48.1	11.7	8.56	4.00	2.41	2.51
MAX	6.69	34.9	257	211	1240	164	375	59.3	36.8	17.0	6.36	5.69
(WY)	1939	1947	1932	1935	1932	1935	1935	1935	1938	1938	1938	1938
MIN	.25	2.40	4.20	4.87	5.90	4.95	3.51	2.36	1.27	.21	.000	.000
(WY)	1950	1930	1930	1948	1948	1950	1931	1948	1948	1949	1948	1948

SUMMARY STATISTICS

WATER YEARS 1929 - 1950

ANNUAL TOTAL	
ANNUAL MEAN	32.9
HIGHEST ANNUAL MEAN	152 1932
LOWEST ANNUAL MEAN	3.31 1948
HIGHEST DAILY MEAN	12300 Feb 9 1932
LOWEST DAILY MEAN	.00 Jul 15 1931
ANNUAL SEVEN-DAY MINIMUM	.00 Jul 15 1931
INSTANTANEOUS PEAK FLOW	18700 Feb 9 1932
ANNUAL RUNOFF (AC-FT)	23800
10 PERCENT EXCEEDS	35
50 PERCENT EXCEEDS	5.3
90 PERCENT EXCEEDS	1.5

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.35	4.59	20.5	244	492	412	162	58.1	15.2	6.87	6.92	6.51
MAX	88.7	96.2	263	3572	7445	4029	1258	956	243	57.4	58.9	38.3
(WY)	1992	1966	1984	1995	1998	1983	1983	1998	1998	1998	1996	1994
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1952	1952	1963	1976	1991	1989	1961	1961	1961	1957	1954	1954

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1952 - 1999

ANNUAL TOTAL	329412.1	5522.11	
ANNUAL MEAN	902	15.1	118
HIGHEST ANNUAL MEAN			905 1998
LOWEST ANNUAL MEAN			.86 1961
HIGHEST DAILY MEAN	28900	Feb 24	40000 Mar 25
LOWEST DAILY MEAN	5.7	Sep 2	.00 Aug 24
ANNUAL SEVEN-DAY MINIMUM	8.6	Aug 29	.00 Aug 20
INSTANTANEOUS PEAK FLOW			82000 Apr 11
INSTANTANEOUS PEAK STAGE			17.10 Apr 11
ANNUAL RUNOFF (AC-FT)	653400	10950	85170
10 PERCENT EXCEEDS	1740	26	78
50 PERCENT EXCEEDS	39	15	2.3
90 PERCENT EXCEEDS	16	1.2	.00

11128500 SANTA YNEZ RIVER AT SOLVANG, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS-SOLVED (UG/L AS MN) (01056)
OCT 07...	--	--	--	--	--	--	--	--	--
JAN 12...	--	--	--	--	--	--	--	--	--
FEB 02...	--	--	--	--	--	--	--	--	--
MAR 09...	650	.96	<.01	.57	<.02	.03	257	<10	<3.0
APR 28...	--	--	--	--	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--
AUG 21...	--	--	--	--	--	--	--	--	--
SEP 15...	--	--	--	--	--	--	--	--	--

< Actual value known to be less than value shown.

11128500 SANTA YNEZ RIVER AT SOLVANG, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	1060	947	---	---	1050	958	1090	975	1080	1000
2	---	---	1060	960	---	---	1060	969	1070	952	1080	981
3	---	---	1060	976	---	---	1060	964	1090	956	1080	990
4	---	---	1060	969	---	---	1050	968	1080	953	1090	990
5	---	---	1050	967	1090	980	1050	962	1080	976	1080	980
6	---	---	1060	976	1090	987	1050	962	1060	973	1080	990
7	---	---	1060	971	1100	987	1110	963	1080	968	1080	1020
8	---	---	1050	963	1100	992	1050	954	1070	973	1070	992
9	---	---	---	---	1080	888	1050	990	1070	972	1080	1000
10	---	---	---	---	993	945	1060	963	1060	992	1080	997
11	---	---	---	---	1030	935	1060	968	1070	987	1080	1010
12	---	---	---	---	1090	959	1060	957	1070	986	1080	1010
13	---	---	---	---	1020	955	1020	950	1060	988	1080	1010
14	---	---	---	---	1030	954	1030	987	1060	982	1080	1020
15	---	---	---	---	1080	979	1070	976	1060	990	1100	1020
16	---	---	---	---	1060	947	1070	973	1060	998	1090	1030
17	---	---	---	---	1040	947	1060	970	1060	994	1100	1010
18	---	---	---	---	1040	950	1060	976	1060	1010	1090	1000
19	---	---	---	---	1040	953	1050	975	1070	1030	1100	1040
20	---	---	---	---	1040	966	1050	991	1080	1040	1090	1040
21	---	---	---	---	1040	955	1050	987	1100	987	1100	1030
22	---	---	---	---	1040	947	1060	978	1080	1000	1100	1030
23	---	---	---	---	1030	944	1060	978	1080	995	1090	976
24	---	---	---	---	1040	945	1060	999	1080	999	1080	1030
25	---	---	---	---	1050	987	1060	961	1070	997	1080	1050
26	---	---	---	---	1040	961	1070	962	1080	1040	1080	1000
27	---	---	---	---	1050	950	1070	961	1090	1000	1080	1020
28	---	---	---	---	1040	958	1060	964	1070	997	1090	1010
29	1060	971	---	---	1040	947	1050	976	1080	1010	1080	1050
30	1060	974	---	---	1040	946	1050	973	1080	994	1080	1050
31	---	---	---	---	---	---	1090	965	1070	1000	---	---
MONTH	---	---	---	---	---	---	1110	950	1100	952	1100	976

11128500 SANTA YNEZ RIVER AT SOLVANG, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

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

11129800 ZACA CREEK NEAR BUELLTON, CA

LOCATION.—Lat 34°38'55", long 120°11'00", in San Carlos de Jonata Grant, Santa Barbara County, Hydrologic Unit 18060010, on left bank, 2 ft upstream from bridge on Frontage Road, 0.9 mi upstream from Dry Creek, 2.4 mi north of Buellton, and 4.0 mi upstream from mouth.

DRAINAGE AREA.—32.8 mi².

PERIOD OF RECORD.—September 1963 to September 1981, October 1989 to September 1992, October 1994 to current year.

CHEMICAL DATA: April 1997 to September 1997.

Gage.—Water-stage recorder. Datum of gage is 471.54 ft above sea level.

REMARKS.—Records poor. Some pumping from wells along stream for irrigation upstream from station. Small regulation by Zaca Lake, about 15 mi upstream. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,390 ft³/s, Feb. 24, 1969, gage height, 9.20 ft; maximum gage height, 12.59 ft, Feb. 3, 1998; no flow most of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 50 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 9	2015	28	3.06				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.11	.19	.73	.25	.40	.24	.39	.35	.13	.00	.00	.00
2	.12	.19	.48	.25	.37	.25	.36	.35	.15	.00	.00	.00
3	.11	.19	.46	.25	.35	.25	.36	.34	.15	.01	.00	.00
4	.09	.19	.43	.24	.35	.24	.36	.34	.12	.01	.00	.00
5	.09	.19	.40	.27	.34	.25	.35	.34	.12	.00	.00	.00
6	.08	.18	.48	.30	.32	.26	.61	.33	.11	.00	.00	.00
7	.07	.25	.36	.29	.33	.25	.43	.33	.11	.00	.00	.00
8	.08	.27	.35	.29	.32	.25	.41	.33	.10	.00	.00	.00
9	.09	.21	.34	.29	3.8	.30	.45	.33	.09	.00	.00	.00
10	.10	.21	.34	.30	3.9	.24	.36	.29	.09	.00	.00	.00
11	.09	.25	.35	.29	.55	.35	6.7	.28	.09	.00	.00	.00
12	.10	.23	.37	.29	.32	.25	13	.27	.08	.00	.00	.00
13	.13	.22	.38	.29	.29	.24	2.7	.26	.08	.00	.00	.00
14	.14	.22	.36	.29	.28	.24	.82	.26	.07	.00	.00	.00
15	.15	.23	.35	.29	.27	3.3	.48	.26	.07	.00	.00	.00
16	.15	.24	.35	.29	.25	.78	.41	.25	.07	.00	.00	.00
17	.13	.23	.35	.29	.24	.43	.38	.23	.06	.00	.00	.00
18	.13	.23	.35	.29	.23	.37	.37	.21	.05	.00	.00	.00
19	.13	.23	.32	.30	.23	1.7	.36	.18	.04	.00	.00	.00
20	.12	.23	.32	.49	.23	8.6	.36	.19	.04	.00	.00	.00
21	.12	.24	.32	.37	.23	2.1	.36	.19	.06	.00	.00	.00
22	.14	.24	.34	.31	.23	.71	.37	.18	.06	.00	.00	.00
23	.14	.23	.41	.32	.24	.46	.38	.18	.03	.00	.00	.00
24	.16	.23	.32	.38	.24	.44	.38	.17	.02	.00	.00	.00
25	.17	.26	.31	.34	.23	12	.38	.16	.01	.00	.00	.00
26	.16	.28	.32	.44	.22	2.5	.38	.16	.02	.00	.00	.00
27	.17	.27	.31	.39	.22	.69	.37	.16	.02	.00	.00	.00
28	.17	1.0	.31	.34	.22	.47	.37	.13	.02	.00	.00	.00
29	.17	.44	.31	.34	---	.45	.37	.13	.01	.00	.00	.00
30	.18	.45	.31	.34	---	.40	.38	.13	.00	.00	.00	.00
31	.18	---	.28	.99	---	.44	---	.12	---	.00	.00	---
TOTAL	3.97	8.02	11.41	10.40	15.20	39.45	33.40	7.43	2.07	0.02	0.00	0.00
MEAN	.13	.27	.37	.34	.54	1.27	1.11	.24	.069	.001	.000	.000
MAX	.18	1.0	.73	.99	3.9	12	13	.35	.15	.01	.00	.00
MIN	.07	.18	.28	.24	.22	.24	.35	.12	.00	.00	.00	.00
AC-FT	7.9	16	23	21	30	78	66	15	4.1	.04	.00	.00

11129800 ZACA CREEK NEAR BUELLTON, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.006	.063	.50	3.29	10.3	4.76	1.38	.55	.19	.031	.008	.006
MAX	.13	1.22	7.64	32.1	120	40.1	9.75	5.69	2.52	.42	.13	.090
(WY)	1999	1997	1997	1969	1998	1995	1995	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1964	1967	1964	1968	1964	1964	1964	1964	1964	1964	1964	1964

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1964 - 1999	
ANNUAL TOTAL	4228.91		131.37			
ANNUAL MEAN	11.6		.36		1.71	
HIGHEST ANNUAL MEAN					11.6 1998	
LOWEST ANNUAL MEAN					.000 1990	
HIGHEST DAILY MEAN	598	Feb 3	13	Apr 12	598	Feb 3 1998
LOWEST DAILY MEAN	.00	Jan 1	.00	Jun 30	.00	Oct 1 1963
ANNUAL SEVEN-DAY MINIMUM	.07	Aug 28	.00	Jul 5	.00	Oct 1 1963
INSTANTANEOUS PEAK FLOW			28		1390	Feb 24 1969
INSTANTANEOUS PEAK STAGE			3.06		12.59	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	8390		261		1240	
10 PERCENT EXCEEDS	14		.43		1.0	
50 PERCENT EXCEEDS	.48		.23		.00	
90 PERCENT EXCEEDS	.09		.00		.00	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—January 1941 to current year.

REVISED RECORDS.—WSP 2128: Drainage area.

GAGE.—Water-stage recorder and concrete low-water control. Elevation of gage is 220 ft above sea level, from topographic map.

REMARKS.—Records good except for estimated daily discharges, which are fair. No regulation upstream from station. Small diversions for irrigation upstream from station. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 11,400 ft³/s, Mar. 15, 1952, gage height, 20.80 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 300 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	1215	314	2.81	Mar. 25	0730	2,050	6.41
Mar. 19	1945	409	3.09	Apr. 11	1345	892	4.17

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	e2.9	14	3.4	4.7	3.2	12	11	5.2	3.1	2.7	e1.8
2	3.7	e2.9	5.4	3.4	4.1	3.3	10	11	5.0	3.2	2.6	e1.8
3	3.5	e2.9	4.8	3.2	3.9	3.5	8.7	11	5.2	3.4	e2.4	e1.7
4	3.3	2.9	4.7	3.2	3.9	3.7	e8.2	11	5.0	3.1	e2.2	e1.7
5	3.2	2.9	4.3	3.3	3.9	3.8	e7.7	10	5.2	3.0	2.0	e1.7
6	2.8	2.9	5.2	3.4	3.8	4.1	e7.0	10	5.3	2.9	2.1	e1.7
7	2.6	3.4	4.3	3.4	4.0	4.4	e7.9	9.7	5.3	3.2	e2.1	e1.7
8	2.7	4.2	4.2	3.4	4.1	4.6	e8.9	9.6	5.3	2.8	e2.1	e1.7
9	3.0	3.4	4.1	3.4	22	5.8	e10	9.6	5.3	2.2	e2.0	e1.7
10	3.0	3.2	3.9	3.4	7.7	5.7	e9.2	9.2	5.3	2.1	e2.0	e1.8
11	3.0	3.4	3.9	3.4	4.8	7.6	219	9.1	5.4	2.0	e2.0	e1.8
12	3.0	3.5	3.9	3.4	4.1	6.8	60	8.9	5.6	1.8	e2.0	e1.8
13	3.0	3.4	3.9	3.4	3.9	6.7	32	8.7	5.6	1.7	e2.0	e1.8
14	3.1	3.3	3.9	3.4	3.8	7.1	26	8.2	5.6	e1.7	e1.9	e1.8
15	3.1	3.4	3.8	3.4	3.7	153	23	8.2	5.6	e1.7	e1.9	e1.8
16	2.9	3.4	3.6	3.6	3.6	39	20	8.0	5.6	1.7	e1.9	e1.8
17	2.7	3.6	3.6	3.6	3.6	16	18	7.8	5.6	1.7	e1.9	e1.8
18	2.6	3.5	3.6	3.6	3.6	14	17	7.5	5.1	1.7	e1.9	e1.8
19	2.7	3.4	3.7	3.7	3.6	108	16	7.3	4.7	1.7	e1.9	e1.8
20	2.6	3.4	3.8	4.6	3.6	77	15	7.0	4.6	1.8	e1.9	e1.8
21	2.5	3.4	3.9	4.4	3.6	32	15	7.0	4.4	1.9	e1.8	e1.7
22	2.7	3.4	3.9	3.6	3.4	22	15	6.8	4.4	2.0	e1.8	e1.7
23	2.7	3.5	3.9	3.5	3.4	22	15	6.6	4.0	2.0	e1.8	e1.7
24	2.9	3.5	3.8	3.9	3.3	19	13	6.2	3.8	2.1	e1.8	e1.7
25	e2.9	3.5	3.9	3.6	3.3	511	13	6.2	3.6	2.1	e1.8	e1.6
26	e2.9	3.4	3.8	4.2	3.3	77	13	6.0	3.6	2.2	e1.8	e1.6
27	e2.9	3.5	3.6	4.6	3.2	32	13	5.7	3.5	2.2	e1.8	e1.6
28	e2.9	31	3.6	3.7	3.2	21	12	5.6	3.5	2.4	e1.8	e1.6
29	e2.9	5.6	3.5	3.5	---	17	12	5.4	3.4	2.4	e1.8	e1.6
30	e2.9	5.8	3.4	3.4	---	14	11	5.3	3.2	2.6	e1.8	e1.6
31	e2.9	---	3.4	9.9	---	14	---	5.3	---	2.6	e1.8	---
TOTAL	91.2	132.5	133.3	117.9	127.1	1258.3	667.6	248.9	142.9	71.0	61.3	51.7
MEAN	2.94	4.42	4.30	3.80	4.54	40.6	22.3	8.03	4.76	2.29	1.98	1.72
MAX	3.7	31	14	9.9	22	511	219	11	5.6	3.4	2.7	1.8
MIN	2.5	2.9	3.4	3.2	3.2	3.2	7.0	5.3	3.2	1.7	1.8	1.6
AC-FT	181	263	264	234	252	2500	1320	494	283	141	122	103

e Estimated.

