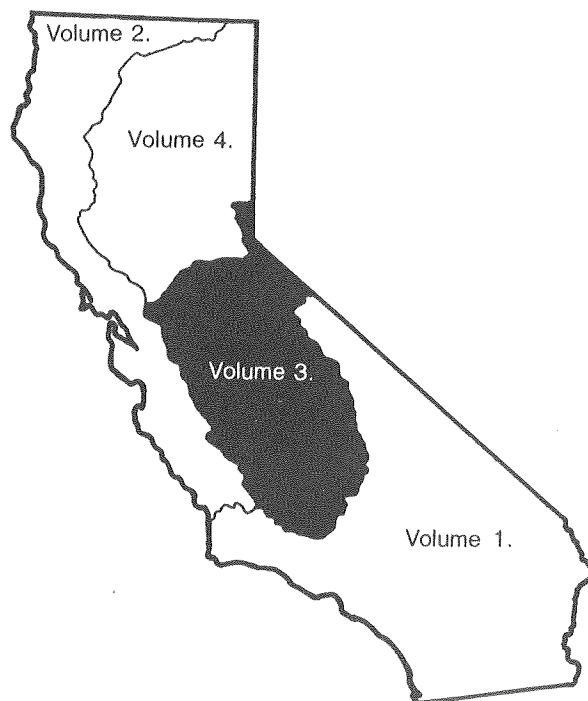




# Water Resources Data California Water Year 1982

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-82-3  
Prepared in cooperation with the California Department of  
Water Resources and with other agencies

# CALENDAR FOR WATER YEAR 1982

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1981

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## OCTOBER

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1982

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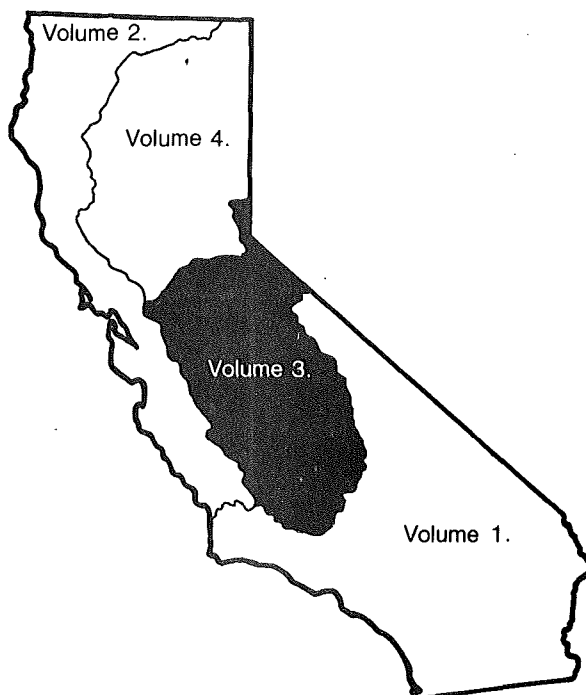


# Water Resources Data California

## Water Year 1982

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

by R.P. Fogelman, T.C Hunter, J.R. Mullen and R.G. Simpson



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-82-3  
Prepared in cooperation with the California Department of  
Water Resources and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

WILLIAM P. CLARK, SECRETARY

GEOLOGICAL SURVEY

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## PREFACE

This volume of the annual hydrologic data report of California is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for California are contained in 4 volumes:

- Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River
- Volume 2. Pacific Slope Basins from Arroyo Grance to Oregon State Line except Central Valley
- Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River
- Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

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

This report was prepared in cooperation with the California Department of Water Resources and with other agencies under the general supervision of Timothy J. Durbin, District Chief, California.

<b>REPORT DOCUMENTATION PAGE</b>		1. REPORT NO. USGS/WRD/HD-84-018	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data for California, 1982 Volume 3. Southern Central Valley Basins and the Great Basin from Walker River to Truckee River.				5. Report Date
7. Author(s) R.P. Fogelman, T.C. Hunter, J.R. Mullen, and R.G. Simpson				6.
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2235 Sacramento, CA 95825				8. Performing Organization Rept. No. USGS-WDR-CA-82-3
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division California District 2800 Cottage Way, Room W-2235 Sacramento, CA 95825				10. Project/Task/Work Unit No.
				11. Contract(C) or Grant(G) No. (C) (G)
13. Type of Report & Period Covered Annual--Oct. 1, 1981 to Sept. 30, 1982				14.
15. Supplementary Notes				
16. Abstract (Limit: 200 words)  Water resources data for the 1982 water year for California consists of records of stage, discharge, gage-height, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and water levels of wells. Volume 3 contains discharge records for 157 gaging stations; stage and contents for 39 lakes and reservoirs; gage height records for two lakes; water quality for 11 stations; and water levels for 54 observation wells. Also included are 11 crest-stage partial-record stations and one water-quality partial-record station. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.				
17. Document Analysis a. Descriptors  *California, *Hydrologic data, *Surface water, *Water quality, *Ground water, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water levels, Water analyses.  b. Identifiers/Open-Ended Terms  c. COSATI Field/Group				
18. Availability Statement No restriction on distribution. This report may be purchased from: National Technical Information Service Springfield, VA 22161		19. Security Class (This Report) Unclassified		21. No. of Pages 391
		20. Security Class (This Page) Unclassified		22. Price

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

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# WATER RESOURCES DATA FOR CALIFORNIA, 1982

## Volume 3

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### INTRODUCTION

Water-resources data for the 1982 water year for California consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; and records of water levels in selected observation wells. Records for a few pertinent streamflow and water-quality stations in bordering States are also included. These data, a contribution to the National Water Data System, were collected by the Geological Survey and cooperating local, State, and Federal agencies in California.

Records of discharge or stage of streams and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled, "Surface-Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled, "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled, "Ground-Water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Virginia 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released, either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published together as an official Survey report on a State-boundary basis. These official Survey reports carry 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 report is identified as "U.S. Geological Survey Water-Data Report CA-82-3." For archiving and general distribution, the reports for water years 1971-74 are also identified as water-data reports. Water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (916) 484-4606.

## COOPERATION

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

California Department of Water Resources, R. B. Robie, Director.  
East Bay Municipal Utility District, J. S. Harnett, General Manager.  
Kern County Water Agency, S. T. Pyle, Engineer-Manager.  
Kings River Conservation District, Jeff L. Taylor, General Manager-Chief Engineer.  
Madera Irrigation District, Bob Standfield, General Manager-Chief Engineer.  
Merced Irrigation District, Tom Reta, Chief Engineer and Manager.  
San Francisco, City and County, Hetch-Hetchy Water and Power, O. L. Moore, General Manager.  
Terra Bella Irrigation District, J. E. Boudreau, Engineer-Manager.  
Tulare County Flood Control District, J. L. Carlsen, Flood-Control Engineer.  
Turlock Irrigation District, Leroy J. Louchart, Secretary-General Manager.  
University of California (Berkeley), College of Natural Resources, Department of Forestry and Conservation, Don Erman.  
University of California (Davis), Division of Environmental Studies, Dr. Robert Leonard.  
Woodbridge Irrigation District, Mabel Hall, Secretary.

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

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

## SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The 1982 water year started on a near normal pattern that continued through the first 4 months. However, beginning in February, the rain and snow at higher elevations picked up in frequency and intensity. The net result was a much above normal water year without any major flooding.

In the area covered by this volume, runoff during the water year ranged from 215 percent of the 1951-80 median for the index station Mokelumne River near Mokelumne Hill to 189 percent at the index station Merced River at Happy Isles Bridge, near Yosemite. The runoff at selected sites in California is shown in figure 1.

Ground Water

The geography and geology of California are sufficiently complex that a summary of ground-water conditions in the State is difficult. Descriptions of conditions in specific basins and valleys apply only to those areas and cannot be transferred to other areas.

Ground-water levels fluctuate in response to a variety of stresses and changes in stress. Short- and long-term climatic conditions can lead to changes in natural recharge and discharge. Ground-water pumping can also cause changes in ground-water levels.

At an observation well east of Mendota in the San Joaquin Valley, water levels continued to rise following the pattern of the past 4 years. The water level on February 23 was 308.6 ft below land surface datum (lsd), the low for the year. The highest water level occurred on September 30, when the depth to water was 296.6 ft below lsd.

Water levels and seasonal patterns in an observation well west of Mendota remained much the same as in 1980 and 1981. The highest water level was 34.3 ft below lsd on April 18. The lowest water level was 71.9 ft and occurred on several days in August.

Water levels at an observation well near Wasco in the southern San Joaquin Valley showed little change in seasonal pattern or depth to water. The highest water level was about 210 ft below lsd in April, and the lowest was about 290 ft below lsd in August.

Water Quality

Water samples taken at one Hydrologic Benchmark and four NASQAN stations in the area covered by this volume were analyzed for water-quality constituents. Water quality was consistent with the findings from previous samplings. All the stations are on streams that drain the west slope of the Sierra Nevada and contain water that is typically low in dissolved minerals and trace elements. Values for water-quality constituents were below maximum recommended EPA or other public health standards or guidelines.

The highest concentrations of indicator bacteria were found in water sampled at San Joaquin River near Vernalis. At this station the fecal coliform ranged from 67 to 1,400 col/100 mL and fecal streptococci ranged from 88 to 580 col/100 mL. These figures show a decrease in fecal coliform from the range of 120 to 8,700 col/100 mL measured in 1981.

Water samples from San Joaquin River at Vernalis also had the highest concentrations of suspended sediment and dissolved constituents of all the NASQAN and Benchmark stations in the area.

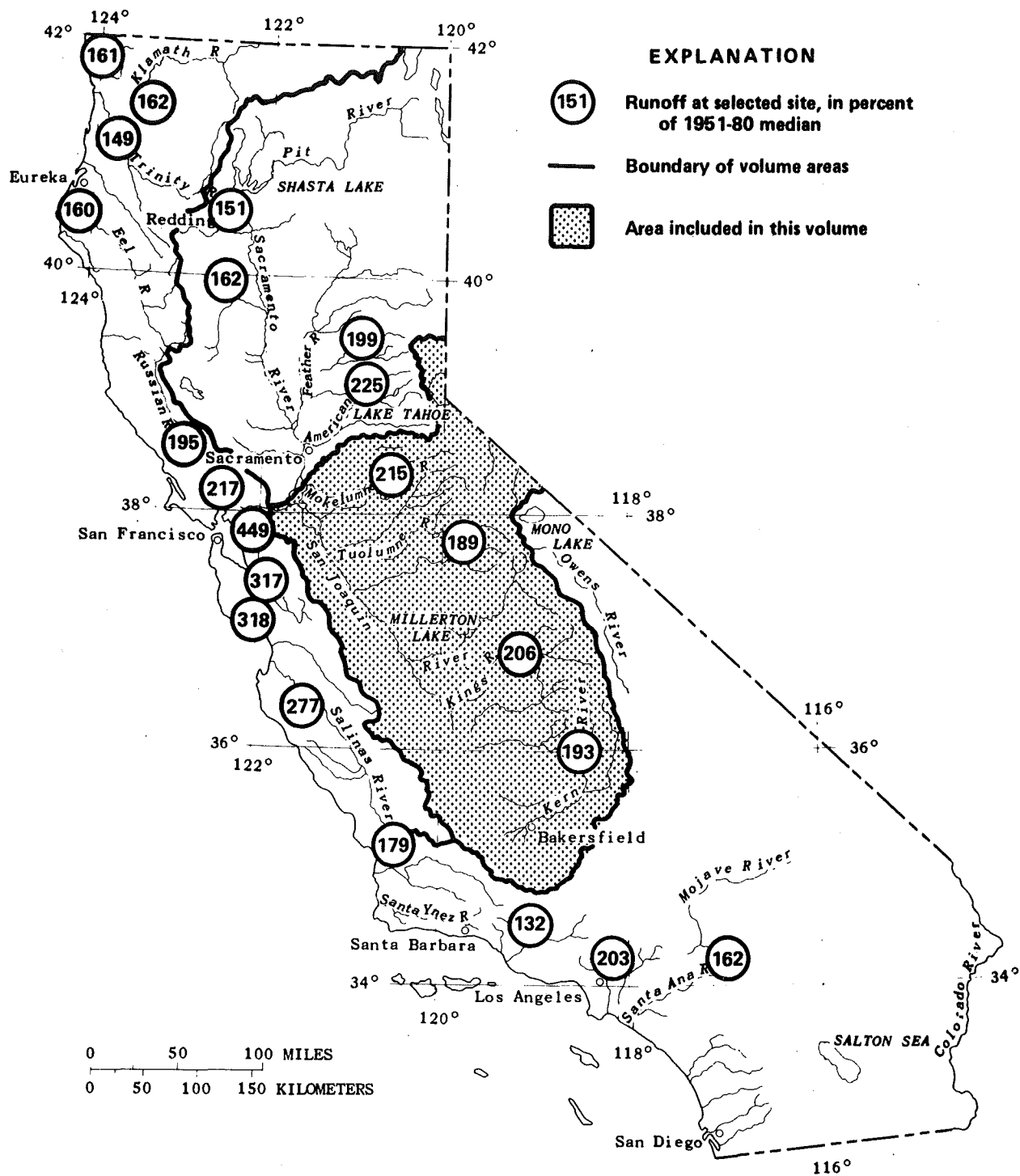


FIGURE 1. — Runoff for the current water year.



## DEFINITION OF TERMS

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

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

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

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. For the membrane filter method these bacteria are defined as the organisms which produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C ± 0.5°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 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. For the membrane filter method they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by 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 ( $\text{g/m}^3$ ), and periphyton and benthic organisms in grams per square meter ( $\text{g/m}^2$ ).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105½°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

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

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

Bottom material: See Bed material.

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 only 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.

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. A 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."

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

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, or about 646,000 gallons or 2,445 cubic meters. It represents a runoff of approximately 0.0372 inch from 1 square mile or 0.3468 millimeter from 1 square kilometer.

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

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

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

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

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

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

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

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

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

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

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

$$\bar{d} = \sum_{i=1}^s \frac{n_i}{n} \log^2 \frac{n_i}{n},$$

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

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given therein include all closed basins, or noncontributing areas, within the area unless otherwise noted.

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

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap that is required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ( $\text{CaCO}_3$ ).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube) determine fall diameter of particles in chemically dispersed distilled water.

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

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

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

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

Periphyton are microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, the periphyton also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

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

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

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

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

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

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

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time [ $\text{mg O}_2/(\text{m}^2.\text{time})$  for periphyton and macrophytes and  $\text{mg O}_2/(\text{m}^3.\text{time})$  for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved-oxygen concentration. The oxygen light- and dark-bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft or 0.09 m above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture ( $\text{mg/L}$ ).

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

Suspended-sediment load (tons per day) is the quantity of suspended sediment passing a section in a specified period.

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

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

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

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



Suspended--Continued

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

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

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

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

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

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

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

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

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, 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 would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A 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 water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric turbidity units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90 degrees from the path of an incident light source (see also p. 24).

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

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

#### DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is 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 on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 11264500, which appears just to the left of the station name, includes the 2-digit number "11" plus the 6-digit downstream order number "264500". In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records for California are in Part 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

## NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream-order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well- and miscellaneous-site number system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 2.

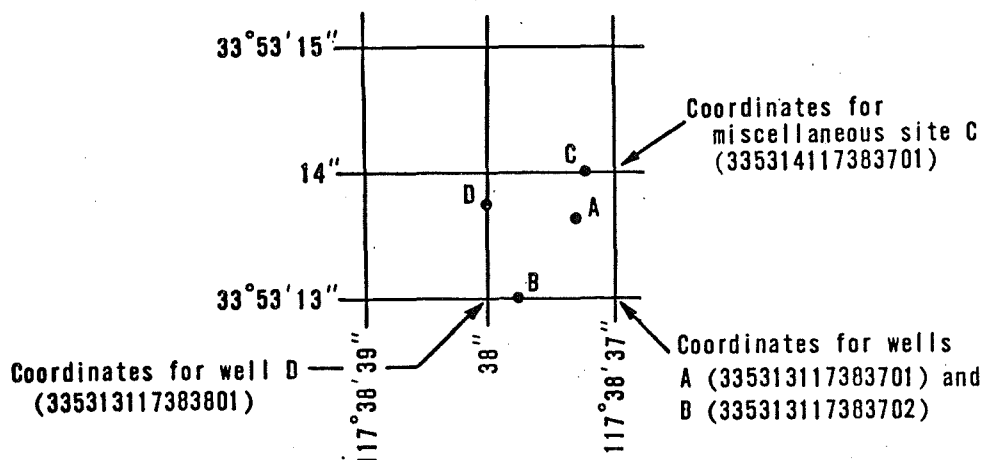


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

#### Local well numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 005S/010E-22G01 M, the part of the number preceding the slash indicates the township (T.5 S.) and the number between the slash and hyphen indicates the range (R.10 E.); the digits following the hyphen indicate the section (sec.22); the letter following the section number indicates the 40-acre subdivision of the section. Within each 40-acre tract, the wells are numbered serially, as indicated by the final digit. The final letter, separated from the rest of the number by a space, indicates the base line and meridian. Base-line and meridian designations are as follows: H, Humboldt; M, Mount Diablo; S, San Bernardino. See figure 3.

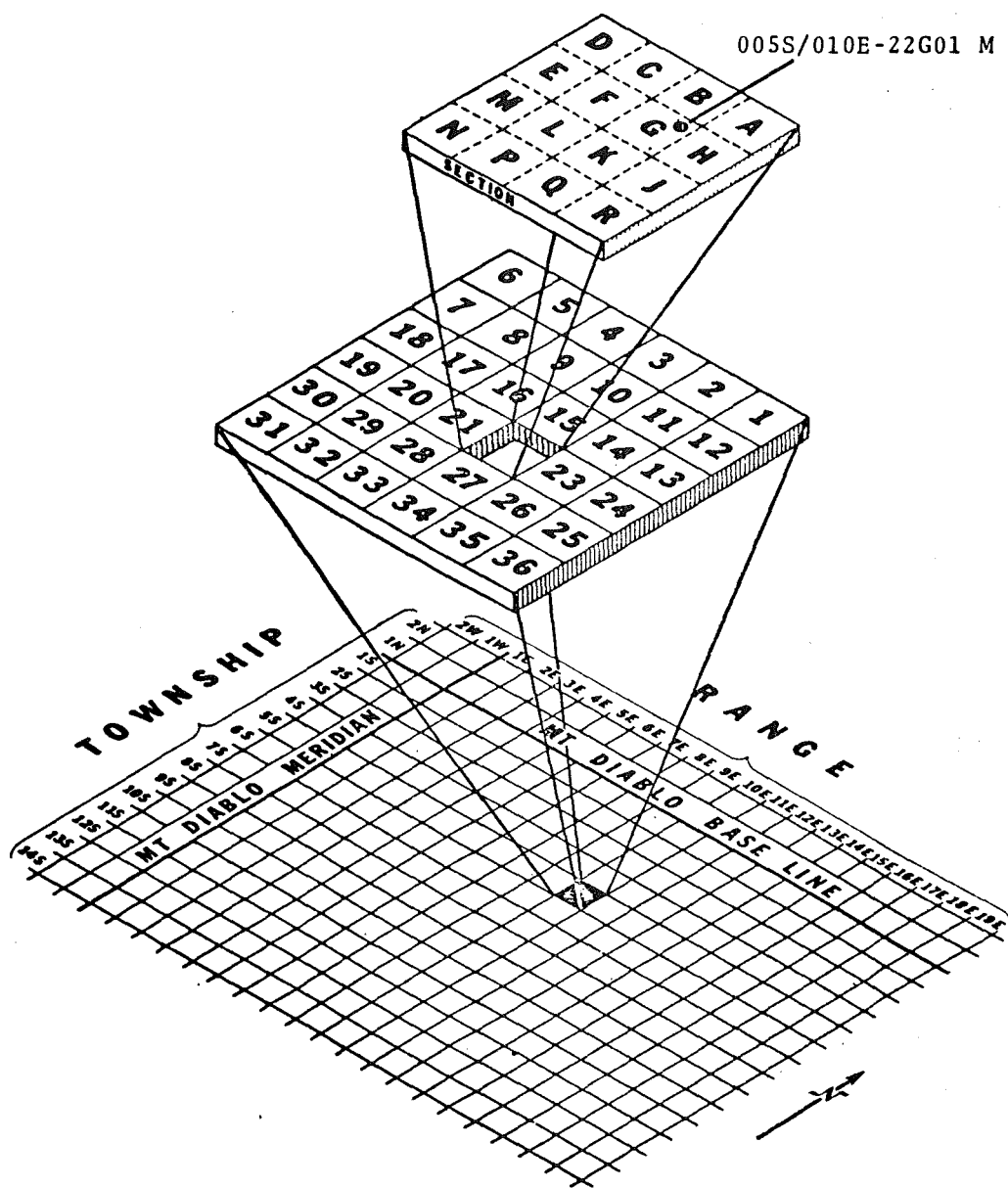


FIGURE 3.--California well-numbering system.

## SPECIAL NETWORKS AND PROGRAMS

Some of the stations for which data are published in this report are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark 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 bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped basin. Stations in this network are listed below:

Volume 2:

11475560 Elder Creek near Branscomb, CA

Volume 3:

11264500 Merced River at Happy Isles Bridge, near Yosemite, CA

National stream-quality accounting network is an accounting network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated in the network design. Areal configuration of the network is based on the river-basin accounting units designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality. Stations in this network are listed below:

Volume 1:

10254670 Alamo River at Drop No. 3, near Calipatria, CA  
10254970 New River at International Boundary, at Calexico, CA  
10261500 Mojave River at lower narrows, near Victorville, CA  
10277400 Owens River below Tinemaha Reservoir, near Big Pine, CA  
11042000 San Luis River at Oceanside, CA  
11074000 Santa Ana River below Prado Dam, CA  
11103010 Los Angeles River at Willow Street Bridge, at Long Beach, CA  
11108500 Santa Clara River at Los Angeles-Ventura County line, CA

Volume 2:

11152300 Salinas River near Chualar, CA  
11159000 Pajaro River at Chittenden, CA  
11458000 Napa River near Napa, CA  
11467000 Russian River near Guerneville, CA  
11477000 Eel River at Scotia, CA  
11530500 Klamath River near Klamath, CA  
11532500 Smith River near Crescent City, CA

Volume 3:

11187000 Kern River at Kernville, CA  
11218500 Kings River below North Fork, near Trimmer, CA  
11303500 San Joaquin River near Vernalis, CA  
11325500 Mokelumne River at Woodbridge, CA

Volume 4:

10356500 Susan River at Susanville, CA  
11370500 Sacramento River at Keswick, CA  
11447650 Sacramento River at Freeport, CA

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal inter-agency activity.

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

## EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

### Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams and canals, and stage and contents of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in the U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For a stream-gaging station, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dams or weirs), velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily figures. 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 computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

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 stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of the gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

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 on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise, daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30. A calendar for the current year is shown on the reverse side of the front cover to facilitate finding the day of the week for any date.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of published records. The location of the gaging station and the drainage area are obtained from the most accurate maps available. River mileage, given under "LOCATIONS" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published, along with the current records, in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1933 stands for the water year October 1, 1932, to September 30, 1933. If no daily, monthly, or annual figures of discharge are affected by the revision, that fact is brought out by notations 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 the peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given.

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum of 1929, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 9.

Information pertaining to the accuracy of the discharge records, and to conditions that affect the natural flow at the gaging station, is given under "REMARKS"; for reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is also given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance.

Under "EXTREMES" are given: First, the extremes for the period of record; second, information available outside the period of record; and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR CURRENT YEAR; if they are, all independent peaks (including the maximum for the year) above the selected base, with the time of occurrence and corresponding gage heights, are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but it is not published for reservoirs for which only monthly data are given.



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 discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage 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. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

#### Accuracy of field data and computed results

The accuracy of discharge data 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 observations of stage, measurements of discharge, and interpretation of records.

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft<sup>3</sup>/s; to tenths between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to 3 significant figures above 1,000 ft<sup>3</sup>/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures 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, consumptive use, regulation by storage, increase or decrease due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

#### Other data available

Information of a more detailed nature than that published for most of the gaging stations, such as observations of water temperatures, discharge measurements, gage-height records, and rating tables, is on file in the District Office. Also, most gaging-station records are available in computer-usable form and many statistical analyses have been made. Information on the availability of unpublished data or statistical analyses may be obtained from the District Office.

Special reports on major floods or droughts or of other hydrologic studies for the area have been issued in publications other than water-supply papers. Information relative to these reports may be obtained from the District Office.

#### Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey have been collected at numerous sites by many other Federal, State, County, City, and local agencies and by private organizations. A listing of stream-gaging stations and the agencies operating them is published in California Department of Water Resources Bulletin 230-78, "Index to Sources of Hydrologic Data." The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of such sites. Information on records at specific sites can be obtained upon request.

## EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses usually are collected at or near gaging stations. The water-quality records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); instrumentation; general remarks; extremes for the period of daily record; and extremes for the current year.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, date of sampling and/or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations, listed on a following page.

One sample can define adequately 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.

Chemical-quality data published in this report are considered to be the most representative values 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 the 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 time of 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, minimum, and mean values for each constituent measured and are based upon 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.

Ground-water quality normally does not change significantly during short periods of time; infrequent sampling and analysis of ground water adequately defines ground-water quality at a given site.

pH

At some stations, pH is measured on a continual basis. The results are reported as maximum, minimum, and mean values for each day and month. The mean pH values reported were computed from the pH values recorded by the monitor and is equal to the negative logarithm of the geometric mean of the hydrogen-ion activity.

### Water temperature

Water temperatures are measured at most of 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 diel 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 continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day and month. Water temperatures taken at the time of discharge measurements are on file in the district office. They will be used, with all other temperature data, for reports such as the open-file reports by subregion, "Water Temperature of California Streams, 1970."

### 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 at the cross sections.

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 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 was computed by the subdivided-day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

In addition to the records of suspended-sediment discharge, estimates of bedload and total-sediment discharge are included for some stations. Also included are particle-size distribution analyses of suspended sediment, surface bed material, and bedload material (sediment in transit within 0.25 ft (0.076 m) of the bed).

Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith bedload sampler or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis.

The Helley-Smith sampler is designed to collect a time-weighted sample of the sediment moving within 0.25 ft (0.076 m) of the streambed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. It is assumed that samples obtained by this sampler represent the bedload discharge when used in coarse-material bedded streams (median diameter coarser than about 4 mm) and that these data can be used in conjunction with theoretical computations to define the bedload-transport relation for a station.

Calibration of the Helley-Smith sampler has not been completed, and a trap efficiency of 1.0 has been assumed applicable to this device. Error sources in the theoretical methods, based on analysis of bed-material characteristics, channel geometry, and associated hydraulic factors, are also undefined. In consequence, figures of bedload discharge must be used with caution. They are estimates, at best, and are subject to revision.

#### Turbidity

At some stations samples for the determination of turbidity were collected at the same frequency as samples collected for determination of suspended sediment. Turbidity, measured in Nephelometric turbidity units (NTU), is shown in relation to the concentration of sediment in the simultaneously collected sample.

### EXPLANATION OF GROUND-WATER LEVEL RECORDS

#### Collection of the data

Only ground-water-level data from a basic national network of observation wells are published herein. These water-level measurements are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on the grid system of latitude and longitude as shown in figure 2, and (2) a local number that is provided for continuity with older reports and for other use as dictated by local needs (fig. 3).

Measurements are made in many types of wells under various conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well insure that measurements at a well are of consistent accuracy and reliability.

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or land-surface datum (lsd). National Geodetic Vertical Datum is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum referred to National Geodetic Vertical Datum is given in the well description. The height of the measuring point (MP above or below land-surface datum), if known, is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error of determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water, the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

In this report basin names and numbers, for example San Joaquin Valley (5-22), are from "California's Ground Water," California Department of Water Resources Bulletin No. 118, 1975, 135 p.

## PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing 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) is on 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 Distribution, 604 South Picket Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. Water temperature-influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968. 60 pages.
- 3-A4. Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
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## 10290300 UPPER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°09'15", long 119°20'58", in NW¼NE¼ sec.5, T.3 N., R.24 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, at outlet of upper lake dam on Robinson Creek, and 10 mi (16 km) southwest of Bridgeport.

DRAINAGE AREA.--29.5 mi<sup>2</sup> (76.4 km<sup>2</sup>).

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

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

REMARKS.--Contents regulated by dam at outlet. Figures given herein represent usable contents. Usable contents, 2,070 acre-ft (2.55 hm<sup>3</sup>) between elevations 7,200 ft (2,194.6 m) natural rim, and 7,207 ft (2,196.7 m) spillway crest.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,920 acre-ft (3.60 hm<sup>3</sup>) July 2, 1980, elevation, 7,209.65 ft (2,197.501 m); minimum observed, 62 acre-ft (76,400 m<sup>3</sup>) Oct. 31, Nov. 1, 1964, elevation, 7,200.22 ft (2,194.627 m).

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,890 acre-ft (3.56 hm<sup>3</sup>) Sept. 26, elevation, 7,209.55 ft (2,197.471 m); minimum, 389 acre-ft (480,000 m<sup>3</sup>) Nov. 9, elevation, 7,201.39 ft (2,194.984 m).

## ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	7,202.06	577	--
Oct. 31.....	7,202.65	742	+165
Nov. 30.....	7,205.46	1,580	+838
Dec. 31.....	7,207.50	2,230	+650
CAL YR 1981.....	--	--	+60
Jan. 31.....	7,207.37	2,190	-40
Feb. 28.....	7,207.51	2,230	+40
Mar. 31.....	7,207.46	2,220	-10
Apr. 30.....	7,208.12	2,430	+210
May 31.....	7,208.86	2,670	+240
June 30.....	7,209.09	2,740	+70
July 31.....	7,208.80	2,650	-90
Aug. 31.....	7,208.21	2,460	-190
Sept. 30.....	7,208.15	2,440	-20
WTR YR 1982.....	--	--	+1,863

## 10290400 LOWER TWIN LAKE NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°10'05", long 119°19'33", in NE¼NE¼ sec.33, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, at outlet of lower lake dam on Robinson Creek, 8 mi (13 km) southwest of Bridgeport.

DRAINAGE AREA.--38.9 mi<sup>2</sup> (100.8 km<sup>2</sup>).

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

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

REMARKS.--Contents regulated by dam at outlet and by Upper Twin Lake (station 10290300). Figures given herein represent usable contents. Usable contents, 4,010 acre-ft (4.94 hm<sup>3</sup>) between elevations 7,190 ft (2,192 m) natural rim, and 7,200 ft (2,195 m) spillway crest. One transarea diversion out of Tamarack Creek into Summers Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,490 acre-ft (6.77 hm<sup>3</sup>) June 6, 1969, elevation, 7,203.51 ft (2,195.630 m); no usable contents Nov. 17, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 5,230 acre-ft (6.45 hm<sup>3</sup>) June 29, elevation, 7,202.84 ft (2,195.426 m); minimum, 700 acre-ft (863,100 m<sup>3</sup>) Oct. 1, elevation, 7,191.75 ft (2,192.045 m).

## ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	--	g724	--
Oct. 31.....	--	g1,070	+346
Nov. 30.....	--	g1,440	+370
Dec. 31.....	7,197.36	2,940	+1,500
CAL YR 1981.....	--	--	-930
Jan. 31.....	--	g4,210	+1,270
Feb. 28.....	7,200.75	4,330	+120
Mar. 31.....	7,200.81	4,350	+20
Apr. 30.....	7,199.83	3,940	-410
May 31.....	7,201.97	4,850	+910
June 30.....	7,202.73	5,180	+330
July 31.....	7,202.10	4,900	-280
Aug. 31.....	7,200.98	4,420	-480
Sept. 30.....	7,201.12	4,480	+60
WTR YR 1982.....	--	--	+3,756

g Interpolated.

## 10292500 BRIDGEPORT RESERVOIR NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'30", long 119°12'40", in SE¼NE¼ sec.34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, at Bridgeport Dam on East Walker River, 4.5 mi (7.2 km) north of Bridgeport.

DRAINAGE AREA.--358 mi<sup>2</sup> (927 km<sup>2</sup>).

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

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

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

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1923. Dam completed in November 1924. Capacity, 42,460 acre-ft (52.4 hm<sup>3</sup>) between elevations 6,415 ft (1,955.3 m), approximate elevation of outlet tunnel, and 6,460.75 ft (1,969.237 m) crest of spillway. There are four siphons that become operative prior to the water level reaching the crest of the spillway. Elevation of sill of outlet gate, 6,412 ft (1,954.4 m). No dead storage. Figures given herein represent total contents. Water is used for irrigation by Walker River Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 44,880 acre-ft (55.3 hm<sup>3</sup>) June 16, 1974, elevation, 6,460.78 ft (1,969.246 m); no usable contents during fall of 1929-30, 1960, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,790 acre-ft (52.8 hm<sup>3</sup>) July 27, elevation, 6,460.11 ft (1,969.042 m); minimum, 3,100 acre-ft (3.82 hm<sup>3</sup>), elevation, 6,435.33 ft (1,961.489 m) Oct. 13.

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

6,415	0	6,441	7,120
6,418	20	6,443	9,100
6,421	115	6,445	11,380
6,424	269	6,447	13,990
6,427	539	6,449	17,060
6,430	1,130	6,451	20,620
6,433	2,050	6,453	24,660
6,435	2,920	6,456	31,570
6,437	4,050	6,461	45,490
6,439	5,440		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3390	4190	9980	15840	21230	31040	36010	24970	30240	38900	42080	36960
2	3350	4360	10150	15950	21400	31230	36040	24770	30680	38650	42260	36530
3	3290	4490	10300	16110	21600	31520	36040	24580	31070	38370	42290	36040
4	3260	4630	10450	16450	21740	31800	35910	24390	31330	38260	42290	35650
5	3240	4770	10660	16560	21900	32000	35650	24240	31750	38350	42340	35200
6	3210	4890	10830	16710	22070	32330	35250	24160	32080	38680	42320	34800
7	3180	5010	10970	16850	22190	32510	34950	23960	32430	39040	42260	34330
8	3180	5130	11120	16980	22320	32720	34560	23830	32670	39480	42400	33960
9	3160	5260	11260	17130	22540	33040	34250	23640	33020	39950	42340	33550
10	3140	5370	11420	17280	22790	33250	33990	23640	33430	40420	42290	32990
11	3120	5500	11530	17400	22980	33450	35960	23700	33960	40940	42110	32740
12	3110	5640	11680	17610	23580	33650	36260	23750	34610	41320	41940	32410
13	3100	6240	11870	17750	24170	33860	35860	23700	35250	41580	41640	32130
14	3100	6980	12010	17890	24760	34060	35040	23540	35910	41910	41380	31900
15	3110	7220	12140	18060	25360	34190	34090	23580	36200	42200	41000	31620
16	3150	7510	12260	18260	25960	34380	33270	23600	36040	42460	40650	31550
17	3190	7740	12400	18440	26550	34540	32510	23560	35880	42580	40300	31500
18	3240	7950	12550	18540	27140	34720	31720	23600	36150	42550	39860	31400
19	3270	8160	12810	18680	27740	34900	30900	23620	36550	42520	39400	31260
20	3300	8380	13350	18870	28340	35090	30070	23730	36870	42520	39150	31230
21	3320	8550	13610	19060	28930	35250	29450	23870	37040	42490	38760	31190
22	3340	8730	13810	19200	29520	35470	28790	24220	37260	42400	38510	31140
23	3360	8910	14010	19460	30120	35620	28240	24730	37370	42460	38210	31140
24	3380	9000	14250	19700	30360	35730	27690	25340	37370	42460	38090	31650
25	3420	9140	14480	19960	30440	35730	27160	26050	37790	42460	38070	32260
26	3440	9260	14700	20090	30490	35830	26640	25940	37950	42640	37870	33070
27	3440	9380	14840	20250	30630	35830	26290	27370	38150	42790	37700	33600
28	3640	9550	15020	20510	30920	35700	25830	28240	38260	42760	37730	34270
29	3740	9700	15320	20680	---	35730	25560	28720	38570	42640	37650	34510
30	3890	9800	15490	20840	---	35800	25300	29300	38820	42370	37460	35140
31	4040	---	15710	21030	---	35910	---	29740	---	42290	37240	---
MAX	4040	9800	15710	21030	30920	35910	36260	29740	38820	42790	42400	36960
MIN	3100	4190	9980	15840	21230	31040	25300	23540	30240	38260	37240	31140
a	6436.98	6443.64	6448.15	6451.21	6455.73	6457.68	6453.29	6455.24	6458.74	6459.94	6458.17	6457.39
b	+620	+5760	+5910	+5320	+9890	+4990	-10610	+4440	+9080	+3470	-5050	-2100

CAL YR 1981 b -15640  
WTR YR 1982 b +31720

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



LOCATION.--Lat 38°19'40", long 119°12'50", in SW¼NE¼ sec.34, T.6 N., R.25 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, on right bank 1,500 ft (460 m) downstream from Bridgeport Reservoir 5 mi (3 km) north of Bridgeport, and 10 mi (16 km) upstream from Sweetwater Creek.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft<sup>3</sup>/s (30.6 m<sup>3</sup>/s) June 30, gage height, 3.82 ft (1.164 m); minimum daily, 4.8 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Feb. 12, 13.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	5.6	8.3	8.0	7.9	23	109	446	396	961	490	434
2	72	5.6	8.3	8.0	7.5	22	147	447	362	842	378	450
3	71	5.6	8.3	8.0	7.2	23	185	445	335	814	368	449
4	73	7.5	8.5	8.0	6.6	23	253	447	307	698	371	448
5	73	7.5	8.3	8.0	6.6	23	312	445	301	537	353	446
6	72	7.7	8.3	8.0	6.8	23	312	421	301	407	340	447
7	72	7.9	8.4	7.9	7.3	23	311	436	295	354	340	429
8	74	8.0	8.4	7.9	7.0	23	311	453	275	320	340	390
9	73	7.9	8.4	7.8	7.7	24	311	453	260	338	344	385
10	73	7.9	8.4	7.4	6.2	24	321	423	251	344	371	355
11	73	7.9	8.4	7.7	5.1	23	586	404	250	334	381	338
12	75	7.9	8.4	7.9	4.8	24	628	403	251	413	381	338
13	75	8.0	8.4	7.9	4.8	25	669	403	251	486	378	317
14	70	8.3	8.4	8.3	5.1	25	740	386	352	454	384	291
15	62	7.9	8.4	8.3	5.8	25	738	376	528	413	413	275
16	49	7.6	8.2	8.3	55	25	695	375	708	490	410	264
17	50	6.7	8.2	8.3	181	25	625	363	799	593	410	246
18	50	5.1	8.2	8.6	98	24	620	352	797	609	407	246
19	50	5.1	8.2	9.0	50	26	617	353	820	609	407	246
20	50	5.8	8.2	9.3	50	25	615	353	893	581	407	236
21	51	7.5	8.2	9.2	51	25	579	356	890	565	407	214
22	51	7.9	8.2	9.3	51	25	558	339	891	557	404	202
23	51	8.2	8.2	9.0	51	32	525	325	908	553	407	180
24	51	8.6	8.2	9.3	81	50	505	324	865	550	394	178
25	53	8.7	8.2	9.2	161	62	504	327	747	553	371	178
26	53	8.5	8.2	9.3	149	88	500	331	713	573	371	178
27	53	9.2	8.2	9.3	94	96	465	354	714	617	371	178
28	53	8.9	8.2	9.3	54	111	448	395	750	723	381	204
29	50	8.8	8.2	9.3	---	111	448	401	882	782	413	241
30	20	8.4	8.2	9.3	---	109	444	404	1000	684	410	251
31	6.0	---	8.2	8.9	---	109	---	407	---	573	410	---
TOTAL	1821.0	226.2	256.8	264.0	1222.4	1296	14081	12147	17092	17327	12012	9034
MEAN	58.7	7.54	8.28	8.52	43.7	41.8	469	392	570	559	387	301
MAX	75	9.2	8.5	9.3	181	111	740	453	1000	961	490	450
MIN	6.0	5.1	8.2	7.4	4.8	22	109	324	250	320	340	178
AC-F-T	3610	449	509	524	2420	2570	27930	24090	33900	34370	23830	17920
CAL YR 1981	TOTAL	42427.0	MEAN 116	MAX 326	MIN 5.1	AC-F-T	84150					
WTR YR 1982	TOTAL	86779.4	MEAN 238	MAX 1000								

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--July 1949 to November 1952, March 1960 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH, FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT									
21...	1400	71	194	--	12.5	--	--	--	--
27...	1340	53	180	--	7.5	--	--	--	--
NOV									
30...	1430	8.4	200	--	2.5	--	--	--	--
JAN									
08...	1330	8.1	200	--	2.0	--	--	--	--
28...	1340	9.3	229	--	3.0	--	--	--	--
FEB									
23...	1505	51	286	--	4.5	--	--	--	--
APR									
05...	1420	311	194	--	3.5	--	--	--	--
29...	1100	447	184	--	10.5	--	--	--	--
MAY									
26...	1635	330	147	--	13.0	--	--	--	--
JUL									
07...	1600	338	114	--	14.5	--	--	--	--
AUG									
30...	1210	410	110	--	18.5	--	--	--	--
SEP									
*22...	1410	175	130	9.0	14.0	2.0	8.2	48	14

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT								
21...	--	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--
NOV								
30...	--	--	--	--	--	--	--	--
JAN								
08...	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	--	--
FEB								
23...	--	--	--	--	--	--	--	--
APR								
05...	--	--	--	--	--	--	--	--
29...	--	--	--	--	--	--	--	--
MAY								
26...	--	--	--	--	--	--	--	--
JUL								
07...	--	--	--	--	--	--	--	--
AUG								
30...	--	--	--	--	--	--	--	--
SEP								
22...	3.0	7.0	.4	1.9	51	1.0	72	34.0

\* Data from Calif. Dept. of Water Resources.

## 10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°21'39", long 119°26'38" (revised), in NW¼NW¼ sec.22, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on right bank 0.8 mi (1.3 km) north of Sonora Junction, 1.5 mi (2.4 km) upstream from mouth, and 14 mi (23 km) northwest of Bridgeport.

DRAINAGE AREA.--63.1 mi<sup>2</sup> (163.4 km<sup>2</sup>).

PERIOD OF RECORD.--April to August 1910, October 1944 to current year. Prior to October 1958, published as East Fork West Walker River near Bridgeport.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,790 ft (2,070 m), from topographic map. April to August 1910, nonrecording gage at site 1 mi (2 km) upstream at different datum.

REMARKS.--Records good except those for winter period, which are fair. Small diversions above station.