11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.81	2.20	7.58	24.5	44.5	38.4	15.4	4.73	2.42	1.41	.96	.80
MAX	4.26	48.6	102	281	474	545	158	33.1	12.7	8.69	5.77	4.51
(WY)	1942	1966	1956	1995	1998	1995	1941	1998	1998	1998	1941	1941
MIN	.000	.041	.050	.081	.33	.36	.21	.000	.000	.000	.015	.010
(WY)	1962	1991	1990	1991	1991	1990	1989	1961	1961	1961	1972	1972

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1941 - 1999

ANNUAL TOTAL	20584.0	3103.7		
ANNUAL MEAN	56.4	8.50	11.5	
HIGHEST ANNUAL MEAN			80.6	1995
LOWEST ANNUAL MEAN			.17	1990
HIGHEST DAILY MEAN	1570	Feb 3	5390	Mar 11 1995
LOWEST DAILY MEAN	2.5	Jan 3	.00	Jul 23 1948
ANNUAL SEVEN-DAY MINIMUM	2.6	Oct 17	.00	Jul 23 1948
INSTANTANEOUS PEAK FLOW			2050	Mar 25 1952
INSTANTANEOUS PEAK STAGE			6.41	Mar 25 1952
ANNUAL RUNOFF (AC-FT)	40830	6160	8360	
10 PERCENT EXCEEDS	127	13	12	
50 PERCENT EXCEEDS	8.9	3.6	1.4	
90 PERCENT EXCEEDS	3.0	1.8	.10	

11132500 SALSIPUEDES CREEK NEAR LOMPOC, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 02...	--	--	--	--	--	--	--	--	--
NOV 03...	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--
FEB 05...	--	--	--	--	--	--	--	--	--
MAR 02...	857	1.24	<.01	.44	<.02	.07	606	e7	50
MAR 30...	--	--	--	--	--	--	--	--	--
JUN 03...	--	--	--	--	--	--	--	--	--
AUG 04...	--	--	--	--	--	--	--	--	--
SEP 08...	--	--	--	--	--	--	--	--	--

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

e Estimated.

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 32 mi downstream from Lake Cachuma.

WATER-DISCHARGE RECORDS

DRAINAGE AREA.—789 mi².

PERIOD OF RECORD.—May 1947 to November 1951 (irrigation seasons only). May 1952 to September 1963, October 1964 to September 1979, 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.

REVISIONS.—WSP 1928: Drainage area.

GAGE.—Two water-stage recorders. Elevation of main gage is 85 ft (prior to Apr. 10, 1991, at datum 5 ft higher) above sea level, 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 sea level.

REMARKS.—Records good. 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. Satellite telemeter at station. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 80,000 ft³/s, Jan. 25, 1969, gage height, 24.20 ft, from supplementary gage; no flow at times in most years.

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 ft³/s, from mean-depth study.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	17	85	e33	72	24	88	40	17	7.0	1.3	.79
2	25	19	62	e33	52	25	86	36	16	e6.4	1.5	.65
3	25	20	43	e33	48	22	76	36	16	e6.1	1.5	.62
4	23	17	40	e33	45	24	70	41	15	e5.7	1.6	.66
5	23	17	36	33	40	24	58	48	14	e5.4	1.7	.68
6	22	19	40	32	38	22	69	41	14	e5.0	1.8	.94
7	19	20	37	31	40	24	76	39	14	e4.6	1.5	.85
8	18	25	36	29	42	20	67	44	14	e4.3	1.5	.95
9	18	25	36	28	78	21	67	51	14	e3.9	1.6	1.1
10	19	21	36	30	103	23	57	48	14	3.4	1.5	.87
11	20	21	39	32	94	26	482	44	13	3.7	1.3	.74
12	22	33	38	32	64	25	643	39	10	3.1	1.3	.68
13	21	29	37	31	54	25	267	32	11	2.4	1.2	.80
14	21	26	37	29	50	23	194	29	11	2.2	1.0	1.1
15	22	28	38	29	45	246	151	27	10	2.6	.97	1.3
16	21	29	37	28	43	235	118	26	9.7	3.3	1.2	1.3
17	20	28	37	27	41	98	107	24	e9.4	2.3	1.1	1.4
18	21	26	36	28	39	67	95	21	e9.2	2.3	1.1	1.4
19	26	25	36	28	38	153	86	20	e8.9	2.3	1.1	e1.3
20	22	22	35	34	37	271	78	23	e8.8	2.2	.96	e1.3
21	22	22	37	37	36	185	72	22	e8.6	2.1	.99	1.1
22	23	23	37	31	35	96	70	21	e8.5	2.0	.77	1.2
23	22	25	35	31	33	62	65	21	e8.3	2.0	.89	1.1
24	21	25	33	35	32	45	59	21	e8.0	2.0	.73	1.0
25	23	24	33	37	31	1480	55	21	e7.9	1.9	.60	1.1
26	24	24	35	40	30	536	54	20	7.7	2.1	.61	1.2
27	23	26	36	44	27	187	52	20	8.8	2.0	1.4	1.3
28	20	101	35	43	24	106	50	18	6.5	2.1	1.1	1.3
29	20	75	35	39	---	79	49	17	6.0	1.8	.90	1.2
30	20	62	e34	36	---	64	45	18	6.4	1.5	.90	.99
31	17	---	e34	65	---	85	---	17	---	1.3	.88	---
TOTAL	669	874	1205	1051	1311	4323	3506	925	325.7	99.0	36.50	30.92
MEAN	21.6	29.1	38.9	33.9	46.8	139	117	29.8	10.9	3.19	1.18	1.03
MAX	26	101	85	65	103	1480	643	51	17	7.0	1.8	1.4
MIN	17	17	33	27	24	20	45	17	6.0	1.3	.60	.62
AC-FT	1330	1730	2390	2080	2600	8570	6950	1830	646	196	72	61

e Estimated.

11133000 SANTA YNEZ RIVER AT NARROWS, NEAR LOMPOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.02	6.91	31.8	244	529	440	190	72.1	19.3	5.32	3.25	3.22
MAX	29.9	112	291	3303	7452	3590	1253	993	310	78.3	26.8	29.4
(WY)	1992	1966	1984	1969	1998	1983	1998	1998	1998	1998	1997	1992
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1955	1955	1955	1989	1961	1990	1961	1961	1961	1960	1954	1954

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1952 - 1999	
ANNUAL TOTAL	340973.7		14356.12			
ANNUAL MEAN	934		39.3		127	
HIGHEST ANNUAL MEAN					941	
LOWEST ANNUAL MEAN					.000	
HIGHEST DAILY MEAN	29400	Feb 24	1480	Mar 25	38000	Jan 25 1969
LOWEST DAILY MEAN	9.7	Sep 3	.60	Aug 25	.00	Sep 18 1953
ANNUAL SEVEN-DAY MINIMUM	13	Aug 29	.74	Aug 30	.00	Oct 23 1953
INSTANTANEOUS PEAK FLOW			3940	Mar 25	80000	Jan 25 1969
INSTANTANEOUS PEAK STAGE			9.01	Mar 25	24.20	Jan 25 1969
ANNUAL RUNOFF (AC-FT)	676300		28480		91860	
10 PERCENT EXCEEDS	1910		70		115	
50 PERCENT EXCEEDS	82		24		1.8	
90 PERCENT EXCEEDS	20		1.2		.00	

11133000 SANTA YNEZ RIVER AT NARROWS NEAR LOMPOC, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
NOV 06...	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--
FEB 12...	--	--	--	--	--	--	--	--	--
MAR 02...	938	1.35	<.01	<.05	<.02	.03	428	<10	11
APR 29...	--	--	--	--	--	--	--	--	--
JUL 15...	--	--	--	--	--	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--
SEP 29...	--	--	--	--	--	--	--	--	--

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

11133000 SANTA YNEZ RIVER AT NARROWS NEAR LOMPOC, CA—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	1560	1540	1250	1200	1570	1550	1610	1570	1580	1550	1580	1510
2	1590	1560	1250	1200	1590	1560	1600	1570	1580	1550	1590	1560
3	1600	1580	1240	1210	1590	1560	1590	1560	1580	1560	1590	1560
4	1620	1600	1250	1210	1620	1590	1590	1560	1570	1560	1580	1560
5	1670	1620	1260	1220	1650	1620	1590	1550	1560	1550	1590	1560
6	1700	1660	1380	1230	1640	1590	1560	1490	1560	1540	1580	1560
7	1710	1700	1390	1250	1600	1580	1570	1530	1570	1540	1570	1550
8	1700	1700	1290	1250	1600	1550	1560	1540	1570	1550	1570	1550
9	1700	1690	1280	1250	1600	1580	1570	1540	1570	1550	1570	1550
10	1710	1680	1490	1260	1600	1590	1570	1530	1570	1560	1570	1550
11	1710	1640	1560	1460	1600	1580	1570	1540	1570	1560	1570	1540
12	1650	1160	1800	1560	1610	1580	1570	1540	1580	1560	1560	1540
13	1170	966	1780	1730	1620	1580	1570	1540	1580	1560	1570	1550
14	979	963	1780	1540	1610	1570	1570	1540	1570	1560	1560	1550
15	1020	978	1560	1540	1600	1580	1800	1540	1570	1560	1570	1550
16	1090	1020	1560	1540	1610	1570	1890	1580	1570	1550	1550	1540
17	1130	1090	1570	1540	1620	1560	1580	1570	1570	1560	1550	1540
18	1190	1130	1570	1550	1610	1580	1580	1560	1570	1540	---	---
19	1220	1190	1570	1560	1590	1580	1580	1560	1570	1550	---	---
20	1260	1220	1580	1560	1590	1580	1580	1560	1570	1560	---	---
21	1290	1260	1590	1570	1600	1570	1590	1560	1570	1550	---	---
22	1320	1280	1580	1570	1600	1580	1580	1550	1560	1550	---	---
23	1340	1320	1580	1570	1720	1580	1580	1550	1570	1560	---	---
24	1360	1340	1610	1580	1610	1580	1580	1560	1570	1560	---	---
25	1370	1330	1620	1610	1600	1580	1580	1550	1580	1570	---	---
26	1380	1260	1630	1620	1610	1580	1570	1550	1570	1530	---	---
27	1260	1260	1630	1620	1600	1580	1570	1550	1580	1560	---	---
28	1270	1260	1620	1620	1610	1570	1570	1540	1580	1550	---	---
29	1270	1210	1630	1620	1610	1570	1570	1550	1570	1550	---	---
30	1240	1200	1620	1570	1600	1570	1570	1550	1550	1510	---	---
31	---	---	1580	1560	---	---	1580	1550	1590	1470	---	---
MONTH	1710	963	1800	1200	1720	1550	1890	1490	1590	1470	---	---

11133000 SANTA YNEZ RIVER AT NARROWS NEAR LOMPOC, CA—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	22.0	17.0	21.5	14.0	---	---	---	---	---	---	---	---
2	26.5	17.0	20.5	12.5	---	---	---	---	---	---	---	---
3	25.5	17.5	21.0	12.5	---	---	---	---	---	---	---	---
4	26.0	16.5	21.5	15.0	---	---	---	---	---	---	---	---
5	26.0	15.5	20.5	13.0	---	---	---	---	---	---	---	---
6	26.0	14.5	19.0	11.5	---	---	---	---	---	---	---	---
7	25.0	13.5	18.0	12.5	---	---	---	---	---	---	---	---
8	25.5	17.5	21.0	15.5	---	---	---	---	---	---	---	---
9	24.5	17.0	20.0	12.0	---	---	---	---	---	---	---	---
10	23.5	14.5	20.5	10.5	---	---	---	---	---	---	---	---
11	23.5	13.0	20.0	14.0	---	---	---	---	---	---	---	---
12	22.5	13.5	20.5	12.0	---	---	---	---	---	---	---	---
13	24.5	16.0	21.5	12.0	---	---	---	---	---	---	---	---
14	23.0	16.0	21.0	11.5	---	---	---	---	---	---	---	---
15	23.0	15.0	20.5	14.0	---	---	---	---	---	---	---	---
16	22.5	13.5	19.0	12.5	---	---	---	---	---	---	---	---
17	22.5	12.0	21.0	15.0	---	---	---	---	---	---	---	---
18	22.5	11.5	20.5	13.0	---	---	---	---	---	---	---	---
19	22.5	13.5	21.0	13.0	---	---	---	---	---	---	---	---
20	23.0	12.5	20.0	11.5	---	---	---	---	---	---	---	---
21	24.0	12.5	20.0	11.5	---	---	---	---	---	---	---	---
22	23.5	16.5	21.5	15.5	---	---	---	---	---	---	---	---
23	23.0	16.5	22.5	15.5	---	---	---	---	---	---	---	---
24	23.0	16.0	21.5	16.0	---	---	---	---	---	---	---	---
25	22.5	14.5	21.0	13.5	---	---	---	---	---	---	---	---
26	23.0	13.5	21.0	12.5	---	---	---	---	---	---	---	---
27	23.0	15.5	18.0	16.0	---	---	---	---	---	---	---	---
28	22.5	13.5	17.0	15.0	---	---	---	---	---	---	---	---
29	22.0	15.0	20.0	14.5	---	---	---	---	---	---	---	---
30	21.0	12.5	21.0	16.0	---	---	---	---	---	---	---	---
31	21.5	12.0	---	---	---	---	---	---	---	---	---	---
MONTH	26.5	11.5	22.5	10.5	---	---	---	---	---	---	---	---
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	18.5	11.5	25.0	14.5	22.5	13.5	29.0	17.0	28.0	16.5	27.0	15.0
2	21.0	10.5	23.0	14.0	18.0	14.0	25.5	17.5	29.0	16.5	27.5	16.0
3	16.5	10.5	20.0	14.0	24.0	13.5	28.5	16.5	29.0	17.0	26.0	14.5
4	20.0	9.5	23.0	12.0	23.0	14.0	28.5	15.5	25.5	16.5	27.0	16.5
5	18.5	11.0	25.5	12.5	25.5	14.5	29.5	14.0	21.5	16.5	27.5	17.0
6	20.0	12.5	25.0	13.5	25.0	15.5	27.5	16.5	25.5	16.5	27.0	17.5
7	22.0	12.0	24.0	14.5	25.0	13.5	29.5	16.5	29.0	15.0	28.5	17.0
8	16.5	13.0	23.5	12.0	25.0	13.0	30.5	16.0	28.5	17.5	27.5	14.5
9	20.5	10.0	23.5	11.5	25.0	14.0	29.5	16.0	27.5	17.5	27.5	16.5
10	20.5	10.5	23.5	12.0	25.5	14.0	28.0	17.0	29.0	17.0	27.0	16.5
11	15.0	12.0	23.5	17.5	26.0	15.0	31.0	17.0	29.0	17.5	27.0	14.0
12	18.0	10.5	23.0	19.5	25.5	15.0	32.0	17.5	28.5	17.5	26.5	17.0
13	18.5	14.0	23.5	19.0	26.0	15.0	32.0	18.0	29.0	15.0	26.0	17.0
14	24.5	14.5	24.0	13.5	27.0	15.0	31.0	18.5	28.5	17.0	25.5	16.5
15	26.0	15.5	23.0	11.5	25.5	15.5	31.0	18.5	28.0	16.5	26.0	17.0
16	24.5	16.0	23.5	12.5	25.5	15.5	30.0	18.0	29.0	17.0	22.5	17.0
17	26.0	14.5	26.5	13.0	28.0	15.5	30.0	17.5	28.0	17.0	25.5	17.0
18	26.5	15.0	25.0	14.5	29.0	15.5	30.0	17.0	28.0	16.5	---	---
19	25.5	17.0	22.0	14.0	26.5	16.0	29.5	17.0	29.0	17.0	---	---
20	23.5	15.5	22.5	13.5	26.0	15.5	28.5	16.0	28.5	17.0	---	---
21	23.0	13.5	25.5	13.5	25.5	15.5	29.0	17.0	28.0	16.5	---	---
22	20.5	14.0	24.5	15.5	29.5	16.5	29.5	15.5	29.0	17.0	---	---
23	24.0	13.5	25.5	16.0	29.0	16.0	28.5	17.0	29.0	17.5	---	---
24	25.5	14.0	26.5	16.5	29.5	16.5	28.0	16.0	28.0	16.5	---	---
25	26.0	15.5	25.5	16.0	26.0	16.5	28.5	16.5	28.5	16.5	---	---
26	22.5	16.0	25.0	16.5	27.0	15.5	28.0	16.5	21.5	17.0	---	---
27	22.5	14.0	24.5	16.5	29.0	16.0	28.5	17.0	29.0	17.0	---	---
28	21.0	12.0	21.0	16.0	30.0	15.5	28.0	16.0	28.5	17.0	---	---
29	23.5	13.0	20.0	14.5	30.5	16.5	28.5	14.0	27.5	17.0	---	---
30	23.0	14.0	26.0	14.5	30.0	17.0	28.5	16.0	27.0	16.0	---	---
31	---	---	27.0	14.5	---	---	28.0	16.0	27.0	14.0	---	---
MONTH	26.5	9.5	27.0	11.5	30.5	13.0	32.0	14.0	29.0	14.0	---	---

11134000 SANTA YNEZ RIVER AT H STREET, NEAR LOMPOC, CA.

LOCATION.—Lat 34°40'06", long 120°27'25", in Lompoc Grant, Santa Barbara County, Hydrologic Unit 18060010, near left bank, on downstream side of H Street Bridge, on State Highway 1, and 2 mi north of Lompoc.

DRAINAGE AREA.—816 mi².

PERIOD OF RECORD.—October 1946 to September 1962, October 1998 to September 1999.

GAGE.—Water-stage recorder and crest-stage gage. Datum of gage is 56.74 ft above sea level. Various datums used during period of record.

REMARKS.—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 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. Satellite telemeter at station. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge prior to regulation by Lake Cachuma, 37,900 ft³/s, Jan. 16, 1952, gage height, 17.4 ft (datum then in use), from rating curve extended above 2,900 ft³/s. Maximum discharge after regulation by Lake Cachuma, 7,020 ft³/s, Feb. 11, 1962, gage height 8.95 ft (datum then in use); no flow for several months in each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e14	e8.5	e70	e22	e58	e17	e87	e32	e8.8	.00	.00	.00
2	e14	e9.5	e46	e22	e42	e17	e79	e28	e8.0	.00	.00	.00
3	e14	e10	e30	e22	e39	e14	e74	e28	e7.8	.00	.00	.00
4	e12	e8.5	e28	e22	e36	e15	e68	e32	e7.2	.00	.00	.00
5	e12	e8.5	e25	e23	e34	e13	e56	e37	e6.4	.00	.00	.00
6	e11	e10	e28	e21	e30	e13	e66	e32	e6.2	.00	.00	.00
7	e9.9	e10	e26	e21	e32	e15	e75	e30	e5.9	.00	.00	.00
8	e9.0	e13	e25	e20	e34	e13	e65	e34	e5.6	.00	.00	.00
9	e10	e14	e25	e19	e62	e14	e60	e39	e5.3	.00	.00	.00
10	e9.5	e12	e25	e20	e93	e15	e55	e36	e5.0	.00	.00	.00
11	e10	e13	e27	e22	e80	e20	e480	e33	e4.5	.00	.00	.00
12	e11	e21	e27	e22	e49	e17	e640	e28	e3.0	.00	.00	.00
13	e11	e18	e26	e21	e37	e17	e260	e23	e2.8	.00	.00	.00
14	e11	e17	e26	e20	e35	e16	e190	e22	e2.2	.00	.00	.00
15	e12	e18	e27	e20	e32	e240	e150	e19	e1.5	.00	.00	.00
16	e12	e19	e26	e19	e31	e240	e104	e18	e1.2	.00	.00	.00
17	e11	e19	e26	e19	e29	e100	e94	e16	e1.1	.00	.00	.00
18	e11	e17	e26	e20	e28	e65	e81	e14	e.90	.00	.00	.00
19	e14	e17	e24	e20	e28	e150	e71	e13	e.70	.00	.00	.00
20	e11	e16	e24	e25	e27	e270	e62	e15	e.50	.00	.00	.00
21	e11	e15	e25	e27	e26	e180	e55	e15	e.30	.00	.00	.00
22	e12	e16	e25	e24	e26	e90	e52	e13	e.10	.00	.00	.00
23	e11	e17	e23	e23	e25	e60	e50	e13	.00	.00	.00	.00
24	e11	e17	e22	e27	e24	e40	e44	e13	.00	.00	.00	.00
25	e12	e16	e22	e28	e24	e1500	e41	e12	.00	.00	.00	.00
26	e12	e16	e23	e31	e24	e540	e40	e12	.00	.00	.00	.00
27	e12	e18	e24	e35	e20	e180	e40	e11	.00	.00	.00	.00
28	e10	e90	e23	e34	e17	e100	e38	e10	.00	.00	.00	.00
29	e10	e60	e23	e31	---	e75	e38	e9.4	.00	.00	.00	.00
30	e10	e50	e23	e28	---	e60	e42	e9.7	.00	.00	.00	.00
31	e8.5	---	e23	e52	---	e80	---	e9.0	---	.00	.00	---
TOTAL	348.9	594.0	843	760	1022	4186	3257	656.1	85.00	0.00	0.00	0.00
MEAN	11.3	19.8	27.2	24.5	36.5	135	109	21.2	2.83	.000	.000	.000
MAX	14	90	70	52	93	1500	640	39	8.8	.00	.00	.00
MIN	8.5	8.5	22	19	17	13	38	9.0	.00	.00	.00	.00
AC-FT	692	1180	1670	1510	2030	8300	6460	1300	169	.00	.00	.00

e Estimated.

11134000 SANTA YNEZ RIVER AT H STREET, NEAR LOMPOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1952, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	2.33	9.46	301	43.9	293	69.8	15.5	2.45	.29	.000	.000
MAX	.000	14.0	54.8	1741	215	1722	416	92.9	14.7	1.73	.000	.000
(WY)	1947	1947	1947	1952	1952	1952	1952	1952	1952	1952	1947	1947
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1947	1948	1948	1948	1948	1948	1948	1948	1947	1947	1947	1947

SUMMARY STATISTICS

WATER YEARS 1947 - 1952

ANNUAL MEAN	62.1
HIGHEST ANNUAL MEAN	354 1952
LOWEST ANNUAL MEAN	.000 1948
HIGHEST DAILY MEAN	19600 Jan 16 1952
LOWEST DAILY MEAN	.00 Oct 1 1946
ANNUAL SEVEN-DAY MINIMUM	.00 Oct 1 1946
INSTANTANEOUS PEAK FLOW	37900 Jan 16 1952
INSTANTANEOUS PEAK STAGE	17.40 Jan 16 1952
ANNUAL RUNOFF (AC-FT)	44980
10 PERCENT EXCEEDS	25
50 PERCENT EXCEEDS	.00
90 PERCENT EXCEEDS	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.02	2.56	30.5	31.5	149	101	114	29.0	4.86	.046	.000	.000
MAX	11.3	19.8	166	181	934	443	1046	282	50.6	.51	.000	.000
(WY)	1999	1999	1956	1956	1962	1958	1958	1958	1958	1958	1953	1953
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1953	1955	1954	1957	1955	1960	1957	1953	1953	1953	1953	1953

SUMMARY STATISTICS

FOR 1999 WATER YEAR

WATER YEARS 1953 - 1999

ANNUAL TOTAL	11752.00
ANNUAL MEAN	32.2
HIGHEST ANNUAL MEAN	181 1958
LOWEST ANNUAL MEAN	.051 1957
HIGHEST DAILY MEAN	1500 Mar 25 3960 Feb 11 1962
LOWEST DAILY MEAN	.00 Jun 23 .00 Oct 1 1952
ANNUAL SEVEN-DAY MINIMUM	.00 Jun 23 .00 Oct 1 1952
INSTANTANEOUS PEAK FLOW	3690 Mar 25 7020 Feb 11 1962
INSTANTANEOUS PEAK STAGE	10.25 Mar 25 8.95 Feb 11 1962
ANNUAL RUNOFF (AC-FT)	23310 27430
10 PERCENT EXCEEDS	61 41
50 PERCENT EXCEEDS	15 .00
90 PERCENT EXCEEDS	.00 .00

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, 120 ft upstream from drop structure to debris basin, and 1,900 ft south of Lompoc Union High School.

DRAINAGE AREA.—11.6 mi².

PERIOD OF RECORD.—October 1970 to May 6, 1986, October 1987 to current year.

CHEMICAL DATA: Water years 1980–86, 1988–97.

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 site 350 ft downstream at different datum.

REMARKS.—Records poor. No regulation or diversion upstream from station; some pumping from wells along stream for irrigation. See schematic diagram of Santa Ynez River Basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 2,660 ft³/s, Feb. 3, 1998, gage height, 4.61 ft, from theoretical rating curve above 50 ft³/s; no flow for many days in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Jan. 25, 1969, reached a stage of 5.83 ft, site in use prior to 1986, from floodmark, discharge, 680 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 140 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	1030	143	1.25				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	1.7	2.7	1.1	1.9	1.3	1.1	.70	e3.6	e3.6	.60	.33
2	1.3	1.5	1.3	1.1	1.7	1.2	1.0	.70	e2.9	e3.1	.60	.33
3	1.3	.95	1.1	1.1	1.7	1.4	.74	.70	e2.2	e2.2	.60	.25
4	1.6	.62	1.1	1.1	1.7	1.4	1.1	1.4	e1.8	e3.5	.60	.32
5	1.6	.63	1.1	1.1	2.2	1.2	1.1	2.0	e1.4	e6.0	.60	.51
6	1.1	.65	1.2	1.7	1.7	1.1	.72	2.0	e1.6	e4.4	.60	.77
7	.94	2.4	1.1	1.8	1.7	1.1	.70	2.2	e2.5	e4.9	.60	.75
8	.80	2.2	1.1	1.3	1.7	1.1	.70	2.4	e1.3	e3.8	.59	.40
9	.82	1.6	1.1	1.1	8.8	1.4	.70	2.6	e.46	e2.5	.43	e.23
10	1.1	1.5	.81	1.1	1.5	1.4	.70	3.0	e.62	1.6	.43	.24
11	1.3	1.8	.70	.70	.98	2.2	14	2.8	e.44	1.1	.43	.18
12	1.3	1.5	.70	.70	.70	1.8	1.8	2.8	e.23	1.1	.43	.21
13	1.0	1.8	.70	.70	.70	1.8	1.7	3.1	e.48	.70	.43	.23
14	.94	2.4	.79	.70	.64	2.3	1.4	e2.7	e.68	.70	.43	.23
15	.89	2.9	.70	.70	.60	26	1.5	e1.6	e.79	.65	.45	.23
16	.74	2.9	.70	.70	.77	1.2	1.7	e2.0	e.92	.60	.43	.23
17	1.4	2.6	.70	.70	.43	.48	1.6	e2.0	e1.1	.76	.43	.23
18	2.0	2.0	.70	.70	.43	.73	1.4	e1.7	e1.5	.70	.43	.23
19	1.6	1.7	.70	.72	.43	7.3	1.4	e1.4	e2.0	.66	.43	.24
20	1.7	1.6	.70	.99	.45	1.5	1.4	e2.7	e2.5	.60	.43	.25
21	1.6	1.6	.70	1.1	.68	.63	1.2	e2.5	e2.4	.60	.39	.23
22	1.5	2.0	.70	1.1	.61	.70	1.1	e2.0	e1.7	.60	.33	.23
23	1.9	1.8	.70	1.1	.65	.59	1.1	e1.7	e1.5	.60	.33	.23
24	2.3	1.9	.70	1.3	.70	.60	1.1	e2.5	e.65	.60	.33	.23
25	1.8	2.0	.70	1.4	.98	44	1.1	e3.3	e.55	.87	.33	.23
26	1.6	2.2	.70	1.7	1.1	4.3	1.1	e2.2	e.55	.70	.33	.27
27	1.3	3.0	.70	1.7	1.1	1.6	1.1	e1.7	e.79	.70	.33	.27
28	1.1	e17	.70	1.5	1.2	1.3	1.1	e2.3	e1.0	.70	.33	.23
29	1.1	1.4	.87	1.4	---	1.1	1.0	e2.2	e.63	.64	.35	.23
30	1.2	1.5	1.1	1.4	---	1.3	.70	e2.0	e.99	.60	.33	.28
31	1.4	---	1.1	5.3	---	1.2	---	e2.5	---	.60	.33	---
TOTAL	41.73	69.35	28.37	38.81	37.75	115.23	47.06	65.40	39.78	50.38	13.68	8.82
MEAN	1.35	2.31	.92	1.25	1.35	3.72	1.57	2.11	1.33	1.63	.44	.29
MAX	2.3	17	2.7	5.3	8.8	44	14	3.3	3.6	6.0	.60	.77
MIN	.74	.62	.70	.70	.43	.48	.70	.70	.23	.60	.33	.18
AC-FT	83	138	56	77	75	229	93	130	79	100	27	17

e Estimated.