AVERAGE DISCHARGE.--38 years (water years 1945-82), 51.3 ft<sup>3</sup>/s (1.453 m<sup>3</sup>/s), 37,170 acre-ft/yr (45.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft<sup>3</sup>/s (42.8 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 3.22 ft (0.981 m), from rating curve extended above 350 ft<sup>3</sup>/s (9.91 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 2.80 ft (0.853 m); maximum gage height recorded, 3.63 ft (1.106 m) Jan. 3, 1945, backwater from ice; minimum discharge, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Nov. 20, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 8	0900	Ice jam	2.48 0.756	May 26	2200	354 10.0	2.20 .671
Feb. 16	0600	268 7.59	1.95 .594	June 29	0800	364 10.3	2.18 .664
Apr. 11	1500	*499 14.1	2.41 .735	July 12	2400	279 7.90	1.98 .604

Minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Oct. 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	19	23	23	17	41	26	137	187	211	138	54
2	12	18	23	22	17	37	30	151	179	190	129	52
3	12	18	25	21	17	47	34	164	174	189	118	51
4	12	17	22	20	18	43	33	173	163	182	113	48
5	12	17	19	19	17	39	31	169	149	180	109	45
6	12	17	18	18	17	38	30	163	141	186	102	45
7	18	16	19	17	17	33	27	163	138	201	108	43
8	15	15	20	16	17	33	28	163	146	208	107	42
9	14	15	19	16	17	32	32	152	163	212	103	42
10	17	15	19	17	17	38	64	138	184	220	100	42
11	15	15	16	17	18	38	384	134	205	235	95	44
12	14	20	17	17	18	34	195	117	216	241	89	41
13	14	54	18	16	20	34	142	116	208	251	85	41
14	15	68	19	16	35	37	122	122	204	237	84	39
15	14	33	18	16	84	33	106	124	220	234	79	40
16	14	27	17	17	213	29	96	137	246	231	76	40
17	14	34	16	18	107	29	94	155	280	216	74	39
18	14	29	17	20	76	28	95	171	314	203	74	39
19	14	26	43	21	69	27	95	167	306	196	76	38
20	13	24	93	21	71	27	92	178	300	197	75	36
21	13	23	50	21	78	27	89	202	284	191	75	34
22	14	25	37	21	76	27	90	226	293	189	81	34
23	14	24	36	21	59	26	99	238	307	189	80	38
24	13	27	37	21	53	26	103	252	311	191	75	91
25	13	25	31	21	48	26	102	257	274	192	73	105
26	13	22	29	21	43	28	109	294	271	195	70	100
27	13	20	26	20	41	26	113	296	285	186	67	71
28	23	20	27	20	41	27	122	279	289	183	74	62
29	16	22	25	19	---	24	120	231	319	172	70	60
30	23	23	25	18	---	23	123	207	255	161	63	59
31	22	---	26	17	---	21	---	202	---	148	57	---
TOTAL	454	728	830	588	1321	978	2826	5678	7011	6217	2719	1515
MEAN	14.6	24.3	26.8	19.0	47.2	31.5	94.2	183	234	201	87.7	50.5
MAX	23	68	93	23	213	47	384	296	319	251	138	105
MIN	12	15	16	16	17	21	26	116	138	148	57	34
AC-FT	901	1440	1650	1170	2620	1940	5610	11260	13910	12330	5390	3010
CAL YR 1981	TOTAL	11551.1	MEAN 31.6	MAX 148	MIN	6.7	AC-FT 22910					
WTR YR 1982	TOTAL	30865.0	MEAN 84.6	MAX 384	MIN	12	AC-FT 61220					

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

LOCATION.--Lat 38°22'47", long 119°26'57", in NE¼SE¼ sec.9, T.6 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on right bank 150 (50 m) downstream from Little Walker River, 60 ft (20 m) upstream from bridge on U.S. Highway 395, and 13 mi (21 km) southeast of Coleville.

DRAINAGE AREA.--181 mi<sup>2</sup> (469 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 6,591.39 ft (2,009.056 m) National Geodetic Vertical Datum of 1929. Oct. 1, 1939, to Sept. 30, 1969, at site 100 ft (30 m) upstream at same datum. Prior to Oct. 1, 1939, at site 25 ft (8 m) downstream at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those for the winter period, which are fair. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poor Lake Reservoir (capacity unknown) 7 mi (11 km) upstream.

AVERAGE DISCHARGE.--44 years, 259 ft<sup>3</sup>/s (7.335 m<sup>3</sup>/s), 187,600 acre-ft/yr (231 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,220 ft<sup>3</sup>/s (176 m<sup>3</sup>/s) Nov. 20, 1950, gage height, 8.10 ft (2.469 m), from rating curve extended above 1,900 ft<sup>3</sup>/s (53.8 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum, 4.0 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Nov. 18, 1948, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge observed prior to 1938, 5,800 ft<sup>3</sup>/s (164 m<sup>3</sup>/s) Dec. 11, 1937, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,120 ft<sup>3</sup>/s (31.7 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Feb. 16	1200	1,480	41.9	4.27	1.301	June 18	0500	2,110	59.8	4.95	1.509
Apr. 11	1500	1,570	44.5	4.26	1.298	July 13	0400	1,380	39.1	4.15	1.265
May 4	0100	1,360	38.5	4.07	1.241	Sep. 26	0100	2,070	58.6	4.19	1.497
May 27	0400	*2,330	66.0	5.13	1.564						

Minimum daily, 27 ft<sup>3</sup>/s (0.76 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	68	104	111	84	191	117	918	1170	929	625	204
2	27	71	99	120	84	176	124	1040	1140	904	555	191
3	28	74	92	120	85	181	140	1150	1110	975	499	186
4	29	76	92	99	87	170	134	1230	1020	923	477	183
5	30	75	91	89	85	155	133	1170	912	910	473	172
6	29	74	88	80	84	150	125	1070	822	936	455	165
7	36	72	86	72	84	151	117	1110	817	1070	494	157
8	38	69	80	70	84	147	118	1140	893	1130	505	154
9	38	66	87	71	84	140	125	987	1060	1130	474	152
10	41	65	85	74	84	158	201	788	1240	1120	453	154
11	44	63	74	78	84	169	1150	696	1390	1210	401	164
12	40	74	80	72	85	157	1130	638	1430	1240	375	147
13	43	202	84	68	86	156	873	694	1310	1240	365	138
14	43	387	86	68	151	167	656	809	1240	1160	365	130
15	40	219	83	70	333	154	558	818	1430	1120	345	135
16	38	179	76	74	977	142	499	967	1630	1160	322	136
17	39	183	72	80	493	140	473	1140	1750	1090	309	130
18	41	141	79	92	355	137	477	1250	1920	949	320	124
19	43	136	207	93	293	134	490	1130	1710	949	335	124
20	43	122	690	92	289	127	481	1190	1720	952	347	118
21	43	115	458	90	309	126	468	1360	1530	922	350	110
22	42	128	276	90	331	122	481	1490	1480	958	363	105
23	42	149	231	90	278	121	530	1630	1590	941	356	112
24	42	171	198	90	247	120	596	1720	1630	979	316	484
25	41	131	186	94	227	122	596	1720	1410	968	296	1060
26	40	95	167	98	208	125	611	1920	1420	1030	285	1160
27	40	84	155	101	196	121	656	2090	1580	946	262	440
28	72	82	135	98	190	125	734	1850	1670	861	303	306
29	54	94	140	96	---	112	802	1440	1660	840	300	255
30	59	102	130	87	---	110	752	1260	1160	789	269	237
31	68	---	133	84	---	110	---	1260	---	701	230	---
TOTAL	1280	3567	4644	2711	5977	4416	14347	37675	40844	31032	11824	7333
MEAN	41.3	119	150	87.5	213	142	478	1215	1361	1001	381	244
MAX	72	387	690	120	977	191	1150	2090	1920	1240	625	1160
MIN	27	63	72	68	84	110	117	638	817	701	230	105
AC-FT	2540	7080	9210	5380	11860	8760	28460	74730	81010	61550	23450	14550
WTR YR 1981	TOTAL	60658	MEAN 166	MAX 916	MIN 26	AC-FT 120300						
CAL YR 1982	TOTAL	165650	MEAN 454	MAX 2090	MIN 27	AC-FT 328600						

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

## WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982\*

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH, FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)
SEP 22...	1335	149	91	8.0	14.0	<1.0	8.3	30
DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY LAB (MG/L AS CACO3)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)
SEP 22...	9.0	2.0	5.0	.4	.9	34	44	17.7

\* Data from Calif. Dept. of Water Resources.

&lt; Actual value is known to be less than the value shown.

## 10296500 WEST WALKER RIVER NEAR COLEVILLE, CA

LOCATION.--Lat 38°30'55", long 119°27'15", in NW¼NE¼ sec.28, T.8 N., R.23 E., Mono County, Hydrologic Unit 16050302, Toiyabe National Forest, on left bank 0.2 mi (0.3 km) downstream from Rock Creek, and 5 mi (8 km) southeast of Coleville.

DRAINAGE AREA.--250 mi<sup>2</sup> (648 km<sup>2</sup>).

PERIOD OF RECORD.--October 1902 to July 1908 (published as West Fork of Walker River near Coleville 1903, 1905-8 and as Walker River, West Fork, near Coleville 1904), March 1909 to September 1910, June 1915 to March 1938, May 1957 to current year. Monthly discharge only for some periods, published in WSP 1314.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (1,682 m) from topographic map. See WSP 2127 for history of changes prior to Sept. 10, 1963.

REMARKS.--Records good except those for winter period, which are fair. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poor Lake Reservoir (capacity unknown) 17 mi (27 km) upstream.

AVERAGE DISCHARGE.--53 years (water years 1903-7, 1910, 1916-37, 1958-82), 274 ft<sup>3</sup>/s (7.760 m<sup>3</sup>/s), 198,500 acre-ft/yr (245 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft<sup>3</sup>/s (184 m<sup>3</sup>/s) Dec. 11, 1937, from slope-area measurement of peak flow; minimum, 5 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Dec. 3, 1924, Aug. 27, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,120 ft<sup>3</sup>/s (3.17 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Apr. 11	1700	1,660 47.0	3.48 1.061	June 18	0500	2,010 56.9	3.90 1.189
May 4	0200	1,380 39.1	3.25 0.991	July 13	0400	1,440 40.8	3.27 .997
May 27	0200	*2,240 63.4	4.14 1.262	Sep. 26	0300	2,230 63.2	4.03 1.228

Minimum daily, 36 ft<sup>3</sup>/s (1.02 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	79	114	130	92	215	132	889	1150	936	630	213
2	37	80	111	138	92	205	155	1020	1100	895	552	201
3	36	84	104	141	93	199	172	1150	1060	972	491	200
4	38	85	104	127	93	193	165	1250	957	932	470	195
5	39	85	104	103	93	177	166	1190	845	914	463	185
6	39	84	101	90	92	169	160	1060	739	930	450	179
7	44	82	99	80	91	179	147	1100	726	1050	466	175
8	53	80	94	77	91	173	147	1150	810	1100	503	174
9	50	79	101	78	90	167	156	984	990	1140	466	166
10	51	78	99	80	89	180	196	760	1220	1120	455	166
11	56	76	88	84	91	195	1190	662	1370	1220	405	175
12	52	81	93	79	95	184	1070	585	1400	1260	381	163
13	55	174	97	76	100	185	922	641	1300	1280	366	154
14	56	407	100	75	162	195	690	764	1220	1170	367	147
15	54	238	97	76	281	185	552	767	1400	1120	348	149
16	51	194	91	80	855	171	481	914	1550	1150	321	153
17	51	195	85	86	502	170	456	1100	1700	1120	300	148
18	53	152	93	98	362	164	455	1250	1840	957	305	139
19	54	151	177	102	303	160	464	1110	1670	951	317	139
20	54	132	678	100	298	153	452	1160	1700	950	334	135
21	54	126	475	100	316	155	440	1350	1540	923	335	125
22	54	131	291	100	335	152	442	1480	1480	959	343	118
23	54	152	251	100	295	149	486	1620	1590	945	342	119
24	53	179	217	100	269	147	563	1720	1630	978	306	411
25	52	141	208	100	253	150	565	1690	1450	972	280	1000
26	51	110	188	99	233	151	571	1860	1460	1030	274	1380
27	51	93	176	99	219	149	632	1980	1610	984	256	483
28	80	93	154	96	214	155	707	1760	1670	892	273	333
29	70	100	169	96	---	140	782	1400	1710	854	283	276
30	65	110	149	96	---	133	718	1250	1190	807	260	257
31	77	---	155	94	---	147	---	1260	---	714	232	---
TOTAL	1621	3851	5063	2980	6099	5247	14234	36876	40077	31225	11574	7858
MEAN	52.3	128	163	96.1	218	169	474	1190	1336	1007	373	262
MAX	80	407	678	141	855	215	1190	1980	1840	1280	630	1380
MIN	36	76	85	75	89	133	132	585	726	714	232	118
AC-FT	3220	7640	10040	5910	12100	10410	28230	73140	79490	61930	22960	15590
CAL YR 1981	TOTAL	64041	MEAN 175	MAX 947	MIN 33	AC-FT 127000						
WTR YR 1982	TOTAL	166705	MEAN 457	MAX 1980	MIN 36	AC-FT 330700						

## 10297000 TOPAZ LAKE NEAR TOPAZ, CA

LOCATION.--Lat 38°41'35", long 119°31'10", in NW¼NE¼ sec.33, T.10 N., R.22 E., Douglas County, Nevada, Hydrologic Unit 16050301, at outlet of Topaz Lake on West Walker River, 5.5 mi (8.8 km) north of Topaz.

PERIOD OF RECORD.--December 1921 to September 1931 (monthly contents only published in WSP 1734), October 1931 to current year.

GAGE.--Float and nonrecording gages read once daily. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1978, at datum 4.62 ft (1.408 m) higher.

REMARKS.--Topaz Lake, formerly known as Alkali Lake and Topaz Reservoir, was formed by the diversion of water from West Walker River through a feeder canal and the construction of an outlet tunnel through a low saddle in the rim of the lake. Storage began about December 1921. Usable capacity, 59,440 acre-ft (73.3 hm<sup>3</sup>) between elevations 4,967.68 ft (1,514.149 m), lowest practical elevation for diversion through tunnel, bottom of outlet tunnel at elevation, 4,965.4 ft (1,513.45 m), and 5,000.38 ft (1,524.116 m), 3 ft (0.9 m) below top of levee. Usable capacity of reservoir was increased from about 45,000 acre-ft (55.5 hm<sup>3</sup>) to 59,440 acre-ft (73.3 hm<sup>3</sup>) in October 1937 by an earthfill, rock-faced levee at south end. Figures given herein represent usable contents. There is 65,000 acre-ft (80.1 hm<sup>3</sup>) of lake volume below the point of controllable storage. Water is used for irrigation in Walker River Irrigation District.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 60,680 acre-ft (74.8 hm<sup>3</sup>) July 3, 1980, elevation, 5,000.92 ft (1,524.280 m), no usable contents at times in 1924, 1960, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 59,780 acre-ft (73.7 hm<sup>3</sup>) July 25, 26, elevation, 5,000.53 ft (1,524.162 m); minimum contents observed, 5,760 acre-ft (7.10 hm<sup>3</sup>) Oct. 18, 25-27.

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

4,972	6,720	4,985	28,310
4,973	8,310	4,990	37,360
4,975	11,520	4,995	47,540
4,977	14,770	5,000	58,570
4,979	18,080	5,001	60,870
4,981	21,440		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6750	6150	15130	25430	32960	45030	50500	36580	43170	56590	59100	46860
2	6590	6250	15400	25670	33180	45130	50500	36050	42940	55920	59050	46390
3	6520	6400	15610	25930	33400	45390	50630	35930	43000	55580	58980	45890
4	6450	6560	15840	26190	33600	45680	50700	36010	43430	55360	58870	45340
5	6370	6740	16090	26610	33780	45890	50540	36080	43910	55360	58640	44820
6	6370	6910	16290	26970	34050	46040	50260	35930	44340	55580	58460	44340
7	6280	7100	16490	27230	34230	46290	49830	35710	44550	55920	58180	43870
8	6180	7230	16720	27510	34430	46410	49330	35240	44800	56550	58160	43270
9	6090	7350	16900	27770	34600	46560	48900	35060	45070	57050	58070	42800
10	5930	7880	17130	28060	34800	46730	48450	34780	45910	57540	57950	42310
11	5850	8280	17350	28320	35000	46900	48240	34140	46940	58070	57610	41880
12	5770	8670	17550	28550	35240	47070	49640	33490	47920	58640	57160	41410
13	5770	9070	17730	28800	35430	47340	50610	32660	48840	59100	56770	41050
14	5870	9470	17900	29020	35760	47560	51040	32120	49740	59140	56280	40570
15	5820	9870	18080	29220	36200	47860	50890	31760	50570	59210	55580	40180
16	5820	10260	18280	29410	37610	48030	50460	31580	51260	59600	54950	39950
17	5790	10680	18470	29650	39670	48240	50020	31600	51570	59720	54240	39730
18	5760	11060	18620	29880	40790	48450	49140	31960	51920	59620	53460	39570
19	5770	11420	18820	30110	41570	48650	48390	32600	52540	59210	52760	39470
20	5810	11770	19700	30340	42180	48820	47430	33140	53460	58980	52140	39270
21	5810	12050	20900	30540	42800	48990	46440	33800	53970	59050	51740	39110
22	5840	12420	21780	30680	43520	49100	45340	34690	54350	59140	51310	39010
23	5840	12700	22320	30940	44140	49310	44180	35800	54750	59390	50850	39000
24	5860	13010	22750	31170	44660	49530	43190	36840	55130	59550	50500	38960
25	5760	13370	23190	31400	44760	49700	42080	38290	55470	59780	49960	39970
26	5760	13760	23530	31740	44780	49850	41030	39610	55780	59780	49530	42490
27	5760	14080	23870	31940	44840	50020	40010	40970	56230	59690	49050	43890
28	5840	14380	24230	32160	44930	50180	39010	42490	56480	59650	48560	44680
29	5930	14640	24540	32390	---	50370	38060	43310	56820	59300	48240	45180
30	6010	14940	24850	32590	---	50410	37960	43410	56930	59210	47770	45470
31	6060	---	25160	32800	---	50390	---	43290	---	59100	47300	---
MAX	6750	14940	25160	32800	44930	50410	51040	43410	56930	59780	59100	46860
MIN	5760	6150	15130	25430	32960	45030	37960	31580	42940	55360	47300	38960
a	4971.58	4977.10	4983.18	4987.54	4993.76	4996.33	4990.31	4992.97	4999.28	5000.23	4994.89	4994.02
b	-800	+8880	+10220	+7640	+12130	+5460	-12430	+5330	+13640	+2170	-11800	-1830

CAL YR 1981 b -4040

WTR YR 1982 b +38610

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

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

LOCATION.--Lat 38°42'50", long 119°45'50", in SW¼SE¼ sec.15, T.10 N., R.20 E., Alpine County, Hydrologic Unit 16050201, on right bank 0.5 mi (0.8 km) downstream from Markleeville Creek and 1.5 mi (2.4 km) northeast of Markleeville.

DRAINAGE AREA.--276 mi<sup>2</sup> (715 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,400 ft (1,646 m), from topographic map. Prior to Oct. 1, 1967, at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good except those for winter period, which are fair. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs, total capacity, about 5,000 acre-ft (6.16 hm<sup>3</sup>).

AVERAGE DISCHARGE.--22 years, 357 ft<sup>3</sup>/s (10.11 m<sup>3</sup>/s), 258,600 acre-ft/yr (319 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft<sup>3</sup>/s (428 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 10.21 ft (3.112 m), present datum; minimum daily, 9.5 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Nov. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2100	1,960 55.5	5.17 1.576	May 4	0100	2,650 75.0	5.52 1.682
Dec. 20	1500	4,250 120	6.56 1.999	May 28	Unknown	3,400 96.3	Unknown --
Feb. 16	0400	*8,170 231	8.21 2.502	June 19	Unknown	2,500 70.8	Unknown --
Apr. 11	1000	7,700 218	8.04 2.451				

Minimum daily, 47 ft<sup>3</sup>/s (1.33 m<sup>3</sup>/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	75	224	296	195	546	275	1680	1700	1130	439	183
2	49	77	219	278	193	521	298	1870	1650	1020	396	177
3	60	79	204	255	197	485	308	2110	1600	1030	369	183
4	63	77	200	238	195	456	303	2200	1500	978	350	182
5	60	74	195	228	165	427	308	1950	1390	923	339	176
6	50	74	188	210	169	410	303	1800	1260	890	324	174
7	49	73	183	200	190	410	284	1880	1240	939	326	171
8	57	70	177	190	192	405	293	1980	1240	936	368	161
9	50	69	183	188	178	389	332	1750	1280	922	324	155
10	62	68	188	185	170	438	771	1410	1400	892	310	151
11	70	67	171	185	171	534	6350	1240	1510	914	288	157
12	56	114	171	190	169	467	2400	1170	1610	928	276	152
13	56	702	173	198	221	444	1570	1310	1600	930	267	149
14	56	864	178	205	735	450	1340	1380	1520	890	259	155
15	54	339	180	215	2600	416	1170	1450	1600	851	251	164
16	51	361	171	225	4770	389	1060	1500	1700	840	235	212
17	51	416	161	229	1450	378	1020	1580	1900	797	226	204
18	54	260	168	227	1010	362	1060	1800	1990	715	220	188
19	54	229	1290	213	883	347	1070	1720	2070	691	221	178
20	53	206	3240	211	891	332	1020	1700	1920	681	233	164
21	51	212	1210	205	952	322	968	1800	1800	646	220	150
22	50	433	714	195	976	312	984	1910	1740	646	223	145
23	49	584	572	205	816	308	1080	2070	1700	618	227	139
24	49	659	488	206	721	308	1210	2200	1570	602	229	291
25	49	406	441	223	658	308	1190	2220	1440	592	230	409
26	49	324	402	255	598	312	1170	2370	1440	590	209	571
27	47	282	377	223	552	303	1220	2610	1520	648	192	301
28	124	267	341	224	527	322	1400	2600	1530	614	186	261
29	86	243	359	209	---	298	1470	2100	1590	554	197	246
30	67	224	378	191	---	266	1400	1900	1300	524	195	250
31	75	---	332	197	---	289	---	1800	---	481	190	---
TOTAL	1799	7928	13478	6699	20544	11954	33627	57060	47310	24412	8319	6199
MEAN	58.0	264	435	216	734	386	1121	1841	1577	787	268	207
MAX	124	864	3240	296	4770	546	6350	2610	2070	1130	439	571
MIN	47	67	161	185	165	266	275	1170	1240	481	186	139
AC-FT	3570	15730	26730	13290	40750	23710	66700	113200	93840	48420	16500	12300
CAL YR 1981	TOTAL	85312	MEAN 234	MAX 3240	MIN 31	AC-FT 169200						
WTR YR 1982	TOTAL	239329	MEAN 656	MAX 6350	MIN 47	AC-FT 474700						



LOCATION.--Lat 38°46'10", long 119°49'55", in NW¼sec.34, T.11 N., R.19 E., Alpine County, Hydrologic Unit 16050201, Toiyabe National Forest, on left bank 0.3 mi (0.5 km) downstream from bridge on State Highway 88--89, 0.6 mi (1.0 km) southwest of Woodfords, and 3.8 mi (6.1 km) downstream from Willow Creek.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 5,754.5 ft (1,753.97 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1938, nonrecording gage at same site at different datum. Oct. 1, 1938, to Nov. 11, 1958, water-stage recorder at same site at datum 1.02 ft (0.311 m) lower. Nov. 13, 1958, to Jan. 30, 1963, water-stage recorder at site 150 ft (45 m) downstream at datum 3.06 ft (0.933 m) lower.

REMARKS.--Records good. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft (1.85 hm<sup>3</sup>).

AVERAGE DISCHARGE.--51 years (water years 1901-7, 1939-82), 111 ft<sup>3</sup>/s (3.144 m<sup>3</sup>/s), 80,420 acre-ft/yr (99.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,890 ft<sup>3</sup>/s (138 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 9.0 ft (2.74 m), on basis of slope-area measurement of peak flow; minimum, about 5 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Dec. 23, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 11, 1937, reached a stage of 8.0 ft (2.44 m) present datum, from floodmarks, discharge, 3,500 ft<sup>3</sup>/s (99.1 m<sup>3</sup>/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2200	789	22.3	May 3	2300	1,030	29.2
Dec. 20	1500	*1,730	49.0	May 27	0100	1,000	28.3
Feb. 16	0700	1,150	32.6	June 19	0200	725	20.5
Apr. 11	1900	1,180	33.4				

Minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Oct. 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	28	70	73	60	149	75	609	445	305	99	80
2	12	29	65	71	60	141	91	682	426	296	92	73
3	12	30	61	60	60	144	84	751	417	297	91	60
4	12	28	60	57	59	135	81	742	399	288	83	38
5	12	27	55	56	54	125	87	657	394	271	81	35
6	13	26	54	53	50	121	86	619	350	261	75	33
7	15	26	53	49	47	127	87	658	330	268	62	33
8	16	25	52	54	50	118	89	666	345	269	78	33
9	16	24	52	58	52	114	92	557	395	233	60	32
10	19	24	52	60	53	130	147	442	436	222	47	30
11	22	24	47	63	51	176	738	389	447	222	40	30
12	20	30	43	67	50	167	725	402	455	222	42	30
13	19	156	46	71	56	153	603	459	444	213	42	30
14	19	263	61	75	151	144	476	492	418	210	43	41
15	19	124	70	74	250	128	413	521	438	194	41	58
16	19	159	62	72	898	116	375	556	470	197	40	81
17	18	142	51	66	472	113	371	606	479	182	62	73
18	19	90	52	60	292	106	364	594	482	162	63	42
19	19	72	674	56	244	100	356	540	562	160	69	42
20	19	60	1360	60	242	101	340	555	468	153	74	39
21	19	75	368	62	248	100	362	601	458	144	43	34
22	19	218	227	62	260	92	380	633	443	138	39	32
23	19	286	191	62	234	92	400	664	444	132	47	30
24	18	330	164	63	219	96	421	681	421	136	45	79
25	18	162	151	66	202	98	371	678	377	130	41	83
26	19	113	141	66	182	98	371	743	380	126	39	116
27	19	105	136	60	172	100	409	808	386	126	37	64
28	39	92	115	61	165	97	471	672	395	116	37	51
29	30	80	108	63	---	75	485	531	384	114	38	48
30	25	66	104	65	---	61	507	481	331	109	41	48
31	27	---	98	62	---	60	---	470	---	104	62	---
TOTAL	584	2914	4843	1947	4933	3577	9857	18459	12619	6000	1753	1498
MEAN	18.8	97.1	156	62.8	176	115	329	595	421	194	56.5	49.9
MAX	39	330	1360	75	898	176	738	808	562	305	99	116
MIN	12	24	43	49	47	60	75	389	330	104	37	30
AC-FT	1160	5780	9610	3860	9780	7090	19550	36610	25030	11900	3480	2970
CAL YR 1981	TOTAL	28072	MEAN	76.9	MAX	1360	MIN	11	AC-FT	55680		
WTR YR 1982	TOTAL	68984	MEAN	189	MAX	1360	MIN	12	AC-FT	136800		

## CARSON RIVER BASIN

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--July, September, and December 1949, March 1950 to March 1952, November 1952, March 1960 to July 1961, February 1962 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH, FIELD FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO <sub>3</sub> )	CALCIUM DIS- SOLVED (MG/L AS Ca)
OCT									
01...	1410	12	80	--	11.0	--	--	--	--
30...	1435	31	86	--	3.0	--	--	--	--
DEC									
02...	1405	61	66	--	2.0	--	--	--	--
30...	1120	99	56	--	2.0	--	--	--	--
JAN									
27...	1109	55	73	--	1.0	--	--	--	--
MAR									
01...	1110	139	54	--	2.0	--	--	--	--
25...	1025	97	65	--	4.5	--	--	--	--
APR									
29...	1100	467	53	--	3.0	--	--	--	--
MAY									
25...	1600	591	45	--	--	--	--	--	--
JUN									
29...	1000	389	42	--	7.0	--	--	--	--
JUL									
28...	1500	116	50	--	14.0	--	--	--	--
SEP									
01...	1030	79	58	--	11.5	--	--	--	--
*22...	1045	33	70	7.8	11.0	<1.0	8.5	26	7.0

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CaCO <sub>3</sub> )	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT								
01...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
DEC								
02...	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--
JAN								
27...	--	--	--	--	--	--	--	--
MAR								
01...	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--
APR								
29...	--	--	--	--	--	--	--	--
MAY								
25...	--	--	--	--	--	--	--	--
JUN								
29...	--	--	--	--	--	--	--	--
JUL								
28...	--	--	--	--	--	--	--	--
SEP								
01...	--	--	--	--	--	--	--	--
22...	2.0	5.0	.4	1.6	29	4.0	56	5.0

\* Data from Calif. Dept. of Water Resources.

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

LOCATION.--Lat 38°50'35", long 120°01'25", in NE¼SE¼ sec.31, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 0.4 mi (0.6 km) upstream from mouth of Echo Lake outlet, 1.1 mi (1.8 km) southwest of Meyers, and 2.5 mi (4.0 km) upstream from Angora Creek.

GAGE.--Water-stage recorder. Datum of gage is 6,321.89 ft (1,926.912 m), National Geodetic Vertical Datum of 1929.

AVERAGE DISCHARGE.--22 years, 64.2 ft<sup>3</sup>/s (1.818 m<sup>3</sup>/s), 46,510 acre-ft/yr (57.3 hm<sup>3</sup>/yr).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2145	506	14.3	Apr. 11	1315	573	16.2
Nov. 24	0600	255	7.22	May 3	2230	471	13.3
Dec. 20	1515	1,090	30.9	May 26	2315	675	19.1
Feb. 16	0600	*1,240	35.1	June 19	0145	637	18.0

Minimum daily, 2.3 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	8.3	34	65	33	101	49	290	327	207	49	17
2	2.3	8.9	33	62	33	93	49	333	319	198	45	17
3	2.5	9.2	31	62	32	87	48	367	310	193	42	16
4	2.5	9.2	29	54	32	80	46	374	282	180	40	16
5	2.5	8.8	28	52	31	73	45	344	256	168	39	15
6	2.5	9.1	26	51	31	70	44	329	239	165	37	14
7	3.8	9.5	26	50	30	70	43	365	247	175	41	14
8	3.8	8.8	26	50	30	68	42	386	264	174	47	14
9	3.3	8.4	27	49	29	67	43	326	208	161	39	13
10	5.0	8.2	28	48	29	78	57	255	321	155	36	13
11	5.4	8.1	26	47	29	101	410	222	334	155	33	13
12	4.5	16	27	45	29	83	295	232	305	151	32	12
13	4.4	146	32	43	40	80	177	279	284	145	31	12
14	4.2	179	40	43	174	77	145	310	297	138	30	12
15	4.2	70	45	42	344	71	131	328	334	130	28	15
16	4.2	84	38	41	767	66	127	367	369	126	27	22
17	4.3	98	33	41	255	65	131	399	393	113	25	21
18	4.7	56	33	40	170	61	142	373	386	104	25	23
19	5.1	44	497	40	145	58	145	348	471	100	25	25
20	5.0	37	799	40	150	56	142	371	373	95	25	20
21	4.9	58	242	38	161	55	139	413	348	90	24	17
22	4.7	127	153	37	168	54	150	432	334	86	23	16
23	4.8	164	124	36	146	54	175	456	326	81	24	17
24	4.6	170	106	36	127	55	193	488	303	80	22	59
25	4.5	83	96	37	117	56	191	504	278	77	21	75
26	4.5	62	92	36	108	55	191	544	284	73	20	70
27	4.7	53	91	36	101	54	205	544	280	70	19	35
28	12	45	78	36	97	53	241	449	276	67	19	29
29	9.0	40	82	35	---	50	236	366	264	64	20	27
30	7.4	37	84	36	---	50	234	334	223	60	19	27
31	7.5	---	72	34	---	44	---	349	---	54	18	---
TOTAL	145.1	1665.5	3078	1362	3438	2085	4266	11477	9315	3835	925	696
MEAN	4.68	55.5	99.3	43.9	123	67.3	142	370	311	124	29.8	23.2
MAX	12	179	799	65	767	101	410	544	471	207	49	75
MIN	2.3	8.1	26	34	29	44	42	222	223	54	18	12
AC-FT	288	3300	6110	2700	6820	4140	8460	22760	18480	7610	1830	1380
CAL YR 1981	TOTAL	15509.1	MEAN	42.5	MAX	799	MIN	2.1	AC-FT	30760		
WTR YR 1982	TOTAL	42287.6	MEAN	116	MAX	799	MIN	2.3	AC-FT	83880		

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°55'22", long 119°59'23", in NW¼SE¼ sec.4, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on right bank on downstream side of U.S. Highway 50 bridge, 1.0 mi (1.6 km) northeast of South Lake Tahoe Post Office, and 1.4 mi (2.3 km) upstream from Lake Tahoe.

DRAINAGE AREA.--54.9 mi<sup>2</sup> (142.2 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to September 1974, October 1976 to June 1977, October 1977 to June 1978, March 1980 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,240 ft (1,902 m) from topographic map.

REMARKS.--Records good except those for the winter periods and Oct. 1 to Nov. 13, which are fair. Two small dams may cause slight regulation at times. Some small diversions above station for domestic use.

AVERAGE DISCHARGE.--5 years, 113 ft<sup>3</sup>/s (3.200 m<sup>3</sup>/s), 81,870 acre-ft/yr (101 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft<sup>3</sup>/s (72.2 m<sup>3</sup>/s) Feb. 16, 1982, gage height, 8.12 ft (2.475 m); minimum daily, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) on many days during September 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s (8.50 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0600	546 15.5	4.43 1.350	Apr. 11	1700	1,820 51.5	6.77 2.063
Nov. 24	1115	472 13.4	4.15 1.265	May 4	0315	689 19.5	4.41 1.344
Dec. 20	1300	1,820 51.5	6.78 2.067	May 27	0645	940 26.6	5.15 1.570
Feb. 16	1000	*2,550 72.2	8.12 2.475	June 19	1045	842 23.8	4.89 1.490

Minimum daily, 5.3 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	15	81	135	63	196	104	448	490	287	55	20
2	5.3	15	76	128	62	201	103	514	468	258	53	20
3	6.0	16	71	122	61	176	101	566	454	236	50	20
4	6.2	16	66	117	61	161	98	610	393	227	49	21
5	6.2	16	62	111	60	147	97	575	319	212	46	21
6	6.4	16	59	107	60	140	96	534	288	202	44	20
7	7.4	17	56	103	60	134	97	557	296	198	44	20
8	7.1	16	57	100	60	134	100	617	316	180	58	19
9	7.5	16	56	96	60	132	102	553	352	181	49	19
10	9.5	16	66	92	66	173	138	449	409	195	44	18
11	10	16	59	90	64	268	1060	377	444	190	40	18
12	9.4	50	57	88	63	194	950	359	413	189	38	18
13	9.1	195	63	85	68	173	517	405	349	181	37	18
14	9.1	345	84	83	346	168	404	457	363	177	35	18
15	9.0	142	98	81	725	151	335	469	424	162	33	20
16	9.2	156	82	79	2010	137	291	515	485	146	32	34
17	9.4	218	68	77	820	132	282	576	551	131	30	30
18	9.8	136	74	75	469	124	283	582	565	119	30	27
19	10	103	762	74	357	115	276	524	694	115	30	31
20	11	98	1710	73	326	112	264	535	558	113	29	31
21	11	155	845	72	331	108	251	587	507	108	29	28
22	11	303	427	71	365	106	264	634	482	103	27	24
23	10	345	295	70	298	105	299	651	470	98	26	22
24	10	395	229	69	247	108	328	724	445	96	21	63
25	10	230	196	68	226	113	325	742	379	94	20	58
26	10	162	177	67	204	113	327	787	379	92	21	86
27	11	132	194	66	188	111	338	832	383	88	21	48
28	20	109	149	66	181	113	394	761	382	85	21	40
29	18	96	165	65	---	111	400	611	380	81	22	38
30	15	89	212	64	---	110	381	521	325	78	22	37
31	14	---	151	63	---	107	---	512	---	67	21	---
TOTAL	303.1	3634	6747	2657	7901	4373	9005	17584	12763	4689	1077	887
MEAN	9.78	121	218	85.7	282	141	300	567	425	151	34.7	29.6
MAX	20	395	1710	135	2010	268	1060	832	694	287	58	86
MIN	5.3	15	56	63	60	105	96	359	288	67	20	18
AC-FT	601	7210	13380	5270	15670	8670	17860	34880	25320	9300	2140	1760

CAL YR 1981	TOTAL	25996.0	MEAN	71.2	MAX	1710	MIN	1.7	AC-FT	51560
WTR YR 1982	TOTAL	71620.1	MEAN	196	MAX	2010	MIN	5.3	AC-FT	142100

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

## WATER-QUALITY RECORDS

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

SPECIFIC CONDUCTANCE: March 1981 to current year.

WATER TEMPERATURES: Water years 1972-74, 1978, March 1980 to current year.

SEDIMENT RECORDS: Water years 1972-74, 1978, March 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1981 to current year.

WATER TEMPERATURES: March 1981 to current year.

SEDIMENT RECORDS: October 1971 to June 1974, October 1977 to June 1978, March 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 187 micromhos Sept. 25, 1981; minimum recorded, 8 micromhos Apr. 25, 1981.

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 18, 1982; minimum recorded, 0.0°C on many days in winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 312 mg/L Dec. 29, 1973; minimum daily mean, 0 mg/L on several days during October 1973 and January 1981.

SEDIMENT DISCHARGE: Maximum daily, 377 tons (342 metric tons) Apr. 11, 1982; minimum daily, 0 ton (0 metric ton) on several days during October 1973 and January 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 171 micromhos Sept. 25; minimum recorded, 16 micromhos June 18.

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 18; minimum recorded, 0.0°C on many days in winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 216 mg/L Nov. 14; minimum daily mean, 1 mg/L Aug. 16.