11134800 MIGUELITO CREEK AT LOMPOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.28	.59	1.68	3.80	7.63	8.81	2.08	1.15	.75	.57	.40	.35
MAX	1.39	2.77	8.69	37.9	75.6	106	14.2	6.04	3.79	2.64	2.33	2.05
(WY)	1984	1996	1993	1995	1998	1995	1983	1983	1983	1983	1983	1983
MIN	.001	.001	.008	.019	.047	.091	.076	.053	.008	.016	.006	.000
(WY)	1973	1978	1990	1991	1972	1972	1972	1972	1992	1992	1972	1972

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR			FOR 1999 WATER YEAR			WATER YEARS 1971 - 1999		
ANNUAL TOTAL	3247.21			556.36					
ANNUAL MEAN	8.90			1.52			2.33		
HIGHEST ANNUAL MEAN							13.8		
LOWEST ANNUAL MEAN							.15		
HIGHEST DAILY MEAN	401	Feb	3	44	Mar	25	1170	Mar	11 1995
LOWEST DAILY MEAN	.24	Jan	8	.18	Sep	11	.00	Jul	21 1971
ANNUAL SEVEN-DAY MINIMUM	.39	Jan	2	.22	Sep	11	.00	Sep	8 1971
INSTANTANEOUS PEAK FLOW				143			2660		
INSTANTANEOUS PEAK STAGE				1.25			4.61		
ANNUAL RUNOFF (AC-FT)	6440			1100			1680		
10 PERCENT EXCEEDS	14			2.4			2.8		
50 PERCENT EXCEEDS	2.6			1.1			.39		
90 PERCENT EXCEEDS	.94			.34			.02		

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 U.S. Highway 101, at Los Alamos.

DRAINAGE AREA.—34.9 mi².

PERIOD OF RECORD.—Water years 1971–92, October 1997 to September 1999 (discontinued).

GAGE.—Water-stage recorder. Elevation of gage is 580 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation upstream from station. Pumping for irrigation of about 1,000 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 3,230 ft³/s, Mar. 1, 1983, gage height, 11.6 ft, from floodmarks, from rating curve extended above 150 ft³/s on basis of computation of peak flow through culvertst; maximum gage height, 14.53 ft, Feb. 3, 1998 (backwater from debris dam); no flow for most of each year.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 30 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 25	1245	84	2.40				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.00	e.00	.07	.00	.27	.00	e.43	.00	.00	.00	.00	.00
2	e.00	e.00	.08	.00	.22	.00	.45	.00	.00	.00	.00	.00
3	e.00	e.00	.09	.00	.19	.00	.44	.00	.00	.00	.00	.00
4	e.00	e.00	.10	.00	.13	.00	.43	.00	.00	.00	.00	.00
5	e.00	.00	.07	.00	.00	.00	.43	.00	.00	.00	.00	.00
6	e.00	.00	.10	.00	.00	.00	.49	.00	.00	.00	.00	.00
7	e.00	.00	.05	.00	.03	.00	.48	.00	.00	.00	.00	.00
8	e.00	.00	.06	.00	.00	.00	.48	.00	.00	.00	.00	.00
9	e.00	.00	.06	.00	.36	.00	.49	.00	.00	.00	.00	.00
10	e.00	.00	.05	.00	.36	.00	.44	.00	.00	.00	.00	.00
11	e.00	.00	.06	.00	.29	.00	3.8	.00	.00	.00	.00	.00
12	e.00	.00	.04	.00	.26	.00	1.7	.00	.00	.00	.00	.00
13	e.00	.00	.02	.00	.25	.00	.29	.00	.00	.00	.00	.00
14	e.00	.00	.01	.00	.25	.00	.06	.00	.00	.00	.00	.00
15	e.00	.00	.00	.00	.19	2.8	.00	.00	.00	.00	.00	.00
16	e.00	.00	.00	.00	.07	.33	.00	.00	.00	.00	.00	.00
17	e.00	.00	.02	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	e.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.00	.00
19	e.00	.00	.05	.00	.00	1.1	.00	.00	.00	.00	.00	.00
20	e.00	.00	.05	.00	.00	.88	.00	.00	.00	.00	.00	.00
21	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	e.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
23	e.00	.00	.30	.00	.00	.00	.00	.00	.00	.00	.00	.00
24	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	e.00	.00	.00	.00	.00	27	.00	.00	.00	.00	.00	.00
26	e.00	.00	.03	.38	.00	e2.3	.00	.00	.00	.00	.00	.00
27	e.00	.00	.03	.39	.00	e.80	.00	.00	.00	.00	.00	.00
28	e.00	.00	.00	.31	.00	e.53	.00	.00	.00	.00	.00	.00
29	e.00	.00	.00	.29	---	e.47	.00	.00	.00	.00	.00	.00
30	e.00	.00	.00	.26	---	e.43	.00	.00	.00	.00	.00	.00
31	e.00	---	.00	.43	---	e.41	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	1.39	2.06	2.87	37.05	10.41	0.00	0.00	0.00	0.00	0.00
MEAN	.000	.000	.045	.066	.10	1.20	.35	.000	.000	.000	.000	.000
MAX	.00	.00	.30	.43	.36	.27	3.8	.00	.00	.00	.00	.00
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
AC-FT	.00	.00	2.8	4.1	5.7	73	21	.00	.00	.00	.00	.00

e Estimated.

11135800 SAN ANTONIO CREEK AT LOS ALAMOS, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.000	.047	.17	1.60	15.0	10.6	.79	.084	.038	.012	.001	.008
MAX	.000	.55	.92	33.2	194	144	9.97	.97	.48	.22	.035	.18
(WY)	1971	1974	1998	1983	1998	1983	1998	1998	1998	1998	1998	1990
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1971	1971	1973	1976	1977	1972	1971	1971	1971	1971	1971	1971

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	6160.88		53.78			
ANNUAL MEAN	16.9		.15		2.29	
HIGHEST ANNUAL MEAN					18.9	
LOWEST ANNUAL MEAN					.001	
HIGHEST DAILY MEAN	1000	Feb 3	27	Mar 25	1430	Mar 1 1983
LOWEST DAILY MEAN	.00	Jan 1	.00	Oct 1	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 18	.00	Oct 1	.00	Oct 1 1970
INSTANTANEOUS PEAK FLOW			84		3230	Mar 1 1983
INSTANTANEOUS PEAK STAGE			2.40		14.53	Feb 3 1998
ANNUAL RUNOFF (AC-FT)	12220		107		1660	
10 PERCENT EXCEEDS	26		.25		.26	
50 PERCENT EXCEEDS	.16		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1955 to September 1993, October 1994 to current year.

GAGE.—Water-stage recorder and concrete control. Elevation of gage is 160 ft above sea level, from topographic map. Prior to June 27, 1958, at datum 2.00 ft higher.

REMARKS.—Records good except for estimated daily discharges, which are poor. No regulation upstream from 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.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 4,680 ft³/s, Mar. 1, 1983, gage height, 14.32 ft, from rating curve extended above 1,100 ft³/s on basis of slope-area measurement at gage height 12.93 ft; minimum daily, 0.10 ft³/s, June 19, 20, 1957.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 15	1345	153	3.31	Mar. 25	1430	332	4.28
Mar. 19	2030	106	2.97				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.96	1.1	2.1	1.1	2.4	1.2	e4.4	e2.3	e1.0	e.84	e.74	.69
2	e.96	1.1	1.6	1.1	1.5	1.3	e4.0	e2.3	e1.1	e.87	e.74	.70
3	e.95	1.0	1.2	1.1	1.4	1.3	e3.7	e2.1	e1.1	e.92	.71	.72
4	e.95	.96	1.2	1.1	1.4	1.3	e3.3	e2.1	e1.1	e.86	.71	.75
5	e.94	.96	1.1	1.1	1.3	1.3	e3.0	e2.0	e1.2	e.84	.64	.72
6	e.94	1.0	1.5	1.2	1.3	1.3	e2.7	e2.0	e1.2	e.82	.63	.75
7	.94	1.1	1.2	1.2	1.6	1.4	3.2	e1.9	e1.2	e.86	.62	.79
8	.94	1.4	1.1	e1.1	1.7	1.4	3.7	e1.9	e1.2	e.85	.61	.80
9	.97	1.1	1.1	e1.1	5.1	1.6	4.5	e1.9	e1.3	e.82	.62	.70
10	.96	1.1	1.0	e1.1	4.9	1.5	3.9	e1.8	e1.3	e.80	.62	.73
11	.94	1.1	1.0	e1.1	1.8	1.9	24	e1.8	e1.4	e.78	.63	.74
12	.91	1.1	1.0	1.1	1.6	1.6	14	e1.8	e1.5	e.75	.62	.74
13	.94	1.1	1.0	1.1	1.5	1.7	4.1	e1.7	e1.5	e.73	.63	.77
14	.96	1.1	1.0	1.1	1.3	1.7	e3.7	e1.6	e1.5	e.70	.63	.87
15	1.3	1.1	1.0	1.1	1.3	39	e3.6	e1.6	e1.5	e.68	.65	.92
16	.99	1.1	1.0	1.2	1.3	14	e3.4	e1.6	e1.5	e.66	.65	.96
17	1.0	1.1	1.0	1.2	1.3	4.2	e3.3	e1.5	e1.5	e.66	.66	.93
18	.88	1.1	1.1	1.2	1.3	2.9	e3.2	e1.5	e1.4	e.66	.66	.87
19	.92	1.0	1.1	1.3	1.2	22	e3.1	e1.5	e1.3	e.65	.66	.88
20	.95	1.0	1.1	1.9	1.2	30	e3.0	e1.4	e1.2	e.65	.66	.79
21	1.0	1.1	1.0	2.1	1.2	9.1	e3.1	e1.4	e1.1	e.65	.66	.78
22	.98	1.1	1.0	1.4	1.1	4.8	e3.1	e1.4	e1.1	e.63	.67	.85
23	.95	1.1	1.1	1.3	1.2	4.2	e3.1	e1.3	e1.0	e.63	.70	.78
24	.97	1.1	1.1	1.5	1.2	3.9	e2.8	e1.3	e1.0	e.63	.70	.79
25	1.1	1.1	1.0	1.4	1.2	129	e2.7	e1.2	e.99	e.64	.70	.70
26	1.1	1.1	1.1	1.9	1.2	26	e2.7	e1.2	e.99	e.64	.84	.72
27	1.1	1.1	1.1	2.5	1.2	8.4	e2.7	e1.1	e.98	e.65	.76	.77
28	1.0	3.7	1.1	1.6	1.3	e7.0	e2.5	e1.1	e.96	.66	.74	.71
29	1.1	1.5	1.1	1.4	---	e5.0	e2.5	e1.1	e.94	.66	.74	.65
30	1.1	1.1	1.1	1.4	---	e4.9	e2.3	e1.1	e.90	.67	.75	.65
31	1.1	---	1.1	4.4	---	e4.8	---	e1.1	---	e.72	.80	---
TOTAL	30.80	35.62	35.2	44.4	46.0	339.7	129.3	49.6	35.96	22.58	21.15	23.22
MEAN	.99	1.19	1.14	1.43	1.64	11.0	4.31	1.60	1.20	.73	.68	.77
MAX	1.3	3.7	2.1	4.4	5.1	129	24	2.3	1.5	.92	.84	.96
MIN	.88	.96	1.0	1.1	1.1	1.2	2.3	1.1	.90	.63	.61	.65
AC-FT	61	71	70	88	91	674	256	98	71	45	42	46

e Estimated.