SEDIMENT DISCHARGE: Maximum daily, 377 tons (342 metric tons) Apr. 11; minimum daily, .07 ton (.06 metric ton) Aug. 16.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	104	90	60	45	70	74	63	38	21	22	32	55
2	105	90	61	47	70	72	64	38	21	23	33	58
3	105	88	60	47	72	73	68	37	21	24	32	57
4	102	84	60	47	73	75	65	37	21	25	31	59
5	102	82	59	47	78	75	62	37	22	25	33	59
6	102	80	56	47	90	74	60	35	23	25	33	61
7	98	79	55	48	74	74	60	34	23	24	33	61
8	97	79	55	51	73	73	62	33	24	22	33	63
9	97	79	52	51	74	74	62	31	21	21	36	63
10	95	79	50	53	75	73	63	31	20	23	37	64
11	91	80	51	53	77	75	57	31	21	23	39	65
12	93	76	53	55	77	76	50	31	23	21	39	66
13	95	64	54	56	85	76	50	31	24	23	40	66
14	93	58	50	56	76	75	51	28	22	25	40	68
15	93	61	50	57	90	74	51	25	22	24	40	67
16	94	55	49	58	81	72	51	25	19	25	41	63
17	95	60	52	58	64	72	50	25	18	25	42	61
18	95	63	53	59	68	71	50	26	17	26	39	61
19	95	69	43	59	70	71	50	25	19	26	43	59
20	95	74	37	61	69	70	50	23	17	26	43	58
21	93	74	33	60	69	69	49	23	18	24	44	59
22	93	65	35	61	69	69	47	23	19	23	47	62
23	92	61	37	61	70	68	45	23	19	23	49	63
24	91	65	40	62	69	69	44	23	19	24	50	54
25	91	67	43	62	69	67	43	23	18	25	51	71
26	91	54	44	62	70	67	42	23	20	25	49	46
27	92	52	47	63	72	66	42	23	19	28	51	62
28	77	53	44	64	73	65	39	23	19	27	52	65
29	77	54	45	66	---	63	39	23	19	29	53	67
30	85	58	46	70	---	64	39	22	20	30	53	68
31	91	---	47	70	---	63	---	21	---	31	55	---
MONTH	94	70	49	57	74	71	52	28	20	25	42	62

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	9.5	7.0	3.5	4.0	0.0	0.0	0.0	0.5	0.5	3.5	1.5
2	14.5	11.0	7.0	3.5	3.5	0.0	0.0	0.0	0.5	0.5	1.0	0.5
3	14.0	9.5	7.0	3.5	2.5	0.0	0.0	0.0	1.0	0.5	4.5	0.5
4	12.5	8.0	7.0	4.0	3.0	0.0	0.5	0.5	2.0	0.5	5.0	0.5
5	13.0	7.5	6.5	4.0	4.0	0.5	0.5	0.5	1.5	1.0	4.5	0.5
6	12.5	8.0	7.0	5.5	3.5	1.0	0.5	0.5	1.5	0.5	5.0	0.5
7	10.5	7.0	7.0	4.5	5.0	1.0	0.5	0.5	0.5	0.5	3.5	1.0
8	9.5	6.0	6.5	4.0	4.0	0.5	0.5	0.5	3.0	0.5	7.0	1.5
9	11.0	7.0	6.5	4.0	3.5	1.5	0.5	0.5	2.5	0.5	5.0	1.5
10	9.0	7.5	6.0	4.5	3.5	1.0	0.5	0.5	2.0	0.5	7.5	3.0
11	8.0	5.5	6.0	3.5	3.5	0.0	0.5	0.5	2.5	1.0	5.0	2.0
12	6.0	4.0	6.0	3.5	1.5	0.0	0.5	0.5	2.5	1.0	7.5	1.0
13	5.5	3.5	4.5	3.0	3.0	0.0	0.5	0.5	3.5	2.0	7.0	1.0
14	4.5	2.5	4.0	3.0	4.5	2.0	0.5	0.5	2.0	0.5	5.5	2.5
15	5.5	4.0	6.0	3.0	3.5	2.5	0.5	0.5	1.5	0.5	5.5	1.0
16	8.0	4.0	5.5	4.0	3.5	0.5	0.5	0.5	1.0	0.5	2.5	0.5
17	9.5	5.5	4.5	2.0	4.0	0.5	0.5	0.5	2.0	0.5	3.0	0.5
18	11.0	7.0	4.0	1.0	3.5	2.0	0.5	0.5	3.0	0.5	3.5	0.5
19	10.0	7.5	4.5	1.5	4.0	3.0	0.5	0.5	4.5	1.5	5.5	0.5
20	10.5	7.5	6.0	2.5	4.0	0.5	0.5	0.5	5.0	1.5	5.5	0.5
21	10.5	7.5	5.0	3.5	2.0	0.0	0.5	0.5	5.0	1.5	6.5	0.5
22	9.5	6.5	5.0	3.5	1.5	0.5	0.5	0.5	5.0	2.0	7.0	0.5
23	10.0	6.5	4.5	4.0	2.0	0.5	0.5	0.5	4.5	0.5	7.5	0.5
24	10.0	6.5	5.0	3.5	2.5	0.5	0.5	0.5	5.0	0.5	8.5	1.5
25	10.0	6.5	4.0	1.0	3.0	1.0	0.5	0.5	5.5	1.0	8.5	3.0
26	10.5	7.5	1.0	0.5	3.5	1.5	0.5	0.5	3.5	1.0	8.0	3.0
27	9.5	6.5	1.5	0.0	3.0	1.0	0.5	0.5	6.5	1.5	8.5	2.5
28	6.5	2.5	2.5	0.0	2.0	0.5	0.5	0.5	5.5	1.5	4.5	0.5
29	4.0	0.5	2.5	0.0	1.5	0.5	0.5	0.5	---	---	0.0	0.0
30	5.0	0.5	2.5	0.0	2.0	1.0	0.5	0.5	---	---	0.0	0.0
31	6.5	2.5	---	---	1.5	0.0	0.5	0.5	---	---	0.0	0.0
MONTH	14.5	0.5	7.0	0.0	5.0	0.0	0.5	0.0	6.5	0.5	8.5	0.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	9.5	2.5	11.0	4.5	13.5	8.5	19.0	11.5	17.5	14.0
2	0.0	0.0	9.0	3.5	11.0	4.5	14.5	9.0	18.5	10.5	18.0	14.0
3	0.0	0.0	8.5	3.5	10.5	4.5	12.5	9.0	19.0	10.5	18.0	15.0
4	0.0	0.0	8.0	3.5	10.5	4.5	13.5	8.5	19.5	11.0	19.0	14.0
5	0.5	0.0	8.0	3.5	10.0	4.5	14.0	8.0	20.0	11.0	18.5	14.5
6	0.5	0.0	9.0	3.0	11.0	4.5	15.5	9.0	20.0	12.5	17.5	15.0
7	2.5	0.0	10.0	3.0	11.5	5.0	14.5	10.0	17.5	14.0	17.5	13.0
8	5.5	0.0	8.0	3.0	12.0	5.5	15.0	10.0	20.0	11.5	18.5	14.5
9	7.0	0.0	6.5	3.0	12.5	5.5	15.0	8.5	20.5	13.0	18.5	15.0
10	4.5	1.5	6.5	2.0	12.5	6.0	16.0	9.5	19.5	12.0	17.0	14.0
11	1.5	0.0	9.0	2.0	11.0	6.5	16.5	10.5	19.5	11.5	16.0	12.5
12	2.0	0.0	10.5	2.5	10.5	6.5	15.0	11.0	20.5	12.0	16.0	12.0
13	4.0	0.5	10.0	3.5	9.5	6.0	17.0	11.0	20.5	12.5	16.5	13.0
14	5.5	1.0	9.5	4.0	13.0	6.5	17.0	11.0	20.5	12.0	16.0	13.0
15	7.0	0.5	10.0	3.5	14.0	7.0	17.0	11.0	18.5	12.0	13.0	9.0
16	8.0	0.5	10.5	3.5	14.0	8.0	17.0	11.0	20.5	12.5	10.5	7.5
17	9.0	0.5	10.0	4.0	13.0	8.5	16.5	9.5	21.0	13.0	12.0	9.5
18	9.0	1.0	9.5	3.5	12.5	8.5	17.5	10.0	26.0	14.5	12.5	10.0
19	9.0	1.0	10.0	3.5	11.5	8.0	18.0	11.0	18.5	14.5	12.5	9.5
20	8.5	1.0	10.5	4.0	12.0	8.0	18.5	11.0	19.0	14.0	13.5	8.0
21	9.0	0.5	10.5	4.5	13.5	8.0	19.0	11.0	21.5	15.5	15.0	10.0
22	9.5	1.0	9.0	6.0	13.5	8.5	19.0	11.5	20.0	16.0	15.0	10.0
23	10.0	2.0	9.5	6.0	14.0	8.5	19.0	12.5	20.5	16.0	14.0	10.5
24	9.5	2.0	9.5	6.5	12.0	9.5	20.0	13.0	23.5	14.5	13.5	12.0
25	8.5	2.0	9.0	6.5	14.0	8.5	20.0	12.5	20.5	15.5	14.0	11.5
26	7.5	3.0	9.5	5.5	14.5	9.0	20.0	13.0	19.0	16.0	15.0	10.0
27	10.0	2.0	10.0	5.5	12.5	9.5	19.0	13.5	19.0	14.5	11.5	8.5
28	10.0	2.5	9.0	5.0	12.0	9.5	21.0	13.0	18.5	15.5	12.5	6.5
29	8.5	2.0	9.0	5.0	10.0	8.0	21.5	13.0	16.5	14.0	9.5	5.0
30	10.0	2.0	11.0	4.5	11.0	8.5	21.0	13.0	17.5	12.5	11.5	5.5
31	---	---	10.5	5.0	---	---	19.5	12.0	18.0	13.5	---	---
MONTH	10.0	0.0	11.0	2.0	14.5	4.5	21.5	8.0	26.0	10.5	19.0	5.0

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

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	5.5	10	.15	15	10	.41	81	9	2.0
2	5.3	10	.14	15	12	.49	76	8	1.6
3	6.0	10	.16	16	12	.52	71	7	1.3
4	6.2	10	.17	16	12	.52	66	6	1.1
5	6.2	10	.17	16	12	.52	62	5	.84
6	6.4	9	.16	16	12	.52	59	4	.64
7	7.4	8	.16	17	12	.55	56	3	.45
8	7.1	8	.15	16	12	.52	57	5	.77
9	7.5	9	.18	16	12	.52	56	6	.91
10	9.5	10	.26	16	12	.52	66	10	1.8
11	10	10	.27	16	15	.52	59	9	1.4
12	9.4	10	.25	50	38	5.1	57	8	1.2
13	9.1	10	.25	195	182	96	63	10	1.7
14	9.1	10	.25	345	216	267	84	11	2.5
15	9.0	10	.24	142	25	9.6	98	12	3.2
16	9.2	11	.27	156	30	13	82	5	1.1
17	9.4	12	.30	218	87	60	68	4	.73
18	9.8	12	.32	136	45	17	74	7	1.4
19	10	12	.32	103	40	11	762	85	176
20	11	12	.36	98	60	16	1710	47	217
21	11	12	.36	155	70	43	845	52	119
22	11	12	.36	303	66	64	427	58	67
23	10	12	.32	345	67	66	295	48	38
24	10	12	.32	395	74	84	229	29	18
25	10	20	.54	230	16	9.9	196	25	13
26	10	24	.65	162	10	4.4	177	25	12
27	11	24	.71	132	6	2.1	194	30	16
28	20	24	1.3	109	6	1.8	149	25	10
29	18	15	.73	96	8	2.1	165	30	13
30	15	10	.41	89	9	2.2	212	30	17
31	14	10	.38	---	---	---	151	22	9.0
TOTAL	303.1	---	10.61	3634	---	779.81	6747	---	749.64
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)
JANUARY			FEBRUARY			MARCH			
1	135	15	5.5	63	11	1.9	196	18	9.5
2	128	15	5.2	62	12	2.0	201	12	6.5
3	122	15	4.9	61	16	2.6	176	15	7.1
4	117	15	4.7	61	12	2.0	161	20	8.7
5	111	15	4.5	60	8	1.3	147	25	9.9
6	107	15	4.3	60	6	.97	140	20	7.6
7	103	15	4.2	60	5	.81	134	14	5.1
8	100	15	4.1	60	3	.49	134	10	3.6
9	96	15	3.9	60	3	.49	132	10	3.6
10	92	15	3.7	66	3	.53	173	40	19
11	90	15	3.6	64	3	.52	268	37	27
12	88	15	3.6	63	3	.51	194	15	7.9
13	85	14	3.2	68	20	3.7	173	15	7.0
14	83	14	3.1	346	204	206	168	15	6.8
15	81	14	3.1	725	181	339	151	15	6.1
16	79	14	3.0	2010	62	339	137	15	5.5
17	77	14	2.9	820	50	111	132	15	5.3
18	75	14	2.8	469	48	61	124	15	5.0
19	74	14	2.8	357	53	51	115	15	4.7
20	73	14	2.8	326	30	26	112	15	4.5
21	72	14	2.7	331	25	22	108	15	4.4
22	71	14	2.7	365	25	25	106	12	3.4
23	70	14	2.6	298	22	18	105	9	2.6
24	69	14	2.6	247	15	10	108	6	1.7
25	68	14	2.6	226	15	9.2	113	5	1.5
26	67	14	2.5	204	17	9.4	113	5	1.5
27	66	13	2.3	188	12	6.1	111	7	2.1
28	66	13	2.3	181	10	4.9	113	12	3.7
29	65	12	2.1	---	---	---	111	18	5.4
30	64	12	2.1	---	---	---	110	20	5.9
31	63	11	1.9	---	---	---	107	23	6.6
TOTAL	2657	---	102.3	7901	---	1255.42	4373	---	199.2

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

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	104	28	7.9	448	50	60	490	40	53
2	103	43	12	514	72	100	468	46	58
3	101	53	14	566	77	118	454	40	49
4	98	56	15	610	72	119	393	38	40
5	97	60	16	575	53	82	319	33	28
6	96	60	16	534	38	55	288	26	20
7	97	64	17	557	35	53	296	28	22
8	100	65	18	617	44	73	316	28	24
9	102	62	17	553	31	46	352	39	37
10	138	70	26	449	26	32	409	48	53
11	1060	155	377	377	25	25	444	47	56
12	950	38	97	359	28	27	413	42	47
13	517	38	53	405	43	47	349	38	36
14	404	36	39	457	42	52	363	42	41
15	335	28	25	469	38	48	424	42	48
16	291	23	18	515	47	65	485	43	56
17	282	25	19	576	55	86	551	43	64
18	283	40	31	582	51	80	565	46	70
19	276	31	23	524	39	55	694	60	112
20	264	28	20	535	42	61	558	31	47
21	251	28	19	587	45	71	507	30	41
22	264	28	20	634	52	89	482	30	39
23	299	30	24	651	53	93	470	28	36
24	328	31	27	724	51	100	445	27	32
25	325	42	37	742	47	94	379	26	27
26	327	41	36	787	47	100	379	26	27
27	338	38	35	832	60	135	383	26	27
28	394	47	50	761	50	103	382	22	23
29	400	51	55	611	47	78	380	19	19
30	381	42	43	521	43	60	325	17	15
31	---	---	---	512	40	55	---	---	---
TOTAL	9005	---	1206.9	17584	---	2262	12763	---	1247

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)
JULY			AUGUST			SEPTEMBER			
1	287	15	12	55	7	1.0	20	2	.11
2	258	15	10	53	4	.57	20	2	.11
3	236	15	9.6	50	4	.54	20	2	.11
4	227	15	9.2	49	4	.53	21	2	.11
5	212	16	9.2	46	4	.50	21	2	.11
6	202	17	9.3	44	4	.48	20	2	.11
7	198	19	10	44	4	.48	20	2	.11
8	180	18	8.7	58	4	.63	19	2	.10
9	181	18	8.8	49	4	.53	19	2	.10
10	195	18	9.5	44	3	.36	18	2	.10
11	190	18	9.2	40	3	.32	18	2	.10
12	189	18	9.2	38	2	.21	18	2	.10
13	181	18	8.8	37	2	.20	18	2	.10
14	177	20	9.6	35	2	.19	18	2	.10
15	162	15	6.6	33	2	.18	20	8	.43
16	146	14	5.5	32	1	.07	34	5	.46
17	131	12	4.2	30	2	.16	30	3	.24
18	119	12	3.9	30	2	.16	27	3	.22
19	115	12	3.7	30	2	.16	31	3	.25
20	113	12	3.7	29	2	.16	31	3	.25
21	108	12	3.5	29	2	.16	28	3	.23
22	103	11	3.1	27	2	.15	24	3	.19
23	98	11	2.9	26	2	.14	22	3	.18
24	96	11	2.9	21	2	.11	63	27	5.2
25	94	11	2.8	20	2	.11	58	21	3.1
26	92	11	2.7	21	2	.11	86	31	9.1
27	88	10	2.4	21	2	.11	48	5	.65
28	85	10	2.3	21	2	.11	40	3	.32
29	81	10	2.2	22	2	.12	38	3	.31
30	78	10	2.1	22	2	.12	37	3	.30
31	67	10	1.8	21	2	.11	---	---	---
TOTAL	4689	---	189.4	1077	---	8.78	887	---	22.90
YEAR	71620.1		8033.96						



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

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
OCT											
28...	1700	20	5.0	24	1.3	98	--	--	--	--	--
NOV											
13...	2025	360	4.0	472	459	53	--	--	--	--	--
16...	1255	157	5.0	17	7.2	34	--	--	--	--	--
21...	2250	384	4.0	164	170	37	--	--	--	--	--
23...	0420	393	4.5	84	89	22	--	--	--	--	--
23...	1320	397	4.5	62	66	21	--	--	--	--	--
24...	1040	470	3.0	63	80	22	--	--	--	--	--
DEC											
14...	1045	818	3.0	134	296	44	--	--	--	--	--
14...	1525	1040	3.5	100	281	27	--	--	--	--	--
20...	0045	1380	3.0	53	197	48	--	--	--	--	--
21...	0040	1340	.5	44	158	32	--	--	--	--	--
FEB											
14...	1115	390	.0	303	319	27	--	--	--	--	--
15...	1445	1030	.0	156	434	40	--	--	--	--	--
16...	0855	2530	.0	49	335	54	--	--	--	--	--
16...	1245	2350	.0	56	355	62	66	74	84	100	--
17...	1345	760	1.5	53	109	58	--	--	--	--	--
18...	1425	448	3.0	45	54	32	--	--	--	--	--
MAR											
05...	1150	156	.5	26	11	32	--	--	--	--	--
10...	2300	239	4.0	49	32	40	--	--	--	--	--
11...	1050	274	2.5	40	30	29	--	--	--	--	--
APR											
11...	0640	686	.5	193	357	43	--	--	--	--	--
11...	1310	1320	.5	81	289	56	62	71	87	98	100
11...	1900	1540	.5	68	290	42	--	--	--	--	--
17...	1035	916	.0	34	84	59	--	--	--	--	--
12...	1840	760	2.5	49	101	52	--	--	--	--	--
20...	1110	255	2.5	21	14	24	33	57	83	100	--
24...	1640	371	8.0	44	44	12	--	--	--	--	--
MAY											
02...	0135	501	5.0	105	142	21	--	--	--	--	--
05...	1510	552	7.5	35	52	31	--	--	--	--	--
09...	0530	591	3.0	28	45	25	--	--	--	--	--
21...	1300	586	6.0	36	57	26	--	--	--	--	--
24...	1810	660	10.5	29	52	42	--	--	--	--	--
26...	0940	842	5.0	24	55	53	--	--	--	--	--
28...	2040	649	8.5	50	88	28	--	--	--	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUN						
02...	1355	476	7.5	54	69	19
03...	1930	419	9.5	34	38	19
10...	1220	407	8.0	37	41	26
23...	1505	469	12.5	28	35	28
JUL						
14...	1445	180	15.5	26	13	35
SEP						
24...	1835	85	11.0	19	4.4	50

10336625 FALLEN LEAF LAKE NEAR CAMP RICHARDSON, CA

LOCATION.--Lat 38°54'00", long 120°04'14", in NE¼SW¼ sec.11, T.12 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, on left bank near center of lake, 200 ft (61 m) north of Cathedral Creek, 1.5 mi (2.4 km) south of Fallen Leaf Dam, 2.9 mi (4.7 km) southwest of Camp Richardson, and 3.7 mi (6.0 km) west of South Lake Tahoe Post Office.

DRAINAGE AREA.--16.7 mi<sup>2</sup> (43.3 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 6,372.30 ft (1,942.277 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Lake levels regulated by a concrete dam at the outlet constructed in 1934. Regulation is for maintenance of lake level and enhancement of fishery.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 5.85 ft (1.783 m) Jan. 13, 1980; minimum, 1.79 ft (0.546 m) Jan. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 5.41 ft (1.649 m) Dec. 20; minimum, 1.89 ft (0.576 m) Oct. 26.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.07	2.18	2.84	2.98	2.40	2.86	2.83	3.16	3.52	3.54	4.25	3.78
2	2.05	2.18	2.77	2.93	2.39	2.92	2.84	3.25	3.45	3.63	4.26	3.77
3	2.04	2.19	2.73	2.88	2.38	2.87	2.86	3.34	3.40	3.76	4.27	3.75
4	2.02	2.19	2.67	3.17	2.37	2.82	2.82	3.38	3.37	3.89	4.27	3.73
5	2.01	2.19	2.62	3.11	2.35	2.77	2.77	3.37	3.32	4.02	4.29	3.70
6	1.98	2.20	2.56	3.00	2.34	2.73	2.73	3.35	3.27	4.12	4.31	3.69
7	2.03	2.21	2.54	2.91	2.33	2.69	2.68	3.38	3.27	4.25	4.34	3.68
8	2.00	2.21	2.52	2.84	2.32	2.66	2.64	3.42	3.33	4.36	4.30	3.67
9	1.97	2.22	2.52	2.78	2.31	2.63	2.61	3.42	3.40	4.38	4.26	3.64
10	2.06	2.22	2.50	2.73	2.30	2.73	2.89	3.34	3.50	4.35	4.24	3.62
11	2.06	2.22	2.49	2.68	2.30	2.80	3.96	3.24	3.60	4.32	4.23	3.60
12	2.05	2.44	2.54	2.63	2.29	2.78	3.95	3.17	3.64	4.33	4.24	3.58
13	2.05	3.23	2.53	2.60	2.45	2.76	3.70	3.17	3.67	4.36	4.23	3.57
14	2.04	3.36	2.54	2.58	2.93	2.75	3.46	3.18	3.77	4.33	4.22	3.55
15	2.02	3.27	2.59	2.54	3.83	2.72	3.26	3.21	3.98	4.29	4.20	3.62
16	2.00	3.25	2.59	2.51	4.37	2.70	3.13	3.27	4.21	4.25	4.18	3.65
17	1.98	3.30	2.59	2.47	4.12	2.69	3.04	3.35	4.33	4.24	4.17	3.60
18	1.97	3.17	2.67	2.51	3.74	2.65	2.99	3.38	4.35	4.25	4.15	3.54
19	1.97	3.05	4.46	2.50	3.47	2.61	2.95	3.38	4.32	4.26	4.15	3.53
20	1.96	2.94	5.41	2.54	3.29	2.59	2.92	3.38	4.19	4.28	4.12	3.52
21	1.95	3.26	4.85	2.55	3.18	2.56	2.90	3.44	4.11	4.30	4.08	3.52
22	1.95	3.32	4.34	2.53	3.14	2.54	2.90	3.52	4.02	4.33	4.05	3.51
23	1.94	3.74	3.92	2.51	3.08	2.51	2.92	3.60	3.93	4.36	4.02	3.52
24	1.93	3.85	3.59	2.49	3.02	2.51	2.96	3.68	3.85	4.41	3.98	3.67
25	1.92	3.60	3.34	2.46	2.95	2.50	2.98	3.77	3.73	4.43	3.93	3.96
26	1.89	3.38	3.17	2.50	2.89	2.49	3.00	3.87	3.68	4.40	3.88	3.98
27	1.93	3.22	3.06	2.48	2.85	2.49	3.02	3.98	3.63	4.38	3.86	3.82
28	2.14	3.07	2.96	2.49	2.79	2.56	3.07	3.93	3.62	4.37	3.85	3.63
29	2.18	2.97	3.01	2.48	---	2.65	3.09	3.81	3.63	4.38	3.82	3.53
30	2.18	2.89	2.96	2.45	---	2.69	3.11	3.67	3.57	4.33	3.80	3.45
31	2.18	---	3.02	2.43	---	2.86	---	3.59	---	4.26	3.79	---
MEAN	2.02	2.85	3.06	2.65	2.86	2.68	3.03	3.45	3.72	4.23	4.12	3.65
MAX	2.18	3.85	5.41	3.17	4.37	2.92	3.96	3.98	4.35	4.43	4.34	3.98
MIN	1.89	2.18	2.49	2.43	2.29	2.49	2.61	3.16	3.27	3.54	3.79	3.45

CAL YR 1981 MAX 5.41 MIN 1.89  
WTR YR 1982 MAX 5.41 MIN 1.89

LOCATION.--Lat 38°55'18", long 120°03'37", in NE¼NW¼ sec.2, T.12 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, on left bank 0.1 mi (0.2 km) downstream from Fallen Leaf Lake outlet, and 1.4 mi (2.3 km) southwest of Camp Richardson.

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

REMARKS.--Records good. Flow regulated by Fallen Leaf Lake Dam (station 10336625).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,530 ft<sup>3</sup>/s (43.3 m<sup>3</sup>/s) Jan. 14, 1980, gage height, 6.33 ft (1.929 m); minimum daily, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Oct. 4-7, 1970, Sept. 4-6, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft<sup>3</sup>/s (28.6 m<sup>3</sup>/s) Dec. 20, gage height, 5.82 ft (1.774 m); minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Oct. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	9.9	68	87	23	68	64	132	212	100	13	11
2	1.9	9.4	60	83	22	75	65	154	199	42	6.6	11
3	2.0	9.3	54	74	21	72	66	180	171	25	6.4	10
4	2.0	9.0	50	98	20	63	66	200	150	23	6.3	9.5
5	2.0	9.2	46	132	20	57	60	204	142	23	5.7	9.3
6	2.0	9.7	42	103	19	52	54	188	134	25	7.4	9.3
7	2.0	9.9	37	81	18	48	48	175	95	29	19	8.7
8	9.5	10	34	68	17	45	43	186	85	42	49	7.3
9	11	9.6	34	58	16	41	39	188	98	103	36	6.4
10	11	9.2	34	51	16	43	41	177	119	125	20	6.3
11	9.6	9.2	32	47	15	57	218	158	133	120	11	6.1
12	9.1	15	33	42	15	58	353	141	143	84	11	6.1
13	10	52	35	38	17	55	314	135	147	81	12	5.6
14	9.9	193	34	35	45	54	262	137	105	115	13	5.4
15	9.6	187	38	32	135	53	202	141	79	107	13	5.6
16	9.1	165	39	30	384	49	155	151	105	97	15	22
17	9.1	175	38	29	398	47	122	171	194	81	19	36
18	8.6	147	39	27	324	44	103	180	288	60	21	48
19	8.1	113	238	29	258	41	93	181	339	54	25	29
20	8.1	89	827	29	198	38	86	182	318	43	33	21
21	7.7	93	771	33	157	35	82	188	300	32	33	14
22	7.9	173	484	31	136	33	79	201	280	32	33	11
23	7.3	259	368	29	123	32	80	214	263	28	32	11
24	7.3	349	286	28	106	30	86	229	247	22	32	29
25	5.0	312	216	28	92	30	92	242	231	50	32	74
26	2.7	246	158	28	82	29	97	260	222	72	27	162
27	3.7	182	126	27	69	30	100	280	214	66	16	168
28	9.0	132	94	27	65	32	109	283	209	48	14	144
29	12	102	91	26	---	38	117	263	194	44	14	101
30	11	83	89	25	---	46	121	240	179	71	12	76
31	9.9	---	84	24	---	54	---	225	---	53	11	---
TOTAL	219.9	3171.4	4579	1479	2811	1449	3417	5986	5595	1897	598.4	1063.6
MEAN	7.09	106	148	47.7	100	46.7	114	193	187	61.2	19.3	35.5
MAX	12	349	827	132	398	75	353	283	339	125	49	168
MIN	1.8	9.0	32	24	15	29	39	132	79	22	5.7	5.4
AC-FT	436	6290	9080	2930	5580	2870	6780	11870	11100	3760	1190	2110
CAL YR 1981	TOTAL	14834.46	MEAN	40.6	MAX	827	MIN	.97	AC-FT	29420		
WTR YR 1982	TOTAL	32266.30	MEAN	88.4	MAX	827	MIN	1.8	AC-FT	64000		

10336645 GENERAL CREEK NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'07", long 120°07'03", in NE¼NE¼ sec.20, T.14 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, on right bank 200 ft (60 m) upstream from State Highway 89, 1.1 mi (1.8 km) north of Meeks Bay, and 0.4 mi (0.6 km) upstream from Lake Tahoe.

DRAINAGE AREA.--7.44 mi<sup>2</sup> (19.3 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,250.38 ft (1,905.116 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter months, which are fair. No known diversion or regulation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft<sup>3</sup>/s (21.7 m<sup>3</sup>/s) Dec. 20, 1981, gage height, 5.43 ft (1.655 m); minimum daily, 0.53 ft<sup>3</sup>/s (0.015 m<sup>3</sup>/s) Sept. 10, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2345	357 10.1	3.36 1.024	Apr. 11	1800	189 5.35	2.55 0.777
Nov. 24	0545	579 16.4	4.52 1.378	May 7	2200	160 4.53	2.37 .722
Dec. 20	0245	*765 21.7	5.43 1.655	May 26	2145	254 7.19	2.91 .887
Feb. 16	0800	542 15.3	4.34 1.323	June 19	0100	196 5.55	2.59 .789

Minimum daily, 0.70 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	1.1	22	21	9.6	28	13	91	89	26	2.5	1.7
2	.70	1.1	21	19	9.6	27	13	103	85	21	2.5	1.6
3	.76	1.1	20	18	9.4	24	12	111	85	19	2.5	1.6
4	.77	1.1	18	18	9.1	22	12	109	77	17	2.4	1.6
5	.77	1.1	16	17	9.0	21	12	102	68	15	2.4	1.6
6	.78	1.1	15	17	8.8	20	13	103	62	14	2.4	1.6
7	1.6	1.5	14	17	8.7	19	13	122	67	13	2.5	1.6
8	1.1	1.5	13	16	8.7	19	13	123	71	13	2.7	1.5
9	1.0	1.4	14	16	8.7	19	13	94	76	12	2.4	1.5
10	1.8	1.3	16	16	8.4	25	16	66	83	11	2.3	1.6
11	1.5	1.4	15	16	8.1	41	110	59	82	9.8	2.2	1.6
12	1.2	4.4	14	16	8.0	30	155	68	69	9.1	2.2	1.5
13	1.2	60	14	14	9.8	27	112	87	60	8.6	2.2	1.5
14	1.3	112	22	13	51	26	77	99	64	7.9	2.0	1.5
15	1.2	44	27	13	133	23	50	107	73	6.8	2.0	2.2
16	1.3	56	24	13	414	21	37	116	78	6.2	1.9	3.4
17	1.2	65	18	13	135	19	33	126	76	5.7	1.9	2.4
18	1.1	32	17	12	69	18	33	112	77	5.4	1.9	2.1
19	1.0	24	434	12	47	17	34	97	104	5.0	2.1	2.3
20	1.0	20	588	12	43	17	34	106	61	4.7	2.1	2.1
21	1.0	67	111	11	46	16	33	123	51	4.5	2.0	1.8
22	1.0	119	62	11	57	17	36	129	42	4.2	1.9	1.7
23	1.0	228	48	11	51	17	44	144	37	4.0	1.9	1.8
24	1.1	290	38	11	39	17	52	158	34	4.0	1.8	4.8
25	1.0	69	34	11	33	18	55	170	36	3.8	1.8	16
26	1.0	43	32	11	31	17	58	168	29	3.6	1.8	17
27	1.3	35	36	11	28	16	63	149	26	3.4	1.7	8.2
28	2.9	29	28	11	26	15	75	112	24	3.3	1.9	6.0
29	1.5	27	28	9.9	---	14	75	92	27	3.0	2.0	5.6
30	1.1	24	36	9.6	---	13	71	87	26	2.8	1.9	5.5
31	1.1	---	26	9.6	---	13	---	95	---	2.6	1.8	---
TOTAL	36.03	1362.1	1821	426.1	1318.9	636	1367	3428	1839	269.4	65.6	104.9
MEAN	1.16	45.4	58.7	13.7	47.1	20.5	45.6	111	61.3	8.69	2.12	3.50
MAX	2.9	290	588	21	414	41	155	170	104	26	2.7	17
MIN	.70	1.1	13	9.6	8.0	13	12	59	24	2.6	1.7	1.5
AC-FT	71	2700	3610	845	2620	1260	2710	6800	3650	534	130	208

CAL YR 1981 TOTAL 5736.09 MEAN 15.7 MAX 588 MIN .53 AC-FT 11380  
WTR YR 1982 TOTAL 12674.03 MEAN 34.7 MAX 588 MIN .70 AC-FT 25140

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

## WATER-QUALITY RECORDS

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

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

SEDIMENT RECORDS: October 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

SEDIMENT RECORDS: October 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 65 micromhos Sept. 25, 1981; minimum recorded, 7 micromhos several days during May 1982.

WATER TEMPERATURES: Maximum recorded 24.0°C July 2, 1981; minimum recorded, 0.0°C on many days in most years.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 266 mg/L Dec. 20, 1981; minimum daily mean, 0 mg/L on many days in most years.

SEDIMENT DISCHARGE: Maximum daily, 457 tons (415 metric tons) Dec. 20, 1981; minimum daily, 0 ton (0 metric ton) on many days in most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 63 micromhos Oct. 1, 2; minimum recorded, 7 micromhos on several days during May.

WATER TEMPERATURES: Maximum recorded, 16.5°C July 28-30; minimum recorded, 0°C on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 266 mg/L Dec. 20; minimum daily mean, 0 mg/L on many days.

SEDIMENT DISCHARGE: Maximum daily, 457 tons (415 metric tons) Dec. 20; minimum daily, 0 ton (0 metric ton) on many days.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	60	17	21	18	19	26	13	12	21	40	---
2	62	60	17	19	19	20	24	13	13	22	40	---
3	62	60	17	19	19	20	25	12	13	23	40	---
4	60	60	18	19	20	21	24	12	13	23	41	---
5	60	60	19	20	21	21	24	14	13	24	42	---
6	60	60	21	21	22	22	24	14	14	24	42	---
7	60	59	21	17	22	22	24	9	14	24	43	---
8	59	55	21	18	22	23	23	8	14	25	43	---
9	59	54	18	18	22	23	23	8	14	26	43	---
10	59	54	17	17	22	22	23	8	15	27	43	---
11	58	54	17	18	22	20	18	9	14	27	44	50
12	59	49	17	18	22	22	14	8	14	27	44	51
13	59	29	18	19	23	22	13	8	15	29	44	50
14	58	16	17	18	19	22	13	8	15	29	44	51
15	59	17	16	18	18	23	15	8	17	30	45	51
16	60	16	16	19	13	23	16	8	15	31	45	48
17	60	16	17	20	12	24	18	8	16	32	45	50
18	60	17	18	22	13	24	18	9	17	32	46	51
19	60	18	13	21	15	25	18	9	16	32	46	51
20	60	19	---	21	15	25	18	8	16	34	46	51
21	60	18	---	20	15	25	18	9	18	34	47	53
22	60	15	---	21	15	27	18	8	18	34	47	53
23	60	14	16	22	15	27	18	8	19	35	48	53
24	60	12	17	23	16	27	17	8	20	36	48	49
25	60	13	18	24	17	27	16	9	19	37	48	35
26	60	14	19	24	17	26	14	10	20	37	48	22
27	60	14	18	21	18	26	14	10	20	39	48	27
28	56	15	19	19	18	26	14	12	21	38	49	30
29	57	16	22	18	---	26	13	12	21	39	---	33
30	58	16	22	19	---	26	13	13	21	39	---	32
31	59	---	23	18	---	26	---	12	---	40	---	---
MONTH	60	33	18	20	18	24	19	10	16	31	45	---

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	4.5	1.0	7.0	2.5	11.0	8.0	15.5	11.5	13.0	10.0
2	0.0	0.0	4.5	1.0	7.5	2.5	11.0	8.0	14.5	10.0	13.5	10.0
3	0.0	0.0	4.5	1.0	7.0	2.5	10.5	8.0	14.5	10.0	13.5	11.0
4	0.0	0.0	4.5	1.0	7.0	3.0	11.5	8.0	15.0	10.5	13.5	10.0
5	0.0	0.0	5.0	1.0	6.5	2.5	11.5	7.5	15.0	10.5	14.0	10.0
6	0.0	0.0	5.0	1.0	7.0	3.0	12.5	8.5	15.0	11.0	12.5	10.5
7	0.5	0.0	5.5	1.5	7.5	3.0	12.5	10.0	13.0	12.0	13.5	9.5
8	1.0	0.0	4.5	1.5	8.0	3.5	13.5	10.0	15.0	10.5	13.5	10.0
9	2.0	0.5	4.0	1.5	8.5	3.5	13.5	9.0	15.5	11.5	13.5	10.0
10	1.5	0.0	3.5	1.0	8.5	4.0	14.0	9.5	15.0	10.5	12.5	9.5
11	0.5	0.0	5.0	1.5	8.0	4.5	14.5	10.0	14.5	10.5	11.5	8.5
12	0.5	0.0	6.0	1.5	8.0	4.5	14.0	10.5	15.0	10.5	11.5	8.0
13	1.0	0.5	5.5	1.5	7.0	4.5	15.0	10.5	15.0	10.5	11.5	8.5
14	1.5	0.5	5.0	2.0	9.5	5.0	15.0	10.5	14.5	10.5	11.0	8.0
15	3.0	0.5	6.0	1.5	10.0	5.5	14.5	10.5	14.5	10.5	9.0	7.0
16	3.0	0.5	6.0	1.5	10.5	6.0	14.5	10.5	15.0	11.0	7.5	6.0
17	3.5	0.5	6.0	1.5	10.5	7.0	14.5	10.0	15.5	11.0	8.5	7.0
18	3.5	0.5	5.5	1.5	10.5	7.5	14.5	9.5	15.5	12.0	9.0	7.5
19	3.5	0.5	6.5	1.5	9.0	6.5	15.0	10.0	13.5	11.5	9.5	7.5
20	3.5	1.0	6.5	2.0	10.0	6.5	15.0	10.0	15.0	11.0	9.5	6.5
21	4.0	0.5	6.5	2.0	11.0	7.0	15.0	10.5	15.5	11.5	10.0	6.5
22	4.0	0.5	6.5	2.0	11.5	8.0	15.0	10.0	15.5	12.0	10.5	7.0
23	4.5	1.0	6.5	2.0	12.0	8.0	15.0	11.5	14.5	12.5	10.0	7.0
24	4.0	1.0	6.5	2.0	10.5	9.0	15.5	12.0	15.0	11.5	10.0	8.5
25	4.0	1.0	7.0	2.5	11.0	8.0	15.5	11.5	15.5	11.5	10.5	9.0
26	3.5	1.0	7.5	2.5	12.0	8.5	16.0	11.5	14.5	11.5	10.0	8.5
27	4.5	1.0	7.0	2.5	12.0	9.0	16.0	12.0	14.5	11.0	8.5	7.0
28	4.0	1.0	6.5	2.0	11.0	9.5	16.5	12.0	12.5	11.5	8.0	6.0
29	4.0	1.0	5.5	2.5	9.5	8.0	16.5	12.0	13.5	11.0	7.0	5.5
30	4.5	1.0	7.5	2.5	9.0	7.5	16.5	12.0	13.5	9.5	7.0	5.0
31	---	---	7.0	3.0	---	---	15.5	11.0	13.5	9.5	---	---
MONTH	4.5	0.0	7.5	1.0	12.0	2.5	16.5	7.5	15.5	9.5	14.0	5.0

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	.75	0	.00	1.1	1	.00	22	2	.12
2	.70	0	.00	1.1	1	.00	21	2	.11
3	.76	0	.00	1.1	1	.00	20	2	.11
4	.77	0	.00	1.1	1	.00	18	2	.10
5	.77	1	.00	1.1	1	.00	16	2	.09
6	.78	1	.00	1.1	1	.00	15	2	.08
7	1.6	1	.00	1.5	1	.00	14	2	.08
8	1.1	0	.00	1.5	1	.00	13	2	.07
9	1.0	0	.00	1.4	1	.00	14	3	.11
10	1.8	0	.00	1.3	1	.00	16	4	.17
11	1.5	0	.00	1.4	1	.00	15	4	.16
12	1.2	0	.00	4.4	8	.10	14	3	.11
13	1.2	0	.00	60	65	26	14	4	.15
14	1.3	0	.00	112	42	23	22	6	.36
15	1.2	0	.00	44	9	1.4	27	7	.51
16	1.3	0	.00	56	7	1.1	24	7	.45
17	1.2	0	.00	65	20	4.2	18	6	.29
18	1.1	0	.00	32	1	.09	17	5	.23
19	1.0	0	.00	24	0	.00	434	207	299
20	1.0	0	.00	20	0	.00	588	266	457
21	1.0	0	.00	67	35	14	111	65	19
22	1.0	0	.00	119	25	8.0	62	12	2.0
23	1.0	0	.00	228	76	63	48	5	.65
24	1.1	0	.00	290	127	154	38	2	.21
25	1.0	0	.00	69	7	1.3	34	1	.09
26	1.0	0	.00	43	4	.46	32	0	.00
27	1.3	0	.00	35	4	.38	36	0	.00
28	2.9	0	.00	29	3	.23	28	0	.00
29	1.5	1	.00	27	3	.22	28	0	.00
30	1.1	1	.00	24	2	.13	36	0	.00
31	1.1	1	.00	---	---	---	26	0	.00
TOTAL	36.03	---	0.00	1362.1	---	297.61	1821	---	781.25
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)
JANUARY				FEBRUARY			MARCH		
1	21	0	.00	9.6	0	.00	28	2	.15
2	19	0	.00	9.6	0	.00	27	2	.15
3	18	0	.00	9.4	0	.00	24	2	.13
4	18	0	.00	9.1	0	.00	22	2	.12
5	17	0	.00	9.0	0	.00	21	2	.11
6	17	0	.00	8.8	0	.00	20	2	.11
7	17	0	.00	8.7	0	.00	19	2	.10
8	16	0	.00	8.7	0	.00	19	2	.10
9	16	1	.04	8.7	0	.00	19	2	.10
10	16	1	.04	8.4	0	.00	25	6	.40
11	16	1	.04	8.1	0	.00	41	4	.44
12	16	1	.04	8.0	0	.00	30	3	.24
13	14	1	.04	9.8	12	.32	27	3	.22
14	13	1	.04	51	30	4.4	26	3	.21
15	13	2	.07	133	67	27	23	3	.19
16	13	2	.07	414	128	155	21	3	.17
17	13	2	.07	135	35	13	19	3	.15
18	12	2	.06	69	20	3.7	18	3	.15
19	12	2	.06	47	10	1.3	17	3	.14
20	12	1	.03	43	5	.58	17	3	.14
21	11	1	.03	46	4	.50	16	3	.13
22	11	1	.03	57	4	.62	17	3	.14
23	11	1	.03	51	4	.55	17	3	.14
24	11	1	.03	39	3	.32	17	3	.14
25	11	1	.03	33	2	.18	18	3	.15
26	11	0	.00	31	1	.08	17	3	.14
27	11	0	.00	28	1	.08	16	3	.13
28	11	0	.00	26	2	.14	15	3	.12
29	9.9	0	.00	---	---	---	14	3	.11
30	9.6	0	.00	---	---	---	13	3	.11
31	9.6	0	.00	---	---	---	13	3	.11
TOTAL	426.1	---	0.75	1318.9	---	207.77	636	---	4.94

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	13	3	.11	91	3	.74	89	6	1.4
2	13	3	.11	103	4	1.1	85	6	1.4
3	12	3	.10	111	5	1.5	85	5	1.1
4	12	3	.10	109	4	1.2	77	5	1.0
5	12	3	.10	102	4	1.1	68	4	.73
6	13	3	.11	103	5	1.4	62	5	.84
7	13	3	.11	122	6	2.0	67	6	1.1
8	13	3	.11	123	5	1.7	71	6	1.2
9	13	3	.11	94	3	.76	76	6	1.2
10	16	5	.22	66	3	.53	83	7	1.6
11	110	48	14	59	3	.48	82	7	1.5
12	155	36	15	68	3	.55	69	5	.93
13	112	18	5.4	87	4	.94	60	4	.65
14	77	9	1.9	99	4	1.1	64	7	1.2
15	50	4	.54	107	5	1.4	73	7	1.4
16	37	3	.30	116	7	2.2	78	6	1.3
17	33	3	.27	126	7	2.4	76	5	1.0
18	33	3	.27	112	5	1.5	77	21	4.6
19	34	3	.28	97	5	1.3	104	13	4.6
20	34	3	.28	106	10	2.9	61	4	.66
21	33	3	.27	123	12	4.0	51	3	.41
22	36	3	.29	129	11	3.8	42	3	.34
23	44	3	.36	144	11	4.3	37	2	.20
24	52	3	.42	158	13	5.5	34	1	.09
25	55	2	.30	170	14	6.4	36	1	.10
26	58	2	.31	168	14	6.4	29	1	.08
27	63	2	.34	149	11	4.4	26	1	.07
28	75	2	.41	112	8	2.4	24	1	.06
29	75	2	.41	92	7	1.7	27	3	.22
30	71	3	.58	87	6	1.4	26	3	.21
31	---	---	---	95	6	1.5	---	---	---
TOTAL	1367	---	43.11	3428	---	68.60	1839	---	31.19

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)
JULY			AUGUST			SEPTEMBER			
1	26	2	.14	2.5	0	.00	1.7	1	.00
2	21	1	.06	2.5	0	.00	1.6	1	.00
3	19	1	.05	2.5	0	.00	1.6	1	.00
4	17	1	.05	2.4	0	.00	1.6	1	.00
5	15	1	.04	2.4	0	.00	1.6	1	.00
6	14	1	.04	2.4	0	.00	1.6	1	.00
7	13	1	.04	2.5	0	.00	1.6	1	.00
8	13	1	.04	2.7	0	.00	1.5	1	.00
9	12	1	.03	2.4	0	.00	1.5	1	.00
10	11	0	.00	2.3	0	.00	1.6	1	.00
11	9.8	0	.00	2.2	0	.00	1.6	1	.00
12	9.1	0	.00	2.2	0	.00	1.5	0	.00
13	8.6	0	.00	2.2	0	.00	1.5	0	.00
14	7.9	0	.00	2.0	0	.00	1.5	0	.00
15	6.8	0	.00	2.0	0	.00	2.2	0	.00
16	6.2	0	.00	1.9	0	.00	3.4	0	.00
17	5.7	0	.00	1.9	0	.00	2.4	0	.00
18	5.4	0	.00	1.9	0	.00	2.1	0	.00
19	5.0	0	.00	2.1	0	.00	2.3	0	.00
20	4.7	0	.00	2.1	0	.00	2.1	0	.00
21	4.5	0	.00	2.0	0	.00	1.8	0	.00
22	4.2	0	.00	1.9	0	.00	1.7	0	.00
23	4.0	0	.00	1.9	0	.00	1.8	0	.00
24	4.0	0	.00	1.8	0	.00	4.8	1	.01
25	3.8	0	.00	1.8	0	.00	16	9	.70
26	3.6	0	.00	1.8	1	.00	17	6	.28
27	3.4	0	.00	1.7	1	.00	8.2	2	.04
28	3.3	0	.00	1.9	1	.01	6.0	0	.00
29	3.0	0	.00	2.0	1	.01	5.6	0	.00
30	2.8	0	.00	1.9	1	.01	5.5	0	.00
31	2.6	0	.00	1.8	1	.00	---	---	---
TOTAL	269.4	---	0.49	65.6	---	0.03	104.9	---	1.03

YEAR 12674.03

1436.77



10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV						
13...	1830	71	3.5	100	19	25
17...	0740	112	2.0	40	12	9
21...	2345	225	1.5	56	34	11
23...	0915	225	2.5	44	27	11
24...	0115	495	2.5	220	294	20
DEC						
19...	1400	654	1.0	339	599	12
20...	0340	759	2.0	321	658	28
20...	1440	652	2.0	251	442	29
FEB						
14...	2215	80	.0	26	5.6	23
16...	0420	475	.0	254	326	7
16...	0930	508	.0	127	174	13
APR						
11...	1300	119	.0	118	38	8
13...	0950	116	.0	20	6.3	15
MAY						
24...	1805	176	6.5	24	11	22
JUN						
18...	2210	119	10.0	35	11	28
SEP						
25...	2000	36	10.5	35	3.4	26

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA

LOCATION.--Lat 39°06'27", long 120°09'40", in NW¼NE¼ sec.36, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft (91 m) upstream from bridge on State Highway 89, 1,000 ft (305 m) upstream from Lake Tahoe, and 4.6 mi (7.4 km) south of Tahoe City.