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.80	1.58	2.88	11.8	29.3	20.4	7.33	1.44	.94	.68	.69	.73
MAX	2.36	6.73	10.6	104	273	234	149	3.85	2.07	1.59	1.84	2.23
(WY)	1964	1973	1956	1995	1998	1983	1958	1983	1983	1983	1981	1972
MIN	.19	.19	.29	.41	.54	.44	.30	.24	.17	.18	.21	.16
(WY)	1990	1990	1990	1991	1991	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1956 - 1999	
ANNUAL TOTAL	9516.67		813.53			
ANNUAL MEAN	26.1		2.23		6.42	
HIGHEST ANNUAL MEAN					39.7	
LOWEST ANNUAL MEAN					.47	
HIGHEST DAILY MEAN	1710	Feb 3	129	Mar 25	2040	Mar 2 1983
LOWEST DAILY MEAN	.53	Jan 1	.61	Aug 8	.10	Jun 19 1957
ANNUAL SEVEN-DAY MINIMUM	.75	Jan 22	.62	Aug 6	.13	Jul 27 1990
INSTANTANEOUS PEAK FLOW			332	Mar 25	4680	Mar 1 1983
INSTANTANEOUS PEAK STAGE			4.28	Mar 25	14.32	Mar 1 1983
ANNUAL RUNOFF (AC-FT)	18880		1610		4650	
10 PERCENT EXCEEDS	45		3.1		4.6	
50 PERCENT EXCEEDS	1.4		1.1		1.0	
90 PERCENT EXCEEDS	.97		.69		.38	

11136100 SAN ANTONIO CREEK NEAR CASMALIA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 06...	2210	--	--	--	--	--	--	--	--	--
NOV 03...	2220	--	--	--	--	--	--	--	--	--
JAN 11...	2080	--	--	--	--	--	--	--	--	--
FEB 02...	1970	--	--	--	--	--	--	--	--	--
MAR 06...	2180	2100	2.96	.80	5.9	6.9	.99	2340	e27	820
MAR 29...	2570	--	--	--	--	--	--	--	--	--
MAY 19...	2380	--	--	--	--	--	--	--	--	--
JUN 10...	2140	--	--	--	--	--	--	--	--	--
JUL 06...	2140	--	--	--	--	--	--	--	--	--
AUG 04...	1970	--	--	--	--	--	--	--	--	--
SEP 09...	2070	--	--	--	--	--	--	--	--	--

e Estimated.

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 mi².

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. 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 sea level, from topographic map. Prior to October 1959, nonrecording gage at different site and datum.

REMARKS.—Records poor. No regulation upstream from station. Pumping from wells along stream for irrigation of several thousand acres in Upper Cuyama Valley.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 26,200 ft³/s, Feb. 23, 1998, gage height, 14.76 ft, from rating curve extended above 4,900 ft³/s on basis of slope-area measurement at gage height 14.76 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 200 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 10	2130	69	6.49				

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	9.5	e12	e8.2	29	9.5	12	11	3.9	1.7	.49	.09
2	14	9.6	e11	e8.4	17	11	12	9.0	3.9	1.6	.44	.14
3	20	9.4	e11	e9.1	14	9.1	12	9.2	4.1	1.6	.32	.15
4	19	8.9	e10	e9.0	19	9.4	11	9.6	4.0	1.5	.34	.17
5	16	8.3	e10	e8.7	23	8.5	11	8.8	4.0	1.4	.36	.17
6	14	8.1	e11	e9.3	27	9.4	15	8.2	3.9	1.3	.39	.19
7	8.6	8.8	e10	e10	26	15	17	8.4	3.2	1.3	.52	.17
8	9.5	11	e9.7	e11	23	14	13	7.6	3.0	1.1	.44	.17
9	7.8	10	e9.0	13	35	16	14	7.5	3.0	.99	.35	.16
10	8.2	8.9	e8.2	13	27	15	11	7.3	3.0	.98	.31	.21
11	8.0	11	e8.0	12	25	18	14	7.0	2.8	.96	.31	.16
12	7.9	11	e8.2	8.7	16	20	17	7.5	2.7	.90	.24	.16
13	8.7	8.9	e8.4	8.4	11	14	12	6.6	2.6	.85	.19	.15
14	9.2	8.1	e8.4	9.0	10	12	10	7.4	2.4	.87	.16	.16
15	9.6	7.8	e8.3	11	10	28	9.9	6.7	2.4	.92	.17	.15
16	11	7.5	e8.2	10	12	34	9.9	6.6	2.4	.89	.12	.18
17	11	7.9	e8.5	9.6	12	20	8.2	6.8	2.3	.88	.14	.17
18	11	7.4	e8.9	8.6	13	14	7.7	6.5	2.2	.94	.15	e.17
19	11	7.1	e9.1	8.1	13	15	7.6	6.1	2.1	.94	.12	e.18
20	11	6.7	e9.5	14	13	32	7.7	6.5	2.1	.91	.10	e.19
21	11	6.7	e9.4	e17	13	31	7.4	7.3	2.1	.91	.09	.20
22	11	7.1	e9.2	e12	12	18	8.3	7.1	2.0	.93	.11	.21
23	8.6	7.4	e9.0	16	13	16	8.8	7.1	2.0	.86	.11	.19
24	8.7	8.0	e8.7	17	13	14	8.9	6.9	1.9	.82	.08	.18
25	11	7.6	e8.5	26	13	16	7.9	6.3	1.9	.75	.09	.17
26	13	7.8	e8.2	30	14	19	8.3	5.7	1.9	.73	.16	.16
27	12	e8.5	e8.0	30	11	15	8.0	6.1	1.9	.67	.13	.14
28	12	e9.9	e8.0	16	12	12	9.0	5.3	1.8	.62	.09	.14
29	13	e10	e8.5	15	---	10	9.6	4.4	1.6	.54	.09	.14
30	12	e11	e8.6	12	---	11	10	4.5	1.7	.44	.10	.17
31	11	---	e8.4	28	---	11	---	3.9	---	.46	.09	---
TOTAL	349.8	259.9	281.9	418.1	476	496.9	318.2	218.9	78.8	30.26	6.80	4.99
MEAN	11.3	8.66	9.09	13.5	17.0	16.0	10.6	7.06	2.63	.98	.22	.17
MAX	20	11	12	30	35	34	17	11	4.1	1.7	.52	.21
MIN	7.8	6.7	8.0	8.1	10	8.5	7.4	3.9	1.6	.44	.08	.09
AC-FT	694	516	559	829	944	986	631	434	156	60	13	9.9

e Estimated.

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1960 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.84	2.66	15.7	41.2	121	107	27.4	8.52	4.53	2.01	1.26	1.76
MAX	11.3	23.6	275	467	1210	974	243	96.9	66.0	26.2	20.8	22.7
(WY)	1999	1966	1967	1969	1998	1995	1998	1998	1998	1998	1998	1990
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1960	1960	1960	1960	1964	1961	1961	1961	1961	1960	1960	1960

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1960 - 1999	
ANNUAL TOTAL	59776.5		2940.55			
ANNUAL MEAN	164		8.06		27.3	
HIGHEST ANNUAL MEAN					168	1998
LOWEST ANNUAL MEAN					.002	1964
HIGHEST DAILY MEAN	10000	Feb 24	35	Feb 9	10000	Feb 24 1998
LOWEST DAILY MEAN	2.3	Jan 8	.08	Aug 24	.00	Oct 1 1959
ANNUAL SEVEN-DAY MINIMUM	3.3	Jan 2	.10	Aug 19	.00	Oct 1 1959
INSTANTANEOUS PEAK FLOW			69	Feb 10	26200	Feb 23 1998
INSTANTANEOUS PEAK STAGE			6.49	Feb 10	14.76	Feb 23 1998
ANNUAL RUNOFF (AC-FT)	118600		5830		19800	
10 PERCENT EXCEEDS	388		15		21	
50 PERCENT EXCEEDS	30		8.3		.52	
90 PERCENT EXCEEDS	8.4		.17		.00	

11136800 CUYAMA RIVER BELOW BUCKHORN CANYON, NEAR SANTA MARIA, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L) (00608)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L) (00671)	BORON, DIS- SOLVED (UG/L) AS B) (01020)	IRON, DIS- SOLVED (UG/L) AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN) (01056)
NOV 04...	2010	--	--	--	--	--	--	--	--	--
JAN 13...	2170	--	--	--	--	--	--	--	--	--
FEB 03...	2230	--	--	--	--	--	--	--	--	--
MAR 05...	2130	1990	2.90	<.01	.16	.03	.03	550	<30	e5
APR 19...	1900	--	--	--	--	--	--	--	--	--
MAY 20...	1440	--	--	--	--	--	--	--	--	--
JUN 09...	1630	--	--	--	--	--	--	--	--	--
JUL 07...	1160	--	--	--	--	--	--	--	--	--
AUG 17...	1160	--	--	--	--	--	--	--	--	--
SEP 10...	1140	--	--	--	--	--	--	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDEDED (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY) (80155)
JAN 1999					
13...	1505	8.9	16.0	116	2.8
22...	1315	12	17.5	156	5.1
26...	1145	25	10.0	588	40
FEB					
03...	1450	14	17.0	232	8.8
09...	1145	31	12.5	781	65
25...	1130	11	14.5	189	5.6
MAR					
05...	1200	9.1	18.0	98	2.4
11...	1225	13	20.0	187	6.6
15...	1135	24	7.5	747	48
25...	1355	19	18.5	552	28

e Estimated.

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

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1943 to September 1999 (discontinued). 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.

REVISED RECORDS.—WSP 1928: Drainage area. WDR CA-98-1: 1997. WDR CA-99-1: 1998(M).

GAGE.—Water-stage recorder and concrete diversion dam. Datum of gage is 624.30 ft above sea level (levels by U.S. Army Corps of Engineers). See WSP 1735 for history of changes prior to Aug. 24, 1951.

REMARKS.—Records good except for estimated daily discharges, which are poor. No regulation or diversion upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 23,200 ft³/s, Dec. 6, 1966, gage height, 15.75 ft, from rating curve extended above 1,700 ft³/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, reached a discharge of 11,000 ft³/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 ft³/s.

EXTREMES FOR CURRENT YEAR.—Peak discharges greater than base discharge of 250 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 10	0015	511	3.38				

REVISIONS.—The maximum discharge for water year 1998 has been revised to 13,400 ft³/s, Feb. 10, 1998, gage height, 11.50 ft, from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	26	19	62	27	56	33	13	e3.6	2.1	1.8
2	19	21	28	19	50	27	52	32	13	e3.5	2.1	1.3
3	18	21	28	19	42	25	49	32	14	e3.3	2.0	1.3
4	17	21	e28	19	38	25	46	31	14	e3.2	2.0	1.3
5	17	21	27	19	36	25	45	30	15	e3.1	2.0	1.3
6	16	21	27	19	34	25	47	28	15	e3.0	2.1	1.3
7	16	21	27	19	32	25	49	27	15	e2.9	2.0	1.3
8	16	22	26	19	32	25	47	25	14	e2.8	2.0	1.3
9	16	22	24	19	90	26	51	24	14	e2.7	2.0	1.3
10	16	22	24	18	278	27	48	24	13	e2.6	2.0	1.3
11	16	25	24	18	122	27	57	22	12	2.4	2.0	1.2
12	15	25	24	17	86	26	107	22	12	2.2	1.9	1.3
13	15	25	24	15	69	25	91	22	11	2.1	1.9	1.3
14	15	25	24	15	57	25	99	21	8.4	2.1	1.8	1.3
15	15	22	24	16	51	41	108	21	6.7	2.1	1.8	1.3
16	15	22	24	15	46	59	95	21	8.4	2.2	1.7	1.3
17	15	22	24	15	41	59	80	20	8.4	2.2	1.7	1.3
18	15	22	24	15	36	58	68	19	8.0	2.1	1.7	1.3
19	15	22	24	15	37	58	59	18	6.9	2.1	1.7	1.3
20	14	22	24	21	33	101	53	17	6.4	2.3	1.6	1.3
21	14	22	24	21	34	99	50	17	6.4	2.3	1.6	1.3
22	13	22	24	20	33	81	48	17	6.2	2.2	1.6	1.3
23	13	22	24	19	32	74	46	16	5.1	2.2	1.6	1.3
24	13	22	22	21	30	66	45	16	4.7	2.2	1.6	1.3
25	14	22	22	23	30	70	43	16	4.5	2.2	1.5	1.3
26	15	22	22	26	30	102	40	15	4.2	2.2	1.6	1.3
27	15	22	20	31	28	98	37	15	4.1	2.2	1.6	1.3
28	15	25	19	33	28	82	36	14	e4.0	2.2	1.6	1.2
29	20	24	19	32	---	69	36	14	e3.9	2.2	1.6	1.3
30	21	22	19	30	---	61	35	14	e3.7	2.1	1.7	1.3
31	21	---	19	44	---	58	---	14	---	2.1	1.6	---
TOTAL	494	670	739	651	1517	1596	1723	657	275.0	76.6	55.7	39.3
MEAN	15.9	22.3	23.8	21.0	54.2	51.5	57.4	21.2	9.17	2.47	1.80	1.31
MAX	21	25	28	44	278	102	108	33	15	3.6	2.1	1.8
MIN	13	21	19	15	28	25	35	14	3.7	2.1	1.5	1.2
AC-FT	980	1330	1470	1290	3010	3170	3420	1300	545	152	110	78

e Estimated.

11138500 SISQUOC RIVER NEAR SISQUOC, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.68	6.80	27.5	82.7	179	151	96.5	34.9	13.2	5.29	2.69	2.65
MAX	46.0	80.5	555	1457	1731	871	975	312	140	57.5	23.2	19.6
(WY)	1968	1966	1967	1969	1969	1983	1958	1998	1998	1998	1998	1998
MIN	.13	.15	.20	.42	.97	1.44	.55	.34	.73	.32	.16	.20
(WY)	1990	1990	1990	1991	1949	1948	1990	1990	1990	1989	1989	1989

SUMMARY STATISTICS	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1944 - 1999	
ANNUAL TOTAL	101180		8493.6			
ANNUAL MEAN	277		23.3		49.6	
HIGHEST ANNUAL MEAN					361	1969
LOWEST ANNUAL MEAN					1.07	1948
HIGHEST DAILY MEAN	5400	Feb 3	278	Feb 10	14800	Jan 25 1969
LOWEST DAILY MEAN	13	Sep 1	1.2	Sep 11	.00	Nov 11 1967
ANNUAL SEVEN-DAY MINIMUM	14	Oct 19	1.3	Sep 5	.00	Nov 11 1967
INSTANTANEOUS PEAK FLOW			511	Feb 10	23200	Dec 6 1966
INSTANTANEOUS PEAK STAGE			3.38	Feb 10	15.75	Dec 6 1966
ANNUAL RUNOFF (AC-FT)	200700		16850		35960	
10 PERCENT EXCEEDS	750		51		86	
50 PERCENT EXCEEDS	57		19		2.6	
90 PERCENT EXCEEDS	17		1.6		.80	

11138500 SISQUOC RIVER NEAR SISQUOC, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—Water years 1978 to current year.