DRAINAGE AREA.--11.2 mi<sup>2</sup> (29.0 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 6,240 ft (1,902 m), from topographic map. Oct. 1, 1960, to Sept. 30, 1964, at site 400 ft (122 m) downstream at datum 10.25 ft (3.124 m) lower, and Oct. 1, 1964, to Aug. 27, 1970, at datum 12 ft (3.7 m) lower.

REMARKS.--Records good except those for the winter months, which are fair. No known diversion or regulation.

AVERAGE DISCHARGE.--22 years, 37.0 ft<sup>3</sup>/s (1.048 m<sup>3</sup>/s), 26,810 acre-ft/yr (33.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,100 ft<sup>3</sup>/s (59.5 m<sup>3</sup>/s) Dec. 22 or 24, 1964, from indirect measurement of peak flow; maximum gage height, 9.90 ft (3.018 m) Dec. 22, 1964; minimum discharge, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Sept. 19, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2100	487 13.8	3.31 1.009	Apr. 11	Unknown	Unknown	Unknown
Nov. 24	0245	1,080 30.6	4.82 1.469	May 7	1915	245 6.94	2.59 0.789
Dec. 20	0145	*1,840 52.1	8.02 2.444	May 26	1930	459 13.0	3.24 .988
Feb. 16	0300	1,210 34.3	5.29 1.612	June 19	0015	324 9.18	2.87 .875

Minimum daily, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	3.4	43	51	16	54	27	154	163	93	19	5.7
2	1.2	3.9	41	47	16	54	27	166	156	87	18	5.7
3	1.5	4.2	38	44	16	47	26	185	151	85	16	5.7
4	1.4	4.4	36	40	16	44	25	196	139	79	15	5.5
5	1.3	4.4	33	37	16	42	24	180	127	75	15	5.4
6	1.3	4.7	31	36	16	39	24	175	117	73	14	5.3
7	2.2	5.5	30	34	16	39	23	202	119	77	14	5.2
8	1.7	5.1	29	33	15	37	22	203	126	75	15	4.7
9	1.5	4.8	29	31	15	36	23	170	137	70	13	4.8
10	2.1	4.6	30	30	15	49	27	134	154	68	12	4.8
11	1.8	4.6	28	29	15	70	180	118	168	67	11	4.8
12	1.6	12	27	28	15	54	200	127	153	68	11	4.6
13	1.5	144	27	27	26	48	116	146	138	67	11	4.6
14	1.4	127	41	26	127	49	85	159	150	63	10	4.4
15	1.4	116	61	25	400	44	72	175	178	60	9.9	5.1
16	1.3	116	51	25	684	41	65	197	204	57	9.3	7.5
17	1.4	131	42	24	184	38	65	220	214	51	8.7	7.5
18	1.4	61	48	24	117	36	68	215	212	47	8.1	8.6
19	1.4	44	879	23	95	34	69	192	225	43	8.1	11
20	1.3	36	1370	22	92	33	68	194	189	39	8.1	9.5
21	1.4	186	284	21	96	32	66	219	177	36	7.8	7.7
22	1.3	188	158	21	117	31	72	243	163	34	7.3	7.2
23	1.4	492	119	20	96	31	86	272	152	32	7.3	7.0
24	1.4	494	97	20	79	31	97	294	139	32	7.2	18
25	1.3	140	82	20	71	31	97	309	135	30	6.9	54
26	1.3	95	75	20	64	31	103	341	130	29	6.5	35
27	1.8	75	79	20	58	30	116	317	128	27	6.4	18
28	5.3	61	65	19	54	30	131	239	125	26	6.3	15
29	3.8	53	62	18	---	29	123	189	125	24	6.5	13
30	3.1	46	66	17	---	28	125	168	101	23	6.4	13
31	3.2	---	57	17	---	27	---	172	---	20	6.1	---
TOTAL	55.2	2666.6	4058	849	2547	1219	2252	6271	4595	1657	320.9	308.3
MEAN	1.78	88.9	131	27.4	91.0	39.3	75.1	202	153	53.5	10.4	10.3
MAX	5.3	494	1370	51	684	70	200	341	225	93	19	54
MIN	1.2	3.4	27	17	15	27	22	118	101	20	6.1	4.4
AC-FT	109	5290	8050	1680	5050	2420	4470	12440	9110	3290	637	612
CAL YR 1981 TOTAL	12867.2		MEAN 35.3	MAX 1370	MIN 1.2	AC-FT 25520						
WTR YR 1982 TOTAL	26799.0		MEAN 73.4	MAX 1370	MIN 1.2	AC-FT 53160						

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-78, October 1979 to current year.

SPECIFIC CONDUCTANCE: December 1980 to current year.

WATER TEMPERATURES: Water years 1975-78, October 1979 to current year.

SEDIMENT RECORDS: Water years 1975-78, October 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1980 to current year.

WATER TEMPERATURES: October 1974 to June 1978 (1977-78 storm season only), October 1979 to current year.

SEDIMENT RECORDS: October 1974 to June 1978 (1977-78 storm season only), October 1979 to current year.

COOPERATION.--Selected sediment samples and water temperature readings furnished by University of California at Davis.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 121 micromhos Sept. 7, 1981; minimum recorded, 16 micromhos May 26, 1982.

WATER TEMPERATURES: Maximum recorded, 22.5°C July 27, 28, 1981; minimum recorded, 0°C on several winter days during most years.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,200 mg/L Jan. 13, 1980; minimum daily mean, 0 mg/L on many days each year.

SEDIMENT DISCHARGE: Maximum daily, 2,590 tons (2,350 metric tons) Jan. 13, 1980; minimum daily, 0 ton (0 metric ton) on many days each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 94 micromhos Oct. 6; minimum recorded, 16 micromhos May 26.

WATER TEMPERATURES: Maximum recorded, 18.5°C Aug. 21, 22; minimum recorded, 0°C on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 808 mg/L Dec. 19; minimum daily mean, 0 mg/L on many days.

SEDIMENT DISCHARGE: Maximum daily, 2,370 tons (2,150 metric tons) Dec. 20; minimum daily, 0 ton (0 metric ton) on many days.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	77	44	44	55	58	64	39	32	33	44	76
2	85	76	45	44	55	56	66	37	32	33	44	77
3	84	75	43	45	55	58	65	36	32	33	44	77
4	86	74	43	46	55	57	66	38	33	33	44	77
5	86	75	44	47	55	58	65	38	34	34	47	79
6	88	73	45	46	55	58	66	36	35	34	52	78
7	80	72	48	47	55	58	59	36	32	33	55	79
8	86	72	47	47	55	59	50	35	32	33	55	80
9	87	72	45	47	55	58	48	38	31	34	57	81
10	82	72	45	48	55	57	46	38	30	35	58	80
11	83	71	47	49	56	54	34	38	26	35	59	80
12	84	68	47	50	56	55	37	38	28	34	60	81
13	85	60	47	50	55	56	42	35	30	34	60	81
14	85	43	48	50	46	54	45	35	28	35	61	82
15	85	47	46	50	44	55	47	32	27	36	62	79
16	86	46	48	52	45	54	48	31	25	36	64	75
17	86	43	48	52	51	55	48	29	25	37	65	74
18	86	47	47	51	53	55	48	29	25	38	66	71
19	86	50	35	52	55	55	52	32	26	38	67	67
20	86	52	32	51	55	56	53	35	28	39	69	67
21	86	46	34	53	55	55	56	32	28	39	70	71
22	86	42	36	53	54	55	51	31	27	39	71	73
23	86	36	37	53	55	55	48	29	27	39	72	74
24	85	34	39	53	56	54	45	29	28	40	72	67
25	86	36	39	54	56	54	45	28	29	40	73	41
26	86	38	40	54	56	54	44	25	29	40	74	41
27	84	40	40	54	58	54	44	23	29	40	75	50
28	78	41	41	54	58	54	43	30	29	41	76	54
29	73	42	42	55	---	52	43	32	29	42	74	56
30	77	43	42	55	---	55	44	33	32	44	74	56
31	77	---	43	55	---	55	---	32	---	44	75	---
MONTH	84	55	43	50	54	56	50	33	29	37	63	71

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	8.0	5.0	2.5	3.5	2.0	2.0	0.5	3.0	1.0	2.5	0.5
2	12.5	9.0	5.0	2.5	3.5	2.0	1.0	0.5	4.0	1.5	1.0	0.5
3	12.5	9.5	5.5	3.0	3.5	1.5	2.0	1.0	4.0	1.5	3.5	1.0
4	11.0	6.0	6.0	3.0	3.5	1.5	1.0	0.5	3.0	1.0	4.5	1.5
5	11.0	5.5	6.0	3.5	4.0	2.0	1.0	0.5	2.5	1.0	4.5	1.0
6	11.0	6.0	6.5	5.0	3.5	2.0	1.0	1.0	2.5	1.0	4.5	0.5
7	9.5	7.0	6.0	4.0	4.5	2.5	1.0	1.0	3.5	1.0	4.0	1.5
8	10.0	5.0	5.5	3.5	4.0	2.0	1.0	1.0	3.5	2.0	5.5	2.0
9	10.0	6.0	5.5	3.5	4.0	1.5	2.5	1.0	3.0	1.5	5.0	1.5
10	8.0	6.5	6.0	4.0	3.5	2.0	3.0	1.5	3.5	1.0	4.5	2.0
11	7.0	4.5	6.0	3.5	3.5	2.0	3.5	2.5	3.5	0.5	4.5	1.0
12	6.0	3.0	5.0	3.5	2.5	1.0	2.5	1.5	3.5	0.5	6.0	1.5
13	6.5	3.5	3.5	2.5	3.5	1.5	3.0	1.0	4.0	1.0	6.0	1.5
14	6.0	4.5	3.5	1.5	4.0	2.5	3.5	1.5	1.5	0.5	4.0	1.0
15	7.0	4.5	4.0	3.5	3.0	2.5	3.5	1.5	1.5	0.5	3.5	1.5
16	7.0	3.5	5.0	4.0	3.5	2.0	3.5	2.0	1.5	0.5	1.5	1.0
17	8.5	4.0	4.0	2.0	3.5	2.0	3.5	2.0	3.5	1.5	3.0	0.5
18	9.0	5.5	4.0	2.0	4.0	3.0	2.5	1.0	4.0	1.5	3.5	1.0
19	8.5	4.0	4.5	2.5	3.0	2.0	1.0	1.0	5.0	2.0	4.5	1.0
20	8.5	4.0	5.0	3.0	3.0	1.0	1.5	1.0	5.0	2.0	5.0	0.5
21	8.0	4.0	3.5	2.0	3.0	1.0	1.0	1.0	5.0	2.0	5.5	1.0
22	7.5	3.5	4.0	2.0	2.5	1.0	2.0	1.0	4.5	2.0	6.0	1.0
23	7.5	3.5	4.0	3.0	3.0	1.5	3.5	2.0	4.5	1.0	6.5	1.0
24	8.0	4.0	3.5	2.0	3.5	1.5	4.0	1.5	4.5	1.0	6.5	1.5
25	7.5	4.0	3.0	1.5	4.0	2.5	4.0	1.5	4.5	1.5	6.0	2.5
26	8.0	5.0	2.0	1.0	3.5	2.5	3.0	1.0	3.0	1.5	5.5	2.5
27	7.0	5.0	2.0	1.5	3.0	1.5	3.0	1.0	5.0	1.5	6.0	2.0
28	6.0	1.0	3.0	2.0	3.0	1.5	3.0	1.0	4.5	1.5	1.5	0.5
29	3.5	0.5	3.5	2.0	2.5	0.5	3.0	1.5	---	---	0.5	0.5
30	3.5	1.0	3.5	1.5	3.0	2.0	3.5	1.0	---	---	0.5	0.5
31	4.5	2.5	---	---	2.5	0.5	3.5	1.0	---	---	0.5	0.5
MONTH	13.0	0.5	6.5	1.0	4.5	0.5	4.0	0.5	5.0	0.5	6.5	0.5

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.5	0.5	7.0	1.5	9.0	2.5	11.0	5.5	16.5	9.5	15.0	9.5
2	0.5	0.5	6.5	1.5	9.5	3.0	10.5	5.5	16.0	8.5	16.0	9.5
3	0.5	0.5	7.0	1.5	9.0	2.5	9.5	5.5	16.0	8.5	14.5	10.5
4	0.5	0.5	7.0	1.5	9.0	3.0	11.5	5.5	16.5	9.0	15.5	9.5
5	0.5	0.5	7.0	1.5	9.0	2.5	11.0	4.5	17.0	9.0	16.0	9.5
6	0.5	0.5	7.5	1.5	9.0	2.5	13.0	5.5	17.0	9.5	14.0	10.0
7	2.5	0.5	7.5	0.5	10.0	3.0	12.5	6.5	12.5	11.0	15.5	9.0
8	3.5	0.5	6.0	2.0	10.0	3.0	12.5	6.5	17.0	9.5	15.5	9.5
9	5.0	0.5	6.0	2.0	10.5	3.0	13.0	5.5	17.5	10.5	15.0	9.5
10	3.5	0.5	5.0	1.5	10.0	3.5	13.5	6.0	17.0	9.5	14.5	9.0
11	0.5	0.5	7.5	1.5	9.0	4.0	14.0	6.0	16.5	9.5	13.0	8.5
12	1.0	0.5	8.5	2.0	9.0	4.0	13.5	7.0	17.5	9.5	13.5	8.0
13	2.5	1.0	8.0	2.0	7.5	3.0	14.0	6.5	17.5	9.5	13.5	9.0
14	3.5	1.0	7.5	2.5	10.5	4.0	14.5	7.0	17.0	9.5	12.5	8.0
15	5.5	1.0	8.5	2.0	10.5	4.0	14.0	7.0	17.5	9.5	10.0	7.5
16	6.0	1.0	8.5	2.5	10.5	4.0	14.0	7.0	17.5	10.5	9.0	5.0
17	7.0	1.0	8.0	2.5	10.0	4.5	14.0	6.5	17.5	10.0	9.5	7.5
18	6.5	1.0	7.5	2.0	10.0	4.5	14.5	7.0	18.0	11.0	9.5	8.0
19	6.5	1.5	8.5	2.0	8.0	4.5	15.0	7.5	16.0	10.5	11.0	8.0
20	6.5	1.5	8.5	2.5	10.5	4.5	15.0	7.5	17.0	10.5	12.0	7.0
21	7.0	1.0	8.5	2.5	11.0	4.0	15.5	8.0	18.5	11.0	12.0	7.0
22	7.5	1.5	8.5	2.5	11.5	4.5	15.0	7.5	18.5	11.5	12.5	7.5
23	7.5	1.5	8.5	2.5	11.5	4.5	14.5	9.0	17.0	12.0	12.0	7.5
24	7.0	1.5	8.5	3.0	8.5	5.0	16.0	9.5	17.5	11.0	12.5	9.5
25	7.0	1.5	8.5	3.0	11.0	5.0	16.5	9.0	18.0	11.0	11.0	10.0
26	7.0	2.0	8.5	3.0	11.5	4.5	16.5	9.5	16.0	11.5	12.0	8.5
27	7.5	1.5	8.0	3.0	10.0	5.5	17.0	10.5	16.0	10.0	10.5	7.5
28	7.0	2.0	8.0	2.5	9.5	6.0	17.0	10.0	13.5	11.5	10.0	6.0
29	6.5	1.5	8.5	2.5	8.0	5.5	17.5	10.5	15.0	11.0	8.0	5.0
30	7.5	1.5	9.0	2.5	9.0	5.0	17.5	10.0	15.5	8.5	9.0	6.0
31	---	---	9.0	3.0	---	---	17.0	9.5	15.5	8.5	---	---
MONTH	7.5	0.5	9.0	0.5	11.5	2.5	17.5	4.5	18.5	8.5	16.0	5.0

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

## SEDIMENT DISCHARGE; SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	1.2	2	.01	3.4	1	.01	43	1	.12
2	1.2	2	.01	3.9	1	.01	41	1	.11
3	1.5	2	.01	4.2	1	.01	38	1	.10
4	1.4	2	.01	4.4	1	.01	36	1	.10
5	1.3	2	.01	4.4	1	.01	33	1	.09
6	1.3	2	.01	4.7	1	.01	31	1	.08
7	2.2	3	.02	5.5	1	.01	30	1	.08
8	1.7	2	.01	5.1	1	.01	29	0	.00
9	1.5	2	.01	4.8	1	.01	29	0	.00
10	2.1	1	.01	4.6	1	.01	30	0	.00
11	1.8	1	.00	4.6	1	.01	28	0	.00
12	1.6	1	.00	12	22	1.1	27	1	.07
13	1.5	0	.00	144	282	246	27	1	.07
14	1.4	0	.00	127	124	77	41	6	.66
15	1.4	0	.00	116	143	65	61	20	3.3
16	1.3	0	.00	116	80	25	51	8	1.1
17	1.4	0	.00	131	140	64	42	1	.11
18	1.4	0	.00	61	15	2.5	48	16	5.0
19	1.4	0	.00	44	9	1.1	879	808	2100
20	1.3	0	.00	36	4	.39	1370	556	2370
21	1.4	0	.00	186	514	536	284	111	97
22	1.3	0	.00	188	319	180	158	40	17
23	1.4	0	.00	492	651	1000	119	10	3.2
24	1.4	0	.00	494	420	793	97	5	1.3
25	1.3	0	.00	140	80	30	82	5	1.1
26	1.3	0	.00	95	13	3.3	75	5	1.0
27	1.8	0	.00	75	7	1.4	79	7	1.5
28	5.3	1	.01	61	4	.66	65	5	.88
29	3.8	0	.00	53	3	.43	62	7	1.2
30	3.1	0	.00	46	2	.25	66	15	2.7
31	3.2	0	.00	---	---	---	57	14	2.2
TOTAL	55.2	---	0.12	2666.6	---	3027.24	4058	---	4610.07

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)
JANUARY			FEBRUARY			MARCH			
1	51	10	1.4	16	1	.04	54	3	.44
2	47	5	.63	16	1	.04	54	3	.44
3	44	5	.59	16	1	.04	47	3	.38
4	40	5	.54	16	1	.04	44	3	.36
5	37	5	.50	16	1	.04	42	2	.23
6	36	5	.49	16	1	.04	39	2	.21
7	34	5	.46	16	1	.04	39	2	.21
8	33	5	.45	15	1	.04	37	2	.20
9	31	5	.42	15	1	.04	36	2	.19
10	30	5	.41	15	1	.04	49	4	.53
11	29	5	.39	15	1	.04	70	6	1.1
12	28	5	.38	15	1	.04	54	2	.29
13	27	4	.29	26	7	1.1	48	2	.26
14	26	4	.28	127	114	38	49	2	.26
15	25	3	.20	400	410	673	44	2	.24
16	25	2	.14	684	548	1300	41	2	.22
17	24	1	.06	184	100	50	38	2	.21
18	24	0	.00	117	40	13	36	2	.19
19	23	0	.00	95	21	5.4	34	2	.18
20	22	0	.00	92	14	3.5	33	2	.18
21	21	0	.00	96	14	3.6	32	2	.17
22	21	0	.00	117	21	6.6	31	2	.17
23	20	0	.00	96	9	2.3	31	2	.17
24	20	1	.05	79	5	1.1	31	2	.17
25	20	1	.05	71	4	.77	31	2	.17
26	20	1	.05	64	3	.52	31	2	.17
27	20	1	.05	58	3	.47	30	2	.16
28	19	1	.05	54	3	.44	30	2	.16
29	18	1	.05	---	---	---	29	2	.16
30	17	1	.05	---	---	---	28	2	.15
31	17	1	.05	---	---	---	27	2	.15
TOTAL	849	---	8.03	2547	---	2100.28	1219	---	8.12

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	27	2	.15	154	17	7.1	163	20	8.8
2	27	2	.15	166	20	9.0	156	20	8.4
3	26	2	.14	185	28	14	151	17	6.9
4	25	2	.14	196	26	14	139	15	5.6
5	24	2	.13	180	21	10	127	10	3.4
6	24	2	.13	175	23	11	117	12	3.8
7	23	2	.12	202	30	16	119	13	4.2
8	22	2	.12	203	27	15	126	15	5.1
9	23	2	.12	170	17	7.8	137	18	6.7
10	27	2	.15	134	15	5.4	154	26	12
11	180	300	146	118	11	3.5	168	24	12
12	200	120	65	127	16	5.5	153	15	6.2
13	116	48	15	146	18	7.1	138	12	4.5
14	85	20	4.6	159	18	7.7	150	26	12
15	72	7	1.4	175	26	13	178	32	17
16	65	5	.88	197	28	17	204	34	20
17	65	5	.88	220	34	22	214	35	20
18	68	5	.92	215	29	17	212	36	25
19	69	5	.93	192	27	15	225	27	16
20	68	5	.92	194	36	20	189	32	16
21	66	6	1.1	219	46	29	177	30	14
22	72	7	1.4	243	53	38	163	25	11
23	86	8	1.9	272	56	46	152	25	10
24	97	9	2.4	294	64	55	139	18	6.8
25	97	12	3.1	309	67	61	135	15	5.5
26	103	15	4.2	341	73	76	130	12	4.2
27	116	15	4.7	317	71	63	128	10	3.5
28	131	15	5.3	239	50	32	125	7	2.4
29	123	12	4.0	189	20	10	125	8	2.7
30	125	15	5.1	168	20	9.1	101	5	1.4
31	---	---	---	172	22	10	---	---	---
TOTAL	2252	---	271.08	6271	---	666.2	4595	---	275.1

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)
JULY				AUGUST			SEPTEMBER		
1	93	4	1.0	19	2	.10	5.7	0	.00
2	87	4	.94	18	4	.19	5.7	0	.00
3	85	4	.92	16	6	.26	5.7	0	.00
4	79	4	.85	15	7	.28	5.5	0	.00
5	75	4	.81	15	7	.28	5.4	0	.00
6	73	3	.59	14	3	.11	5.3	0	.00
7	77	3	.62	14	0	.00	5.2	0	.00
8	75	2	.41	15	0	.00	4.7	0	.00
9	70	2	.38	13	0	.00	4.8	0	.00
10	68	2	.37	12	0	.00	4.8	0	.00
11	67	2	.36	11	0	.00	4.8	0	.00
12	68	2	.37	11	0	.00	4.6	0	.00
13	67	2	.36	11	0	.00	4.6	0	.00
14	63	2	.34	10	0	.00	4.4	1	.01
15	60	2	.32	9.9	0	.00	5.1	1	.01
16	57	2	.31	9.3	0	.00	7.5	1	.02
17	51	2	.28	8.7	0	.00	7.5	1	.02
18	47	2	.25	8.1	0	.00	8.6	1	.02
19	43	2	.23	8.1	0	.00	11	1	.03
20	39	2	.21	8.1	0	.00	9.5	1	.03
21	36	2	.19	7.8	0	.00	7.7	1	.02
22	34	1	.09	7.3	0	.00	7.2	1	.02
23	32	1	.09	7.3	0	.00	7.0	1	.02
24	32	1	.09	7.2	0	.00	18	17	.86
25	30	0	.00	6.9	0	.00	54	94	19
26	29	0	.00	6.5	0	.00	35	15	1.4
27	27	0	.00	6.4	0	.00	18	2	.10
28	26	0	.00	6.3	0	.00	15	1	.04
29	24	0	.00	6.5	0	.00	13	0	.00
30	23	0	.00	6.4	0	.00	13	0	.00
31	20	0	.00	6.1	0	.00	---	---	---
TOTAL	1657	---	10.38	320.9	---	1.22	308.3	---	21.60
YEAR	26779.0		10199.44						

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	
NOV									
12...	1215	11	3.5	46	1.4	--	--	--	
12...	2120	22	3.5	50	3.0	--	--	--	
13...	1800	191	3.5	712	367	--	--	--	
13...	2230	432	2.5	834	973	11	17	28	
15...	1040	70	4.0	75	14	--	--	--	
15...	1625	200	4.0	291	157	4	7	11	
15...	2230	184	4.0	192	95	--	--	--	
17...	1000	153	2.0	193	80	--	--	--	
22...	0045	250	2.5	755	510	--	--	--	
24...	0115	1010	3.5	877	2390	--	--	--	
24...	0430	893	2.5	729	1760	--	--	--	
24...	1450	290	3.0	224	175	6	9	15	
24...	1745	248	2.5	171	115	--	--	--	
DEC									
19...	1515	1140	2.0	1240	3820	--	--	--	
20...	1145	1720	3.5	463	2150	8	12	20	
21...	1315	248	2.5	94	63	--	--	--	
FEB									
16...	0345	1180	.0	944	3010	--	--	--	
16...	1535	443	1.0	328	392	11	14	20	
16...	2225	287	1.0	203	157	--	--	--	
19...	1600	92	5.0	21	5.2	--	--	--	
APR									
11...	1145	--	2.0	694	--	--	--	--	
11...	1630	--	.5	287	--	--	--	--	
12...	1230	191	1.0	118	61	--	--	--	
MAY									
03...	1915	219	4.5	120	71	--	--	--	
24...	1835	360	6.0	200	194	--	--	--	
27...	1620	336	7.0	102	93	--	--	--	
31...	1815	182	7.5	30	15	--	--	--	
JUN									
18...	2145	267	6.0	71	51	--	--	--	
SEP									
24...	0910	38	9.5	30	3.1	--	--	--	
25...	0830	103	10.5	315	88	--	--	--	
25...	1210	55	11.5	148	22	--	--	--	
25...	2020	94	11.0	56	14	--	--	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV									
12...	--	--	--	37	--	--	--	--	--
12...	--	--	--	33	--	--	--	--	--
13...	--	--	--	27	--	--	--	--	--
13...	41	55	65	79	91	98	100	--	--
15...	--	--	27	--	--	--	--	--	--
15...	16	23	30	50	79	97	100	--	--
15...	--	--	23	--	--	--	--	--	--
17...	--	--	14	--	--	--	--	--	--
22...	--	--	19	--	--	--	--	--	--
24...	--	--	32	--	--	--	--	--	--
24...	--	--	44	--	--	--	--	--	--
24...	22	31	40	62	84	97	100	--	--
24...	--	--	30	--	--	--	--	--	--
DEC									
19...	--	--	40	--	--	--	--	--	--
20...	31	44	54	76	90	97	100	--	--
21...	--	--	21	--	--	--	--	--	--
FEB									
16...	--	--	34	--	--	--	--	--	--
16...	28	39	52	74	95	100	--	--	--
16...	--	--	29	--	--	--	--	--	--
19...	--	--	33	--	--	--	--	--	--
APR									
11...	--	--	30	49	69	84	91	100	--
11...	--	--	36	--	--	--	--	--	--
12...	--	--	38	--	--	--	--	--	--
MAY									
03...	--	--	24	--	--	--	--	--	--
24...	--	--	20	--	--	--	--	--	--
27...	--	--	23	--	--	--	--	--	--
31...	--	--	23	--	--	--	--	--	--
JUN									
18...	--	--	23	--	--	--	--	--	--
SEP									
24...	--	--	58	--	--	--	--	--	--
25...	--	--	64	86	98	100	--	--	--
25...	--	--	94	--	--	--	--	--	--
25...	--	--	70	--	--	--	--	--	--

LOCATION.--Lat 39°07'56", long 120°09'24", in NW¼sec.24, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on right bank 165 ft (50 m) downstream from State Highway 89 bridge, 2.1 mi (3.4 km) north of Tahoe Pines, and 2.6 mi (4.2 km) southwest of Tahoe City.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Altitude of gage is 6,230 ft (1,899 m), from topographic map.

AVERAGE DISCHARGE.--10 years, 26.1 ft<sup>3</sup>/s (0.739 m<sup>3</sup>/s), 18,910 acre-ft/yr (23.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft<sup>3</sup>/s (51.0 m<sup>3</sup>/s) Dec. 19, 1981, gage height, 8.05 ft (2.454 m), from rating extended above 800 ft<sup>3</sup>/s (22.7 m<sup>3</sup>/s); no flow on many days during 1977-78, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Nov. 13	2100	451	12.8	6.50	1.981	Apr. 11	1145	--	--	a6.97	2.124
Nov. 23	2345	815	23.1	7.09	2.161	May 7	2000	208	5.89	5.25	1.600
Dec. 19	2200	*1,800	51.0	8.05	2.454	May 26	1815	345	9.77	5.63	1.716
Feb. 16	0145	1,030	29.2	6.79	2.070	June 18	2145	331	9.37	5.60	1.707

a Backwater from ice.

Minimum daily, 0.38 ft<sup>3</sup>/s (0.010 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	2.9	34	42	13	38	18	119	132	81	19	3.5
2	.38	3.2	33	42	13	38	18	126	126	74	17	3.3
3	.52	3.5	30	42	13	32	18	133	122	72	15	3.1
4	.59	3.0	27	37	12	29	18	132	112	64	14	2.8
5	.54	2.9	25	33	12	28	17	131	106	61	13	2.7
6	.51	3.3	24	31	12	26	17	132	90	60	12	3.0
7	2.2	3.3	24	30	11	25	16	151	94	61	13	2.7
8	1.4	3.1	23	29	11	25	16	153	101	60	13	2.5
9	1.0	2.8	24	28	11	24	18	123	111	57	12	2.4
10	1.9	2.6	24	27	11	33	26	99	130	56	10	2.5
11	2.3	2.7	23	25	11	48	170	93	145	56	9.9	2.6
12	1.4	13	22	24	11	37	180	97	133	56	9.2	2.6
13	1.1	139	21	23	30	34	80	111	123	56	8.6	2.6
14	1.1	104	38	22	191	33	61	110	135	54	8.2	2.3
15	.96	126	58	21	393	29	54	120	163	52	7.7	3.2
16	.90	100	45	21	518	26	50	140	183	48	7.0	7.1
17	1.3	123	36	21	176	26	48	163	186	43	6.8	7.5
18	1.4	44	42	20	103	24	53	160	191	39	6.7	8.5
19	1.1	30	709	19	75	22	51	142	221	37	6.8	9.7
20	1.0	25	680	18	68	21	49	150	187	33	6.8	7.1
21	.96	178	199	18	76	20	48	178	169	32	6.4	5.4
22	.84	188	137	17	88	19	53	205	148	30	5.8	4.7
23	.77	424	96	16	72	19	70	225	135	28	5.7	3.7
24	.76	316	81	16	60	19	87	239	125	29	5.3	20
25	.71	107	70	16	54	20	87	239	119	28	5.0	16
26	.71	78	65	15	48	19	91	258	113	28	4.6	24
27	1.2	62	68	15	43	19	92	248	110	27	4.0	16
28	8.7	50	55	15	39	19	98	203	107	26	4.6	13
29	4.0	41	53	13	---	19	91	156	109	24	4.4	12
30	2.8	37	55	13	---	19	94	141	87	23	4.1	12
31	2.5	---	45	13	---	18	---	143	---	21	3.6	---
TOTAL	45.94	2218.3	2866	722	2175	808	1789	4820	4013	1416	269.2	228.5
MEAN	1.48	73.9	92.5	23.3	77.7	26.1	59.6	155	134	45.7	8.68	7.62
MAX	8.7	424	709	42	518	48	180	258	221	81	19	36
MIN	.38	2.6	21	13	11	18	16	93	87	21	3.6	2.3
AC-FT	91	4400	5680	1430	4310	1600	3550	9560	7960	2810	534	453
CAL YR 1981	TOTAL	9202.93	MEAN	25.2	MAX	709	MIN	0	AC-FT	18250		
WTR YR 1982	TOTAL	21370.94	MEAN	58.6	MAX	709	MIN	.38	AC-FT	42390		



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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973-78, October 1979 to current year.

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: Water years 1973-78, October 1979 to current year.

SEDIMENT RECORDS: Water years 1973-78, October 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to current year.

SEDIMENT RECORDS: October 1972 to June 1978 (storm season only for water years 1977-78), October 1979 to current year.

COOPERATION.--Selected sediment samples furnished by University of California at Davis.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 82 micromhos Sept. 25, 26, 1981; minimum recorded, 21 micromhos Nov. 23, 1981.

WATER TEMPERATURES: Maximum recorded, 23.5°C Aug. 8, 12, 13, 1981; minimum recorded, 0°C many days in winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,510 mg/L Dec. 19, 1981; minimum daily mean, 0 mg/L on many days each year.

SEDIMENT DISCHARGE: Maximum daily, 3,720 tons (3,370 metric tons) Dec. 19, 1981; minimum daily, 0 ton (0 metric ton) on many days each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 80 micromhos Oct. 1-3; minimum recorded, 21 micromhos Nov. 23.

WATER TEMPERATURES: Maximum recorded, 18.5°C Aug. 21, 22; minimum recorded, 0°C on many days in winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,510 mg/L Dec. 19; minimum daily mean, 0 mg/L on many days.

SEDIMENT DISCHARGE: Maximum daily, 3,720 tons (3,370 metric tons) Dec. 19; minimum daily, 0 ton (0 metric ton) on many days.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	62	46	34	49	44	43	41	35	32	39	57
2	79	61	46	35	50	44	42	45	35	32	40	58
3	79	60	48	36	54	44	42	46	35	32	40	59
4	78	60	48	37	51	44	42	42	36	33	41	59
5	78	61	49	38	49	45	39	38	37	33	42	59
6	78	61	50	37	50	45	38	37	37	33	43	60
7	74	61	51	38	50	45	37	36	36	32	43	60
8	71	60	51	40	51	45	36	37	36	32	43	61
9	73	60	51	40	51	46	36	37	35	32	44	62
10	71	61	52	41	51	45	35	39	34	32	45	62
11	68	61	53	42	50	46	37	40	33	32	45	62
12	69	52	52	43	50	46	37	40	34	31	46	62
13	70	35	54	43	49	46	34	39	34	31	47	63
14	71	---	49	44	44	46	31	38	33	31	47	63
15	72	---	47	45	43	46	30	37	32	32	48	63
16	72	31	50	45	51	46	30	36	31	32	48	58
17	72	30	52	47	50	47	30	36	31	33	49	58
18	70	37	52	46	50	47	30	36	31	34	47	57
19	70	39	34	46	48	47	30	36	31	34	50	58
20	71	41	31	47	44	47	31	36	31	34	---	58
21	71	34	30	49	43	48	31	35	31	34	---	58
22	71	32	29	52	43	48	32	34	32	35	---	60
23	72	26	29	53	43	49	33	33	32	35	---	60
24	72	29	30	52	43	49	35	33	33	35	---	---
25	72	36	30	52	43	49	35	32	33	35	---	---
26	73	38	31	53	43	47	37	31	33	35	---	---
27	72	40	30	55	44	46	37	32	33	35	55	---
28	54	41	31	55	44	44	39	34	33	35	56	---
29	58	44	32	52	---	44	39	35	33	36	56	---
30	61	44	32	47	---	44	39	35	32	36	56	---
31	63	---	33	47	---	44	---	35	---	38	57	---
MONTH	71	46	42	45	48	46	36	37	33	33	---	---

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

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	6.5	4.0	1.0	2.0	0.5	0.5	0.5	0.5	0.0	2.0	0.0
2	12.0	8.0	3.5	1.0	1.5	0.0	0.5	0.5	1.0	0.0	0.0	0.0
3	11.5	7.0	4.0	1.0	2.0	0.0	0.5	0.5	1.0	0.0	1.5	0.0
4	11.0	5.5	4.5	1.5	1.5	0.0	0.5	0.5	0.5	0.0	3.0	0.0
5	10.5	5.0	4.5	2.0	1.5	0.0	0.5	0.5	0.0	0.0	3.0	0.0
6	10.5	5.5	5.5	3.0	2.0	0.0	0.5	0.5	0.0	0.0	3.0	0.0
7	8.0	5.5	4.5	2.5	2.5	1.0	0.5	0.5	0.0	0.0	3.5	0.5
8	8.5	4.5	4.0	1.5	2.0	0.5	0.5	0.5	1.0	0.0	4.5	1.0
9	10.0	5.0	4.0	1.5	2.5	0.0	0.5	0.5	1.0	0.0	4.5	0.5
10	7.5	6.0	4.5	2.5	2.0	0.5	0.5	0.5	1.0	0.0	3.5	1.0
11	7.0	4.0	4.5	2.0	1.5	0.0	0.5	0.5	0.0	0.0	3.0	0.0
12	5.5	2.5	3.5	2.0	0.5	0.0	0.5	0.5	0.5	0.0	5.0	0.5
13	5.0	2.5	3.5	2.0	1.5	0.0	0.5	0.5	1.0	0.0	5.0	0.0
14	6.0	3.0	---	---	2.0	1.0	1.0	1.0	0.0	0.0	3.0	0.0
15	7.0	3.5	---	---	2.0	1.0	1.0	1.0	2.0	0.0	4.0	0.5
16	6.5	2.5	5.0	3.5	1.5	0.5	1.0	1.0	1.0	0.0	1.5	0.0
17	7.5	3.0	3.0	1.5	2.0	0.0	1.0	1.0	2.5	0.5	2.0	0.0
18	8.0	4.0	3.0	1.0	2.5	1.5	1.0	1.0	2.5	0.5	3.5	0.0
19	7.5	3.5	3.5	1.5	2.5	0.0	1.0	1.0	3.5	1.0	3.5	0.0
20	8.0	3.5	4.0	2.5	2.5	0.5	1.0	1.0	4.0	1.0	3.5	0.0
21	8.0	3.5	3.0	1.5	2.0	0.5	1.0	1.0	4.5	1.5	5.0	0.0
22	7.5	3.0	4.0	2.0	1.0	0.0	1.0	1.0	3.5	1.0	5.0	0.0
23	7.5	3.0	3.5	3.0	0.0	0.0	1.0	1.0	3.5	0.5	5.5	0.0
24	7.0	3.0	3.0	1.5	0.5	0.0	1.0	1.0	3.5	0.0	6.0	0.5
25	7.5	3.0	2.0	1.0	1.0	0.0	1.0	1.0	4.0	0.5	5.5	1.5
26	7.5	4.0	1.5	0.0	1.5	0.0	1.0	0.0	3.0	1.0	5.0	2.0
27	7.0	4.0	1.5	0.5	0.0	0.0	0.0	0.0	4.5	1.0	6.5	0.5
28	5.0	0.5	2.0	1.0	0.0	0.0	0.5	0.0	4.0	0.5	0.5	0.0
29	2.5	0.5	2.5	1.0	0.0	0.0	0.5	0.0	---	---	0.0	0.0
30	2.5	0.5	2.5	0.0	0.0	0.0	0.0	0.0	---	---	0.0	0.0
31	3.5	1.0	---	---	0.5	0.5	0.5	0.0	---	---	0.0	0.0
MONTH	12.5	0.5	5.5	0.0	2.5	0.0	1.0	0.0	4.5	0.0	6.5	0.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	6.5	1.5	8.5	2.0	11.5	5.0	16.0	8.5	15.5	9.5
2	0.0	0.0	6.0	1.5	8.5	2.0	10.5	5.0	15.5	7.5	16.0	10.0
3	0.0	0.0	7.0	1.5	8.5	2.0	9.5	4.5	16.0	8.5	15.0	11.0
4	0.0	0.0	6.5	1.0	8.5	2.0	12.0	5.0	16.0	8.0	15.5	9.5
5	0.0	0.0	6.5	1.0	8.5	1.0	11.5	4.0	16.5	8.0	15.5	9.5
6	0.0	0.0	7.0	1.0	9.0	2.0	13.0	5.0	16.5	9.0	14.0	10.5
7	0.5	0.0	6.5	1.5	9.5	2.0	12.0	6.0	12.5	11.0	15.5	9.0
8	0.5	0.0	5.0	1.5	9.5	2.5	12.5	6.0	17.0	9.5	16.0	10.0
9	0.5	0.0	5.5	1.0	10.0	2.5	13.5	4.5	17.5	10.0	15.5	9.5
10	0.5	0.0	5.0	1.0	10.0	3.0	14.0	5.0	16.5	9.5	14.5	9.5
11	0.5	0.0	7.0	1.0	8.0	3.0	14.5	5.5	16.5	9.0	13.0	7.0
12	0.5	0.0	8.0	1.5	8.0	3.5	14.0	6.0	17.0	9.0	13.0	7.0
13	1.5	0.0	7.0	1.5	7.5	3.0	14.0	5.5	17.0	9.5	13.0	7.5
14	3.0	0.0	6.5	1.5	10.0	3.0	14.5	6.0	17.0	9.5	12.5	7.0
15	4.5	0.0	7.5	1.5	10.0	3.5	14.0	6.0	16.5	9.5	8.0	5.5
16	5.0	0.0	7.5	1.5	10.0	3.5	14.0	6.5	17.0	10.0	8.0	4.5
17	5.5	0.0	7.0	2.0	9.5	4.0	14.5	6.0	17.5	10.0	8.0	5.5
18	5.5	0.5	7.0	1.5	10.0	4.0	14.5	6.0	17.5	11.0	9.0	7.0
19	5.5	0.5	7.5	1.5	7.5	4.0	15.0	6.5	15.5	11.0	10.5	7.0
20	5.5	0.5	8.0	1.5	10.0	3.5	15.0	6.5	17.0	11.0	10.5	5.0
21	6.0	0.0	8.0	2.0	10.5	4.0	15.5	7.0	18.5	11.0	10.5	5.0
22	6.5	0.5	8.0	2.0	11.0	3.5	15.5	6.5	18.5	12.0	12.0	6.0
23	6.5	1.0	8.0	2.0	11.0	4.0	14.0	8.0	17.5	12.5	12.0	7.0
24	6.0	1.0	8.0	2.0	8.5	4.5	16.0	8.5	17.5	11.5	12.5	9.0
25	6.0	1.0	8.0	2.0	11.0	4.5	16.0	8.0	17.5	11.0	11.0	9.0
26	5.5	1.5	8.0	2.5	11.5	4.0	16.5	8.5	16.5	11.5	11.0	7.0
27	6.5	1.0	7.0	2.0	9.0	5.0	16.5	9.0	16.0	10.5	10.0	5.0
28	6.5	1.5	7.5	1.5	8.5	5.5	16.5	8.5	13.5	11.5	9.0	5.0
29	6.0	0.5	6.5	1.5	7.0	5.0	17.5	9.0	13.5	11.0	7.5	2.0
30	7.0	1.0	8.5	2.0	9.0	5.0	17.0	8.5	15.5	8.5	7.5	4.0
31	---	---	8.5	2.5	---	---	16.5	8.0	15.5	9.0	---	---
MONTH	7.0	0.0	8.5	1.0	11.5	1.0	17.5	4.0	18.5	7.5	16.0	2.0

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

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	.39	2	.00	2.9	1	.01	34	3	.28
2	.38	2	.00	3.2	1	.01	33	3	.27
3	.52	2	.00	3.5	1	.01	30	3	.24
4	.59	2	.00	3.0	1	.01	27	3	.22
5	.54	2	.00	2.9	0	.00	25	3	.20
6	.51	2	.00	3.3	0	.00	24	3	.19
7	2.2	6	.04	3.3	0	.00	24	3	.19
8	1.4	3	.01	3.1	0	.00	23	3	.19
9	1.0	2	.01	2.8	1	.01	24	3	.19
10	1.9	4	.02	2.6	1	.01	24	3	.19
11	2.3	2	.01	2.7	1	.01	23	3	.19
12	1.4	2	.01	13	10	.56	22	3	.18
13	1.1	1	.00	139	248	197	21	4	.23
14	1.1	1	.00	104	82	49	38	8	.82
15	.96	1	.00	126	74	37	58	16	2.5
16	.90	1	.00	100	24	6.5	45	12	1.5
17	1.3	1	.00	123	43	20	36	9	.87
18	1.4	1	.00	44	6	.71	42	19	3.5
19	1.1	1	.00	30	5	.41	709	1510	3720
20	1.0	1	.00	25	5	.34	680	836	1930
21	.96	1	.00	178	208	217	199	57	33
22	.84	1	.00	188	40	23	137	17	6.3
23	.77	1	.00	424	432	664	96	12	3.1
24	.76	0	.00	316	411	569	81	13	2.8
25	.71	0	.00	107	30	8.7	70	10	1.9
26	.71	0	.00	78	13	2.7	65	11	1.9
27	1.2	2	.01	62	9	1.5	68	10	1.8
28	8.7	8	.25	50	7	.95	55	3	.45
29	4.0	2	.02	41	5	.55	53	2	.29
30	2.8	1	.01	37	4	.40	55	2	.30
31	2.5	1	.01	---	---	---	45	2	.24
TOTAL	45.94	---	0.40	2218.3	---	1799.39	2866	---	5714.03

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY			MARCH		
1	42	2	.23	13	2	.07	38	4	.41
2	42	2	.23	13	2	.07	38	3	.31
3	42	2	.23	13	2	.07	32	3	.26
4	37	4	.40	12	2	.06	29	2	.16
5	33	8	.71	12	2	.06	28	1	.08
6	31	9	.75	12	2	.06	26	1	.07
7	30	9	.73	11	2	.06	25	0	.00
8	29	9	.70	11	2	.06	25	0	.00
9	28	9	.68	11	2	.06	24	0	.00
10	27	9	.66	11	2	.06	33	0	.00
11	25	9	.61	11	2	.06	48	4	.52
12	24	9	.58	11	2	.06	37	2	.20
13	23	8	.50	30	5	.90	34	1	.09
14	22	4	.24	191	93	51	33	1	.09
15	21	1	.06	393	318	549	29	1	.08
16	21	1	.06	518	578	1030	26	1	.07
17	21	1	.06	176	60	29	26	1	.07
18	20	1	.05	103	14	3.9	24	1	.06
19	19	1	.05	75	8	1.6	22	1	.06
20	18	1	.05	68	7	1.3	21	1	.06
21	18	1	.05	76	7	1.4	20	1	.05
22	17	1	.05	88	7	1.7	19	1	.05
23	16	1	.04	72	8	1.6	19	1	.05
24	16	1	.04	60	8	1.3	19	1	.05
25	16	1	.04	54	7	1.0	20	1	.05
26	15	2	.08	48	5	.65	19	1	.05
27	15	2	.08	43	5	.58	19	1	.05
28	15	2	.08	39	4	.42	19	1	.05
29	13	2	.07	---	---	---	19	1	.05
30	13	2	.07	---	---	---	19	1	.05
31	13	2	.07	---	---	---	18	1	.05
TOTAL	722	---	8.25	2175	---	1676.10	808	---	3.14

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

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	18	1	.05	119	10	3.2	132	20	7.1
2	18	1	.05	126	10	3.4	126	13	4.4
3	18	1	.05	133	30	11	122	13	4.3
4	18	1	.05	132	10	3.6	112	10	3.0
5	17	1	.05	131	10	3.5	106	8	2.3
6	17	1	.05	132	13	4.6	90	8	1.9
7	16	1	.04	151	33	13	94	7	1.8
8	16	1	.04	153	20	8.3	101	8	2.2
9	18	1	.05	123	10	3.3	111	9	2.7
10	26	5	.35	99	10	2.7	130	10	3.5
11	170	200	92	93	10	2.5	145	10	3.9
12	180	65	32	97	12	3.1	133	10	3.6
13	80	20	4.3	111	15	4.5	123	7	2.3
14	61	9	1.5	110	10	3.0	135	14	5.1
15	54	4	.58	120	12	3.9	163	15	6.6
16	50	3	.41	140	17	6.4	183	15	7.4
17	48	3	.39	163	17	7.5	186	15	7.5
18	53	3	.43	160	13	5.6	191	51	34
19	51	3	.41	142	13	5.0	221	20	12
20	49	3	.40	150	23	9.3	187	18	9.1
21	48	3	.39	178	26	14	169	15	6.8
22	53	3	.43	205	40	26	148	13	5.2
23	70	4	.76	225	35	24	135	12	4.4
24	87	4	.94	239	38	27	125	11	3.7
25	87	4	.94	239	42	29	119	10	3.2
26	91	5	1.2	258	53	41	113	8	2.4
27	92	5	1.2	248	51	34	110	6	1.8
28	98	5	1.3	203	27	15	107	5	1.4
29	91	4	.98	156	10	4.2	109	5	1.5
30	94	8	2.0	141	12	4.6	87	5	1.2
31	---	---	---	143	15	5.8	---	---	---
TOTAL	1789	---	143.34	4820	---	332.0	4013	---	156.3

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)
JULY				AUGUST			SEPTEMBER		
1	81	4	.87	19	0	.00	3.5	2	.02
2	74	4	.80	17	0	.00	3.3	2	.02
3	72	3	.58	15	0	.00	3.1	2	.02
4	64	3	.52	14	0	.00	2.8	2	.02
5	61	2	.33	13	0	.00	2.7	2	.01
6	60	2	.32	12	0	.00	3.0	2	.02
7	61	2	.33	13	0	.00	2.7	1	.01
8	60	2	.32	13	1	.04	2.5	1	.01
9	57	2	.31	12	1	.03	2.4	1	.01
10	56	2	.30	10	2	.05	2.5	1	.01
11	56	2	.30	9.9	2	.05	2.6	1	.01
12	56	2	.30	9.2	2	.05	2.6	0	.00
13	56	2	.30	8.6	2	.05	2.6	0	.00
14	54	1	.15	8.2	2	.04	2.3	0	.00
15	52	1	.14	7.7	3	.06	3.2	0	.00
16	48	1	.13	7.0	3	.06	7.1	0	.00
17	43	0	.00	6.8	3	.06	7.5	1	.02
18	39	0	.00	6.7	3	.05	8.5	1	.02
19	37	0	.00	6.8	3	.06	9.7	1	.03
20	33	0	.00	6.8	3	.06	7.1	1	.02
21	32	0	.00	6.4	2	.03	5.4	1	.01
22	30	0	.00	5.8	2	.03	4.7	1	.01
23	28	0	.00	5.7	2	.03	3.7	1	.01
24	29	0	.00	5.3	2	.03	20	47	3.9
25	28	0	.00	5.0	2	.03	36	88	9.8
26	28	0	.00	4.6	2	.02	24	12	.78
27	27	0	.00	4.0	2	.02	16	2	.09
28	26	0	.00	4.6	2	.02	13	1	.04
29	24	0	.00	4.4	2	.02	12	0	.00
30	23	0	.00	4.1	2	.02	12	0	.00
31	21	0	.00	3.6	2	.02	---	---	---
TOTAL	1416	---	6.00	269.2	---	0.93	228.5	---	14.89
YEAR	21370.94		9854.77						

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

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	
NOV									
13...	2145	356	2.0	732	891	8	12	18	
15...	1015	98	3.0	46	11	--	--	--	
15...	1650	237	3.0	147	108	--	--	--	
15...	1710	231	3.5	127	79	--	--	--	
16...	0900	109	3.5	16	4.7	--	--	--	
21...	2100	441	1.5	411	489	--	--	--	
22...	0840	181	3.0	22	11	--	--	--	
23...	2030	667	3.0	977	1760	--	--	--	
24...	0030	756	3.0	1410	2880	--	--	--	
24...	1715	186	2.0	85	43	--	--	--	
DEC									
19...	0715	496	1.5	1150	1540	--	--	--	
19...	1945	1190	2.0	2170	6970	--	--	--	
20...	0300	1090	2.5	1740	5120	--	--	--	
20...	0905	740	3.5	549	1100	6	10	15	
20...	1330	711	2.0	604	1160	--	--	--	
20...	1730	377	2.5	296	301	--	--	--	
FEB									
15...	1130	268	--	215	156	--	--	--	
16...	0315	896	1.0	1000	2420	--	--	--	
16...	1000	459	2.5	598	741	6	8	12	
16...	1600	314	--	282	239	--	--	--	
17...	1100	169	2.0	52	24	--	--	--	
APR									
11...	1100	170	1.0	267	587	--	--	--	
11...	1600	170	1.0	331	527	--	--	--	
MAY									
03...	1850	148	4.0	91	39	--	--	--	
19...	1835	164	5.0	53	4.0	--	--	--	
24...	1900	276	5.0	169	126	--	--	--	
31...	1840	177	6.0	21	10	--	--	--	
JUN									
14...	1925	175	6.5	25	9.4	--	--	--	
18...	2115	298	6.0	381	26	--	--	--	
SEP									
24...	0850	30	9.0	171	14	--	--	--	
25...	0845	49	9.5	140	19	--	--	--	
25...	1540	45	11.5	112	14	--	--	--	
25...	2045	52	10.0	73	10	--	--	--	
DATE		SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV									
13...	26	34	41	51	66	79	92	100	
15...	--	--	31	--	--	--	--	--	
15...	--	--	47	--	--	--	--	--	
15...	--	--	48	--	--	--	--	--	
16...	--	--	62	--	--	--	--	--	
21...	--	--	27	--	--	--	--	--	
22...	--	--	30	--	--	--	--	--	
23...	--	--	29	--	--	--	--	--	
24...	--	--	26	--	--	--	--	--	
24...	--	--	37	--	--	--	--	--	
DEC									
19...	--	--	18	--	--	--	--	--	
19...	--	--	19	--	--	--	--	--	
20...	--	--	25	--	--	--	--	--	
20...	22	29	37	51	69	86	96	100	
20...	--	--	28	--	--	--	--	--	
20...	--	--	33	--	--	--	--	--	
FEB									
15...	--	--	32	--	--	--	--	--	
16...	--	--	21	--	--	--	--	--	
16...	17	27	45	68	82	90	95	--	
16...	--	--	35	--	--	--	--	--	
17...	--	--	31	--	--	--	--	--	
APR									
11...	--	--	33	52	74	92	100	--	
11...	--	--	24	--	--	--	--	--	
MAY									
03...	--	--	31	--	--	--	--	--	
19...	--	--	14	--	--	--	--	--	
24...	--	--	32	--	--	--	--	--	
31...	--	--	32	--	--	--	--	--	
JUN									
14...	--	--	20	--	--	--	--	--	
18...	--	--	38	54	73	87	93	93	
SEP									
24...	--	--	96	--	--	--	--	--	
25...	--	--	92	97	100	--	--	--	
25...	--	--	96	--	--	--	--	--	
25...	--	--	94	--	--	--	--	--	

10336689 SNOW CREEK AT TAHOE VISTA, CA

LOCATION.--Lat 39°14'18", long 120°02'19", in SE&NW¼ sec.13, T.16 N., R.17 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft (90 m) downstream from State Highway 28, 0.6 mi (1.0 km) east of Tahoe Vista Post Office, and 20 ft (6 m) upstream from Lake Tahoe.

DRAINAGE AREA.--4.43 mi<sup>2</sup> (11.5 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,225.24 ft (1,897.453 m), National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except flows below 1 ft<sup>3</sup>/s (.028 m<sup>3</sup>/s) and from May 27 to Sept. 30, which are poor. Some small diversions above station for domestic use.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53 ft<sup>3</sup>/s (1.50 m<sup>3</sup>/s) Feb. 16, 1982, gage height, 3.15 ft (0.960 m); minimum discharge, no flow many days during July, August, and September, 1981.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	0415	34 0.96	2.93 0.893	Apr. 11	0100	24 .68	2.82 .860
Feb. 16	1615	*53 1.50	3.15 .960	May 4	2000	31 .88	2.87 .875

Minimum daily, 0.01 ft<sup>3</sup>/s (0.0003 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.12	.56	3.1	1.1	10	3.2	26	7.9	1.5	.42	.15
2	.03	.11	.53	3.0	1.1	8.8	3.1	27	7.4	1.5	.40	.15
3	.06	.10	.52	2.5	1.1	6.3	3.0	27	7.0	1.4	.38	.14
4	.06	.08	.46	2.5	1.1	4.8	3.0	28	6.6	1.4	.36	.14
5	.06	.06	.46	2.4	1.1	3.8	3.0	27	6.0	1.4	.35	.13
6	.06	.08	.46	2.3	1.1	3.1	3.0	25	5.2	1.4	.34	.13
7	.13	.06	.46	2.1	1.0	2.5	3.0	26	4.5	1.3	.34	.12
8	.08	.05	.43	2.0	1.0	3.2	3.0	25	4.1	1.3	.33	.12
9	.06	.05	.51	1.9	1.0	2.4	3.7	23	4.3	1.2	.32	.12
10	.09	.05	.65	1.8	1.0	4.9	11	21	4.6	1.2	.31	.12
11	.10	.05	.53	1.7	.97	10	16	18	4.9	1.1	.30	.11
12	.11	.67	.54	1.7	.97	7.2	17	16	4.6	1.1	.29	.11
13	.11	2.9	.61	1.6	1.1	7.1	16	15	3.9	1.0	.27	.11
14	.10	2.1	.67	1.6	1.2	8.5	16	15	3.1	.97	.26	.11
15	.10	.60	.82	1.5	4.8	6.9	16	14	2.7	.92	.24	.15
16	.12	.43	.69	1.4	44	5.6	16	14	2.7	.88	.23	.18
17	.12	1.8	.54	1.4	31	4.3	17	15	2.8	.84	.22	.23
18	.09	.56	.64	1.4	19	3.8	20	14	3.0	.80	.21	.24
19	.12	.46	11	1.3	13	2.3	19	14	3.5	.76	.20	.23
20	.12	.41	26	1.3	13	1.4	19	13	3.7	.72	.19	.22
21	.15	6.4	16	1.2	15	.72	18	13	2.9	.68	.18	.18
22	.14	3.1	10	1.1	18	.49	20	13	2.6	.66	.18	.17
23	.14	5.2	8.2	1.0	16	.42	22	13	2.4	.62	.18	.17
24	.14	8.2	5.8	.99	13	.84	24	13	2.2	.60	.17	1.0
25	.14	2.7	4.9	1.0	11	2.4	23	13	2.1	.57	.17	2.2
26	.18	1.8	4.4	1.0	9.9	2.4	24	13	2.0	.55	.16	1.0
27	.20	1.1	4.3	1.0	8.5	3.6	25	12	1.9	.53	.16	.70
28	.49	.77	3.4	1.1	7.9	4.3	26	11	1.8	.50	.16	.63
29	.19	.70	3.8	1.1	---	4.3	25	10	1.7	.48	.16	.60
30	.11	.60	4.4	1.1	---	3.9	24	9.3	1.6	.46	.15	.58
31	.09	---	3.4	1.1	---	3.5	---	8.6	---	.44	.15	---
TOTAL	3.70	41.31	115.68	50.19	238.94	133.77	442.0	531.9	113.7	28.78	7.78	10.24
MEAN	.12	1.38	3.73	1.62	8.53	4.32	14.7	17.2	3.79	.93	.25	.34
MAX	.49	8.2	26	3.1	44	10	26	28	7.9	1.5	.42	2.2
MIN	.01	.05	.43	.99	.97	.42	3.0	8.6	1.6	.44	.15	.11
AC-FT	7.3	82	229	100	474	265	877	1060	226	57	15	20

CAL YR 1981 TOTAL 264.81 MEAN .73 MAX 26 MIN 0 AC-FT 525  
WTR YR 1982 TOTAL 1717.99 MEAN 4.71 MAX 44 MIN .01 AC-FT 3410

NOTE.--Stage discharge relation affected by backwater from Lake Tahoe May 26 to Sept. 30.

10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

## WATER-QUALITY RECORDS

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

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: October 1980 to current year.

SEDIMENT RECORDS: October 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1981 to current year.

WATER TEMPERATURES: June 1981 to current year.

SEDIMENT RECORDS: October 1980 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 210 micromhos Apr. 10, 1982; minimum daily, 67 micromhos Nov. 16, 1981.

WATER TEMPERATURES: Maximum recorded, 22.0°C June 23, July 10-11, 1982; minimum recorded, 0.0°C on several days during most years.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 936 mg/L Oct. 7, 1981; minimum daily mean, 1 mg/L on several days during most years.

SEDIMENT DISCHARGE: Maximum daily, 23 ton (21 metric ton) Nov. 21, 1981; minimum daily, 0 ton (0 metric ton) on many days during most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 210 micromhos Apr. 10; minimum daily, 67 micromhos Nov. 16.

WATER TEMPERATURES: Maximum recorded, 22.0°C June 23, July 10-11; minimum recorded, 0.0°C on several days during winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 936 mg/L Oct. 7; minimum daily mean, 1 mg/L on several days in March, May, and September.

SEDIMENT DISCHARGE: Maximum daily, 23 tons (21 metric tons) Nov. 21; minimum daily, 0 ton (0 metric ton) on many days.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	165	144	---	160	145	174	107	87	118	118	155
2	---	168	146	---	161	145	179	104	87	120	115	157
3	---	172	148	---	161	154	180	104	88	120	115	159
4	---	169	149	---	162	159	182	101	89	122	112	159
5	---	172	147	---	163	156	185	101	90	123	113	158
6	---	172	---	---	162	154	191	101	91	124	112	158
7	---	170	---	---	161	154	192	98	92	126	116	---
8	---	170	---	---	160	152	194	97	92	126	127	---
9	---	169	150	---	161	154	196	98	94	126	126	---
10	---	167	150	---	157	150	198	100	95	126	123	---
11	---	164	151	---	161	146	183	101	96	128	124	---
12	---	165	153	---	155	151	196	102	97	129	122	---
13	---	104	148	---	144	153	203	101	97	129	122	---
14	---	121	149	---	145	153	200	99	98	131	123	---
15	---	92	147	---	131	157	189	97	100	130	125	---
16	---	67	150	---	121	156	185	96	101	130	125	---
17	---	117	151	---	130	155	179	95	103	131	127	---
18	---	143	146	---	136	156	172	93	107	132	131	---
19	---	147	---	---	138	156	173	92	110	132	133	---
20	---	147	---	---	---	155	168	90	111	132	136	---
21	---	101	---	---	---	153	164	88	111	135	139	---
22	---	126	---	---	---	152	159	86	113	136	140	---
23	---	106	---	---	---	152	154	84	114	134	142	---
24	---	114	---	---	---	153	146	84	116	136	144	---
25	---	134	---	---	147	156	140	83	117	134	146	---
26	---	138	---	160	149	159	134	86	118	131	147	---
27	99	141	---	161	148	161	127	89	119	129	147	---
28	114	143	---	159	149	163	121	90	118	125	147	---
29	136	145	---	162	---	166	115	89	117	128	150	---
30	146	145	---	161	---	168	111	85	118	125	155	---
31	160	---	---	159	---	171	---	85	---	122	154	---
MONTH	---	142	---	---	151	155	170	94	103	128	131	---

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	14.0	2.5	16.5	5.5	16.0	11.5	19.0	15.5		
2	0.0	0.0	14.0	3.0	16.5	6.0	19.5	10.5	19.0	14.0		
3	0.0	0.0	14.5	3.0	16.5	5.5	18.0	10.0	17.0	14.5		
4	0.5	0.0	13.5	3.5	15.0	6.0	18.5	11.0	17.5	15.0		
5	1.5	0.0	13.5	2.5	14.5	5.5	21.0	9.5	17.0	12.5		
6	2.0	0.0	14.5	3.0	16.0	5.5	21.5	11.0	16.5	15.5		
7	2.5	0.0	14.0	4.0	16.5	6.0	21.0	12.5	17.0	16.5		
8	4.0	0.5	11.5	4.0	17.5	6.5	21.5	13.0	17.5	16.0		
9	5.5	0.5	7.0	3.0	18.5	7.0	21.5	11.0	17.5	16.0		
10	4.0	0.5	10.0	2.5	19.0	8.0	22.0	12.0	18.0	14.5		
11	1.5	0.5	11.0	2.0	16.5	9.5	22.0	12.5	17.5	14.0		
12	4.5	0.5	14.0	3.0	15.5	9.0	21.5	13.0	17.0	14.5		
13	4.0	1.0	14.5	4.0	14.0	8.0	21.5	13.0	16.0	15.0		
14	8.0	1.5	12.0	4.5	19.5	8.5	20.5	13.5	16.5	14.5		
15	9.0	0.5	14.5	4.0	20.5	9.5	20.5	13.0	16.0	14.0		
16	10.5	0.5	16.0	4.5	20.0	10.5	18.5	13.0	15.5	14.5		
17	11.5	1.0	14.5	5.5	17.5	11.5	17.5	12.5	16.0	15.0		
18	12.0	1.0	14.5	4.5	20.0	11.0	18.5	13.5	16.5	15.5		
19	11.5	1.5	15.5	4.0	16.0	11.0	18.0	13.5	16.5	16.0		
20	11.0	1.0	16.0	5.0	21.0	11.0	18.5	13.5	16.0	15.5		
21	12.0	1.0	16.5	5.5	21.0	11.0	20.0	13.5	16.5	16.0		
22	13.0	1.5	17.5	6.5	21.0	11.0	19.0	16.0	17.0	16.5		
23	13.0	2.0	17.0	6.5	22.0	11.0	19.5	17.5	17.0	17.0		
24	13.0	2.0	17.5	7.0	17.0	11.5	20.5	18.0	17.0	15.5		
25	10.5	2.5	18.5	7.5	21.0	11.0	19.5	17.0	16.5	15.5		
26	11.5	3.0	18.0	7.5	21.5	11.0	19.0	17.0	17.0	15.5		
27	13.5	2.0	16.5	8.0	20.0	12.0	20.0	17.0	17.0	14.5		
28	12.5	2.5	16.0	5.5	16.5	13.0	19.0	16.5	16.0	15.5		
29	11.5	2.0	13.5	6.0	15.5	11.5	21.0	16.5	17.0	15.0		
30	13.0	2.0	16.5	5.5	16.0	11.0	19.0	16.5	16.5	13.5		
31	---	---	15.0	6.5	---	---	19.5	15.5	15.0	13.5		
MONTH	13.5	0.0	18.5	2.0	22.0	5.5	22.0	9.5	19.0	12.5		



10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	.01	8	.00	.12	30	.01	.56	2	.00
2	.03	8	.00	.11	50	.01	.53	2	.00
3	.06	8	.00	.10	70	.02	.52	2	.00
4	.06	8	.00	.08	50	.01	.46	3	.00
5	.06	8	.00	.06	35	.01	.46	3	.00
6	.06	8	.00	.08	40	.01	.46	3	.00
7	.13	936	.42	.06	42	.01	.46	4	.00
8	.08	70	.02	.05	12	.00	.43	4	.00
9	.06	20	.00	.05	10	.00	.51	4	.01
10	.09	70	.02	.05	10	.00	.65	4	.01
11	.10	12	.00	.05	10	.00	.53	4	.01
12	.11	8	.00	.67	233	.63	.54	4	.01
13	.11	5	.00	2.9	281	3.0	.61	4	.01
14	.10	5	.00	2.1	50	.28	.67	4	.01
15	.10	5	.00	.60	5	.01	.82	4	.01
16	.12	5	.00	.43	5	.01	.69	4	.01
17	.12	5	.00	1.8	83	.59	.54	4	.01
18	.09	5	.00	.56	5	.01	.64	6	.01
19	.12	5	.00	.46	5	.01	11	133	4.2
20	.12	5	.00	.41	5	.01	26	176	14
21	.15	5	.00	6.4	748	23	16	6	.31
22	.14	5	.00	3.1	20	.17	10	5	.15
23	.14	5	.00	5.2	52	.83	8.2	5	.11
24	.14	5	.00	8.2	66	2.1	5.8	5	.08
25	.14	5	.00	2.7	3	.02	4.9	5	.07
26	.18	5	.00	1.8	3	.01	4.4	5	.06
27	.20	5	.00	1.1	3	.01	4.3	4	.05
28	.49	101	.16	.77	3	.01	3.4	4	.04
29	.19	45	.02	.70	2	.00	3.8	4	.04
30	.11	30	.01	.60	2	.00	4.4	4	.05
31	.09	20	.00	---	---	---	3.4	4	.04
TOTAL	3.70	---	0.65	41.31	---	30.78	115.68	---	19.30

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)
JANUARY			FEBRUARY			MARCH			
1	3.1	4	.03	1.1	2	.01	10	5	.14
2	3.0	4	.03	1.1	2	.01	8.8	4	.10
3	2.5	4	.03	1.1	2	.01	6.3	4	.07
4	2.5	4	.03	1.1	2	.01	4.8	3	.04
5	2.4	3	.02	1.1	2	.01	3.8	3	.03
6	2.3	3	.02	1.1	2	.01	3.1	3	.03
7	2.1	3	.02	1.0	2	.01	2.5	2	.01
8	2.0	3	.02	1.0	2	.01	3.2	3	.03
9	1.9	3	.02	1.0	2	.01	2.4	2	.01
10	1.8	3	.01	1.0	2	.01	4.9	4	.05
11	1.7	3	.01	.97	2	.01	10	7	.19
12	1.7	3	.01	.97	2	.01	7.2	2	.04
13	1.6	3	.01	1.1	3	.01	7.1	2	.04
14	1.6	3	.01	1.2	23	.09	8.5	2	.05
15	1.5	2	.01	4.8	81	1.4	6.9	2	.04
16	1.4	2	.01	44	133	15	5.6	1	.02
17	1.4	2	.01	31	7	.59	4.3	1	.01
18	1.4	2	.01	19	6	.31	3.8	1	.01
19	1.3	2	.01	13	5	.18	2.3	1	.01
20	1.3	2	.01	13	5	.18	1.4	1	.00
21	1.2	2	.01	15	6	.24	.72	1	.00
22	1.1	2	.01	18	5	.24	.49	1	.00
23	1.0	2	.01	16	4	.17	.42	1	.00
24	.99	2	.01	13	4	.14	.84	3	.01
25	1.0	2	.01	11	4	.12	2.4	4	.03
26	1.0	2	.01	9.9	4	.11	2.4	2	.01
27	1.0	2	.01	8.5	4	.09	3.6	2	.02
28	1.1	2	.01	7.9	4	.09	4.3	2	.02
29	1.1	2	.01	---	---	---	4.3	2	.02
30	1.1	2	.01	---	---	---	3.9	2	.02
31	1.1	2	.01	---	---	---	3.5	2	.02
TOTAL	50.19	---	0.44	238.94	---	19.08	133.77	---	1.07

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	3.2	2	.02	26	4	.28	7.9	7	.15
2	3.1	2	.02	27	4	.29	7.4	7	.14
3	3.0	2	.02	27	4	.29	7.0	7	.13
4	3.0	2	.02	28	4	.30	6.6	7	.12
5	3.0	2	.02	27	4	.29	6.0	7	.11
6	3.0	2	.02	25	4	.27	5.2	7	.10
7	3.0	2	.02	26	4	.28	4.5	8	.10
8	3.0	2	.02	25	4	.27	4.1	8	.09
9	3.7	4	.04	23	4	.25	4.3	8	.09
10	11	6	.18	21	4	.23	4.6	8	.10
11	16	14	.60	18	3	.15	4.9	8	.11
12	17	4	.18	16	2	.09	4.6	8	.10
13	16	4	.17	15	1	.04	3.9	8	.08
14	16	4	.17	15	1	.04	3.1	8	.07
15	16	5	.22	14	1	.04	2.7	7	.05
16	16	3	.13	14	2	.08	2.7	7	.05
17	17	3	.14	15	3	.12	2.8	6	.05
18	20	3	.16	14	5	.19	3.0	8	.06
19	19	3	.15	14	5	.19	3.5	5	.05
20	19	3	.15	13	5	.18	3.7	5	.05
21	18	2	.10	13	5	.18	2.9	4	.03
22	20	3	.16	13	5	.18	2.6	4	.03
23	22	3	.18	13	5	.18	2.4	4	.03
24	24	5	.32	13	10	.35	2.2	4	.02
25	23	4	.25	13	5	.18	2.1	4	.02
26	24	3	.19	13	7	.25	2.0	4	.02
27	25	3	.20	12	7	.23	1.9	4	.02
28	26	3	.21	11	7	.21	1.8	4	.02
29	25	3	.20	10	7	.19	1.7	3	.01
30	24	4	.26	9.3	7	.18	1.6	3	.01
31	---	---	---	8.6	7	.16	---	---	---
TOTAL	442.0	---	4.52	531.9	---	6.16	113.7	---	2.01

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)
JULY			AUGUST			SEPTEMBER			
1	1.5	3	.01	.42	3	.00	.15	9	.00
2	1.5	3	.01	.40	3	.00	.15	10	.00
3	1.4	3	.01	.38	3	.00	.14	11	.00
4	1.4	3	.01	.36	3	.00	.14	8	.00
5	1.4	3	.01	.35	3	.00	.13	5	.00
6	1.4	3	.01	.34	3	.00	.13	5	.00
7	1.3	3	.01	.34	3	.00	.12	5	.00
8	1.3	3	.01	.33	3	.00	.12	5	.00
9	1.2	3	.01	.32	3	.00	.12	5	.00
10	1.2	3	.01	.31	3	.00	.12	5	.00
11	1.1	3	.01	.30	4	.00	.11	5	.00
12	1.1	3	.01	.29	4	.00	.11	5	.00
13	1.0	3	.01	.27	4	.00	.11	5	.00
14	.97	3	.01	.26	4	.00	.11	5	.00
15	.92	2	.00	.24	4	.00	.15	5	.00
16	.88	2	.00	.23	4	.00	.18	5	.00
17	.84	2	.00	.22	4	.00	.23	5	.00
18	.80	2	.00	.21	4	.00	.24	5	.00
19	.76	2	.00	.20	4	.00	.23	5	.00
20	.72	2	.00	.19	5	.00	.22	5	.00
21	.68	2	.00	.18	5	.00	.18	5	.00
22	.66	2	.00	.18	5	.00	.17	5	.00
23	.62	2	.00	.18	5	.00	.17	10	.00
24	.60	2	.00	.17	5	.00	1.0	27	.07
25	.57	2	.00	.17	5	.00	2.2	35	.21
26	.55	2	.00	.16	6	.00	1.0	4	.01
27	.53	2	.00	.16	6	.00	.70	2	.00
28	.50	3	.00	.16	7	.00	.63	2	.00
29	.48	3	.00	.16	7	.00	.60	2	.00
30	.46	3	.00	.15	8	.00	.58	1	.00
31	.44	3	.00	.15	8	.00	---	---	---
TOTAL	28.78	---	0.14	7.78	---	0.00	10.24	---	0.29

YEAR 1717.99

84.44

10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
OCT									
07...	1115	.12	8.5	1500	.49	2	--	--	--
07...	1245	.12	7.5	1090	.35	2	--	--	--
NOV									
12...	1330	.9*	3.5	904	2.3	7	12	89	100
24...	0215	13	5.0	214	7.5	14	--	--	--
DEC									
20...	0115	30	4.0	262	21	5	--	--	--
FEB									
16...	0130	41	.5	184	20	14	--	--	--
SEP									
24...	1030	1.0	10.5	77	.21	13	--	--	--
25...	1420	2.2	12.5	52	.31	17	--	--	--

10336698 THIRD CREEK NEAR CRYSTAL BAY, NV

LOCATION.--Lat 39°14'26", long 119°56'41", in SW¼NE¼ sec.22, T.16 N., R.18 E., Washoe County, Hydrologic Unit 16050101, on right bank 50 ft (15 m) upstream from culvert on Lakeshore Boulevard, 600 ft (180 m) upstream from mouth, and 3 mi (5 km) east of Crystal Bay.

DRAINAGE AREA.--6.05 mi<sup>2</sup> (15.7 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1969 to September 1973, February to September 1975, October 1977 to current year.

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

GAGE.--Water-stage recorder. Datum of gage is 6,234.03 ft (1,900.132 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter months, which are fair. One transmountain diversion to Washoe Valley.

AVERAGE DISCHARGE.--9 years (water years 1970-73, 1978-82), 8.12 ft<sup>3</sup>/s (0.230 m<sup>3</sup>/s), 5,880 acre-ft/yr (7.25 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) June 18, 1982, gage height, 3.40 ft (1.04 m); maximum gage height, 3.77 ft (1.149 m) Jan. 23, 1973, backwater from ice; minimum daily discharge, 0.66 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) on several days during October 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	0200	46 1.30	2.79 0.850	Apr. 1	0400	30 0.85	2.69 .820
Jan. 5	0200	44 1.25	2.81 .856	May 26	2000	53 1.50	2.86 .872
Feb. 15	2400	48 1.36	2.90 .884	June 18	2300	*150 4.25	3.40 1.036

Minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Oct. 1, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	3.0	4.5	5.8	2.4	5.5	5.4	15	37	47	16	3.7
2	1.5	3.1	4.3	5.6	2.4	5.4	5.4	18	37	39	14	3.6
3	1.6	2.7	4.1	5.3	2.4	5.3	5.2	21	37	38	12	3.6
4	1.7	3.0	3.9	5.1	2.3	5.1	5.1	22	36	35	11	3.4
5	1.6	2.7	3.9	4.9	2.3	5.0	5.0	22	34	33	11	3.3
6	1.4	3.3	3.8	4.8	2.3	5.0	4.9	23	32	35	9.8	3.2
7	2.2	2.9	3.6	4.6	2.3	4.9	4.9	26	31	35	9.8	3.1
8	1.7	2.6	3.6	4.5	2.3	5.3	5.0	27	32	36	10	3.0
9	1.6	2.5	3.8	4.3	2.4	5.3	7.5	24	34	32	9.2	3.0
10	2.0	2.6	4.3	4.1	2.5	6.7	13	19	37	32	8.3	3.2
11	1.8	2.5	3.8	4.0	2.6	7.9	23	17	39	35	7.7	3.1
12	1.7	5.9	3.8	3.9	2.8	6.7	18	16	39	34	8.6	2.9
13	1.7	16	4.1	3.7	3.9	6.8	15	17	37	32	9.2	2.9
14	1.7	8.3	3.9	3.7	7.5	6.9	12	18	35	36	8.7	3.0
15	1.8	5.9	4.5	3.6	20	6.0	11	18	39	32	7.1	5.3
16	5.0	5.7	3.9	3.5	24	5.7	10	21	53	29	6.5	6.8
17	2.1	6.4	3.6	3.4	12	6.1	11	21	71	27	6.0	4.9
18	1.8	4.6	3.9	3.2	9.1	5.8	11	22	85	25	5.5	5.4
19	2.0	4.1	25	3.1	8.6	5.3	11	22	99	24	5.7	9.9
20	2.9	3.6	34	3.0	9.5	5.4	10	23	74	22	5.4	13
21	1.7	9.2	18	2.9	11	5.5	10	25	69	23	5.1	6.1
22	1.6	7.2	13	2.8	11	5.5	11	28	69	24	5.0	4.1
23	1.6	13	9.2	2.8	8.6	5.7	12	31	67	24	5.1	3.4
24	1.6	15	8.3	2.7	7.3	6.1	12	33	63	26	4.9	7.7
25	1.6	8.0	7.4	2.6	6.3	6.4	12	39	59	29	4.7	15
26	1.5	6.4	7.0	2.6	5.9	6.1	12	39	60	27	4.3	8.9
27	1.7	5.7	6.8	2.6	5.8	6.1	12	37	61	28	4.2	7.4
28	4.4	5.2	6.4	2.6	5.7	6.0	13	36	54	27	4.2	6.9
29	2.7	5.0	6.7	2.5	---	5.8	13	35	48	26	4.1	8.3
30	2.5	4.8	7.3	2.4	---	5.6	12	34	42	22	4.0	7.7
31	2.7	---	6.0	2.4	---	5.5	---	37	---	21	3.9	---
TOTAL	62.8	170.9	226.4	113.0	185.2	180.4	312.4	786	1510	935	231.0	165.8
MEAN	2.03	5.70	7.30	3.65	6.61	5.82	10.4	25.4	50.3	30.2	7.45	5.53
MAX	5.0	16	34	5.8	24	7.9	23	39	99	47	16	15
MIN	1.4	2.5	3.6	2.4	2.3	4.9	4.9	15	31	21	3.9	2.9
AC-FT	125	339	449	224	367	358	620	1560	3000	1850	458	329

CAL YR 1981 TOTAL 1675.1 MEAN 4.59 MAX 34 MIN 1.3 AC-FT 3320  
WTR YR 1982 TOTAL 4878.9 MEAN 13.4 MAX 99 MIN 1.4 AC-FT 9680

10336698 THIRD CREEK NEAR CRYSTAL BAY, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1970-73, 1975, 1978 to current year.

CHEMICAL ANALYSES: Water years 1970-73, 1975, 1978-79.

SPECIFIC CONDUCTANCE: March 1981 to current year.

WATER TEMPERATURES: Water years 1980 to current year.

SEDIMENT RECORDS: Water years 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1981 to current year.

WATER TEMPERATURES: January 1980 to current year.

SEDIMENT RECORDS: January 1980 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 350 micromhos Mar. 30, 1981; minimum daily, 24 micromhos May 14, 1981.

WATER TEMPERATURES: Maximum recorded, 19.5°C several days during June to August 1981; minimum recorded, 0°C several days during March and April 1981.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 800 mg/L June 18, 1980; minimum daily mean, 0 mg/L several days during October 1980 and on Dec. 8, 1981.

SEDIMENT DISCHARGE.--Maximum daily, 183 tons (166 metric tons) June 19, 1982; minimum daily, 0 ton (0 metric ton) many days during October 1980 and on Dec. 8, 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 107 micromhos Feb. 24-27; minimum daily, 23 micromhos July 12, 13.

WATER TEMPERATURES: Maximum recorded, 11.5°C Oct. 1; minimum recorded, 0°C several days during March.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 628 mg/L June 19; minimum daily mean, 0 mg/L Dec. 8.