CHEMICAL DATA: Water years 1978 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00300)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION) (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)
		SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CAR- BONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKA- LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)
OCT											
07...	1630	16	1130	8.4	19.5	--	--	--	--	--	--
JAN											
07...	1240	18	1230	8.0	12.5	--	--	--	--	--	--
FEB											
04...	1400	38	1250	8.4	12.5	--	--	--	--	--	--
MAR											
09...	0955	26	1260	8.5	12.0	758	11.2	105	610	120	77
APR											
20...	1415	54	1100	8.5	20.5	--	--	--	--	--	--
MAY											
25...	1120	15	1260	8.1	18.5	--	--	--	--	--	--
JUN											
15...	1310	7.5	1270	8.3	21.5	--	--	--	--	--	--
JUL											
10...	1140	2.6	1320	8.1	21.0	--	--	--	--	--	--
AUG											
05...	1635	2.0	1270	8.3	25.0	--	--	--	--	--	--
SEP											
13...	1700	1.4	1290	8.1	24.0	--	--	--	--	--	--

11138500 SISQUOC RIVER NEAR SISQUOC, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT 07...	933	--	--	--	--	--	--	--	--	--
JAN 07...	964	--	--	--	--	--	--	--	--	--
FEB 04...	970	--	--	--	--	--	--	--	--	--
MAR 09...	972	884	1.32	<.01	<.05	.04	.03	140	e6	5
APR 20...	856	--	--	--	--	--	--	--	--	--
MAY 25...	918	--	--	--	--	--	--	--	--	--
JUN 15...	962	--	--	--	--	--	--	--	--	--
JUL 10...	990	--	--	--	--	--	--	--	--	--
AUG 05...	952	--	--	--	--	--	--	--	--	--
SEP 13...	993	--	--	--	--	--	--	--	--	--

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

e Estimated.

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 mi².

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.—Water-stage recorder and concrete control. 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. Supplementary gage discontinued June 8, 1992.

REMARKS.—Records poor. No regulation upstream from station. Pumping from wells along stream for irrigation of about 7,000 acres upstream from station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 33,600 ft³/s, Mar. 1, 1983, gage height, 11.16 ft, from rating curve extended above 22,000 ft³/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 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Feb. 10	0515	1,860	6.67	Mar. 25	1345	214	5.78

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.83	e.10	e15	e6.3	23	e14	51	e24	e.12	.00	.00	.00
2	e.72	e.10	e15	e6.3	34	e14	47	e21	e.11	.00	.00	.00
3	e.63	e.10	e15	e6.3	27	e13	43	e18	e.10	.00	.00	.00
4	e.54	e.10	e14	e6.3	28	e13	43	e16	e.00	.00	.00	.00
5	e.50	e.10	e14	e6.3	37	e13	42	e14	e.00	.00	.00	.00
6	e.43	e.10	e12	e6.3	32	e12	41	e13	e.00	.00	.00	.00
7	e.38	e.10	e11	e6.3	30	e12	43	e12	e.00	.00	.00	.00
8	e.34	e.10	e10	e6.1	30	e14	43	e11	e.00	.00	.00	.00
9	e.30	e.10	e9.0	e5.8	39	e15	45	e10	e.00	.00	.00	.00
10	e.27	e6.0	e9.0	e5.4	649	e16	45	e9.3	e.00	.00	.00	.00
11	e.24	e7.4	e9.0	e5.0	131	e16	54	e8.7	e.00	.00	.00	.00
12	e.22	e8.5	e9.0	e4.5	e86	e16	81	e8.1	e.00	.00	.00	.00
13	e.20	e9.3	e9.0	e4.0	e59	e20	83	e7.6	e.00	.00	.00	.00
14	e.18	e10	e9.0	e3.7	e48	e37	71	e7.0	e.00	.00	.00	.00
15	e.17	e11	e9.0	e3.6	e41	e42	74	e6.5	e.00	.00	.00	.00
16	e.16	e11	e9.0	e3.5	e36	53	73	e6.0	.00	.00	.00	.00
17	e.15	e12	e9.0	e3.5	e32	45	67	e5.6	.00	.00	.00	.00
18	e.14	e12	e9.0	e3.5	e29	44	60	e5.1	.00	.00	.00	.00
19	e.14	e12	e9.0	e3.9	e25	68	53	e4.7	.00	.00	.00	.00
20	e.13	e12	e9.0	e4.4	e23	99	49	e4.2	.00	.00	.00	.00
21	e.12	e12	e9.0	e4.6	e21	101	49	e3.3	.00	.00	.00	.00
22	e.12	e12	e9.0	e3.8	e20	79	49	2.5	.00	.00	.00	.00
23	e.11	e12	e9.0	e3.1	e18	69	46	e1.1	.00	.00	.00	.00
24	e.11	e12	e8.5	e3.3	e17	65	40	e.47	.00	.00	.00	.00
25	e.11	e12	e8.0	e3.9	e16	126	38	e.30	.00	.00	.00	.00
26	e.11	e12	e8.0	4.5	e15	104	36	e.24	.00	.00	.00	.00
27	e.11	e13	e6.4	14	e15	96	36	e.20	.00	.00	.00	.00
28	e.11	e14	e6.4	18	e14	80	33	e.17	.00	.00	.00	.00
29	e.11	e15	e6.4	18	---	69	34	e.15	.00	.00	.00	.00
30	e.11	e15	e6.4	16	---	59	28	e.14	.00	.00	.00	.00
31	e.10	---	e6.4	11	---	53	---	e.13	---	.00	.00	---
TOTAL	7.89	241.10	297.5	201.2	1575	1477	1497	220.50	0.33	0.00	0.00	0.00
MEAN	.25	8.04	9.60	6.49	56.2	47.6	49.9	7.11	.011	.000	.000	.000
MAX	.83	15	15	18	649	126	83	24	.12	.00	.00	.00
MIN	.10	.10	6.4	3.1	14	12	28	.13	.00	.00	.00	.00
AC-FT	16	478	590	399	3120	2930	2970	437	.7	.00	.00	.00

e Estimated.

11140000 SISQUOC RIVER NEAR GAREY, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.13	2.70	18.6	101	232	187	90.5	21.5	4.30	.79	.15	.17
MAX	3.88	39.0	506	1531	3310	1833	1072	407	135	35.8	5.99	4.20
(WY)	1968	1966	1967	1969	1998	1983	1958	1998	1998	1998	1998	1998
MIN	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
(WY)	1942	1942	1944	1944	1947	1947	1947	1946	1945	1942	1942	1942

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1942 - 1999

ANNUAL TOTAL	161813.29		5517.52		53.9		1998	
ANNUAL MEAN	443		15.1		446		1998	
HIGHEST ANNUAL MEAN					.000		1948	
LOWEST ANNUAL MEAN								
HIGHEST DAILY MEAN	13900	Feb 3	649	Feb 10	13900	Feb 3	1998	
LOWEST DAILY MEAN	.10	Oct 31	.00	Jun 4	.00	Oct 1	1941	
ANNUAL SEVEN-DAY MINIMUM	.10	Oct 31	.00	Jun 4	.00	Oct 1	1941	
INSTANTANEOUS PEAK FLOW			1860		33600		Mar 1 1983	
INSTANTANEOUS PEAK STAGE			6.67		13.50		Dec 6 1966	
ANNUAL RUNOFF (AC-FT)	321000		10940		39080			
10 PERCENT EXCEEDS	1290		45		51			
50 PERCENT EXCEEDS	45		3.9		.00			
90 PERCENT EXCEEDS	.52		.00		.00			

11140585 SANTA MARIA RIVER AT SUEY CROSSING NEAR, SANTA MARIA, CA

LOCATION.—Lat 34°57'38", long 120°24'08", Santa Barbara County, Hydrologic Unit 18060008, on left bank wing wall, on Suey Road, 0.9 mi east of Santa Maria City Boundary, below the mouth of Suey Creek.

WATER DISCHARGE RECORDS

PERIOD OF RECORD.—April 1999 to September 1999 (discontinued).

GAGE.—Water-stage recorder. Datum of gage is 240 ft above sea level.

REMARKS.—Records poor. Flow regulated by Twitchell Reservoir. Water is released from this reservoir to recharge ground water in the lower basin.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 578 ft³/s, June 1, 1999, gage height, 3.60 ft; no flow for many days each year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e.00	95	285	131	30	.00
2	---	---	---	---	---	---	e.00	101	192	131	20	.00
3	---	---	---	---	---	---	e.00	105	189	152	.00	.00
4	---	---	---	---	---	---	e.00	101	164	135	.00	.00
5	---	---	---	---	---	---	e.00	81	216	129	.00	.00
6	---	---	---	---	---	---	e.00	103	160	131	.00	.00
7	---	---	---	---	---	---	e.00	91	199	120	.00	.00
8	---	---	---	---	---	---	e60	92	157	109	.00	.00
9	---	---	---	---	---	---	e90	86	144	108	.00	.00
10	---	---	---	---	---	---	e105	91	114	108	.00	.00
11	---	---	---	---	---	---	e110	96	166	117	.00	.00
12	---	---	---	---	---	---	e115	83	179	108	.00	.00
13	---	---	---	---	---	---	e120	83	155	108	.00	.00
14	---	---	---	---	---	---	e120	93	131	115	.00	.00
15	---	---	---	---	---	---	e118	94	153	93	.00	.00
16	---	---	---	---	---	---	e114	79	160	90	.00	.00
17	---	---	---	---	---	---	e110	73	124	86	.00	.00
18	---	---	---	---	---	---	e105	92	121	91	.00	.00
19	---	---	---	---	---	---	e103	84	135	76	.00	.00
20	---	---	---	---	---	---	e101	85	134	69	.00	.00
21	---	---	---	---	---	---	e99	156	146	63	.00	.00
22	---	---	---	---	---	---	114	165	130	54	.00	.00
23	---	---	---	---	---	---	134	139	127	.00	.00	.00
24	---	---	---	---	---	---	101	191	156	11	.00	.00
25	---	---	---	---	---	---	104	165	143	28	.00	.00
26	---	---	---	---	---	---	118	246	147	31	.00	.00
27	---	---	---	---	---	---	105	204	133	31	.00	.00
28	---	---	---	---	---	---	99	230	143	30	.00	.00
29	---	---	---	---	---	---	101	167	104	31	.00	.00
30	---	---	---	---	---	---	123	180	121	31	.00	.00
31	---	---	---	---	---	---	---	212	---	30	.00	---
TOTAL	---	---	---	---	---	---	2469.00	3863	4628	2547.00	50.00	0.00
MEAN	---	---	---	---	---	---	82.3	125	154	82.2	1.61	.000
MAX	---	---	---	---	---	---	134	246	285	152	30	.00
MIN	---	---	---	---	---	---	.00	73	104	.00	.00	.00
AC-FT	---	---	---	---	---	---	4900	7660	9180	5050	99	.00

e Estimated.

11140585 SANTA MARIA RIVER AT SUEY CROSSING, NEAR SANTA MARIA, CA—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—June 1999 to September 1999.

SEDIMENT DATA: June 1999 to September 1999.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
JUN 1999					
14...	1430	105	26.5	471	134
JUL					
17...	1140	79	25.0	91	19

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 mi².

PERIOD OF RECORD.—October 1970 to September 1978, October 1979 to September 1992, October 1997 to September 1999 (discontinued).

GAGE.—Water-stage recorder on concrete-lined channel. Elevation of gage is 225 ft above sea level, from topographic map. Prior to September 1978, at site 50 ft downstream at same datum.

REMARKS.—Records fair except for estimated daily discharges, which are poor. Extensive channel modification in 1979 water year widened the concrete-lined channel. No regulation upstream from station. Many diversions upstream from station for irrigation during growing season, and some wastewater.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 848 ft³/s, Feb. 3, 1998, gage height, 5.69 ft, from rating curve extended above 296 ft³/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 discharge greater than base discharge of 100 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	unknown	189	3.09	Mar. 19	1700	206	3.18
Mar. 15	1645	134	2.76	Mar. 25	0915	197	3.13

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.51	e13	e.62	e.85	.20	.81	3.4	.23	1.1	2.1	1.3
2	.05	.86	e.42	e.44	e.51	.40	1.9	3.3	.38	2.1	.60	1.6
3	.61	.63	e.23	e.26	e.39	.40	1.7	1.1	.15	1.7	.75	.34
4	.89	.81	e1.9	e.89	e.05	.32	.14	1.3	1.1	2.1	1.0	1.1
5	.26	.67	e.15	e.33	.01	.90	.15	1.6	.52	1.2	1.1	1.4
6	2.0	1.4	e4.3	.93	.00	.98	4.9	2.5	1.4	2.3	1.8	.82
7	2.1	8.8	e.44	.27	.65	.37	.99	1.6	.11	2.2	.76	.72
8	.71	.53	e.40	e1.3	.76	.21	.85	1.9	1.0	.88	1.4	.31
9	1.1	.04	e.37	e.40	4.4	1.4	.26	3.2	1.0	.97	.05	.70
10	1.3	.51	e.33	e2.2	.12	.91	.06	.41	1.9	2.6	1.7	1.4
11	1.5	e1.8	e.14	e.68	.00	3.5	2.5	1.0	2.0	2.5	2.8	.91
12	.87	e.14	e.21	e.58	.00	.23	1.2	1.5	2.9	.94	1.4	1.1
13	.75	e.02	e.21	e.47	.00	.20	.03	1.3	1.1	2.3	1.7	.07
14	.28	e.05	e.14	e.40	.04	.00	.00	1.4	.42	2.2	1.3	.52
15	.20	e2.3	e.36	e.92	.00	58	.00	2.0	1.9	1.7	1.3	1.0
16	.32	e.39	e.74	e.50	.09	2.8	.04	.95	1.5	1.4	.14	1.1
17	1.7	e1.2	e1.3	e.42	.11	.24	1.6	.02	1.4	1.2	.71	.44
18	1.4	e.58	e.77	e.49	.02	.12	1.4	1.6	1.2	2.2	1.9	.55
19	.60	e.12	e.30	e1.8	.22	62	.94	.46	1.3	.10	2.1	.54
20	2.4	e.17	e.22	e5.1	.32	19	.80	.61	3.5	2.6	1.4	.24
21	2.0	e.21	e.23	e.52	.69	2.9	3.1	.88	1.1	1.5	1.0	.79
22	.35	e.53	e.44	e.17	.06	.20	3.5	.61	1.2	.23	1.8	.19
23	1.6	e.23	e.68	e1.1	.44	.09	2.1	.93	2.8	1.6	.94	.65
24	3.0	e.16	e.29	e7.3	.23	.00	1.7	.49	2.8	2.3	.23	.24
25	.41	e.18	e.40	e2.3	.50	55	1.6	1.1	3.2	2.5	.74	.25
26	.62	e.31	e.53	e10	.23	6.1	.71	.20	.85	.43	1.3	.48
27	.40	e.07	e.75	e.55	.01	1.7	2.3	.99	1.5	1.9	1.2	.03
28	.36	e21	e.51	e.30	.03	.02	1.2	1.6	.35	2.5	1.3	.48
29	1.2	e.80	e.63	e1.5	---	.00	2.2	1.3	2.4	1.2	.27	.48
30	.50	e.10	e.50	e.30	---	.06	1.5	1.1	1.9	.71	.11	1.9
31	.84	---	e.50	e10	---	1.6	---	.29	---	1.1	1.1	---
TOTAL	30.51	45.12	31.39	53.04	10.73	219.85	40.18	40.64	43.11	50.26	36.00	21.65
MEAN	.98	1.50	1.01	1.71	.38	7.09	1.34	1.31	1.44	1.62	1.16	.72
MAX	3.0	21	13	10	4.4	62	4.9	3.4	3.5	2.6	2.8	1.9
MIN	.05	.02	.14	.17	.00	.00	.00	.02	.11	.10	.05	.03
AC-FT	61	89	62	105	21	436	80	81	86	100	71	43

e Estimated.