SEDIMENT DISCHARGE: Maximum daily, 183 tons (166 metric tons) June 19; minimum daily, 0 ton (0 metric ton) Dec. 8.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69				---	---	---	69	31	26	30	
2	67				---	---	---	70	29	29	31	
3	66				---	---	---	69	31	30	---	
4	62				---	---	---	63	29	28	---	
5	60				---	92	---	58	29	27	---	
6	59				---	90	---	60	28	26	---	
7	61				---	90	---	56	29	26	---	
8	---				---	91	---	53	30	27	---	
9	---				---	90	---	51	28	26	---	
10	---				---	91	---	52	27	25	---	
11	---				---	90	---	51	32	25	---	
12	---				---	92	---	50	31	23	---	
13	---				---	91	---	48	32	23	---	
14	---				---	92	89	46	39	25	---	
15	---				---	94	92	44	36	26	---	
16	---				---	92	90	42	34	26	---	
17	---				---	96	84	43	33	28	---	
18	---				---	---	83	44	37	28	---	
19	---				---	---	82	37	50	32	---	
20	---				---	---	81	38	46	35	---	
21	---				---	92	81	41	32	36	---	
22	---				---	92	80	36	26	38	---	
23	---				---	92	79	38	24	35	---	
24	---				106	92	79	30	30	31	---	
25	---				105	---	80	32	29	31	---	
26	---				105	---	81	37	29	33	---	
27	---				105	---	86	35	26	28	---	
28	---				---	---	82	34	25	27	---	
29	---				---	---	75	33	27	27	---	
30	---				---	---	72	33	26	28	---	
31	---				---	---	---	29	---	29	---	
MONTH	---				---	---	---	46	31	29	---	

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1.4	2	.01	3.0	3	.02	4.5	4	.05
2	1.5	2	.01	3.1	3	.03	4.3	3	.03
3	1.6	3	.01	2.7	2	.01	4.1	3	.03
4	1.7	3	.01	3.0	2	.02	3.9	2	.02
5	1.6	2	.01	2.7	2	.01	3.9	2	.02
6	1.4	2	.01	3.3	5	.04	3.8	1	.01
7	2.2	116	.98	2.9	2	.02	3.6	1	.01
8	1.7	2	.01	2.6	2	.01	3.6	0	0
9	1.6	2	.01	2.5	2	.01	3.8	2	.02
10	2.0	10	.06	2.6	2	.01	4.3	5	.06
11	1.8	3	.01	2.5	2	.01	3.8	4	.04
12	1.7	2	.01	5.9	126	2.6	3.8	3	.03
13	1.7	2	.01	16	199	12	4.1	4	.04
14	1.7	2	.01	8.3	30	.67	3.9	5	.05
15	1.8	3	.01	5.9	4	.06	4.5	8	.10
16	5.0	20	.28	5.7	3	.05	3.9	4	.04
17	2.1	3	.02	6.4	8	.14	3.6	4	.04
18	1.8	2	.01	4.6	4	.05	3.9	25	.26
19	2.0	5	.04	4.1	4	.04	25	460	36
20	2.9	12	.14	3.6	4	.04	34	216	22
21	1.7	2	.01	9.2	141	5.3	18	22	1.1
22	1.6	2	.01	7.2	15	.29	13	17	.60
23	1.6	2	.01	13	144	5.4	9.2	9	.22
24	1.6	2	.01	15	84	4.6	8.3	5	.11
25	1.6	2	.01	8.0	5	.11	7.4	5	.10
26	1.5	2	.01	6.4	4	.07	7.0	5	.09
27	1.7	2	.01	5.7	4	.06	6.8	5	.09
28	4.4	12	.19	5.2	4	.06	6.4	5	.09
29	2.7	4	.03	5.0	4	.05	6.7	5	.09
30	2.5	2	.01	4.8	4	.05	7.3	5	.10
31	2.7	3	.02	---	---	---	6.0	5	.08
TOTAL	62.8	---	1.98	170.9	---	31.83	226.4	---	61.52

10336698 THIRD CREEK NEAR CRYSTAL BAY, NV--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	JANUARY			FEBRUARY			MARCH		
	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)
1	5.8	5	.08	2.4	5	.03	5.5	9	.13
2	5.6	5	.08	2.4	5	.03	5.4	10	.15
3	5.3	5	.07	2.4	5	.03	5.3	10	.14
4	5.1	5	.07	2.3	5	.03	5.1	10	.14
5	4.9	5	.07	2.3	5	.03	5.0	10	.14
6	4.8	5	.06	2.3	5	.03	5.0	10	.14
7	4.6	5	.06	2.3	5	.03	4.9	10	.13
8	4.5	5	.06	2.3	5	.03	5.3	12	.17
9	4.3	5	.06	2.4	5	.03	5.3	14	.20
10	4.1	5	.06	2.5	5	.03	6.7	38	.75
11	4.0	5	.05	2.6	5	.04	7.9	30	.63
12	3.9	5	.05	2.8	5	.04	6.7	15	.27
13	3.7	5	.05	3.9	14	.15	6.8	13	.24
14	3.7	5	.05	7.5	30	.61	6.9	12	.22
15	3.6	4	.04	20	324	25	6.0	11	.18
16	3.5	4	.04	24	233	21	5.7	9	.14
17	3.4	4	.04	12	20	.65	6.1	8	.13
18	3.2	4	.03	9.1	21	.52	5.8	5	.08
19	3.1	4	.03	8.6	19	.44	5.3	3	.04
20	3.0	4	.03	9.5	22	.56	5.4	3	.04
21	2.9	4	.03	11	30	.89	5.5	3	.04
22	2.8	3	.02	11	29	.86	5.5	3	.04
23	2.8	3	.02	8.6	18	.42	5.7	2	.03
24	2.7	3	.02	7.3	9	.18	6.1	2	.03
25	2.6	3	.02	6.3	8	.14	6.4	2	.03
26	2.6	3	.02	5.9	7	.11	6.1	3	.05
27	2.6	3	.02	5.8	8	.13	6.1	3	.05
28	2.6	4	.03	5.7	8	.12	6.0	2	.03
29	2.5	4	.03	---	---	---	5.8	2	.03
30	2.4	4	.03	---	---	---	5.6	2	.03
31	2.4	5	.03	---	---	---	5.5	2	.03
TOTAL	113.0	---	1.35	185.2	---	52.16	180.4	---	4.45

DAY	APRIL			MAY			JUNE		
	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)
1	5.4	2	.03	15	27	1.1	37	60	6.0
2	5.4	2	.03	18	35	1.7	37	56	5.6
3	5.2	2	.03	21	42	2.4	37	56	5.6
4	5.1	2	.03	22	51	3.0	36	58	5.6
5	5.0	2	.03	22	54	3.2	34	60	5.5
6	4.9	2	.03	23	52	3.2	32	60	5.2
7	4.9	2	.03	26	55	3.9	31	62	5.2
8	5.0	3	.04	27	48	3.5	32	70	6.0
9	7.5	5	.10	24	40	2.6	34	72	6.6
10	13	48	2.6	19	40	2.1	37	80	8.0
11	23	140	8.7	17	35	1.6	39	82	8.6
12	18	80	3.9	16	32	1.4	39	85	9.0
13	15	40	1.6	17	28	1.3	37	88	8.8
14	12	18	.58	18	25	1.2	35	78	7.4
15	11	16	.53	18	22	1.1	39	80	8.4
16	10	15	.41	21	35	2.0	53	249	39
17	11	15	.45	21	64	3.6	71	558	124
18	11	13	.39	22	48	2.9	85	552	146
19	11	15	.45	22	38	2.3	99	628	183
20	10	15	.41	23	55	3.4	74	350	70
21	10	18	.49	25	62	4.2	69	292	60
22	11	23	.68	28	70	5.3	69	286	55
23	12	32	1.0	31	65	5.4	67	196	34
24	12	30	.97	33	95	8.5	63	120	20
25	12	28	.91	39	212	23	59	110	18
26	12	27	.87	39	391	42	60	115	19
27	12	27	.87	37	329	33	61	98	16
28	13	25	.88	36	178	18	54	72	10
29	13	23	.81	35	115	11	48	53	6.9
30	12	23	.75	34	97	8.9	42	70	7.9
31	---	---	---	37	92	9.2	---	---	---
TOTAL	312.4	---	28.60	786	---	216.0	1510	---	910.3

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	47	90	11	16	7	.30	3.7	2	.02
2	39	53	5.6	14	8	.30	3.6	2	.02
3	38	50	5.1	12	8	.26	3.6	2	.02
4	35	45	4.3	11	9	.27	3.4	2	.02
5	33	50	4.5	11	9	.27	3.3	2	.02
6	35	52	4.9	9.8	10	.26	3.2	2	.02
7	35	50	4.7	9.8	10	.26	3.1	2	.02
8	36	38	3.7	10	10	.27	3.0	2	.02
9	32	22	1.9	9.2	10	.25	3.0	1	.01
10	32	22	1.9	8.3	10	.22	3.2	1	.01
11	35	22	2.1	7.7	10	.21	3.1	1	.01
12	34	22	2.0	8.6	20	.56	2.9	1	.01
13	32	20	1.7	9.2	10	.25	2.9	1	.01
14	36	23	2.2	8.7	8	.19	3.0	1	.01
15	32	20	1.7	7.1	6	.12	5.3	19	.37
16	29	18	1.4	6.5	4	.07	6.8	28	.56
17	27	12	.87	6.0	4	.06	4.9	6	.08
18	25	12	.81	5.5	4	.06	5.4	6	.09
19	24	10	.65	5.7	4	.06	9.9	22	.82
20	22	8	.48	5.4	4	.06	13	22	.77
21	23	8	.50	5.1	3	.04	6.1	13	.21
22	24	8	.52	5.0	3	.04	4.1	4	.04
23	24	7	.45	5.1	3	.04	3.4	4	.04
24	26	7	.49	4.9	3	.04	7.7	20	.42
25	29	7	.55	4.7	3	.04	15	64	3.2
26	27	7	.51	4.3	3	.03	8.9	10	.24
27	28	7	.53	4.2	3	.03	7.4	3	.06
28	27	6	.44	4.2	3	.03	6.9	3	.06
29	26	6	.42	4.1	3	.03	8.3	3	.07
30	22	6	.36	4.0	2	.02	7.7	3	.06
31	21	7	.40	3.9	2	.02	---	---	---
TOTAL	935	---	66.68	231.0	---	4.66	165.8	---	7.31
YEAR	4878.9		1386.84						

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED.	SED.	SED.	SED.
						SUSP. FALL DIAM. % FINER THAN .002 MM	SUSP. FALL DIAM. % FINER THAN .004 MM	SUSP. FALL DIAM. % FINER THAN .008 MM	SUSP. FALL DIAM. % FINER THAN .008 MM
OCT									
07...	1015	3.4	6.5	359	3.3	--	--	--	--
NOV									
12...	1400	9.8	3.5	155	4.1	--	--	--	--
13...	1050	6.4	3.5	32	.55	--	--	--	--
14...	0210	12	3.5	76	2.5	--	--	--	--
23...	2315	21	4.0	162	9.2	--	--	--	--
24...	0300	26	4.0	342	24	--	--	--	--
DEC									
19...	1400	37	4.0	1050	105	--	--	--	--
20...	0200	42	3.5	378	43	--	--	--	--
FEB									
16...	0215	41	1.0	654	72	--	--	--	--
21...	1300	9.5	7.0	31	.80	--	--	--	--
MAR									
10...	1630	8.6	5.0	61	1.4	--	--	--	--
APR									
11...	1445	26	1.5	127	8.9	--	--	--	--
MAY									
05...	1810	21	5.5	52	2.9	--	--	--	--
19...	1130	20	5.5	21	1.1	--	--	--	--
24...	1635	31	6.5	96	8.0	--	--	--	--
26...	2000	53	4.0	743	106	--	--	--	--
26...	2220	44	3.0	922	110	--	--	--	--
27...	0250	44	3.5	472	56	--	--	--	--
JUN									
11...	1515	37	7.5	78	7.8	--	--	--	--
17...	1615	112	7.5	1590	481	6	8	12	12
19...	1600	97	8.0	634	166	--	--	--	--
25...	2030	71	8.0	157	30	--	--	--	--
SEP									
24...	1050	7.7	10.0	19	.40	--	--	--	--
25...	0730	26	11.5	211	15	--	--	--	--



## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SED. SUSP. FALL DIAM. % FINER THAN .015 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
OCT								
07...	--	--	90	--	--	--	--	--
NOV								
12...	--	--	84	89	96	100	--	--
13...	--	--	49	--	--	--	--	--
14...	--	--	31	--	--	--	--	--
23...	--	--	33	--	--	--	--	--
24...	--	--	31	--	--	--	--	--
DEC								
19...	--	--	27	--	--	--	--	--
20...	--	--	22	--	--	--	--	--
FEB								
16...	--	--	32	--	--	--	--	--
21...	--	--	38	--	--	--	--	--
MAR								
10...	--	--	76	--	--	--	--	--
APR								
11...	--	--	39	--	--	--	--	--
MAY								
05...	--	--	25	--	--	--	--	--
19...	--	--	31	--	--	--	--	--
24...	--	--	31	--	--	--	--	--
26...	--	--	25	38	54	74	93	100
26...	--	--	13	--	--	--	--	--
27...	--	--	12	--	--	--	--	--
JUN								
11...	--	--	15	--	--	--	--	--
17...	16	23	31	49	72	90	99	100
19...	--	--	16	--	--	--	--	--
25...	--	--	16	--	--	--	--	--
SEP								
24...	--	--	74	--	--	--	--	--
25...	--	--	69	81	93	100	--	--

10336710 MARLETTE LAKE NEAR CARSON CITY, NV

LOCATION.--Lat 39°10'22", long 119°54'15", in SW¼SE¼ sec.12, T.15 N., R.18 E., Washoe County, Hydrologic Unit 16050101, Toiyabe National Forest, on west shore 1,000 ft (305 m) upstream from left side of dam, and 7.5 mi (12.1 km) west of Carson City.

DRAINAGE AREA.--2.30 mi<sup>2</sup> (5.96 km<sup>2</sup>).

PERIOD OF RECORD.--November 1973 to current year.

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

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

REMARKS.--Lake is formed by earthfill dam across the outlet of a small natural lake (at one time called Goodwin Lake) on Marlette Creek, built in 1873 to provide water for fluming lumber from Spooner Summit to Carson City. The dam was built higher in 1876 and used to divert water by flume and siphon to Virginia City, until the flume was abandoned prior to 1963. The dam was raised to its present elevation in 1959. Present capacity, 11,780 acre-ft (14.5 hm<sup>3</sup>) at spillway elevation 7,838.0 ft (2,389.02 m). Figures given herein represent total contents at 2400 hours. Stored water is used for spawning fish for Pyramid and Walker Lakes (stations 10336500, 10288500) and in dry years is pumped over the mountain to the Hobart system for municipal and domestic use outside the basin in Virginia City and Carson City.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,160 acre-ft (15.0 hm<sup>3</sup>) Jan. 14-16, 1980, elevation, 7,838.87 ft (2,389.29 m); minimum, 10,970 acre-ft (13.5 hm<sup>3</sup>) Nov. 10-13, 1976, elevation, 7,835.8 ft (2,388.35 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,100 acre-ft (14.9 hm<sup>3</sup>) May 27, elevation, 7,838.73 ft (2,389.24 m); minimum, 11,050 acre-ft (13.6 hm<sup>3</sup>) Oct. 7, elevation, 7,836.06 ft (2,388.43 m).

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

7,835	10,650	7,837	11,410
7,836	11,030	7,839	12,220

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11090	11120	11360	11860	11930	11940	12050	11970	12060	12020	11890	11880
2	11090	11120	11380	11880	11930	11990	12020	11970	12060	12010	11880	11870
3	11080	11130	11390	11870	11920	11980	12020	11970	12040	12000	11880	11870
4	11080	11140	11390	12040	11910	11970	12020	11990	12050	12000	11870	11870
5	11080	11140	11390	12060	11910	11960	12000	12000	12060	11990	11880	11870
6	11060	11140	11390	12030	11910	11950	12000	12000	12050	11990	11880	11860
7	11090	11140	11410	12020	11910	11950	11990	12000	12050	11980	11880	11850
8	11090	11140	11430	12000	11910	11940	11980	12000	12050	11970	11880	11840
9	11080	11160	11450	11990	11900	11940	11970	12000	12050	11970	11880	11830
10	11090	11160	11460	11980	11900	11950	12000	12000	12040	11970	11870	11830
11	11100	11180	11480	11970	11900	11970	12030	12000	12040	11970	11870	11830
12	11100	11220	11490	11960	11900	11960	12020	12010	12030	11960	11870	11830
13	11110	11280	11500	11950	11910	11950	12000	12010	12030	11960	11860	11820
14	11100	11310	11520	11940	11960	11960	12000	12020	12030	11960	11860	11800
15	11100	11310	11530	11940	12020	11950	12000	12020	12030	11950	11860	11830
16	11100	11310	11550	11930	12030	11940	11990	12030	12020	11940	11860	11860
17	11090	11310	11570	11910	12010	11960	11980	12030	12030	11940	11850	11860
18	11090	11310	11590	11940	12000	11950	11970	12030	12050	11940	11850	11870
19	11090	11320	11660	11940	11990	11950	11970	12030	12050	11940	11850	11870
20	11090	11330	11720	11960	11980	11940	11970	12040	12040	11930	11860	11870
21	11090	11350	11740	11960	11970	11930	11970	12040	12040	11930	11860	11870
22	11090	11350	11750	11950	11970	11930	11970	12050	12030	11930	11860	11870
23	11090	11350	11760	11950	11960	11920	11960	12060	12020	11920	11950	11880
24	11090	11350	11760	11940	11950	11920	11960	12070	12020	11930	11950	11910
25	11090	11350	11760	11920	11950	11920	11960	12080	12020	11930	11950	11980
26	11090	11350	11730	11960	11940	11920	11960	12090	12010	11930	11920	11960
27	11080	11350	11770	11950	11930	11920	11960	12080	12000	11920	11910	11950
28	11120	11350	11780	11950	11920	11920	11960	12080	11990	11920	11900	11930
29	11120	11350	11800	11950	---	11930	11960	12070	12000	11920	11900	11930
30	11120	11350	11810	11940	---	11970	11960	12070	12020	11910	11890	11930
31	11120	---	11840	11930	---	12060	---	12060	---	11900	11880	---
MAX	11120	11350	11840	12060	12030	12060	12050	12090	12060	12020	11950	11980
MIN	11060	11120	11360	11860	11900	11920	11960	11970	11990	11900	11850	11800
a	7836.23	7836.85	7838.12	7838.34	7838.32	7838.65	7838.42	7838.65	7838.55	7838.27	7838.22	7838.34
b	+30	+230	+490	+90	-10	+140	-100	+100	-40	-120	-20	+50

CAL YR 1981 b -60

WTR YR 1982 b +840

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

## 10336715 MARLETTE CREEK NEAR CARSON CITY, NV

LOCATION.--Lat 39°10'20", long 119°54'25", in SE¼SW¼ sec.12, T.15 N., R.18 E., Washoe County, Hydrologic Unit 16050101, Toiyabe National Forest, on left bank 300 ft (90 m) below dam on Marlette Lake, 0.7 mi (1.1 km) upstream from Marlette Reservoir, and 7 mi (11 km) west of Carson City.

DRAINAGE AREA.--2.86 mi<sup>2</sup> (7.41 km<sup>2</sup>).

PERIOD OF RECORD.--October 1973 to current year.

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

GAGE.--Water-stage recorder. Altitude of gage is 7,760 ft (2,365 m), from topographic map.

REMARKS.--Records good except those for periods of no gage-height record, which are poor. Flow regulated by Marlette Lake (station 10336710).

AVERAGE DISCHARGE.--9 years, 2.25 ft<sup>3</sup>/s (0.064 m<sup>3</sup>/s), 1,630 acre-ft/yr (2.01 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19 ft<sup>3</sup>/s (0.538 m<sup>3</sup>/s) Jan. 12, 1980, gage height, 2.64 ft (0.805 m); no flow July 12-15, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft<sup>3</sup>/s (0.396 m<sup>3</sup>/s) May 25, gage height, 2.45 ft (0.747 m); minimum daily, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) many days in October, November, and December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.03	.04	.83	3.7	4.1	12	5.7	10	7.2	1.6	.45
2	.04	.03	.04	1.3	3.4	7.0	9.7	6.3	11	7.5	1.4	.44
3	.05	.03	.04	2.1	3.3	7.2	9.6	6.9	11	7.5	1.3	.47
4	.05	.03	.04	5.3	3.2	6.4	9.7	7.0	10	7.2	1.2	.36
5	.03	.03	.04	11	2.9	6.0	8.5	7.2	11	6.7	1.2	.32
6	.03	.03	.04	10	2.8	5.5	8.1	7.4	9.5	6.4	1.1	.31
7	.04	.03	.04	9.5	2.8	5.1	7.3	7.9	8.9	6.1	1.1	.30
8	.06	.03	.04	8.5	2.8	4.9	6.9	8.3	8.7	5.5	1.2	.25
9	.03	.03	.04	7.7	2.6	4.5	6.4	8.8	8.6	4.5	1.2	.25
10	.03	.03	.04	7.1	2.5	4.7	6.5	9.4	8.6	4.3	1.1	.28
11	.03	.03	.04	6.6	2.5	6.0	10	9.3	8.3	4.0	.96	.22
12	.03	.03	.04	6.1	2.3	5.6	11	9.0	8.2	4.0	.87	.19
13	.03	.03	.04	5.3	2.4	5.3	9.9	8.8	8.0	3.6	.90	.18
14	.03	.04	.04	4.6	4.0	5.5	7.9	9.3	7.7	3.2	.95	.17
15	.03	.05	.04	4.1	6.7	5.4	7.8	9.3	7.5	3.4	.82	.19
16	.03	.04	.04	3.9	8.3	5.0	7.3	9.5	7.1	3.2	.79	.62
17	.03	.03	.03	4.0	8.3	5.2	6.9	9.7	7.0	3.1	.77	.62
18	.03	.03	.04	3.5	8.1	5.6	6.5	9.5	7.2	3.0	.74	.71
19	.03	.03	.08	3.2	7.4	5.2	6.1	9.5	8.0	2.9	.77	.85
20	.03	.03	.21	3.0	6.7	4.7	5.7	9.6	7.7	2.7	.78	.95
21	.03	.03	.07	2.9	6.7	4.4	5.1	9.9	7.4	2.6	.74	1.0
22	.03	.03	.07	2.9	6.3	4.1	4.9	10	7.2	2.5	.74	1.0
23	.03	.03	.07	2.9	5.8	3.9	4.9	11	6.8	2.5	.76	1.0
24	.03	.04	.07	3.0	5.3	3.6	4.7	11	6.3	2.5	.79	1.9
25	.03	.05	.07	3.2	4.9	3.5	4.7	12	6.2	2.4	.75	3.2
26	.03	.04	.11	3.8	4.8	3.5	4.8	13	6.2	2.3	.65	3.7
27	.03	.04	.09	4.5	4.3	3.2	4.8	12	6.1	2.2	.58	3.2
28	.03	.04	.14	4.6	4.1	4.2	5.3	11	5.9	2.2	.55	2.9
29	.03	.04	.20	4.2	---	4.5	5.4	11	5.9	2.1	.55	2.6
30	.03	.04	.53	4.1	---	4.7	5.4	11	6.3	2.0	.47	2.6
31	.03	---	.66	3.9	---	8.3	---	10	---	1.8	.47	---
TOTAL	1.02	1.02	3.08	147.63	128.9	156.8	213.8	290.3	238.3	121.1	27.80	31.23
MEAN	.033	.034	.099	4.76	4.60	5.06	7.13	9.36	7.94	3.91	.90	1.04
MAX	.06	.05	.66	11	8.3	8.3	12	13	11	7.5	1.6	3.7
MIN	.03	.03	.03	.83	2.3	3.2	4.7	5.7	5.9	1.8	.47	.17
AC-FT	2.0	2.0	6.1	293	256	311	424	576	473	240	55	62

CAL YR 1981 TOTAL 524.25 MEAN 1.44 MAX 8.5 MIN .01 AC-FT 1040  
WTR YR 1982 TOTAL 1360.98 MEAN 3.73 MAX 13 MIN .03 AC-FT 2700

NOTE.--No gage-height record Oct. 10 to Dec. 17 and Aug. 19 to Sept. 30.

LOCATION.--Lat 38°55'12", long 119°58'17", in NW¼ sec.3, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 5 ft (1.52 m) upstream from Martin Avenue Bridge, 500 ft (152 m) upstream from Heavenly Valley Creek, and 1.8 mi (2.9 km) east of Tahoe Valley.

### WATER-DISCHARGE RECORDS

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft<sup>3</sup>/s (15.2 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 11.14 ft (3.395 m), from rating curve extended above 250 ft<sup>3</sup>/s (7.08 m<sup>3</sup>/s) on basis of computation of peak flow (weir formula); no flow for part of Sept. 11, 1966.

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Nov. 13	2345	138	3.91	7.86	2.396	Apr. 11	1630	222	6.29	8.93	2.722
Dec. 20	0830	199	5.64	8.65	2.637	May 27	0330	241	6.83	9.16	2.792
Feb. 16	1245	*298	8.44	9.81	2.990	June 19	0345	250	7.08	9.26	2.822

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	13	18	33	22	63	41	133	193	144	60	33
2	6.7	12	18	30	22	60	42	142	190	134	59	32
3	7.3	11	18	28	22	56	40	152	186	128	58	31
4	7.3	12	18	27	22	52	37	155	181	123	57	30
5	7.2	13	18	27	21	52	39	151	179	119	55	29
6	6.9	13	17	26	21	51	37	150	171	116	54	28
7	11	13	17	26	21	47	37	157	169	113	57	28
8	11	13	17	26	21	47	35	158	168	111	61	27
9	8.8	12	17	25	22	46	36	149	170	108	52	27
10	13	12	17	25	24	54	48	138	174	105	49	27
11	13	12	16	25	24	73	180	130	173	104	48	27
12	12	21	16	25	24	60	130	129	175	102	48	27
13	11	62	17	25	24	56	95	134	173	100	47	28
14	10	65	17	26	62	55	89	137	171	99	46	28
15	9.7	27	19	26	111	50	85	140	177	96	44	34
16	9.4	24	18	26	242	48	80	145	184	93	43	43
17	9.9	32	17	26	128	47	82	151	191	90	41	39
18	11	22	18	26	91	46	87	153	197	88	41	38
19	9.9	20	86	25	80	43	88	151	232	87	41	37
20	9.7	19	173	25	79	44	86	157	221	85	42	33
21	9.4	28	87	24	82	42	84	165	198	83	40	31
22	9.0	48	60	24	85	42	88	171	188	81	39	29
23	9.0	50	50	25	76	43	97	179	182	78	40	28
24	8.8	44	45	25	68	44	103	192	178	77	39	57
25	8.8	28	42	25	64	45	105	201	170	76	37	42
26	8.9	24	40	25	61	45	109	216	165	74	35	43
27	9.5	22	43	24	59	44	112	228	163	75	34	38
28	20	21	37	24	59	43	123	219	160	75	35	36
29	15	20	40	23	---	35	121	208	164	70	37	35
30	13	19	47	23	---	35	122	197	158	67	36	36
31	13	---	40	22	---	35	---	198	---	64	35	---
TOTAL	316.0	732	1103	792	1637	1503	2458	5086	5401	2965	1410	1001
MEAN	10.2	24.4	35.6	25.5	58.5	48.5	81.9	164	180	95.6	45.5	33.4
MAX	20	65	173	33	242	73	180	228	232	144	61	57
MIN	6.7	11	16	22	21	35	35	129	158	64	34	27
AC-FT	627	1450	2190	1570	3250	2980	4880	10090	10710	5880	2800	1990
CAL YR 1981	TOTAL	7435.6	MEAN	20.4	MAX	173	MIN	5.2	AC-FT	14750		
WTR YR 1982	TOTAL	24404.0	MEAN	66.9	MAX	242	MIN	6.7	AC-FT	48410		

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974, 1978, 1980 to current year.

SPECIFIC CONDUCTANCE: October 1980 to current year.

WATER TEMPERATURES: Water years 1974, 1978, 1980 to current year.

SEDIMENT RECORDS: Water years 1974, 1978, 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1981 to current year.

WATER TEMPERATURES: February 1981 to current year.

SEDIMENT RECORDS: October 1973 to September 1974, October 1977 to June 1978, March 1980 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 160 micromhos Aug. 24, 1981; minimum recorded, 14 micromhos May 28, 1982.

WATER TEMPERATURES: Maximum recorded, 24.0°C Aug 12, 1981; minimum recorded, 0°C on many days during most winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 253 mg/L Apr. 11, 1982; minimum daily mean, 0 mg/L Oct. 15, 16, 1973.

SEDIMENT DISCHARGE: Maximum daily, 162 tons (147 metric tons) Feb. 16, 1982; minimum daily, 0 ton (0 metric ton) Oct. 15, 16, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 119 micromhos Mar. 20; minimum recorded, 14 micromhos May 28.

WATER TEMPERATURES: Maximum recorded, 16.0°C July 29; minimum recorded, 0°C on many days during fall and winter months.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 253 mg/L Apr. 11; minimum daily mean, 1 mg/L Nov. 10, 11.

SEDIMENT DISCHARGE: Maximum daily, 162 tons (147 metric tons) Feb. 16; minimum daily, 0.03 ton (0.03 metric ton) Nov. 10, 11.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	52	48	25	38	---	28	30	19	26	32	39
2	57	50	49	24	38	---	28	30	19	26	32	39
3	57	52	49	24	38	---	29	26	18	26	32	39
4	56	51	50	24	38	---	30	26	18	27	32	39
5	54	50	50	24	38	---	31	26	19	27	32	40
6	52	51	50	23	32	53	31	28	20	28	33	39
7	51	51	52	24	27	47	32	26	20	28	33	40
8	52	54	51	24	27	48	32	25	20	28	34	41
9	54	52	51	25	27	48	33	25	20	28	34	41
10	52	50	51	25	27	48	32	25	20	24	34	40
11	50	50	52	26	27	46	26	25	20	29	34	41
12	50	46	52	26	27	48	---	25	20	30	35	40
13	50	38	52	26	27	48	---	23	20	30	35	42
14	51	37	53	27	24	47	---	24	21	30	35	42
15	52	38	50	28	23	48	---	24	21	30	36	41
16	52	37	51	---	20	48	---	23	21	30	36	42
17	53	32	52	---	---	49	---	21	21	30	37	41
18	52	32	52	---	---	49	---	21	22	31	37	40
19	53	33	36	---	---	48	---	21	22	31	37	40
20	53	33	24	---	---	57	---	21	22	31	38	41
21	53	33	20	---	---	53	35	21	21	31	39	41
22	53	32	22	---	---	49	35	20	22	31	39	41
23	53	32	25	---	---	50	34	18	22	33	39	42
24	54	31	24	---	---	50	36	19	22	33	39	44
25	54	32	23	---	---	50	33	19	22	33	39	47
26	55	32	23	38	---	50	31	17	23	35	40	43
27	56	41	24	39	---	50	31	16	23	35	41	42
28	52	47	25	39	---	49	31	16	25	33	39	41
29	52	47	24	38	---	40	29	17	25	32	39	41
30	53	48	24	38	---	28	30	18	26	32	38	41
31	53	---	24	38	---	28	---	19	---	32	38	---
MONTH	53	42	40	---	---	47	---	22	21	30	36	41

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	5.5	6.0	1.0	2.0	0.0	1.0	0.0	1.0	0.0	---	---
2	13.5	7.5	6.5	1.0	2.0	0.0	1.0	0.0	1.5	0.0	---	---
3	13.0	6.5	7.0	1.5	1.0	0.0	0.5	0.0	1.5	0.0	---	---
4	12.0	4.0	6.0	1.5	2.0	0.0	0.0	0.0	1.0	0.0	---	---
5	12.5	3.5	5.5	2.0	2.5	0.0	0.0	0.0	0.0	0.0	---	---
6	11.5	4.0	6.5	3.5	3.0	0.5	0.0	0.0	0.5	0.0	3.0	0.5
7	9.0	5.0	7.0	2.5	3.5	0.5	0.0	0.0	0.5	0.0	3.5	1.0
8	10.0	3.5	6.5	2.0	2.5	0.0	0.0	0.0	1.5	0.5	6.0	1.5
9	11.0	4.0	6.5	2.0	3.0	0.5	0.0	0.0	1.0	0.0	4.5	1.5
10	6.5	5.0	4.5	2.5	3.5	1.0	0.0	0.0	1.0	0.0	5.5	2.5
11	7.5	3.0	6.0	2.0	2.5	0.0	0.0	0.0	1.5	0.0	4.5	2.0
12	5.5	2.0	4.0	3.5	1.0	0.0	0.0	0.0	1.5	0.0	6.0	2.0
13	4.0	0.0	4.0	3.5	2.5	0.5	0.0	0.0	1.5	0.5	6.0	1.5
14	5.5	0.5	3.5	2.5	4.0	1.0	0.5	0.0	1.0	0.5	5.0	2.5
15	5.0	1.5	4.5	3.0	3.5	2.0	0.5	0.0	0.5	0.5	5.0	2.0
16	8.0	1.0	5.5	4.0	3.0	0.5	---	---	0.5	0.5	2.0	1.5
17	9.0	2.0	4.5	1.5	2.5	0.0	---	---	---	---	2.0	1.0
18	9.5	3.5	3.0	0.0	3.0	1.0	---	---	---	---	2.5	1.0
19	9.5	3.0	3.5	0.5	3.0	2.5	---	---	---	---	3.5	1.0
20	10.0	3.0	4.5	1.5	3.5	1.0	---	---	---	---	3.0	1.5
21	9.5	3.0	4.0	2.0	2.0	0.5	---	---	---	---	4.0	0.5
22	9.0	2.5	4.0	2.5	1.5	1.0	---	---	---	---	5.0	1.0
23	9.5	2.5	5.0	4.0	1.5	1.0	---	---	---	---	6.0	1.0
24	8.0	2.5	4.5	1.0	1.5	1.0	---	---	---	---	6.5	1.0
25	9.5	2.5	2.0	0.0	2.0	1.0	---	---	---	---	7.0	2.5
26	10.0	3.5	0.5	0.0	2.5	1.5	0.5	0.0	---	---	6.5	2.5
27	9.0	4.0	0.0	0.0	2.0	1.5	1.0	0.0	---	---	7.5	2.5
28	5.0	2.5	1.0	0.0	1.5	1.0	1.0	0.0	---	---	3.5	1.5
29	4.5	0.5	1.0	0.0	1.5	1.0	1.0	0.0	---	---	3.0	0.5
30	5.5	0.0	1.0	0.0	2.0	1.5	1.0	0.0	---	---	2.5	0.5
31	5.5	0.5	---	---	1.5	0.5	1.5	0.0	---	---	2.0	0.5
MONTH	13.5	0.0	7.0	0.0	4.0	0.0	---	---	---	---	7.5	0.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.0	0.5	9.0	2.5	10.0	4.0	10.5	7.5	13.5	9.0	12.0	9.0
2	1.0	0.5	9.5	3.0	10.5	4.5	10.5	7.5	13.0	7.0	12.5	9.0
3	1.5	0.5	9.5	3.0	10.0	4.0	11.5	8.0	13.5	7.5	12.5	10.0
4	1.5	0.5	9.0	3.0	9.5	4.0	12.0	7.5	13.5	8.0	12.5	9.0
5	2.5	0.5	8.5	2.5	9.0	4.5	12.5	7.0	14.0	8.0	13.0	9.0
6	3.0	0.5	9.5	3.0	9.5	4.0	13.5	8.0	14.0	9.0	11.5	9.5
7	3.0	0.5	8.5	3.5	10.5	4.5	13.5	9.0	12.0	10.5	13.0	9.0
8	4.5	0.5	8.0	3.5	11.0	5.0	14.0	9.5	14.5	9.0	13.0	9.0
9	6.0	1.0	6.5	3.0	11.5	5.5	13.5	8.0	14.5	9.5	13.0	9.0
10	4.5	2.0	7.0	2.5	12.5	6.5	14.5	8.5	13.5	8.5	11.5	8.5
11	2.5	0.5	8.0	2.5	11.0	7.0	15.0	9.5	13.5	8.0	11.0	7.5
12	---	---	9.0	3.0	10.5	7.0	13.5	10.0	14.0	8.5	10.5	7.0
13	---	---	9.0	3.5	10.0	6.0	15.0	9.5	14.0	8.5	11.5	8.0
14	---	---	9.0	4.0	12.5	6.5	14.5	9.5	14.0	8.5	10.5	8.0
15	---	---	10.0	3.5	13.0	7.5	14.5	8.5	13.0	8.0	9.0	7.0
16	---	---	10.5	4.0	13.0	8.0	14.0	9.0	13.5	8.5	7.5	6.0
17	---	---	10.5	4.5	12.5	8.5	14.0	7.5	14.5	9.0	8.5	6.5
18	---	---	9.5	3.5	12.5	8.0	14.5	8.5	14.5	10.0	10.0	7.0
19	---	---	10.5	3.5	11.0	9.0	14.5	9.0	12.5	9.5	8.0	7.0
20	---	---	10.5	4.0	12.0	8.0	14.5	8.5	15.0	9.5	9.5	5.5
21	7.0	1.0	11.0	4.5	11.5	7.5	15.0	9.0	15.5	10.0	10.0	6.5
22	8.0	1.5	11.0	5.0	12.0	7.5	14.5	9.0	14.5	10.5	11.0	7.0
23	8.0	2.0	11.5	5.0	12.5	7.5	14.5	10.5	13.5	11.0	10.0	7.5
24	8.0	2.0	11.5	5.5	10.5	8.5	15.0	10.5	14.5	10.0	10.0	9.5
25	7.0	2.0	12.0	5.5	12.5	7.0	15.0	10.0	15.0	10.0	10.5	9.5
26	7.0	3.0	12.0	6.5	13.0	8.0	15.5	10.0	14.0	9.5	11.0	9.0
27	8.5	3.0	11.5	6.5	12.5	8.5	14.5	10.5	13.5	9.0	9.0	7.0
28	8.5	2.5	10.0	4.5	10.5	9.0	15.5	9.5	12.0	10.5	8.5	5.5
29	8.5	2.5	8.5	4.5	9.0	7.5	16.0	10.0	13.0	10.5	7.0	4.5
30	9.0	2.5	10.5	4.0	9.5	7.0	15.5	9.5	13.0	9.0	7.0	4.0
31	---	---	9.5	5.0	---	---	14.5	9.0	12.5	8.0	---	---
MONTH	---	---	12.0	2.5	13.0	4.0	16.0	7.0	15.5	7.0	13.0	4.0

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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	6.8	4	.07	13	3	.11	18	16	.78
2	6.7	4	.07	12	3	.10	18	15	.73
3	7.3	4	.08	11	3	.09	18	15	.73
4	7.3	4	.08	12	3	.10	18	13	.63
5	7.2	3	.06	13	3	.11	18	12	.58
6	6.9	3	.06	13	3	.11	17	6	.28
7	11	9	.27	13	2	.07	17	2	.09
8	11	2	.06	13	2	.07	17	2	.09
9	8.8	2	.05	12	2	.06	17	2	.09
10	13	5	.18	12	1	.03	17	2	.09
11	13	3	.11	12	1	.03	16	4	.17
12	12	3	.10	21	39	3.3	16	6	.26
13	11	3	.09	62	163	42	17	6	.28
14	10	3	.08	65	131	33	17	6	.28
15	9.7	3	.08	27	14	1.0	19	4	.21
16	9.4	3	.08	24	10	.65	18	4	.19
17	9.9	3	.08	32	40	3.5	17	5	.23
18	11	3	.09	22	10	.59	18	6	.29
19	9.9	3	.08	20	8	.43	86	196	51
20	9.7	3	.08	19	5	.26	173	229	108
21	9.4	3	.08	28	39	5.6	87	80	19
22	9.0	3	.07	48	56	8.7	60	45	7.3
23	9.0	3	.07	50	45	6.1	50	34	4.6
24	8.8	3	.07	44	17	2.0	45	19	2.3
25	8.8	3	.07	28	17	1.3	42	12	1.4
26	8.9	3	.07	24	16	1.0	40	10	1.1
27	9.5	3	.08	22	17	1.0	43	12	1.4
28	20	16	.86	21	18	1.0	37	10	1.0
29	15	5	.20	20	17	.92	40	14	1.5
30	13	4	.14	19	16	.82	47	38	4.8
31	13	3	.11	---	---	---	40	12	1.3
TOTAL	316.0	---	3.67	732	---	114.05	1103	---	210.70

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)
JANUARY			FEBRUARY			MARCH			
1	33	12	1.1	22	9	.53	63	20	3.4
2	30	12	.97	22	8	.48	60	16	2.6
3	28	12	.91	22	6	.36	56	23	3.5
4	27	12	.87	22	6	.36	52	30	4.2
5	27	12	.87	21	6	.34	52	30	4.2
6	26	12	.84	21	7	.40	51	25	3.4
7	26	12	.84	21	7	.40	47	20	2.5
8	26	12	.84	21	8	.45	47	15	1.9
9	25	12	.81	22	8	.48	46	10	1.2
10	25	12	.81	24	8	.52	54	13	1.9
11	25	12	.81	24	8	.52	73	35	6.9
12	25	12	.81	24	8	.52	60	17	2.8
13	25	12	.81	24	16	1.0	56	15	2.3
14	26	12	.84	62	100	17	55	15	2.2
15	26	12	.84	111	196	71	50	16	2.2
16	26	12	.84	242	246	162	48	16	2.1
17	26	12	.84	128	140	50	47	16	2.0
18	26	11	.77	91	65	16	46	15	1.9
19	25	10	.68	80	52	11	43	15	1.7
20	25	9	.61	79	30	6.4	44	25	3.0
21	24	8	.52	82	30	6.6	42	22	2.5
22	24	8	.52	85	25	5.7	42	20	2.3
23	25	8	.54	76	19	3.9	43	12	1.4
24	25	8	.54	68	19	3.5	44	8	.95
25	25	8	.54	64	21	3.6	45	8	.97
26	25	8	.54	61	20	3.3	45	8	.97
27	24	8	.52	59	20	3.2	44	8	.95
28	24	8	.52	59	18	2.9	43	8	.93
29	23	9	.56	---	---	---	35	8	.76
30	23	9	.56	---	---	---	35	8	.76
31	22	9	.53	---	---	---	35	8	.76
TOTAL	792	---	22.60	1637	---	372.46	1503	---	69.15

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

## SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	41	8	.89	133	60	22	193	61	32
2	42	8	.91	142	70	27	190	64	33
3	40	12	1.3	152	72	30	186	50	25
4	37	10	1.0	155	68	28	181	47	23
5	39	9	.95	151	62	25	179	40	19
6	37	9	.90	150	60	24	171	34	16
7	37	9	.90	157	54	23	169	38	17
8	35	9	.85	158	55	23	168	37	17
9	36	9	.87	149	46	19	170	38	17
10	48	38	4.9	138	41	15	174	38	18
11	180	253	120	130	40	14	173	37	17
12	130	95	33	129	43	15	175	36	17
13	95	68	17	134	50	18	173	36	17
14	89	45	11	137	39	14	171	40	18
15	85	35	8.0	140	48	18	177	50	24
16	80	29	6.3	145	53	21	184	51	25
17	82	31	6.9	151	58	24	191	55	28
18	87	33	7.8	153	55	23	197	64	34
19	88	35	8.3	151	52	21	232	83	52
20	86	35	8.1	157	57	24	221	72	43
21	84	38	8.6	165	53	24	198	42	22
22	88	40	9.5	171	57	26	188	43	22
23	97	58	15	179	56	27	182	40	20
24	103	60	17	192	65	34	178	37	18
25	105	57	16	201	78	42	170	30	14
26	109	56	16	216	92	54	165	28	12
27	112	56	17	228	100	62	163	28	12
28	123	65	22	219	82	48	160	27	12
29	121	62	20	208	58	33	164	34	15
30	122	63	21	197	48	26	158	30	13
31	---	---	---	198	55	29	---	---	---
TOTAL	2458	---	401.97	5086	---	833	5401	---	652

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	144	23	8.9	60	16	2.6	33	10	.89
2	134	22	8.0	59	16	2.5	32	10	.86
3	128	20	6.9	58	16	2.5	31	10	.84
4	123	20	6.6	57	16	2.5	30	10	.81
5	119	18	5.8	55	16	2.4	29	10	.78
6	116	18	5.6	54	16	2.3	28	10	.76
7	113	18	5.5	57	22	3.4	28	10	.76
8	111	16	4.8	61	45	7.4	27	10	.73
9	108	16	4.7	52	16	2.2	27	10	.73
10	105	16	4.5	49	16	2.1	27	10	.73
11	104	16	4.5	48	16	2.1	27	10	.73
12	102	16	4.4	48	16	2.1	27	10	.73
13	100	16	4.3	47	16	2.0	28	10	.76
14	99	15	4.0	46	16	2.0	28	10	.76
15	96	16	4.1	44	16	1.9	34	25	2.3
16	93	16	4.0	43	16	1.9	43	17	2.0
17	90	16	3.9	41	16	1.8	39	12	1.3
18	88	16	3.8	41	16	1.8	38	12	1.2
19	87	16	3.8	41	14	1.5	37	12	1.2
20	85	16	3.7	42	14	1.6	33	12	1.1
21	83	16	3.6	40	14	1.5	31	12	1.0
22	81	16	3.5	39	12	1.3	29	12	.94
23	78	16	3.4	40	12	1.3	28	12	.91
24	77	16	3.3	39	12	1.3	57	70	13
25	76	16	3.3	37	12	1.2	42	41	4.6
26	74	16	3.2	35	12	1.1	43	17	2.0
27	75	18	3.6	34	10	.92	38	13	1.3
28	75	16	3.2	35	10	.95	36	8	.78
29	70	16	3.0	37	10	1.0	35	5	.47
30	67	16	2.9	36	10	.97	36	5	.49
31	64	16	2.8	35	10	.95	---	---	---
TOTAL	2965	---	137.6	1410	---	61.09	1001	---	45.46
YEAR	24404.0		2923.75						



## PYRAMID AND WINNEMUCCA LAKES BASIN

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV										
13...	2100	115	4.0	540	168	28	--	--	--	--
17...	0730	38	3.5	44	4.5	31	--	--	--	--
21...	2220	74	3.0	181	36	31	--	--	--	--
DEC										
20...	0950	196	3.5	208	110	19	--	--	--	--
20...	1950	161	1.5	142	62	18	--	--	--	--
22...	1445	65	1.0	46	8.1	28	--	--	--	--
30...	0110	50	1.0	83	11	34	--	--	--	--
FEB										
14...	1050	63	.5	105	18	34	--	--	--	--
16...	0835	284	.0	219	168	32	--	--	--	--
17...	1200	125	2.0	112	38	24	49	82	96	100
19...	1525	80	4.0	47	10	28	--	--	--	--
22...	1615	85	4.0	34	7.8	26	--	--	--	--
MAR										
20...	1430	64	3.0	55	9.5	38	--	--	--	--
APR										
11...	0610	155	1.0	371	155	28	--	--	--	--
11...	1820	217	.5	179	105	32	51	73	92	100
12...	1000	132	.0	101	36	32	--	--	--	--
21...	1645	84	7.0	56	13	18	--	--	--	--
MAY										
01...	0630	130	2.5	45	16	33	--	--	--	--
07...	1000	151	4.0	33	13	27	--	--	--	--
13...	1310	127	7.0	49	17	16	--	--	--	--
21...	1325	159	6.5	37	16	29	--	--	--	--
24...	1810	189	10.5	54	28	32	--	--	--	--
26...	1030	215	6.5	83	48	18	--	--	--	--
30...	1030	198	4.5	42	22	30	--	--	--	--
JUN										
10...	1145	174	7.5	30	14	28	--	--	--	--
18...	1950	199	8.0	67	36	38	--	--	--	--
19...	1735	221	8.5	52	31	35	--	--	--	--
30...	1100	163	7.5	21	9.2	45	--	--	--	--
AUG										
18...	1150	45	11.0	22	2.7	26	--	--	--	--
SEP										
15...	1915	42	7.0	87	9.9	52	--	--	--	--
24...	1310	73	9.5	78	15	55	78	100	--	--

## 10337000 LAKE TAHOE AT TAHOE CITY, CA

LOCATION.--Lat 39°10'51", long 120°07'06", in NE¼NE¼ sec.5, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050101, on U.S. Coast Guard pier at Lake Forest, 1.1 mi (1.8 km) northeast of Tahoe City, and 1.8 mi (2.9 km) northeast of Lake Tahoe outlet dam on Truckee River at Tahoe City.

DRAINAGE AREA.--506 mi<sup>2</sup> (1,311 km<sup>2</sup>), at lake outlet.

PERIOD OF RECORD.--April 1900 to current year. Monthend elevations only for October 1943 to September 1957, published in WSP 1734. Prior to October 1961, published as "at Tahoe."

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

GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft (1,895.856 m) Bureau of Reclamation datum, 6,218.86 ft (1,895.508 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1957, nonrecording gages at several sites near outlet of lake at same datum. Oct. 1, 1957, to May 8, 1958, water-stage recorder on left wingwall of dam at outlet of lake at same datum. May 9, 1958, to Sept. 30, 1968, water-stage recorder on pier, 1,000 ft (300 m) east of dam at lake outlet.

REMARKS.--Lake levels regulated by a 17-gate concrete dam at outlet of lake; storage began about 1874. Monthly figures given herein represent usable contents. Usable capacity, 744,600 acre-ft (918 hm<sup>3</sup>) between elevations 6,223 ft (1,896.8 m), natural rim of lake and 6,229.1 ft (1,898.63 m), maximum permissible elevation by Federal Court decree. Lake elevations are referred to Bureau of Reclamation datum because that datum is used as the official reference point by all local, State, and Federal agencies. There are minor diversions for domestic purposes, irrigation, and power.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 6,231.26 ft (1,899.288 m) July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft (1,896.386 m) Dec. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 6,228.98 ft (1,898.593 m) June 24; minimum, 6,224.17 ft (1,897.127 m) Oct. 27.

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

6,223	0	6,227	486,800
6,224	121,400	6,228	609,300
6,225	243,000	6,229	732,300
6,226	364,800		

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.50	4.27	5.09	6.09	6.46	7.20	7.82	8.15	8.50	8.90	8.88	8.52
2	4.47	4.24	5.08	6.05	6.45	7.30	7.84	8.16	8.50	8.88	8.82	8.51
3	4.45	4.23	5.09	6.10	6.44	7.31	7.90	8.18	8.52	8.89	8.82	8.50
4	4.42	4.22	5.08	6.35	6.45	7.32	7.90	8.18	8.51	8.88	8.80	8.49
5	4.42	4.22	5.08	6.37	6.43	7.30	7.92	8.19	8.53	8.87	8.80	8.48
6	4.42	4.22	5.07	6.39	6.42	7.32	7.93	8.19	8.52	8.88	8.80	8.46
7	4.40	4.22	5.06	6.37	6.41	7.33	7.92	8.20	8.53	8.88	8.80	8.45
8	4.39	4.21	5.06	6.35	6.47	7.32	7.92	8.20	8.55	8.88	8.80	8.44
9	4.35	4.21	5.13	6.36	6.41	7.33	7.91	8.24	8.55	8.88	8.78	8.42
10	4.38	4.20	5.08	6.37	6.40	7.37	8.05	8.24	8.58	8.89	8.77	8.42
11	4.35	4.19	5.08	6.38	6.40	7.42	8.18	8.23	8.59	8.90	8.75	8.37
12	4.33	4.33	5.18	6.36	6.41	7.43	8.22	8.23	8.60	8.90	8.74	8.32
13	4.33	4.52	5.16	6.37	6.53	7.42	8.27	8.23	8.63	8.90	8.73	8.32
14	4.32	4.58	5.25	6.40	6.58	7.47	8.24	8.23	8.65	8.90	8.70	8.27
15	4.28	4.57	5.13	6.41	6.83	7.45	8.24	8.24	8.67	8.90	8.69	8.34
16	4.27	4.55	5.13	6.42	6.93	7.47	8.24	8.24	8.71	8.90	8.68	8.40
17	4.25	4.64	5.13	6.41	6.98	7.48	8.24	8.23	8.75	8.90	8.67	8.37
18	4.24	4.62	5.32	6.43	7.01	7.48	8.23	8.25	8.84	8.91	8.66	8.39
19	4.23	4.63	5.53	6.46	7.03	7.48	8.24	8.27	8.90	8.91	8.66	8.35
20	4.22	4.62	5.73	6.47	7.06	7.48	8.23	8.28	8.92	8.90	8.65	8.35
21	4.22	4.83	5.76	6.49	7.09	7.48	8.21	8.30	8.93	8.90	8.65	8.35
22	4.22	4.84	5.79	6.52	7.09	7.47	8.20	8.33	8.96	8.90	8.64	8.35
23	4.21	5.01	5.79	6.51	7.11	7.47	8.19	8.35	8.97	8.90	8.64	8.37
24	4.20	5.08	5.82	6.45	7.13	7.48	8.19	8.38	8.98	8.90	8.64	8.45
25	4.20	5.08	5.83	6.50	7.13	7.47	8.17	8.40	8.97	8.90	8.62	8.50
26	4.18	5.12	5.90	6.49	7.13	7.47	8.16	8.41	8.95	8.91	8.59	8.48
27	4.17	5.12	5.85	6.49	7.14	7.47	8.16	8.43	8.93	8.91	8.57	8.45
28	4.30	5.11	5.86	6.57	7.12	7.54	8.16	8.46	8.92	8.91	8.57	8.47
29	4.29	5.09	5.92	6.53	---	7.60	8.16	8.47	8.93	8.91	8.56	8.45
30	4.28	5.09	5.93	6.50	---	7.62	8.15	8.48	8.91	8.91	8.54	8.41
31	4.27	---	6.07	6.48	---	7.83	---	8.47	---	8.89	8.54	---
MEAN	4.31	4.60	5.42	6.40	6.75	7.44	8.11	8.29	8.73	8.90	8.70	8.42
MAX	4.50	5.12	6.07	6.57	7.14	7.83	8.27	8.48	8.98	8.91	8.88	8.52
MIN	4.17	4.19	5.06	6.05	6.40	7.20	7.82	8.15	8.50	8.87	8.54	8.27
a	154200	254000	373300	423400	501500	558500	627800	667100	721200	718800	675700	659700
b	-32900	+99800	+119300	+50100	+78100	+87000	+39300	+39300	+54100	-2400	-43100	-16000

CAL YR 1981 b +48700

WTR YR 1982 b +472600

a Usable contents, in acre-feet, at end of month.

b Change in contents, in acre-feet.

NOTE.--Add 6,220 ft to obtain elevation, Bureau of Reclamation datum, at 2400 hours.

LOCATION.--Lat 39°09'59", long 120°08'36", in NE¼NW¼ sec.7, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050102, on left bank 510 ft (155 m) downstream from dam at outlet of Lake Tahoe at Tahoe City.

PERIOD OF RECORD.--July 1895 to February 1896, March 1900 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734. Prior to October 1961, published as "at Tahoe."

GAGE.--Water-stage recorder. Datum of gage is 6,216.59 ft (1,894.817 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1912, nonrecording gage at site 370 ft (113 m) upstream at different datum.

REMARKS.--Records excellent. Flow regulated by Lake Tahoe, operating capacity, 744,600 acre-ft (918 hm<sup>3</sup>). There are several diversions for irrigation, power, and domestic water supply. In addition, sewer effluent is pumped from the Lake Tahoe basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,630 ft<sup>3</sup>/s (74.5 m<sup>3</sup>/s) June 19, 1969, gage height, 9.32 ft (2.841 m); no flow for parts of many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,930 ft<sup>3</sup>/s (54.7 m<sup>3</sup>/s) June 28, 29, gage height, 7.93 ft (2.417 m); minimum daily, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Nov. 16.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	313	80	31	48	48	48	50	1580	1020	1690	235	311
2	311	49	31	49	48	47	57	1580	1030	864	235	311
3	311	44	26	49	47	47	56	1580	942	596	235	311
4	309	50	34	49	47	46	57	1590	756	611	235	311
5	310	51	51	48	48	45	57	1590	778	605	236	312
6	308	51	50	48	47	46	56	1590	773	501	236	311
7	318	51	49	48	47	47	55	1590	630	321	236	311
8	308	51	49	48	47	47	55	1590	509	312	234	311
9	308	68	50	47	46	46	65	1600	469	312	235	310
10	306	126	50	47	46	48	74	1600	185	311	235	309
11	311	127	50	47	46	52	96	1600	65	312	254	307
12	314	138	51	47	45	49	84	1600	60	281	288	311
13	309	121	50	47	47	45	77	1600	57	214	287	314
14	294	36	51	50	56	43	300	1600	56	206	287	312
15	196	25	55	53	61	41	643	1600	56	208	288	312
16	158	22	52	53	59	46	1010	1600	55	210	287	316
17	158	29	51	53	58	51	1090	1610	55	210	302	314
18	157	29	53	52	57	51	1090	1470	66	210	313	314
19	157	30	59	52	56	51	1090	1040	83	199	314	313
20	156	29	67	52	56	51	1100	1040	90	153	314	265
21	107	43	63	52	56	49	1190	1040	267	149	313	136
22	63	38	61	49	58	48	1290	1040	451	149	313	133
23	66	45	59	48	56	47	1360	1040	1080	149	313	134
24	65	45	57	48	54	43	1570	1040	1370	150	313	136
25	65	31	54	49	53	40	1570	1040	1730	149	313	137
26	64	28	54	49	53	39	1580	1040	1910	149	313	135
27	87	27	56	49	52	40	1580	1040	1920	149	313	134
28	104	27	51	48	49	39	1580	1040	1920	126	313	91
29	102	29	51	48	---	39	1580	1030	1930	103	313	69
30	101	31	52	48	---	39	1580	1030	1830	169	312	68
31	101	---	50	48	---	39	---	1020	---	234	310	---
TOTAL	6237	1551	1568	1523	1443	1409	22042	42050	22143	10002	8725	7359
MEAN	201	51.7	50.6	49.1	51.5	45.5	735	1356	738	323	281	245
MAX	318	138	67	53	61	52	1580	1610	1930	1690	314	316
MIN	63	22	26	47	45	39	50	1020	55	103	234	68
AC-FT	12370	3080	3110	3020	2860	2790	43720	83410	43920	19840	17310	14600
CAL YR 1981	TOTAL	66901	MEAN 183	MAX 480	MIN 22	AC-FT 132700						
WTR YR 1982	TOTAL	126052	MEAN 345	MAX 1930	MIN 22	AC-FT 250000						

LOCATION.--Lat 39°17'17", long 120°12'16", in SW¼NE¼ sec.28, T.17 N., R.16 E., Placer County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 1.4 mi (2.3 km) downstream from Cabin Creek and 2.5 mi (4.0 km) southwest of Truckee.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,760 ft<sup>3</sup>/s (135 m<sup>3</sup>/s) Dec. 20, gage height, 6.70 ft (2.042 m); minimum daily, 68 ft<sup>3</sup>/s (1.93 m<sup>3</sup>/s) Oct. 22.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	318	114	158	231	91	283	172	2040	1450	1920	305	320
2	318	86	143	214	90	281	174	2080	1430	1200	299	319
3	318	69	132	187	89	249	165	2110	1380	827	294	320
4	318	74	120	178	89	228	163	2140	1110	824	292	319
5	318	77	139	175	89	209	154	2110	1110	807	288	319
6	317	78	131	170	90	200	148	2090	1070	750	287	319
7	334	77	130	165	89	193	143	2160	970	552	288	319
8	320	73	126	159	86	190	139	2170	836	531	285	318
9	317	71	130	162	86	185	147	2100	838	511	281	317
10	320	138	141	149	86	237	219	2000	620	502	277	320
11	325	143	127	139	85	323	1370	1930	485	502	283	317
12	324	223	127	131	84	271	820	1930	453	487	327	317
13	319	675	127	126	124	250	541	1970	418	412	326	322
14	314	520	157	122	500	257	591	2000	434	388	324	317
15	232	431	238	122	1370	226	914	2030	493	380	322	326
16	165	398	204	120	2130	211	1280	2090	533	375	320	340
17	164	417	176	119	868	207	1390	2160	539	357	325	332
18	164	215	198	118	590	193	1410	2100	555	343	338	335
19	161	166	2300	118	480	182	1420	1580	632	336	339	336
20	160	139	3430	120	458	173	1410	1580	532	278	337	312
21	136	566	1120	117	486	168	1470	1630	663	262	336	155
22	68	614	670	115	577	161	1580	1670	752	253	335	146
23	74	1470	495	106	481	159	1660	1720	1340	248	336	146
24	71	1310	411	102	405	160	1920	1740	1600	254	335	209
25	71	501	331	100	359	159	1920	1760	1930	250	331	313
26	71	345	300	104	321	155	1930	1830	2120	244	330	234
27	85	274	306	102	293	156	1970	1770	2140	246	326	195
28	175	227	256	99	275	161	2000	1630	2140	231	324	158
29	129	192	256	96	---	149	1970	1520	2120	190	324	127
30	122	172	292	94	---	144	1970	1470	1980	225	322	122
31	122	---	247	92	---	132	---	1470	---	311	322	---
TOTAL	6650	9855	13118	4152	10771	6252	31160	58580	32673	14996	9758	8249
MEAN	215	329	423	134	385	202	1039	1890	1089	484	315	275
MAX	334	1470	3430	231	2130	323	2000	2170	2140	1920	339	340
MIN	68	69	120	92	84	132	139	1470	418	190	277	122
AC-FT	13190	19550	26020	8240	21360	12400	61810	116200	64810	29740	19350	16360
CAL YR 1981	TOTAL	99179	MEAN 272	MAX 3430	MIN 68	AC-FT	196700					

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-66, 1977 to September 1982 (discontinued).

CHEMICAL ANALYSES: Water years 1951-66.

SPECIFIC CONDUCTANCE: Water years 1977 to September 1982 (discontinued).

WATER TEMPERATURES: Water years 1977 to September 1982 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1977 to September 1982 (discontinued).

WATER TEMPERATURES: July 1977 to September 1982 (discontinued).

INSTRUMENTATION.--Water-quality monitor recording specific conductance and water temperatures since July 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 231 micromhos Oct. 14, 1977; minimum recorded, 33 micromhos Nov. 23, Dec. 19, 20, 1981.

WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 4, 1978; minimum recorded, 0.0°C many days in each year.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 130 micromhos Mar. 16; minimum recorded, 33 micromhos Nov. 23, Dec. 19, 20.

WATER TEMPERATURES: Maximum recorded, 22.0°C Aug. 20, 21; minimum recorded, 0.0°C many days in February, March, and April.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	---	96		---	86	98	85	75	78	82	93
2	95	---	98		92	87	96	84	75	75	86	93
3	94	---	99		95	91	96	83	76	73	84	93
4	93	109	100		94	93	98	82	75	74	85	93
5	93	108	99		96	94	98	81	76	75	85	93
6	94	108	99		99	93	100	82	77	74	86	93
7	---	109	100		97	93	103	80	76	69	86	93
8	---	110	100		96	94	102	80	73	68	85	93
9	---	110	100		96	94	103	82	71	70	86	93
10	---	102	101		95	93	99	84	62	71	87	93
11	---	101	104		97	87	55	84	51	71	88	---
12	---	93	102		97	89	71	83	52	70	87	---
13	---	73	103		95	90	84	81	54	67	88	---
14	---	66	100		73	95	87	80	51	65	88	---
15	---	70	88		60	96	90	79	47	67	89	---
16	---	61	92		51	98	93	78	44	68	89	---
17	---	68	96		66	97	93	77	43	71	89	---
18	---	85	95		73	100	93	78	44	72	89	---
19	---	93	42		76	99	92	75	43	72	90	---
20	---	96	38		77	99	92	75	46	72	90	---
21	---	78	57		75	98	92	73	54	73	90	---
22	---	62	67		72	99	92	71	60	75	90	---
23	---	44	71		77	100	89	68	73	76	90	---
24	---	50	75		79	97	88	68	76	75	91	---
25	---	71	78		87	97	88	67	77	75	91	---
26	---	77	80		84	98	88	66	77	76	91	---
27	---	82	81		87	98	87	67	77	76	92	---
28	---	87	84		85	96	86	72	76	76	92	---
29	---	91	82		---	99	86	74	77	75	93	---
30	---	95	83		---	98	86	75	78	76	93	---
31	---	---	88		---	101	---	75	---	80	93	---
MONTH	---	85	87		84	95	91	77	65	73	89	---

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	12.0	---	---	4.5	1.5	---	---	---	---	4.0	1.5
2	15.5	13.5	---	---	4.5	2.0	---	---	3.5	0.0	1.5	0.0
3	15.5	13.0	---	---	4.0	0.5	---	---	4.5	0.0	4.5	1.5
4	15.0	11.5	9.5	4.0	4.5	2.0	---	---	3.5	0.0	6.0	2.5
5	15.5	11.5	9.5	5.0	5.5	2.0	---	---	0.5	0.0	5.5	0.5
6	15.0	12.5	10.5	6.5	5.0	2.5	---	---	0.5	0.0	5.5	0.0
7	---	---	10.0	4.5	6.0	3.0	---	---	3.0	0.0	5.0	2.5
8	---	---	10.0	3.5	5.0	2.5	---	---	5.0	1.5	7.0	3.5
9	---	---	10.0	3.5	5.0	3.0	---	---	3.0	1.5	6.0	3.0
10	---	---	9.5	6.0	5.5	2.5	---	---	4.0	0.5	6.5	4.0
11	---	---	9.0	6.5	4.5	2.0	---	---	3.5	0.0	4.5	2.5
12	---	---	8.0	5.5	2.5	2.0	---	---	4.5	0.0	6.5	2.5
13	---	---	6.0	4.0	4.5	1.5	---	---	6.0	2.0	7.0	2.5
14	---	---	4.0	2.5	6.5	4.0	---	---	2.5	1.0	5.5	3.0
15	---	---	5.0	4.0	4.5	3.5	---	---	2.5	0.5	6.0	3.0
16	---	---	6.0	4.5	4.5	3.0	---	---	3.0	0.5	3.0	1.5
17	---	---	5.0	3.0	5.0	2.5	---	---	4.0	2.5	3.5	0.5
18	---	---	4.5	2.0	5.5	3.5	---	---	4.5	2.0	5.0	1.5
19	---	---	5.5	2.5	4.5	3.5	---	---	5.5	3.0	5.5	2.0
20	---	---	6.5	3.5	4.0	2.0	---	---	6.0	3.0	6.0	0.5
21	---	---	4.5	3.0	3.5	2.0	---	---	6.0	3.0	7.0	2.0
22	---	---	5.5	3.5	3.0	1.5	---	---	6.0	3.0	7.0	1.5
23	---	---	5.0	4.0	3.5	2.0	---	---	5.0	1.5	8.0	2.0
24	---	---	4.5	3.0	4.0	2.0	---	---	5.5	0.0	8.5	2.5
25	---	---	4.0	2.0	4.5	3.0	---	---	5.5	2.0	7.5	4.5
26	---	---	3.0	1.5	5.0	3.5	---	---	4.0	2.5	7.5	4.5
27	---	---	2.5	2.0	4.0	2.0	---	---	6.5	3.0	8.5	4.0
28	---	---	3.5	1.5	4.0	2.0	---	---	6.0	3.0	4.0	0.5
29	---	---	3.5	1.0	3.5	1.5	---	---	---	---	0.5	0.0
30	---	---	3.5	1.0	4.0	2.5	---	---	---	---	0.5	0.0
31	---	---	---	---	3.0	0.5	---	---	---	---	0.5	0.0
MONTH	---	---	10.5	1.0	6.5	0.5	---	---	6.5	0.0	8.5	0.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	1.0	0.5	8.5	5.5	10.5	6.0	15.5	12.5	20.0	15.0	20.5	16.0
2	0.5	0.0	8.0	5.0	11.0	6.5	15.0	11.5	20.0	13.0	21.0	16.0
3	1.0	0.0	9.0	5.0	11.5	7.0	14.5	11.5	19.5	13.5	20.0	17.0
4	2.0	0.0	8.5	5.0	10.5	6.5	14.5	10.0	20.0	14.0	21.0	16.0
5	3.5	0.5	9.5	6.0	10.5	4.5	14.5	9.5	20.5	14.0	21.0	16.0
6	5.0	0.0	9.5	6.0	12.5	7.5	16.5	11.5	21.0	14.5	19.5	16.5
7	6.0	2.0	10.0	6.5	12.5	7.5	15.5	11.0	18.5	16.5	20.5	15.5
8	7.5	2.5	9.0	6.0	13.0	7.5	16.0	11.0	21.5	16.0	21.0	16.0
9	8.5	2.5	6.0	4.0	13.5	7.5	16.5	10.0	21.0	16.0	20.5	16.0
10	6.5	1.5	6.5	4.0	13.0	7.0	17.5	10.5	20.5	15.0	19.5	15.5
11	1.5	0.5	7.5	5.0	10.5	5.5	18.0	11.5	20.5	14.5	---	---
12	3.0	1.0	9.0	5.5	10.0	5.5	18.0	12.0	20.5	14.5	---	---
13	4.0	2.0	9.5	6.0	9.0	5.0	18.0	11.0	21.0	15.0	---	---
14	5.5	2.0	9.5	6.5	12.5	5.5	18.5	11.5	20.5	15.5	---	---
15	7.0	3.0	10.0	6.5	12.5	5.5	18.0	11.0	20.0	15.0	---	---
16	6.5	3.5	10.5	6.5	11.5	6.0	18.0	11.5	21.0	15.0	---	---
17	7.5	4.5	10.0	6.5	10.5	6.0	18.0	11.0	21.0	15.5	---	---
18	7.5	4.5	9.5	5.5	10.5	6.0	18.5	11.5	21.5	16.5	---	---
19	7.5	4.5	10.5	6.0	9.5	6.0	19.0	12.0	20.0	16.5	---	---
20	8.5	5.5	10.5	6.0	13.0	6.0	19.0	12.0	22.0	17.0	---	---
21	8.5	5.0	10.5	6.0	15.0	7.0	19.0	12.0	22.0	17.0	---	---
22	8.0	5.0	11.0	6.5	15.0	8.0	19.0	12.0	21.5	17.0	---	---
23	8.5	5.0	11.0	6.5	15.0	10.5	18.5	13.5	21.5	17.5	---	---
24	7.5	5.0	11.5	7.5	14.0	12.0	20.5	14.0	21.5	17.0	---	---
25	7.5	5.0	12.0	8.0	15.0	12.0	20.5	13.5	21.5	16.5	---	---
26	8.0	5.0	12.0	8.0	16.0	12.5	21.0	14.0	21.0	17.0	---	---
27	8.5	5.0	10.5	5.5	14.5	12.5	20.0	15.0	20.0	16.0	---	---
28	8.5	5.0	10.0	4.5	12.0	11.0	21.0	14.5	18.5	16.5	---	---
29	8.0	5.0	10.0	6.5	12.0	10.5	21.5	14.5	18.5	16.5	---	---
30	9.0	5.5	11.5	7.0	14.0	12.0	21.5	14.5	20.0	14.5	---	---
31	---	---	11.5	7.0	---	---	21.0	15.0	20.5	15.0	---	---
MONTH	9.0	0.0	12.0	4.0	16.0	4.5	21.5	9.5	22.0	13.0	---	---

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	86	133	137	28	126	70	16	223	42	3.9	1.4
2	1.1	79	198	132	27	130	67	20	177	42	3.6	1.3
3	1.0	86	174	118	26	119	70	23	176	42	3.5	1.0
4	.91	91	150	116	25	107	69	23	134	41	3.5	.91
5	.82	82	128	115	24	98	63	24	91	41	3.2	.88
6	.78	78	111	105	23	90	59	25	91	27	3.2	.82
7	.77	67	95	93	22	84	53	45	91	13	3.1	.87
8	.73	59	85	83	22	76	49	71	90	13	2.8	1.0
9	.79	50	78	75	21	71	45	75	89	12	2.8	1.2
10	.78	37	74	68	21	72	46	73	49	11	2.7	1.2
11	.68	27	68	62	20	90	131	71	21	11	2.6	1.1
12	.65	27	64	58	20	92	200	70	21	10	2.5	1.0
13	.65	49	62	53	22	89	199	128	21	9.9	2.4	.96
14	.65	104	60	51	54	90	188	186	21	9.6	2.4	19
15	40	117	67	47	130	88	172	186	18	9.2	2.5	41
16	103	142	71	44	301	83	158	186	16	15	2.3	40
17	95	180	69	41	303	79	148	187	16	19	2.1	78
18	91	160	68	38	282	75	141	186	58	18	2.1	106
19	88	135	191	40	256	70	137	187	117	17	2.1	105
20	95	91	409	41	234	65	132	188	115	17	1.9	101
21	104	100	432	43	219	61	128	187	180	16	1.9	98
22	101	130	387	40	215	57	126	188	219	16	2.0	97
23	97	180	334	37	205	54	128	189	170	16	2.1	96
24	93	350	290	35	190	50	135	191	67	15	2.1	95
25	90	330	248	33	174	49	137	231	18	14	2.0	94
26	86	250	212	29	160	48	141	279	18	13	2.0	94
27	92	200	194	36	146	48	145	275	17	10	1.8	91
28	110	170	172	35	133	52	100	269	29	8.1	1.8	95
29	107	150	159	33	---	56	38	263	44	30	1.8	98
30	100	133	155	31	---	60	14	257	43	5.0	1.7	96
31	93	---	146	29	---	69	---	253	---	4.2	1.6	---
TOTAL	1596.41	3740	5084	1898	3303	2398	3289	4552	2440	567.0	76.0	1457.64
MEAN	51.5	125	164	61.2	118	77.4	110	147	81.3	18.3	2.45	48.6
MAX	110	350	432	137	303	130	200	279	223	42	3.9	106
MIN	.65	27	60	29	20	48	14	16	16	4.2	1.6	.82
AC-FT	3170	7420	10080	3760	6550	4760	6520	9030	4840	1120	151	2890
CAL YR 1981	TOTAL	13678.55	MEAN	37.5	MAX	432	MIN	.04	AC-FT	27130		
WTR YR 1982	TOTAL	30401.05	MEAN	83.3	MAX	432	MIN	.65	AC-FT	60300		

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

LOCATION.--Lat 39°18'08", long 120°07'13", in SW¼SW¼ sec.20, T.17 N., R.17 E., Placer County, Hydrologic Unit 16050102, 4.0 mi (6.4 km) southeast of Truckee. Water-quality samples are collected 150 ft (50 m) downstream from State Highway 267. Thermograph records are obtained about 300 ft (90 m) upstream from highway, off left bank immediately downstream from confluence of main stem and Middle Martis Creek.

DRAINAGE AREA.--25.8 mi<sup>2</sup> (66.8 km<sup>2</sup>).

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

CHEMICAL ANALYSES: Water years 1975 to current year.

WATER TEMPERATURES: Water years 1975 to current year.

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

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October to November 1974, August 1975 to current year.

INSTRUMENTATION.--Temperature recorder October to November 1974, and since August 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 27.5°C July 30, Aug. 3, 1977; minimum recorded, -0.5°C Jan. 5, 10-16, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.0°C several days during July; minimum recorded, 0.0°C many days during October to April.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY FIELD (MG/L AS CACO3)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
NOV 10...	0930	4.2	126	7.3	3.0	1.8	11.0	68	<.02
MAY 06...	1005	107	56	7.4	5.5	5.4	10.4	--	<.02
JUL 02...	1030	19	104	--	10.5	2.0	9.3	55	<.02
SEP 07...	1000	6.4	126	7.2	9.5	1.5	9.7	74	<.02

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
NOV 10...	.14	.12	.39	.51	.65	.03	.01	4	2
MAY 06...	.10	.08	.43	.51	.61	.02	<.01	4	2
JUL 02...	.17	<.07	--	.80	.97	.03	.04	4	5
SEP 07...	<.10	.10	.60	.70	--	.05	.05	2	<1

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, DIS- SUS- PENDED (MG/L)
NOV 10...	--	--	5	4	40	30	140	50	--
MAY 06...	230	100	36	13	10	19	60	42	11
JUL 02...	280	120	24	24	50	30	150	19	--
SEP 07...	130	100	7	<1	20	13	70	3	--

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



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

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	4.0	8.0	1.0	3.0	0.0	1.0	0.0	0.5	0.0	---	---
2	12.5	5.5	8.0	1.5	3.0	0.0	0.0	0.0	1.5	0.0	---	---
3	14.5	6.5	8.0	0.5	2.0	0.0	0.0	0.0	2.0	0.0	---	---
4	12.5	2.0	7.0	0.5	2.5	0.0	0.0	0.0	1.5	0.0	---	---
5	13.0	2.0	7.0	1.0	3.0	0.5	0.0	0.0	0.0	0.0	5.0	0.0
6	11.0	3.0	9.0	3.5	4.0	0.5	0.0	0.0	0.0	0.0	5.5	0.0
7	10.5	4.5	8.0	2.5	6.0	1.0	0.0	0.0	2.5	0.5	4.5	0.0
8	11.0	2.5	8.0	0.5	4.0	0.0	0.0	0.0	2.0	0.0	9.5	1.0
9	12.0	3.0	7.5	0.5	4.5	1.0	0.0	0.0	0.5	0.0	7.5	0.0
10	12.5	6.0	5.5	2.0	5.5	1.0	0.0	0.0	0.5	0.0	10.0	2.0
11	10.0	4.5	7.0	2.0	3.5	0.0	0.0	0.0	2.0	0.0	8.5	0.5
12	7.5	2.0	4.0	3.5	2.0	0.0	0.0	0.0	2.5	0.0	9.5	0.5
13	6.0	0.5	5.0	3.0	4.5	0.5	0.0	0.0	4.0	0.5	10.0	0.5
14	9.5	1.0	5.0	2.5	5.0	1.5	0.0	0.0	5.5	0.5	8.0	1.5
15	8.0	0.0	7.0	3.0	5.0	2.5	0.0	0.0	6.5	0.5	8.0	1.0
16	8.5	0.0	7.0	5.0	4.0	1.0	0.5	0.0	7.5	1.5	3.0	0.0
17	10.5	0.5	6.0	2.5	3.5	0.0	1.0	0.0	7.5	0.0	3.5	0.0
18	11.0	1.0	5.0	1.0	4.5	1.5	1.0	0.0	6.0	0.0	5.5	0.0
19	10.5	0.5	5.5	1.5	4.5	4.0	0.5	0.0	7.0	0.0	7.5	0.0
20	10.5	1.0	6.5	2.5	4.5	1.5	0.0	0.0	6.5	0.5	7.0	0.0
21	10.5	1.0	3.5	2.5	2.0	0.0	0.5	0.0	8.0	1.0	9.5	0.0
22	10.0	0.0	6.0	3.0	1.5	0.0	0.0	0.0	9.5	0.5	9.0	0.0
23	9.5	0.0	7.0	4.5	2.0	0.5	1.5	0.0	8.0	1.0	10.5	0.0
24	8.0	0.5	5.0	1.5	2.5	0.0	2.0	0.0	4.5	0.0	11.0	0.0
25	10.0	0.5	3.5	0.5	3.5	0.5	1.5	0.0	2.5	0.0	9.0	1.5
26	10.5	3.5	1.0	0.5	3.5	1.0	1.0	0.0	---	---	8.0	2.0
27	7.5	3.5	1.5	0.5	4.0	1.0	0.5	0.0	---	---	10.5	2.0
28	5.5	2.0	2.5	0.5	3.0	0.5	1.5	0.0	---	---	2.5	0.0
29	5.0	0.5	1.5	0.0	2.5	0.5	1.0	0.0	---	---	0.5	0.0
30	6.0	0.0	1.5	0.0	5.0	0.5	0.0	0.0	---	---	0.0	0.0
31	7.0	0.0	---	---	4.5	1.0	0.5	0.0	---	---	0.0	0.0
MONTH	15.0	0.0	9.0	0.0	6.0	0.0	2.0	0.0	9.5	0.0	11.0	0.0

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.0	0.0	13.5	2.0	16.0	4.5	18.0	9.0	20.5	10.5	17.0	8.5
2	0.0	0.0	11.5	2.0	16.0	5.0	---	---	19.5	8.0	19.0	9.0
3	0.0	0.0	13.5	2.0	15.5	4.5	17.5	8.0	20.0	8.5	16.5	10.0
4	0.0	0.0	13.0	2.0	14.0	5.0	19.0	9.5	20.0	9.0	19.0	8.0
5	0.0	0.0	13.0	2.0	14.5	5.0	18.0	7.5	20.5	9.0	19.0	8.5
6	0.0	0.0	14.0	2.0	15.5	4.5	20.5	8.5	20.5	9.5	16.0	9.5
7	2.0	0.0	13.5	3.0	16.5	4.5	20.0	10.5	14.5	12.0	18.5	7.5
8	4.0	0.5	12.0	3.0	17.5	5.5	20.5	11.0	21.5	10.5	18.5	8.5
9	4.5	0.0	5.5	2.5	18.0	6.0	20.5	8.5	21.0	10.5	18.0	8.5
10	4.0	0.0	11.0	2.0	18.0	7.0	21.0	9.0	20.0	9.0	15.0	8.0
11	0.5	0.0	11.5	3.0	16.0	8.5	22.0	9.5	20.5	9.0	15.5	5.5
12	3.5	0.0	13.0	2.5	14.5	8.0	21.5	10.5	20.5	9.0	16.0	6.0
13	6.0	0.5	14.0	3.5	13.0	6.5	22.0	10.0	20.5	9.5	16.5	8.0
14	9.5	0.0	13.0	4.5	18.5	7.5	22.0	10.5	20.5	9.5	13.5	6.0
15	11.0	0.0	15.0	3.5	20.5	8.0	20.5	10.0	18.5	9.0	8.5	6.0
16	12.0	0.0	15.0	4.0	20.0	9.5	21.0	10.0	20.0	9.0	9.0	4.5
17	13.0	0.0	13.5	4.5	18.5	10.5	21.5	9.0	20.5	9.5	12.5	7.0
18	12.5	0.5	14.0	4.0	17.5	9.5	21.5	9.5	20.0	11.0	12.5	8.0
19	12.5	0.0	15.0	3.5	15.0	10.0	22.0	10.0	17.5	10.0	13.0	7.0
20	11.0	0.5	15.5	4.5	18.5	9.0	22.0	10.0	20.5	10.5	15.0	5.5
21	13.0	0.0	15.5	4.5	20.5	9.0	22.0	9.5	21.5	11.0	15.5	6.0
22	14.0	0.5	15.5	5.5	20.5	9.0	21.5	9.5	21.0	12.0	16.0	7.0
23	14.0	1.0	16.0	5.5	20.5	9.0	20.0	11.5	20.0	12.0	14.5	6.5
24	13.0	1.0	16.5	5.5	16.0	9.0	23.0	12.5	19.0	11.0	17.0	10.0
25	12.5	1.5	17.0	6.0	20.0	9.0	21.5	11.0	20.5	10.0	13.5	11.0
26	12.0	2.0	17.0	6.5	21.0	10.0	23.0	11.5	20.0	11.5	15.0	8.5
27	13.5	1.5	13.0	6.5	18.5	11.5	20.5	12.5	18.0	9.0	10.5	7.0
28	11.5	2.0	15.0	4.0	16.0	10.0	22.0	11.0	15.0	10.5	12.0	4.5
29	11.0	1.0	11.0	4.5	13.5	9.0	23.0	11.5	18.5	10.5	9.0	4.5
30	12.5	1.0	16.0	4.0	14.5	10.0	22.5	11.0	18.5	7.5	11.0	4.0
31	---	---	16.0	5.5	---	---	20.5	9.5	18.5	7.5	---	---
MONTH	14.0	0.0	17.0	2.0	21.0	4.5	23.0	7.5	21.5	7.5	19.0	4.0

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 10...	0830	4.2	3.0	1	.01
MAY 06...	1005	107	5.5	11	3.2
JUL 02...	1020	19	10.5	26	1.3

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'38", long 120°06'48", in NE¼NW¼ sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, Tahoe National Forest, in control house at Martis Creek Dam, 2.0 mi (3.2 km) upstream from mouth, and 3.5 mi (5.6 km) east of Truckee.

DRAINAGE AREA.--39.6 mi<sup>2</sup> (102.6 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Lake is formed by rolled-earthfill dam. Storage began Oct. 7, 1971. Total capacity, 20,400 acre-ft (25.2 hm<sup>3</sup>) between elevations 5,745 ft (1,751.1 m), streambed elevation at dam, and 5,838 ft (1,779.4 m), elevation of spillway crest. Figures given herein represent total contents, which include 775 acre-ft (960,000 m<sup>3</sup>) of inactive storage below elevation, 5,780 ft (1,761.7 m), intake crest. Reservoir is used for flood control, enhancement of fishery, and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,700 acre-ft (9.49 hm<sup>3</sup>) May 11, 12, 1980, elevation, 5,815.16 ft (1,772.461 m); minimum (since storage began), 768 acre-ft (947,000 m<sup>3</sup>) Aug. 24, 1977, elevation, 5,779.88 ft (1,761.707 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,510 acre-ft (1.86 hm<sup>3</sup>) Feb. 16, elevation, 5,788.85 ft (1,764.441 m); minimum, 779 acre-ft (960,500 m<sup>3</sup>) Oct. 1, 2, elevation 5,780.06 ft (1,761.762 m).

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

5,779	716	5,800	3,255
5,780	775	5,810	5,884
5,785	1,139	5,820	9,718
5,790	1,646		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	779	786	815	838	801	877	823	893	835	808	791	808
2	779	786	813	835	801	856	821	892	833	806	791	809
3	780	786	810	827	801	854	826	896	829	804	791	811
4	780	786	808	822	800	846	826	894	828	803	791	812
5	780	786	808	825	798	842	827	889	831	803	791	813
6	780	786	807	818	796	841	824	888	827	801	791	818
7	784	786	807	811	797	836	822	891	824	800	792	821
8	784	786	804	814	799	846	820	887	822	799	794	826
9	783	785	823	811	799	840	824	888	820	798	793	826
10	783	784	814	808	799	870	904	879	820	798	794	826
11	783	784	808	807	798	873	1190	867	818	797	795	826
12	783	784	815	804	798	856	982	862	818	796	796	824
13	783	805	814	803	811	852	911	862	818	796	796	824
14	783	910	810	802	860	856	908	861	817	795	796	822
15	783	831	818	801	1180	846	894	860	815	794	796	830
16	783	824	813	803	1510	842	893	862	815	794	797	845
17	783	811	810	804	1070	841	885	864	815	794	796	845
18	783	843	824	803	915	839	883	863	824	794	796	848
19	783	817	1190	801	903	837	881	860	822	794	798	848
20	783	807	1310	801	903	835	877	859	816	793	799	843
21	783	802	958	799	918	829	881	860	812	793	799	840
22	783	1050	887	799	906	826	879	860	816	793	798	836
23	783	877	865	798	883	824	887	860	809	793	798	837
24	783	1040	856	798	874	825	886	860	808	793	798	856
25	783	938	850	803	864	824	884	860	807	793	799	874
26	782	848	853	808	858	824	885	860	805	793	798	874
27	784	837	842	806	856	826	890	856	804	794	798	870
28	802	829	837	806	852	829	892	851	804	794	799	866
29	793	821	890	803	---	818	884	846	807	793	800	870
30	788	817	858	799	---	810	888	841	809	792	802	868
31	786	---	839	799	---	812	---	838	---	791	806	---
MAX	802	1050	1310	838	1510	877	1190	896	835	808	806	874
MIN	779	784	804	798	796	810	820	838	804	791	791	808
a	5780.18	5780.66	5781.01	5780.39	5781.21	5780.59	5781.73	5780.99	5780.54	5780.25	5780.50	5781.45
b	+8	+31	+22	-40	+53	-40	+76	-50	-29	-18	+15	+62

CAL YR 1981 b +51

WTR YR 1982 b +90

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

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1975 to current year.

SEDIMENT RECORDS: Water years 1975-76, 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	ALKALINITY FIELD (MG/L AS CAC03)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT 11...	1030	128	7.2	7.2	--	11.4	--	<.02	<.09
MAY 06...	1115	60	6.8	12.5	5.3	9.2	--	<.02	.15
JUL 02...	1120	92	--	17.0	1.7	9.6	--	<.02	<.10
SEP 07...	1110	123	--	18.5	--	9.0	75	<.02	<.10

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)
OCT 11...	.12	.49	.61	--	.03	.01	3	2	--
MAY 06...	.08	.50	.58	.73	.03	<.01	4	3	180
JUL 02...	<.07	--	.90	1.0	.05	.03	4	3	170
SEP 07...	.09	1.6	1.7	--	.03	.04	3	<1	220

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)
OCT 11...	--	55	5	40	20	60	40	--
MAY 06...	100	7	14	20	14	50	36	4
JUL 02...	76	6	7	40	16	100	84	33
SEP 07...	110	7	1	50	10	30	10	4

## SUSPENDED SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)
NOV 10...	1030	7.0	2
MAY 06...	1115	12.5	4
JUL 02...	1120	17.0	33
SEP 07...	1110	18.5	4

&lt; Actual value is known to be less than the value shown.