11140600 BRADLEY DITCH NEAR DONOVAN ROAD, AT SANTA MARIA, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.88	1.01	1.36	1.94	5.46	3.63	1.20	.81	.82	.97	1.03	.88
MAX	4.17	4.87	3.66	10.3	48.7	11.5	4.88	2.10	2.22	1.97	1.72	2.64
(WY)	1982	1998	1975	1983	1998	1991	1998	1998	1987	1983	1987	1976
MIN	.036	.25	.26	.081	.13	.32	.15	.14	.16	.17	.14	.11
(WY)	1971	1976	1976	1971	1974	1971	1977	1971	1977	1978	1978	1978

SUMMARY STATISTICS

	FOR 1998 CALENDAR YEAR		FOR 1999 WATER YEAR		WATER YEARS 1971 - 1999	
ANNUAL TOTAL	1999.18		622.48			
ANNUAL MEAN	5.48		1.71		1.64	
HIGHEST ANNUAL MEAN					5.83	
LOWEST ANNUAL MEAN					.38	
HIGHEST DAILY MEAN	319	Feb 3	62	Mar 19	319	Feb 3 1998
LOWEST DAILY MEAN	.00	Jan 23	.00	Feb 6	.00	Oct 1 1970
ANNUAL SEVEN-DAY MINIMUM	.06	Jan 21	.03	Feb 11	.00	Dec 3 1970
INSTANTANEOUS PEAK FLOW			206		848	
INSTANTANEOUS PEAK STAGE			3.18		5.85	
ANNUAL RUNOFF (AC-FT)	3970		1230		1190	
10 PERCENT EXCEEDS	4.4		2.5		2.1	
50 PERCENT EXCEEDS	.62		.80		.60	
90 PERCENT EXCEEDS	.08		.11		.04	

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 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1982 to September 1992, October 1994 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 160 ft above sea level, from topographic map.

REMARKS.—Records fair except for estimated daily discharges, which are poor. No regulation or diversion upstream from station. Natural flow affected by pumping and return flow from irrigated areas.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 1,830 ft³/s, Mar. 1, 1983, gage height, 7.53 ft, from floodmarks, from rating curve extended above 10 ft³/s on basis of slope-area measurements at gage heights 4.83 and 7.53 ft; maximum gage height, 11.07 ft, Mar. 10, 1995; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.—Peak discharge greater than base discharge of 25 ft³/s, or maximum:

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	0745	79	2.70	Mar. 19	1800	188	3.35
Jan. 31	0400	63	2.59	Mar. 25	0815	199	3.41
Feb. 9	1415	26	2.23	Apr. 6	1400	81	2.71
Mar. 15	1145	128	2.99	Apr. 11	1530	112	2.90

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e. 26	e. 28	7.0	.29	.49	.18	.59	.12	.12	.27	.09	.01
2	e. 26	e. 28	.49	.27	.38	.22	.38	.08	.08	.09	.18	.02
3	e. 30	e. 26	.28	.17	.25	.20	.39	.13	.07	.27	.18	.03
4	e. 30	e. 17	.53	.26	.26	.20	.18	.08	.09	.41	.17	.05
5	e. 25	.21	.13	.21	.18	.21	.26	.11	.11	.69	.03	.10
6	e. 24	.08	2.5	.18	.14	.37	13	.14	.07	.36	.05	.06
7	e. 18	.18	.29	.34	.59	.24	1.9	.05	.06	.33	.08	.03
8	e. 09	.69	.26	.29	.63	.23	1.4	.14	.19	.47	.13	.04
9	e. 10	.13	.26	.25	9.5	1.0	3.3	.06	.33	.21	.02	.04
10	e. 21	.12	.25	.42	1.2	.40	.55	.05	.25	.29	.10	.04
11	e. 23	.24	.15	.38	.43	2.2	36	.05	.23	.33	.07	.01
12	e. 23	.15	.15	.39	.55	.55	8.6	.09	.12	.17	.16	.00
13	e. 20	.07	.15	.33	.21	.49	2.1	.06	.28	.36	.05	.03
14	e. 14	.08	.14	.26	.19	.50	1.5	.05	.21	.40	.07	.05
15	e. 10	.14	.16	.34	.16	45	1.1	.04	.09	.39	.12	.06
16	e. 09	.10	.24	.25	.16	7.5	.70	.05	.08	.17	.08	.03
17	e. 32	.22	.25	.23	.31	4.5	.56	.08	.18	.20	.06	.03
18	e. 28	.22	.24	.18	.28	3.6	.41	.04	.13	.38	.04	.06
19	e. 26	.07	.20	.31	.20	56	.36	.29	.18	.49	.00	.02
20	e. 25	.09	.16	1.6	.15	18	.24	.09	.07	.36	.00	.05
21	e. 24	.10	.16	1.1	.17	4.9	.23	.04	.06	.19	.06	.05
22	e. 27	.25	.20	.15	.11	2.7	.33	.05	.16	.06	.06	.05
23	e. 32	.08	.22	.26	.11	3.0	.23	.06	.14	.04	.02	.05
24	e. 36	.08	.13	1.6	.26	2.1	.36	.05	.26	.00	.04	.02
25	e. 32	.08	.15	.24	.25	73	.14	.05	.17	.04	.05	.03
26	e. 29	.15	.24	4.8	.21	7.0	.16	.14	.13	.13	.04	.03
27	e. 26	.16	.30	.66	.22	1.9	.15	.07	.10	.18	.07	.01
28	e. 16	21	.22	.35	.16	1.1	.18	.08	.16	.13	.03	.01
29	e. 10	1.4	.30	.52	---	.91	.17	.22	.15	.03	.04	.04
30	e. 16	.21	.26	.28	---	.56	.15	.05	.33	.07	.02	.01
31	e. 30	---	.26	11	---	1.3	---	.06	---	.02	.06	---
TOTAL	7.07	27.29	16.27	27.91	17.75	240.06	75.62	2.67	4.60	7.53	2.17	1.06
MEAN	.23	.91	.52	.90	.63	7.74	2.52	.086	.15	.24	.070	.035
MAX	.36	.21	7.0	.11	9.5	.73	.36	.29	.33	.69	.18	.10
MIN	.09	.07	.13	.15	.11	.18	.14	.04	.06	.00	.00	.00
AC-FT	14	54	32	55	35	476	150	5.3	9.1	15	4.3	2.1

e Estimated.

11141050 ORCUTT CREEK NEAR ORCUTT, CA—Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1983 - 1999, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.082	.31	.80	3.56	9.48	13.6	1.29	.42	.16	.11	.090	.082
MAX	.29	1.27	2.68	27.5	76.7	120	8.88	3.04	.43	.34	.23	.26
(WY)	1984	1998	1992	1995	1998	1995	1998	1998	1998	1998	1983	1998
MIN	.000	.000	.018	.040	.070	.059	.020	.031	.009	.003	.003	.005
(WY)	1995	1995	1996	1985	1984	1989	1990	1986	1996	1996	1992	1996

SUMMARY STATISTICS

FOR 1998 CALENDAR YEAR

FOR 1999 WATER YEAR

WATER YEARS 1983 - 1999

ANNUAL TOTAL	2992.00	430.00		
ANNUAL MEAN	8.20	1.18		
HIGHEST ANNUAL MEAN			2.47	1995
LOWEST ANNUAL MEAN			.090	1990
HIGHEST DAILY MEAN	300	Feb 3	1460	Mar 10 1995
LOWEST DAILY MEAN	.07	Nov 13	.00	Oct 1 1982
ANNUAL SEVEN-DAY MINIMUM	.11	Aug 10	.02	Oct 1 1982
INSTANTANEOUS PEAK FLOW			199	Mar 25 1983
INSTANTANEOUS PEAK STAGE			3.41	Mar 25 1995
ANNUAL RUNOFF (AC-FT)	5930	853	1790	
10 PERCENT EXCEEDS	14	1.0	1.3	
50 PERCENT EXCEEDS	.36	.18	.08	
90 PERCENT EXCEEDS	.12	.04	.00	

11141050 ORCUTT CREEK NEAR ORCUTT, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BORON, DIS- SOLVED (UG/L AS B) (01020)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)
OCT										
06...	1490	--	--	--	--	--	--	--	--	--
NOV										
04...	1660	--	--	--	--	--	--	--	--	--
JAN										
11...	1500	--	--	--	--	--	--	--	--	--
FEB										
02...	1470	--	--	--	--	--	--	--	--	--
MAR										
03...	1800	1700	2.44	.17	8.4	<.02	.44	729	e21	45
29...	1380	--	--	--	--	--	--	--	--	--
MAY										
19...	1740	--	--	--	--	--	--	--	--	--
JUN										
10...	1660	--	--	--	--	--	--	--	--	--
JUL										
06...	1390	--	--	--	--	--	--	--	--	--
AUG										
18...	1380	--	--	--	--	--	--	--	--	--
SEP										
07...	1320	--	--	--	--	--	--	--	--	--

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

e Estimated.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the U.S. Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected. 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 1999

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
BRISTOL LAKE BASIN							
10253000	Gourd Creek near Ludlow, CA	Lat 34°40'35", long 116°01'20", in SW 1/4 sec.23, T.7 N., R.9 E., San Bernardino County, Hydrologic Unit 18090208, at culvert on U.S. Highway 40 (formerly U.S. Highway 66), and 8.5 mi southeast of Ludlow.	0.30	1959-74, 1976-99		—	0
10262600	Boom Creek near Barstow, CA	Lat 34°54'20", long 116°56'55", NW 1/4 NE 1/4 sec.2, T.9 N., R.1 W., San Bernardino County, Hydrologic Unit 18090208, at culvert on Interstate Highway 15, and 4.3 mi east of Barstow.	.24	1956-66, 1967-73a, 1976-97, 1999	7-14-99	10.37	3.92
ANTELOPE VALLEY							
10263900	Buckhorn Creek near Valyermo, CA	Lat 34°53'35", 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, and 8.1 mi southwest of Valyermo.	.48	1961-66a, 1967-69, 1971-73, 1977-99		1.55	3.9
10264530	Pine Creek near Palmdale, CA	Lat 34°36'09", long 118°314'48", in SE 1/4 SW 1/4 sec.15, T.6 N., R.13 W., Los Angeles County, on left bank, at culvert on Elizabeth Lake Road, and 7.5 mi northwest of Palmdale.	1.78	1958-73, 1977-88, 1988-94a, 1997-99		—	0
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 State Highway 138, and 8.5 mi northwest of Fairmont.	3.60	1959-64, 1965-73a, 1974, 1978-99		—	0
10264646	South Drainage Bissell/Rosamond Hills near Edwards Air Force Base, CA	Lat 34°53'18", long 117°58'23" in NE 1/4 NW 1/4 sec.7, T.9 N., R.10 W., Kern County, Hydrologic Unit 18090206, 1.8 mi southwest of intersection of Forbes Ave. and Rosamond Blvd., and 2.3 mi southwest of Edwards Air Force Base.	9.25	1996-99		—	0
10264656	Mojave Creek near Edwards, CA	Lat 34°58'07", long 117°59'38" in NW 1/4 NE 1/4 sec.13, T.10 N., R.11 W., Los Angeles County, Hydrologic Unit 18090206, 3.75 mi northwest of intersection of Forbes and Mojave Ave., and 3.75 mi northwest of Edwards Air Force Base.	—	1996-99		—	0
10264673	North Base Tributary at railroad crossing near Edwards, CA	Lat 34°59'32", long 117°53'09", in SW 1/4 NE 1/4 sec.1, T.10 N., R.10 W., Kern County, Hydrologic Unit 18090206, 0.6 mi north on Rosamond Blvd., from inter-section of North.Base Blvd., 6.6 mi north of intersection of Mojave Blvd., in Edwards Air Force Base.	—	1997-99		—	0

a Operated as a continuous-record station.

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (ft)	Discharge (ft ³ /s)
SANTA ANA RIVER BASIN							
11070158	Line "D" Storm Drain at Santa Fe Street, near San Jacinto, CA	Lat 33°46'44", long 116°57'46", in San Jacinto Viejo Grant, Riverside County, Hydrologic Unit 18070202, on right bank, at downstream end of Santa Fe Street crossing, 0.1 mi south of Seventh Street, and 0.5 mi southwest of San Jacinto.	Indeterminate	1997-99 (discontinued)	04-07-99	2.85	153
11070160	Line "E" Storm Drain below State Street, near San Jacinto, CA	Lat 33°46'41", long 116°58'18", in San Jacinto Viejo Grant, Riverside County, Hydrologic Unit 18070202, on right bank, 50 ft downstream from State Street crossing, 0.2 mi south of Seventh Street, and 1.0 mi southwest of San Jacinto.	Indeterminate	1997-99 (discontinued)	04-07-99	21.95	82
11070185	Lamb Canyon Creek at Victory Ranch, near San Jacinto, CA	Lat 33°51'31", long 117°00'53", in NW 1/4 NW 1/4 sec. 5, T.4 S., R.1 W., Riverside County, Hydrologic Unit 18070202, on left bank, at private road culvert crossing, 0.25 mi upstream of confluence with San Jacinto River, and 6.0 mi northwest of San Jacinto.	3.97	1997-99	07-11-99	7.08	240
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 1981-99		—	0
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	1972-75a 1976-99		—	0
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 Ave. at Highway 246, and 3.3 mi west of Lompoc.	7.80	1971-72 1973-78 1980-99	03-25-99	3.82	840

a Operated as a continuous-record station.

Water-quality partial-record stations are particular sites where chemical-quality, biological, and (or) sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly. Samples collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin are referred to as miscellaneous sites.

SANTA ANA RIVER BASIN

341014116494801 SOUTH FORK SANTA ANA RIVER NEAR SOUTH FORK CAMPGROUND, NEAR ANGELUS OAKS, CA

LOCATION.—Lat 34°10'14", long 116°49'48", in NW 1/4 SE 1/4 sec.13, T.1 N., R.1 E., San Bernardino County, Hydrologic Unit 18070203, approximately 0.3 mi upstream from Highway 38 and 9.0 mi northeast of Angelus Oaks.

DRAINAGE AREA.—7.31 mi².

PERIOD OF RECORD.—October 1998 to September 1999.

CHEMICAL DATA: October 1998 to September 1999.

SEDIMENT DATA: October 1998 to September 1999.

REMARKS.—Chemical data collected for the National Water-Quality Assessment (NAWQA) Program.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	OXYGEN, DIS- SOLVED OXYGEN, DIS- SOLVED (MG/L) (00300)	OXYGEN, DIS- SOLVED SATUR- ATION (00301)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)
OCT											
19...	1645	14	57	7.6	9.5	6.5	612	12.2	138	20	6.5
NOV											
17...	1015	12	56	7.8	8.0	3.5	612	11.8	111	21	6.8
DEC											
07...	1510	11	59	7.4	1.5	2.5	619	12.3	111	21	6.7
JAN											
11...	1400	9.8	58	7.8	12.0	4.5	615	10.9	105	21	6.8
FEB											
09...	1430	9.1	60	7.8	8.0	5.0	610	12.1	100	22	6.9
MAR											
08...	1530	7.9	59	7.6	5.0	4.0	615	11.4	107	22	7.0
APR											
13...	1700	9.5	59	7.9	9.0	6.5	609	9.9	101	21	6.8
MAY											
17...	1340	4.2	68	7.9	19.5	11.5	606	8.5	98	24	7.5
JUN											
15...	1540	4.1	71	8.2	29.5	14.0	605	7.8	96	23	7.4
JUL											
12...	1530	6.0	65	7.5	28.0	12.0	608	8.5	99	25	7.9
AUG											
09...	1610	3.5	63	7.6	20.0	12.5	604	7.9	94	24	7.8
SEP											
13...	1730	3.7	64	7.9	18.5	12.0	607	8.5	99	24	7.9

SANTA ANA RIVER BASIN

341014116494801 SOUTH FORK SANTA ANA RIVER NEAR SOUTH FORK CAMPGROUND, NEAR ANGELUS OAKS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM AD- SORP- TION RATIO (00932)	SODIUM AD- SORP- TION RATIO (00931)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	BICAR- BONATE WATER DIS IT TOT IT FIELD MG/L AS HCO3 CACO3 (00453)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)
OCT 19...	.89	3.0	24	.3	.7	32	27	1.4	.4	.2	11
NOV 17...	.96	3.2	24	.3	.8	33	27	1.9	.8	.1	11
DEC 07...	1.0	3.1	24	.3	.8	34	28	1.8	.5	.2	12
JAN 11...	1.0	3.2	24	.3	.7	34	28	1.8	.5	.1	12
FEB 09...	1.1	3.2	23	.3	.9	35	29	1.9	.5	<.1	12
MAR 08...	1.1	3.4	24	.3	.8	34	28	1.4	.5	.2	12
APR 13...	1.1	3.3	24	.3	1.0	37	30	1.8	.5	.1	11
MAY 17...	1.2	4.0	26	.4	1.0	39	32	--	--	.2	12
JUN 15...	1.1	3.6	25	.3	.9	39	32	1.3	.5	.2	11
JUL 12...	1.3	3.8	24	.3	1.0	37	30	1.9	1.2	.2	12
AUG 09...	1.1	3.7	24	.3	.9	36	30	1.8	1.0	.1	12
SEP 13...	1.1	3.8	25	.3	.9	37	30	1.8	.3	.2	12

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

SANTA ANA RIVER BASIN

341014116494801 SOUTH FORK SANTA ANA RIVER NEAR SOUTH FORK CAMPGROUND, NEAR ANGELUS OAKS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)
OCT											
19...	52	40	.07	<.01	<.05	<.02	<.1	<.1	<.05	<.05	<.01
NOV											
17...	44	42	.06	<.01	<.05	.03	<.1	<.1	<.05	<.05	.01
DEC											
07...	45	43	.06	<.01	<.05	<.02	<.1	<.1	.09	<.05	.02
JAN											
11...	45	43	.06	.01	.05	<.02	<.1	<.1	.01	.01	.01
FEB											
09...	47	43	.06	<.01	<.05	<.02	.1	<.1	.01	.01	<.01
MAR											
08...	48	43	.07	<.01	<.05	<.02	e.08	e.05	.01	.01	.03
APR											
13...	58	44	.08	<.01	<.05	<.02	.2	e.05	.03	.01	.02
MAY											
17...	51	--	--	<.01	<.05	<.02	.1	<.1	.02	.01	<.01
JUN											
15...	58	45	.08	<.01	<.05	<.02	e.09	<.1	.01	.01	.02
JUL											
12...	74	48	.10	<.01	<.05	<.02	.2	.1	.02	.01	<.01
AUG											
09...	45	46	.06	<.01	<.05	<.02	e.07	<.1	.01	.01	<.01
SEP											
13...	44	46	.06	<.01	<.05	<.02	.1	e.09	.01	.01	<.01

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)
OCT										
19...	--	--	--	--	--	--	--	--	--	e9
NOV										
17...	--	--	--	--	--	--	--	--	--	47
DEC										
07...	--	--	--	--	--	--	--	--	--	13
JAN										
11...	--	--	--	--	--	--	--	--	--	13
FEB										
09...	--	--	--	--	--	--	--	--	--	14
MAR										
08...	--	--	--	--	--	--	--	--	--	14
APR										
13...	--	--	--	--	--	--	--	--	--	19
MAY										
17...	--	--	--	--	--	--	--	--	--	23
JUN										
15...	--	--	--	--	--	--	--	--	--	13
JUL										
12...	--	--	--	--	--	--	--	--	--	46
AUG										
09...	--	--	--	--	--	--	--	--	--	21
SEP										
13...	2	<1	<1	2	<1	<1	<1	<1	<1	21

e Estimated.

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

SANTA ANA RIVER BASIN

341014116494801 SOUTH FORK SANTA ANA RIVER NEAR SOUTH FORK CAMPGROUND, NEAR ANGELUS OAKS, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	LEAD,	MANGA-	MOLYB-	NICKEL,	SELE-	SILVER,	ZINC,	URANIUM	CARBON,	CARBON,
	DIS- SOLVED (UG/L AS PB) (01049)	NESE, DIS- SOLVED (UG/L AS MN) (01056)	DENUM, DIS- SOLVED (UG/L AS MO) (01060)	DIS- SOLVED (UG/L AS NI) (01065)	NIUM, DIS- SOLVED (UG/L AS SE) (01145)	DIS- SOLVED (UG/L AS AG) (01075)	DIS- SOLVED (UG/L AS ZN) (01090)	NATURAL DIS- SOLVED (UG/L AS U) (22703)	ORGANIC DIS- SOLVED (MG/L AS C) (00681)	ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)
OCT										
19...	--	<3	--	--	--	--	--	--	.6	.2
NOV										
17...	--	<3	--	--	--	--	--	--	.5	.2
DEC										
07...	--	<4	--	--	--	--	--	--	.6	.3
JAN										
11...	--	e2	--	--	--	--	--	--	.6	.2
FEB										
09...	--	e2	--	--	--	--	--	--	1.0	.4
MAR										
08...	--	<3	--	--	--	--	--	--	.7	.3
APR										
13...	--	e2	--	--	--	--	--	--	1.4	2.1
MAY										
17...	--	<3	--	--	--	--	--	--	1.4	.5
JUN										
15...	--	<3	--	--	--	--	--	--	.8	.5
JUL										
12...	--	<3	--	--	--	--	--	--	3.7	.3
AUG										
09...	--	e2	--	--	--	--	--	--	.5	--
SEP										
13...	<1	<1	2	<1	<1	<1	<1	4	.6	.5

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, DIS- SUS- PENDED (MG/L) (80154)	SEDI- MENT, DIS- SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
		OCT				
19...N	1645	14	6.5	8	.30	53
NOV						
17...N	1015	12	3.5	3	.10	64
DEC						
07...N	1510	11	2.5	9	.27	50
JAN						
11...N	1400	9.8	4.5	3	.08	60
FEB						
09...N	1430	9.1	5.0	3	.07	45
MAR						
08...N	1530	7.9	4.0	1	.02	30
APR						
13...N	1700	9.5	6.5	20	.51	57
MAY						
17...N	1340	4.2	11.5	2	.02	70
JUN						
15...N	1540	4.1	14.0	6	.07	71
JUL						
12...N	1530	6.0	12.0	6	.10	54
AUG						
09...N	1610	3.5	12.5	4	.04	65
SEP						
13...N	1730	3.7	12.0	4	.04	97

e Estimated.

< Actual value known to be less than value shown.

N Suspended-sediment concentration value determined from a sample collected and processed according to National Water-Quality Assessment (NAWQA) protocol.

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.—Water years 1986 to current year.

CHEMICAL DATA: Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD) (UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, (PER-CENT SATUR-ATION) (00301)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
MAR	03...1000	12	2330	8.1	13.5	759	10.8	10	1100	250	100	140
SEP	07...1530	12	2530	8.0	21.5	--	--	--	1200	280	130	170

DATE	SODIUM PERCENT (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS-IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	
MAR	03...	22	2	5.1	338	278	740	160	.4	32	1790	1700	2.43
SEP	07...	23	2	6.4	365	299	920	200	.4	31	2140	2040	2.92

DATE	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BORON, DIS-SOLVED (UG/L AS B) (01020)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	PCB, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39519)	ALA-CHLOR RECOVER (UG/L) (77825)	ALDRIN, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39333)	AME-TRYNE TOTAL (UG/L) (82184)	ATRA-ZINE WATER UNFLTRD REC (UG/L) (39630)	
MAR	03...	.09	23	.28	.23	313	<30	240	6	<.1	<.2	<.1	<.1
SEP	07...	.13	28	.07	.32	357	<30	150	<5	<.1	<.2	<.1	<.1

DATE	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	BROM-ACIL WATER WHLREC (UG/L) (30234)	BUTA-CHLOR WATER WHLREC (UG/L) (30235)	BUTYL-ATE WATER WHLREC (UG/L) (30236)	CARBOX-IN WATER RECOV-ERABLE (UG/L) (30245)	CHLOR-DANE, TOTAL IN BOT-TOM MA-TERIAL (UG/KG) (39351)	CHLOR-PYRIFOS TOTAL RECOVER (UG/L) (38932)	CYAN-AZINE TOTAL (UG/L) (81757)	CYCLO-ATE WATER RECOV-ERABLE (UG/L) (30254)	P,P'-DDD, RECOVER IN BOT-TOM MA-TERIAL (UG/KG) (39363)	P,P'-DDE, RECOVER IN BOT-TOM MA-TERIAL (UG/KG) (39368)	
MAR	03...	<.20	<.20	<.2	<.1	<.1	<.2	4	.05	<.2	<.1	6400	910
SEP	07...	<.20	<.20	<.2	<.1	<.1	<.2	7	.03	<.2	<.1	46	190

< Actual value known to be less than value shown.

SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1998 TO SEPTEMBER 1999

DATE	P,P'- DDT, RECOVER IN BOT- TOM MA- TERIAL (UG/KG) (39373)	DEF TOTAL (UG/L) (39040)	DI- AZINON, TOTAL (UG/L) (39570)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39383)	DIPHEN- AMID WATER WHOLE RECOV- ERABLE (UG/L) (30255)	DISUL- FOTON UNFILT RECOVER (UG/L) (39011)	ENDO- SULFAN I TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39389)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39393)	ETHION, TOTAL (UG/L) (39398)	FONOFOS (DY- FONATE) WATER WHOLE TOT.REC (UG/L) (82614)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39413)
MAR 03...	430	<.01	.03	3.1	<.1	<.01	<.2	<2.0	<.01	<.01	<.2
SEP 07...	95	<.01	<.01	6.0	<.1	<.01	<.6	24	<.01	<.01	<.2
DATE	HEPTA- CHLOR EPOXIDE TOT. IN BOTTOM MATL. (UG/KG) (39423)	HEXAZI- NONE WATER WHOLE RECOV- ERABLE (UG/L) (30264)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39343)	MALA- THION, TOTAL (UG/L) (39530)	METH- OXY- CHLOR, TOT. IN BOTTOM MATL. (UG/KG) (39481)	METHYL PARA- THION, TOTAL (UG/L) (39600)	METOLA- CHLOR WATER WHOLE TOT.REC (UG/L) (82612)	METRI- BUZIN WATER WHOLE TOT.REC (UG/L) (82611)	MIREX, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39758)	PARA- THION, TOTAL (UG/L) (39540)	PHORATE TOTAL (UG/L) (39023)
MAR 03...	<.2	<.2	<.2	<.01	<2.5	<.01	<.2	<.1	<.2	<.01	<.01
SEP 07...	<.2	<.2	.2	.02	<2.5	<.01	<.2	<.1	<.2	<.01	<.01
DATE	PROME- TONE TOTAL (UG/L) (39056)	PROME- TRYNE TOTAL (UG/L) (39057)	PROPA- CHLOR WATER WHOLE RECOV. (UG/L) (30295)	PRO- PAZINE TOTAL (UG/L) (39024)	SIMA- ZINE TOTAL (UG/L) (39055)	SIME- TRYNE TOTAL (UG/L) (39054)	TER- BACIL WATER WHOLE RECOV. (UG/L) (30311)	TOXA- PHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG) (39403)	TRI- FLURA- LIN TOTAL RECOVER (UG/L) (39030)	TOTAL TRI- THION (UG/L) (39786)	VER- NOLATE WATER WHOLE RECOV. (UG/L) (30324)
MAR 03...	<.2	<.1	<.1	<.1	e.1	<.1	<.2	<50	<.1	<.01	<.1
SEP 07...	<.2	<.1	<.1	<.1	<.1	<.1	<.2	200	<.1	<.01	<.1

e Estimated.

< Actual value known to be less than value shown.

SANTA MARIA RIVER BASIN

345727120375401 GREEN CANYON CREEK AT MAIN STREET, NEAR GUADALUPE, CA—Continued

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