LOCATION.--Lat 39°19'44", long 120°07'00", in NE¼NW¼ sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 0.2 mi (0.3 km) downstream from Martis Creek Lake Dam, 1.8 mi (2.9 km) upstream from mouth, and 3.5 mi (5.6 km) east of Truckee.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 583 ft<sup>3</sup>/s (16.5 m<sup>3</sup>/s) Feb. 16, gage height, 5.43 ft (1.655 m); minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Oct. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	7.6	35	65	20	110	34	161	63	30	13	9.2
2	4.3	7.6	34	60	21	105	41	169	59	27	13	9.3
3	4.6	7.6	30	59	21	99	40	169	55	26	13	9.0
4	4.5	7.6	28	45	21	85	45	172	51	24	13	9.4
5	4.5	7.6	27	46	20	71	44	167	53	23	12	8.8
6	4.5	7.9	27	45	19	64	43	159	51	22	12	8.1
7	5.2	7.9	27	40	19	62	39	161	47	21	12	8.7
8	5.7	7.6	25	39	19	66	38	164	44	20	13	7.9
9	5.3	7.3	26	39	19	69	38	163	42	19	12	9.1
10	5.2	7.3	38	37	19	87	66	149	40	18	11	10
11	5.4	7.3	29	35	18	150	466	129	39	18	11	11
12	5.3	13	28	32	18	107	415	113	39	17	11	11
13	5.2	71	33	29	21	89	252	110	38	17	11	11
14	5.1	125	31	28	63	104	193	112	37	16	11	11
15	5.0	46	34	27	240	87	177	108	35	16	11	11
16	5.0	34	34	25	568	75	150	109	34	16	11	13
17	5.0	105	30	25	552	71	150	114	34	16	11	15
18	5.0	47	31	26	299	69	149	116	36	15	11	15
19	5.0	29	241	26	192	63	145	110	47	15	11	15
20	5.0	23	573	25	179	58	140	106	38	15	11	15
21	5.0	130	486	25	192	55	130	106	33	15	11	14
22	5.0	268	217	22	207	50	136	107	28	14	11	13
23	5.0	224	140	22	164	47	144	107	31	14	10	13
24	5.0	400	107	22	134	46	155	107	27	14	10	16
25	5.1	171	90	21	118	47	152	106	27	14	10	16
26	5.2	92	82	25	104	46	152	105	26	14	10	17
27	5.3	67	91	24	96	44	155	102	25	14	10	16
28	18	53	66	25	90	49	164	93	25	15	9.9	16
29	18	45	98	23	---	45	160	83	26	14	10	16
30	10	38	137	23	---	33	151	75	28	13	9.3	17
31	8.6	---	85	21	---	29	---	68	---	13	8.7	---
TOTAL	189.2	2064.3	2960	1006	3453	2182	4164	3820	1158	545	343.9	371.5
MEAN	6.10	68.8	95.5	32.5	123	70.4	139	123	38.6	17.6	11.1	12.4
MAX	18	400	573	65	568	150	466	172	63	30	13	17
MIN	4.2	7.3	25	21	18	29	34	68	25	13	8.7	7.9
AC-FT	375	4090	5870	2000	6850	4330	8260	7580	2300	1080	682	737
CAL YR 1981	TOTAL	8310.8	MEAN	22.8	MAX	573	MIN	2.9	AC-FT	16480		
WTR YR 1982	TOTAL	22256.9	MEAN	61.0	MAX	573	MIN	4.2	AC-FT	44150		

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.  
 CHEMICAL ANALYSES: Water years 1975 to current year.  
 WATER TEMPERATURES: Water years 1975 to current year.  
 SEDIMENT RECORDS: Water years 1975 to current year.

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1974 to current year.

INSTRUMENTATION.--Temperature recorder since October 1974.

REMARKS.--Unpublished chemical-quality, water temperatures, and sediment data prior to October 1974, available at district office in Carson City, NV.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 24.0°C on several days in 1977 and 1979; minimum recorded, 0.0°C Feb. 16, 17, 1982.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 20.5°C July 28-30; minimum recorded, 0.0°C Feb. 16, 17.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY FIELD (MG/L AS CAC03)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
NOV 10...	1130	7.3	134	7.6	7.5	1.6	11.0	72	<.02
MAY 06...	1200	157	64	7.3	10.0	4.0	10.2	38	<.02
JUL 02...	1300	28	99	--	16.0	1.6	9.1	57	<.02
SEP 07...	1145	8.8	118	--	17.5	1.5	9.6	80	<.02

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
NOV 10...	.12	.12	.34	.46	.58	.03	.01	3	1
MAY 06...	.41	.10	.57	.67	1.1	.02	<.01	5	2
JUL 02...	.96	<.07	--	.70	1.7	.08	.03	2	1
SEP 07...	.10	.10	1.1	1.2	1.3	.02	.02	3	<1

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)
NOV 10...	--	--	110	5	40	20	90	20	3
MAY 06...	240	82	74	8	20	22	110	32	7
JUL 02...	160	70	9	2	20	5	60	<3	--
SEP 07...	210	86	4	3	50	26	90	86	9

&lt; Actual value is known to be less than the value shown.

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	9.5	7.0	2.5	2.0	2.0	1.5	1.5	1.0	4.0	3.5
2	---	---	9.5	7.0	3.0	2.0	1.5	1.5	1.5	1.0	3.5	3.0
3	---	---	9.5	6.5	3.0	2.5	1.0	1.0	1.5	1.0	3.0	2.0
4	---	---	9.0	6.5	3.5	2.5	1.0	1.0	1.5	1.0	2.5	2.0
5	---	---	9.0	6.5	3.5	3.0	1.0	1.0	1.5	1.0	2.5	2.0
6	---	---	9.0	7.0	3.5	3.0	1.0	0.5	1.5	1.0	3.0	2.5
7	13.5	11.0	9.0	7.0	4.0	3.0	1.0	0.5	1.5	1.0	3.0	3.0
8	14.0	10.5	9.0	6.5	4.0	3.5	1.0	0.5	2.0	1.5	3.5	3.0
9	13.0	10.5	9.0	6.5	4.0	3.5	1.0	0.5	1.5	1.5	3.5	3.5
10	13.0	11.0	7.5	6.5	4.0	3.5	1.0	0.5	1.5	1.5	4.0	3.5
11	12.0	10.5	8.5	6.5	4.0	3.5	1.0	0.5	1.5	1.5	4.0	4.0
12	12.5	9.0	7.0	6.5	4.0	3.5	1.0	0.5	2.0	1.5	4.5	4.0
13	11.0	8.5	6.5	6.5	4.0	3.5	1.0	0.5	2.0	1.5	4.5	4.0
14	11.0	8.5	6.5	5.5	4.0	3.5	1.0	0.5	1.5	1.0	4.5	4.5
15	11.0	8.0	6.0	5.0	3.5	3.5	1.0	0.5	1.0	0.5	5.0	4.5
16	11.0	7.5	6.0	5.5	3.5	3.5	1.0	1.0	0.5	0.0	5.0	4.5
17	11.5	7.5	5.5	5.5	4.0	3.5	1.0	1.0	0.5	0.0	4.5	4.5
18	11.5	7.5	5.5	5.0	4.0	3.5	1.0	1.0	1.0	0.5	4.5	4.0
19	11.5	7.5	6.0	5.0	4.0	3.5	1.0	1.0	1.5	1.0	4.0	4.0
20	11.5	7.5	6.0	5.0	4.5	4.0	1.0	1.0	2.0	1.5	4.0	4.0
21	11.5	7.5	5.0	4.5	4.0	2.0	1.0	1.0	2.5	2.0	4.5	4.0
22	11.5	7.5	4.5	3.5	2.0	1.5	1.0	1.0	3.5	2.5	4.5	4.5
23	11.5	7.5	5.0	4.0	1.5	1.5	1.5	1.0	3.5	3.0	5.0	4.5
24	10.5	7.5	5.5	5.0	2.0	1.5	1.5	1.0	3.5	3.0	6.0	5.0
25	11.0	7.5	4.5	2.5	2.0	1.5	1.5	1.0	3.5	3.0	6.5	6.0
26	11.0	7.5	2.5	2.0	2.0	2.0	1.5	1.0	3.5	3.0	6.5	6.0
27	10.0	8.0	2.0	2.0	2.5	2.0	1.5	1.0	3.5	3.0	6.5	6.0
28	9.0	7.0	2.0	1.5	2.5	2.5	1.5	1.0	3.5	3.5	6.5	6.0
29	9.0	7.0	2.0	1.5	2.5	2.5	1.5	1.0	---	---	6.0	5.0
30	8.5	6.5	2.5	2.0	2.5	2.0	1.5	1.0	---	---	5.0	4.5
31	9.0	6.5	---	---	2.0	2.0	1.5	1.0	---	---	4.5	3.5
MONTH	14.0	6.5	9.5	1.5	4.5	1.5	2.0	0.5	3.5	0.0	6.5	2.0

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

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 10...	1130	7.3	7.5	3	.06
MAY 06...	1200	157	10.0	7	3.0
JUL 02...	1300	28	16.0	9	.68
SEP 07...	1145	8.8	12.5	9	.21



## 10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'40", long 120°08'10", in NW¼SW¼ sec.30, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house at Prosser Creek Dam on Prosser Creek, 1.4 mi (2.3 km) upstream from mouth, and 4.2 mi (6.8 km) northeast of Truckee.

DRAINAGE AREA.--50.3 mi<sup>2</sup> (130.3 km<sup>2</sup>).

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

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

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

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Jan. 30, 1963. Usable capacity, 28,640 acre-ft (35.3 hm<sup>3</sup>) between elevations, 5,660.6 ft (1,725.35 m) top of inactive storage, and 5,741.2 ft (1,749.92 m) spillway crest. Inactive storage, 1,200 acre-ft (1.48 hm<sup>3</sup>), includes 83 acre-ft (102,000 m<sup>3</sup>) dead storage below elevation 5,660.6 ft (1,725.35 m). Figures given herein represent total contents at 0800 hours. Reservoir is used for flood control, enhancement of fishery, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,269 acre-ft (39.8 hm<sup>3</sup>) June 1, 1973, elevation, 5,744.33 ft (1,750.872 m); minimum observed, 83 acre-ft (0.10 hm<sup>3</sup>) Aug. 18, 1976 to Apr. 18, 1977, July 8 to Dec. 26, 1977, Feb. 19 to Mar. 21, 1978; minimum elevation observed, 5,637.01 ft (1,718.161 m) July 20 to Dec. 19, 1977, Feb. 24 to Mar. 17, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 30,371 acre-ft (37.4 hm<sup>3</sup>) Aug. 4, elevation, 5,741.90 ft (1,750.131 m); minimum observed, 8,591 acre-ft (10.6 hm<sup>3</sup>) Jan. 18, elevation, 5,699.85 ft (1,737.314 m).

## MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	5711.57	12785	--
Oct. 31.....	5703.40	9730	-3055
Nov. 30.....	5708.10	11410	+1680
Dec. 31.....	5701.50	9107	-2303
CAL YR 1981.....	--	--	-193
Jan. 31.....	5702.55	9448	+341
Feb. 28.....	5700.55	8808	-640
Mar. 31.....	5702.00	9267	+459
Apr. 30.....	5706.65	10870	+1603
May 31.....	5702.15	9316	-1554
June 30.....	5732.45	23759	+14443
July 31.....	5741.83	30318	+6559
Aug. 31.....	5741.48	30054	-264
Sept. 30.....	5728.99	21606	-8448
WTR YR 1982.....	--	--	+8821

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

LOCATION.--Lat 39°22'24", long 120°07'50", NW¼NE¼ sec.31, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 300 ft (91 m) downstream from Station Creek, 0.5 mi (0.8 km) downstream from Prosser Creek Dam, 0.9 mi (1.4 km) upstream from mouth, and 4.2 mi (6.7 km) northeast of Truckee.

DRAINAGE AREA.--52.9 mi<sup>2</sup> (137.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1902 to June 1903 (gage heights only), October 1942 to December 1950, June 1951 to current year. Prior to October 1976, published as "near Boca". Monthly discharge only for October 1942 to December 1950, published in WSP 1734. Records for April 1889 to November 1890, published in the 11th and 12th Annual Reports, Part 2, have been found to be unreliable and should not be used.

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

GAGE.--Water-stage recorder. Datum of gage is 5,602.31 ft (1,707.584 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). See WSP 2127 for history of changes prior to September 1956. October 1956 to May 1976, water-stage recorder at site 0.8 mi (1.3 km) downstream at datum 29.69 ft (9.050 m) lower.

REMARKS.--Records good. Flow regulated by Prosser Creek Dam since Jan. 31, 1963.

AVERAGE DISCHARGE (adjusted for change in contents in Prosser Creek Reservoir since 1963).--39 years (water years 1943-50, 1952-82), 87.3 ft<sup>3</sup>/s (2.472 m<sup>3</sup>/s), 63,250 acre-ft/yr (78.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1943-82): Maximum discharge, 4,560 ft<sup>3</sup>/s (129 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 10.13 ft (3.088 m) present datum, from rating curve extended above 910 ft<sup>3</sup>/s (25.8 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft (3.35 m) from floodmarks, present datum, Nov. 20, 1950; minimum discharge, 0.4 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) July 18, 1961, result of work on dam upstream. Maximum discharge since construction of Prosser Creek Dam in 1963, 1,610 ft<sup>3</sup>/s (45.6 m<sup>3</sup>/s) Dec. 25, 1964, gage height, 6.28 ft (1.914 m); minimum daily, 0.02 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,550 ft<sup>3</sup>/s (43.9 m<sup>3</sup>/s) Feb. 20, gage height, 6.58 ft (2.006 m); minimum daily, 8.9 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	38	413	160	77	194	144	525	316	16	43	58
2	10	38	212	140	77	192	144	528	269	15	42	55
3	10	38	211	139	77	194	144	581	254	15	43	81
4	10	38	149	139	77	194	144	611	239	15	47	96
5	10	38	119	141	77	165	142	567	94	15	49	96
6	10	38	119	112	77	149	141	541	15	14	48	96
7	30	38	54	92	77	150	139	545	15	14	48	96
8	43	38	10	107	57	139	137	551	14	14	48	113
9	43	38	41	118	44	132	120	555	14	14	48	124
10	43	38	62	118	44	135	114	552	14	14	47	143
11	42	38	98	105	44	140	136	544	14	14	46	153
12	42	39	122	95	44	137	145	540	13	14	45	153
13	42	43	123	95	44	137	146	538	13	13	44	172
14	79	42	108	95	48	141	297	384	13	13	42	182
15	102	40	98	95	146	189	376	295	13	14	41	183
16	132	184	98	95	102	236	268	300	15	13	36	184
17	149	304	98	96	254	209	209	302	16	13	33	184
18	149	403	114	46	600	190	209	302	16	13	33	184
19	117	462	136	11	815	164	238	537	16	13	32	184
20	98	298	75	11	1250	148	254	520	15	13	32	218
21	84	204	334	11	1240	149	436	419	15	13	32	240
22	74	201	730	79	832	121	540	419	15	13	34	259
23	74	371	817	121	658	104	539	419	15	15	36	269
24	74	247	806	121	387	106	585	489	15	20	35	270
25	74	172	889	54	228	107	614	529	15	30	40	269
26	36	451	1030	11	228	110	612	527	15	58	42	266
27	8.9	605	1050	11	229	112	608	527	15	73	39	265
28	49	626	552	11	205	115	606	538	15	74	37	264
29	75	617	275	30	---	132	603	541	15	75	36	264
30	74	691	223	42	---	142	552	536	15	56	34	262
31	53	---	189	63	---	143	---	417	---	45	50	---
TOTAL	1846.7	6418	9355	2564	8038	4676	9342	15179	1538	751	1262	5383
MEAN	59.6	214	302	82.7	287	151	311	490	51.3	24.2	40.7	179
MAX	149	691	1050	160	1250	236	614	611	316	75	50	270
MIN	8.9	38	10	11	44	104	114	295	13	13	32	55
AC-FT	3660	12730	18560	5090	15940	9270	18530	30110	3050	1490	2500	10680

CAL YR 1981 TOTAL 28732.5 MEAN 78.7 MAX 1050 MIN 5.0 AC-FT 56990 MEAN a 78.5 AC-FT a 56800  
WTR YR 1982 TOTAL 66352.7 MEAN 182 MAX 1250 MIN 8.9 AC-FT 131600 MEAN a 194 AC-FT a 140400

a Adjusted for change in contents in Prosser Creek Reservoir.

## 10343000 INDEPENDENCE CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°27'20", long 120°17'13", in SW¼NW¼ sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 0.3 mi (0.5 km) downstream from Independence Lake outlet, and 10.5 mi (16.9 km) northwest of Truckee.

DRAINAGE AREA.--8.10 mi<sup>2</sup> (20.98 km<sup>2</sup>).

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

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

GAGE.--Water-stage recorder. Altitude of gage is 6,940 ft (2,115 m), from topographic map. July 1, 1904, to June 30, 1910, water-stage recorder 75 ft (23 m) downstream from Independence Lake outlet; prior to July 1, 1904, water-stage recorder 600 ft (180 m) downstream at approximately same datum.

REMARKS.--Records poor October to June, fair thereafter. Flow regulated by Independence Lake, usable capacity, 17,500 acre-ft (21.6 hm<sup>3</sup>).

AVERAGE DISCHARGE (unadjusted).--19 years (water years 1903-7, 1969-82), 27.4 ft<sup>3</sup>/s (0.776 m<sup>3</sup>/s), 19,850 acre-ft/yr (24.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 291 ft<sup>3</sup>/s (8.24 m<sup>3</sup>/s) Dec. 20, 1981, gage height, 6.12 ft (1.865 m); no flow Sept. 23 to Nov. 10, 1905, June 1, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 291 ft<sup>3</sup>/s (8.24 m<sup>3</sup>/s) Dec. 20, gage height, 6.12 ft (1.865 m) minimum daily, 0.74 ft<sup>3</sup>/s (0.021 m<sup>3</sup>/s) Oct. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.95	.78	28	53	13	35	18	62	130	85	18	8.9
2	.92	.79	25	49	13	35	18	69	121	80	16	8.8
3	.88	.80	23	45	13	34	18	78	115	73	15	8.8
4	.85	.80	21	41	12	32	17	85	103	67	14	8.8
5	.82	.80	19	38	12	30	17	90	92	64	14	8.5
6	.80	.80	18	36	12	29	17	91	89	63	14	8.5
7	.77	.80	15	34	11	24	17	98	86	62	13	8.4
8	.74	.80	15	31	11	21	17	108	84	59	13	8.8
9	.74	.80	15	29	11	20	18	108	85	56	13	8.7
10	.75	.80	16	28	10	21	117	99	91	54	13	8.4
11	.75	.80	15	27	10	24	98	83	101	53	12	8.3
12	.76	.80	15	25	10	23	81	75	103	54	12	8.1
13	.76	.84	16	24	12	21	73	75	100	56	12	8.1
14	.77	.93	16	23	25	23	67	79	98	55	12	8.1
15	.77	1.0	20	22	61	22	64	84	106	56	11	8.2
16	.77	.96	18	21	147	21	58	94	130	52	11	8.3
17	.78	.90	16	20	132	20	50	105	141	48	11	8.1
18	.78	.85	19	20	107	20	44	113	138	44	11	8.3
19	.79	.83	147	19	84	19	41	114	140	41	11	8.5
20	.79	.80	269	19	73	19	38	115	143	38	11	8.4
21	.80	21	229	18	68	19	36	121	139	35	11	8.4
22	.80	24	171	18	67	19	35	130	131	33	11	8.4
23	.80	51	130	17	63	19	37	139	117	31	10	8.7
24	.80	142	101	17	56	19	40	147	110	30	10	9.1
25	.80	114	79	16	51	19	43	155	106	28	10	10
26	.80	84	69	16	44	19	45	164	104	26	9.9	12
27	.83	64	63	15	38	19	48	167	103	25	9.5	11
28	.84	51	55	15	34	19	53	160	100	24	9.5	11
29	.83	40	53	15	---	19	56	158	96	23	9.5	12
30	.82	33	55	14	---	18	57	151	88	21	9.2	11
31	.82	---	52	14	---	18	---	140	---	20	9.1	---
TOTAL	24.88	640.68	1803	779	1200	700	1338	3457	3290	1456	365.7	270.6
MEAN	.80	21.4	58.2	25.1	42.9	22.6	44.6	112	110	47.0	11.8	9.02
MAX	.95	142	269	53	147	35	117	167	143	85	18	12
MIN	.74	.78	15	14	10	18	17	62	84	20	9.1	8.1
AC-FT	49	1270	3580	1550	2380	1390	2650	6860	6530	2890	725	537
CAL YR 1981 TOTAL	3617.06											
WTR YR 1982 TOTAL	15324.86											
MEAN	9.91	42.0	269	7.74	269	7.74	7170	30400				

NOTE.--No gage-height record Jan. 6 to Feb. 12. Stage-discharge relationship affected by beaver dam Oct. 1 to Nov. 20.

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°25'54", long 120°14'13", in NE¼NE¼ sec.7, T.18 N., R.16 E., Nevada County,  
Hydrologic Unit 16050102, on left bank 2.2 mi (3.5 km) upstream from bridge on State Highway 89, and 7.5  
mi (12.1 km) north of Truckee.

DRAINAGE AREA.--10.5 mi<sup>2</sup> (27.2 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,320 ft (1,926 m), from topographic map.  
Prior to Dec. 2, 1953, nonrecording gage at site 100 ft (30 m) upstream at different datum.

REMARKS.--Records excellent. No storage or diversion above station.

AVERAGE DISCHARGE.--29 years, 12.4 ft<sup>3</sup>/s (0.351 m<sup>3</sup>/s), 8,980 acre-ft/yr (11.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft<sup>3</sup>/s (21.7 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 4.64 ft (1.414 m) from floodmarks, from rating curve extended above 140 ft<sup>3</sup>/s (3.96 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.28 ft (1.305 m); minimum, 0.6 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) Aug. 8, 1960, Aug. 7, 1961, result of temporary regulation.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2130	119 3.37	3.14 0.957	Mar. 12	0930	61 1.73	2.77 .844
Nov. 23	1700	272 7.70	3.78 1.152	Apr. 10	1130	130 3.68	3.25 .991
Dec. 20	0130	368 10.42	4.04 1.231	May 7	1745	149 4.22	3.35 1.021
Feb. 16	0230	*393 11.10	4.09 1.247	May 26	1930	137 3.88	3.29 1.003

Minimum daily, 1.6 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.7	13	18	7.1	30	7.9	92	75	31	7.2	4.1
2	1.7	2.8	12	17	7.0	27	7.7	97	70	28	7.2	4.0
3	1.8	2.9	11	16	6.9	26	10	102	66	25	7.0	4.0
4	1.7	2.8	9.9	15	6.9	24	12	103	62	24	6.9	4.0
5	1.7	2.9	9.2	14	6.8	22	11	101	58	23	6.7	3.9
6	1.7	3.2	8.7	14	6.8	21	11	104	54	21	6.5	3.8
7	3.8	3.0	9.0	13	6.7	20	11	115	52	20	6.8	3.9
8	2.2	2.7	8.5	13	6.6	19	11	116	50	19	6.8	3.7
9	2.0	2.5	8.7	13	6.6	18	22	98	49	18	6.3	3.7
10	2.3	2.5	9.1	12	6.6	23	105	81	49	18	5.9	3.7
11	2.5	2.6	8.1	12	6.6	28	79	75	49	17	5.7	3.8
12	2.3	11	7.8	12	6.7	24	58	79	47	17	5.7	3.8
13	2.1	43	7.8	11	9.8	22	49	86	46	16	5.5	3.8
14	2.0	28	8.4	11	30	23	45	88	45	15	5.5	3.9
15	2.0	28	14	10	101	20	42	90	45	15	5.3	5.9
16	2.0	21	11	10	223	19	45	96	45	14	5.2	7.3
17	2.0	24	8.7	9.7	98	18	47	103	48	14	5.0	6.5
18	1.9	12	13	9.5	67	17	46	100	52	13	5.0	7.2
19	1.9	9.4	187	9.3	57	16	45	95	54	12	5.0	7.4
20	1.9	8.2	253	9.1	56	16	45	96	49	12	5.2	5.5
21	1.9	63	98	8.8	58	15	48	100	47	11	4.8	4.8
22	1.9	44	63	8.8	63	15	51	102	45	11	4.6	4.4
23	1.9	156	49	8.2	50	14	60	105	43	10	4.6	4.6
24	1.9	108	41	8.0	43	15	63	107	41	10	4.5	11
25	1.9	39	35	8.0	39	14	62	109	39	9.8	4.5	16
26	1.9	27	32	8.0	35	15	68	100	37	9.3	4.3	8.9
27	2.2	22	31	7.9	32	14	76	113	36	9.2	4.2	7.0
28	8.8	18	26	7.8	30	12	79	100	35	9.0	4.4	6.2
29	3.6	16	23	7.5	---	11	74	90	35	8.6	4.6	8.6
30	2.8	14	25	7.3	---	8.6	78	84	34	8.1	4.4	7.3
31	2.7	---	21	7.2	---	8.9	---	80	---	7.6	4.2	---
TOTAL	72.6	722.2	1061.9	336.1	1073.1	575.5	1368.6	3007	1457	475.6	169.5	172.7
MEAN	2.34	24.1	34.3	10.8	38.3	18.6	45.6	97.0	48.6	15.3	5.47	5.76
MAX	8.8	156	253	18	223	30	105	116	75	31	7.2	16
MIN	1.6	2.5	7.8	7.2	6.6	8.6	7.7	75	34	7.6	4.2	3.7
AC-FT	144	1430	2110	667	2130	1140	2710	5960	2890	943	336	343

CAL YR 1981 TOTAL 3336.4 MEAN 9.14 MAX 253 MIN 1.3 AC-FT 6620  
WTR YR 1982 TOTAL 10491.8 MEAN 28.7 MAX 253 MIN 1.6 AC-FT 20810

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

PERIOD OF RECORD.--

SEDIMENT RECORDS.--Water years 1981 to current year.

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT					
05...	1100	1.7	--	1	.00
12...	0830	2.2	--	3	.02
19...	0800	1.9	--	2	.01
26...	1915	1.9	--	1	.01
NOV					
01...	0900	2.6	--	3	.02
08...	0830	2.6	--	3	.02
15...	1330	50	3.0	11	1.5
16...	0945	21	--	3	.17
23...	1000	112	--	9	2.7
24...	0830	109	--	13	3.8
25...	0835	39	1.0	9	.95
26...	1200	27	--	9	.66
27...	1530	22	--	3	.18
28...	1210	18	--	5	.24
29...	1100	19	--	9	.46
30...	1005	16	--	5	.22
DEC					
07...	1030	8.8	--	5	.12
14...	0910	8.0	--	2	.04
21...	1000	101	--	4	1.1
28...	0840	26	--	2	.14
JAN					
08...	1100	13	--	4	.14
11...	1230	12	--	2	.06
18...	1115	9.4	--	3	.08
25...	1010	8.0	--	4	.09
FEB					
01...	0940	7.1	--	4	.08
15...	0810	50	--	11	1.5
15...	0910	57	.0	17	2.6
16...	1115	201	.0	41	22
22...	1650	64	2.0	3	.52
23...	1525	51	3.0	3	.41
MAR					
01...	1000	28	.0	3	.23
08...	0930	19	.0	1	.05
15...	0900	20	1.0	2	.11
22...	1245	15	--	1	.04
APR					
05...	1540	11	--	5	.15
12...	1150	58	--	9	1.4
19...	0750	44	1.0	2	.24
19...	1615	49	3.0	3	.40
21...	1700	52	3.0	3	.42
22...	1705	60	3.0	5	.81
24...	1750	75	2.5	4	.81
26...	1120	58	3.5	3	.47
26...	1705	85	3.0	7	1.6
27...	1725	101	3.0	10	2.7
29...	1730	85	4.0	3	.69
30...	1745	101	4.0	8	2.2
MAY					
02...	1740	124	4.0	9	3.0
03...	1030	81	4.5	3	.66
03...	1735	134	4.0	12	4.3
05...	1745	123	5.5	5	1.7
06...	1810	134	--	6	2.2
07...	1710	149	6.0	22	8.9
08...	1530	136	5.5	7	2.6
09...	1730	90	3.0	3	.73
10...	1700	81	5.0	3	.66
11...	1830	82	6.0	8	1.8
12...	1550	90	7.5	4	.97
13...	1530	98	--	5	1.3
17...	0855	88	--	3	.71
24...	1525	116	--	4	1.3
31...	0900	77	6.0	3	.62
JUN					
07...	1330	49	9.0	4	.53
08...	1330	47	12.0	2	.25

## PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)
JUN				
15...	1315	42	--	4
28...	0830	36	--	5
JUL				
06...	1000	22	--	4
12...	1025	17	10.0	7
19...	1040	13	10.0	6
26...	0640	10	9.5	3
AUG				
02...	1010	7.8	10.0	3
09...	0745	6.8	9.5	3
15...	0650	5.7	8.0	6
23...	0715	4.9	10.0	2
SEPT				
02...	1210	4.3	12.0	1
06...	0645	4.1	--	1
14...	0800	3.8	5.0	3
20...	0815	5.7	5.0	4
27...	1220	7.1	7.5	4

## 10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'16", long 120°06'10", in NW¼NW¼ sec.28, T.19 N., R.17 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, in control house near base of spillway of Stampede Dam on Little Truckee River, 0.2 mi (0.3 km) upstream from Worn Mill Canyon, and 11.0 mi (17.7 km) northeast of Truckee.

DRAINAGE AREA.--136 mi<sup>2</sup> (352 km<sup>2</sup>).

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

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

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Aug. 1, 1969. Total capacity, 226,500 acre-ft (279 hm<sup>3</sup>) at elevation, 5,948.7 ft (1,813.16 m), spillway crest. Inactive storage, 5,010 acre-ft (6.18 hm<sup>3</sup>), includes 660 acre-ft (814,000 m<sup>3</sup>) dead storage below elevation 5,798.3 ft (1,767.32 m). Figures given herein, including extremes, represent total contents at 0800 hours. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 226,500 acre-ft (279 hm<sup>3</sup>) June 19, 21, 1974, elevation, 5,948.7 ft (1,813.16 m); minimum since reservoir first filled, 30,772 acre-ft (37.9 hm<sup>3</sup>) Jan. 31, Feb. 1, 1978, elevation, 5,853.60 ft (1,784.177 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 203,495 acre-ft (251 hm<sup>3</sup>) May 28, elevation, 5,941.82 ft (1,811.067 m); minimum, 60,693 acre-ft (74.8 hm<sup>3</sup>) Oct. 26, elevation, 5,880.35 ft (1,792.331 m).

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

5,850.00	27,915	5,900.00	94,535
5,855.00	31,951	5,910.00	115,865
5,860.00	36,470	5,920.00	140,141
5,865.00	41,505	5,930.00	167,355
5,870.00	47,204	5,940.00	197,630
5,875.00	53,295	5,950.00	231,005
5,880.00	60,185	5,960.00	267,386
5,890.00	76,008		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70550	60970	82362	114502	124431	156356	172779	198925	200656	176889	185396	184326
2	70014	60970	82744	115049	124670	157392	173144	199181	200431	177721	185090	184341
3	69494	60970	83036	115596	124909	158427	173467	199437	200688	178269	185090	184356
4	68974	60970	83328	116143	125029	159164	173790	199613	200206	178817	185029	184336
5	68455	60992	83597	116690	125149	159900	174112	199789	198694	179365	184983	184316
6	67971	61014	83866	117238	125317	160515	174303	199597	197183	179876	184937	184295
7	67487	61038	84136	117480	125485	161130	174494	199405	194516	180386	184927	184203
8	66961	61062	84376	117721	125653	161745	174405	199352	191434	180808	184917	184112
9	66436	61087	84615	118191	125785	162279	174317	199299	187889	181230	184906	184051
10	65967	61072	84662	118661	125917	162813	175740	199245	184509	181613	184875	183990
11	65498	61058	84708	119132	126134	163703	177163	198558	181592	181996	184845	183970
12	65029	61263	85098	119376	126351	164593	178587	197872	178706	182379	184784	183950
13	64525	61468	85488	119620	127714	165390	181562	197145	176147	182744	184723	183929
14	64022	62431	85879	119900	129077	166187	183746	196419	173495	183108	184662	183929
15	63517	63394	86122	120180	130440	166983	185586	196684	171387	183458	184601	183929
16	63012	64356	86365	120453	131803	167556	187425	196949	169279	183807	184539	183929
17	62507	65552	86553	120726	137097	168129	188949	197215	167785	184021	184508	183929
18	62002	66436	86740	120999	139660	168748	190473	197767	166698	184235	184478	183868
19	61497	66890	88786	121283	142223	169366	191997	198318	166384	184448	184478	183807
20	60999	66937	95241	121567	144065	169722	193600	198766	166755	184601	184478	183746
21	60838	67952	102005	121966	145907	170078	194453	199213	167555	184753	184478	183594
22	60766	68967	104224	122364	147750	170435	195085	199855	168735	184860	184478	183442
23	60751	69982	106443	122553	149452	171044	195783	200497	169914	184967	184478	183716
24	60732	75511	107692	122742	151153	171161	196450	201138	170901	185079	184524	183990
25	60713	77858	108940	122932	152359	171538	196833	202074	171888	185191	184570	184194
26	60693	78996	109808	123181	153565	171480	197215	203009	172796	185304	184539	184398
27	60766	80133	110676	123430	154494	171567	197751	203252	173704	185412	184509	184601
28	60838	80713	111542	123692	155422	171654	198287	203495	174612	185519	184458	184632
29	60897	81293	112324	123954	---	171742	198558	202656	175409	185596	184407	184662
30	60955	81873	113106	124109	---	172078	198829	201817	176206	185672	184356	184631
31	60970	---	113825	124264	---	172413	---	200977	---	185519	184356	---
MAX	70550	81873	113825	124264	155422	172413	198829	203495	200688	185672	185396	184662
MIN	60693	60970	82362	114502	124431	156356	172779	196419	166384	176889	184356	183442
a	5880.54	5893.33	5909.10	5913.60	5925.74	5931.75	5940.37	5941.04	5933.04	5936.13	5935.75	5935.84
b	-9923	+20903	+31952	+10439	+31158	+16991	+26416	+2148	-24771	+9313	-1163	+275
CAL YR 1981	b	-27359										
WTR YR 1982	b	+113738										

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

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

LOCATION.--Lat 39°26'09", long 120°05'00", in SW¼SW¼ sec.3, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 1 mi (2 km) upstream from Boca Reservoir, 1.5 mi (2.4 km) upstream from Dry Creek, 3.0 mi (4.8 km) downstream from Stampede Dam, and 5.5 mi (8.8 km) northeast of Truckee.

DRAINAGE AREA.--146 mi<sup>2</sup> (378 km<sup>2</sup>).

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

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 5,618.67 ft (1,712.571 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). June 1903 to October 1910, nonrecording gages at different sites and datums.

REMARKS.--Records good. Flow regulated by Independence Lake, capacity, 17,500 acre-ft (21.6 hm<sup>3</sup>), one transbasin diversion to Sierra Valley, and Stampede Reservoir (station 11344300) since 1969.

AVERAGE DISCHARGE (adjusted for change in contents in Stampede Reservoir since 1969).--50 years (water years 1904-10, 1940-82), 190 ft<sup>3</sup>/s (5.381 m<sup>3</sup>/s), 137,700 acre-ft/yr (170 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft<sup>3</sup>/s (377 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 9.00 ft (2.743 m), from rating curve extended above 1,600 ft<sup>3</sup>/s (45.3 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Sept. 16-21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,590 ft<sup>3</sup>/s (73.3 m<sup>3</sup>/s) June 9, gage height, 3.70 ft (1.128 m); minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Sept. 5, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	228	26	30	40	33	57	118	891	816	33	83	17
2	262	26	30	39	32	57	118	896	654	33	52	17
3	262	26	29	39	32	52	118	950	727	32	29	17
4	262	26	29	38	32	49	118	1010	1090	32	29	17
5	262	26	29	38	33	48	118	1040	1350	32	29	16
6	263	26	29	37	32	47	118	1090	1710	32	29	30
7	265	26	29	36	32	45	175	1100	2030	32	29	42
8	263	26	29	36	31	46	212	1100	2260	31	29	30
9	263	26	30	35	31	48	214	1100	2460	31	27	22
10	263	26	29	35	31	52	228	1100	2350	31	24	41
11	263	26	34	35	31	61	225	1100	2210	31	25	41
12	263	28	50	34	31	56	105	1100	2110	31	24	42
13	263	39	49	36	32	53	86	1100	2070	31	26	42
14	263	36	73	36	53	59	87	918	1910	31	28	42
15	263	29	110	34	155	53	84	684	1830	31	28	44
16	263	28	110	35	207	50	78	683	1690	31	27	44
17	263	34	110	34	109	48	76	681	1470	31	31	43
18	262	46	131	32	83	47	75	680	1170	31	34	43
19	253	101	165	33	76	44	91	679	771	31	34	44
20	163	156	123	33	79	43	151	679	445	31	25	41
21	72	199	75	32	87	42	282	681	101	30	17	37
22	36	194	56	36	94	43	421	680	36	30	17	27
23	26	249	48	31	78	88	474	684	34	30	17	17
24	26	333	44	34	67	113	612	684	34	30	17	19
25	26	219	42	32	61	144	663	691	34	30	17	21
26	26	38	42	32	56	198	663	868	33	30	17	18
27	26	34	42	34	53	213	664	1100	33	31	17	17
28	30	32	38	32	52	215	728	1170	33	30	17	16
29	28	31	42	33	---	155	788	1280	33	29	17	18
30	27	30	46	34	---	119	835	1290	34	60	17	17
31	26	---	42	35	---	119	---	1090	---	83	17	---
TOTAL	5461	2142	1765	1080	1723	2464	8725	28799	31528	1042	829	882
MEAN	176	71.4	56.9	34.8	61.5	79.5	291	929	1051	33.6	26.7	29.4
MAX	265	333	165	40	207	215	835	1290	2460	83	83	44
MIN	26	26	29	31	31	42	75	679	33	29	17	16
AC-FT	10830	4250	3500	2140	3420	4890	17310	57120	62540	2070	1640	1750
CAL YR 1981 TOTAL	63363	MEAN 174	MAX 1710	MIN 24	AC-FT 125700	MEAN a 136	ACRE-FT a 98300					
WTR YR 1982 TOTAL	86440	MEAN 237	MAX 2460	MIN 16	AC-FT 171500	MEAN a 394	ACRE-FT a 285200					

a Adjusted for change in contents in Stampede Reservoir.



## 10344490 BOCA RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'20", long 120°05'43", in NE¼NW¼ sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house at Boca Dam on Little Truckee River 1,800 ft (550 m) upstream from mouth, and 6.3 mi (10.1 km) northeast of Truckee.

DRAINAGE AREA.--172 mi<sup>2</sup> (445 km<sup>2</sup>).

PERIOD OF RECORD.--December 1938 to current year. Prior to October 1976 published as "at Boca." Monthend contents only for December 1938 to September 1957, published in WSP 1734.

REVISED RECORDS.--WSP 1634: Drainage area.

GAGE.--Pressure gage with mercury column read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,870 acre-ft (50.4 hm<sup>3</sup>) between elevations 5,521 ft (1,682.8 m) outlet sill, and 5,605 ft (1,708.4 m) top of spillway gates. Elevation of spillway (gate open) is 5,589.01 ft (1,703.530 m). Dead storage, 241 acre-ft (297,000 m<sup>3</sup>). Figures given herein represent usable contents at 0800 hours. Water is used for irrigation in the State of Nevada and for power development.

COOPERATION.--Records furnished by Bureau of Reclamation, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 41,440 acre-ft (51.1 hm<sup>3</sup>) Dec. 23, 1955, elevation, 5,605.55 ft (1,708.572 m); minimum, 37 acre-ft (45,600 m<sup>3</sup>) Mar. 4-9, 1955, elevation, 5,521.65 ft (1,682.999 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,575 acre-ft (50.0 hm<sup>3</sup>) July 16-22, 28, elevation, 5,604.70 ft (1,708.312 m); minimum, 27,084 acre-ft (33.4 hm<sup>3</sup>) Nov. 12, 13, elevation, 5,589.50 ft (1,703.680 m).

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

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

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28387	27609	30446	32501	31656	32370	31394	32109	32763	39800	40284	37895
2	28470	27609	30446	32370	31656	32457	31351	32109	32982	39897	40187	37801
3	28511	27609	30403	32109	31656	32544	31264	32109	32982	39945	40139	37707
4	28511	27609	30317	32109	31656	32544	31177	32109	32982	39993	40090	37613
5	28511	27569	30317	32109	31568	32457	31091	32066	32982	40042	39993	37520
6	28511	27528	30317	31979	31481	32457	30961	32023	33026	40090	39993	37473
7	28553	27447	30317	31979	31394	32457	30832	31936	33290	40187	39897	37379
8	28594	27407	30190	31939	31351	32457	30918	31850	33956	40187	39704	37379
9	28594	27366	30147	32023	31351	32457	31004	31807	34403	40235	39560	37286
10	28594	27285	30104	32023	31264	32457	31048	31763	34943	40284	39416	37239
11	28635	27124	30062	32023	31264	32719	31525	31720	34988	40332	39416	37239
12	28635	27084	30020	32023	31048	32763	32632	31699	35215	40381	39272	37193
13	28635	27084	30062	---	31004	32807	33246	31656	35761	40429	39224	37193
14	28635	27285	30062	32109	30961	32894	33778	31656	36774	40478	39224	37099
15	28677	27245	30147	32109	31134	32938	33733	31568	37053	40527	39176	37006
16	28677	27245	30232	32109	32807	32807	33644	31525	37707	40575	38985	36960
17	28718	27245	30403	32153	33956	32719	33556	31525	38367	40575	38937	36960
18	28718	27205	30488	32196	34313	32544	33423	31525	39128	40575	38937	36960
19	28760	27285	30832	32196	34045	32414	33290	31525	39320	40575	38890	36960
20	28387	27407	31736	32196	33956	32240	33202	31525	39320	40575	38890	36960
21	28182	27813	32283	32196	33556	32023	32982	31525	39416	40575	38842	36867
22	28017	28387	32457	32196	33335	31763	32763	31525	39416	40575	38794	36774
23	27895	28760	32632	32240	33026	31612	32632	31525	39416	40527	38747	36497
24	27772	29723	32719	32240	32544	31481	32588	31525	39512	40527	38699	36128
25	27691	30317	32807	32240	32457	31394	32414	31699	39512	40527	38652	35807
26	27609	30574	32719	32283	32370	31394	32283	31850	39608	40478	38557	35442
27	27569	30574	32807	32283	32370	31438	32109	31936	39656	40478	38462	35079
28	27569	30574	32588	32196	32370	31481	32023	32023	39704	40575	38367	34717
29	27569	30574	32588	32023	---	31481	32023	32196	39704	40527	38272	34313
30	27609	30488	32544	31850	---	31481	32066	32370	39704	40478	38131	33956
31	27609	---	32501	31612	---	31438	---	32544	---	40429	37989	---
MAX	28760	30574	32807	32501	34313	32938	33778	32544	39704	40575	40284	37895
MIN	27569	27084	30020	31612	30961	31394	30832	31525	32763	39800	37989	33956
a	5590.15	5593.60	5595.95	5594.90	5595.80	5594.70	5595.45	5596.00	5603.80	5604.55	5602.00	5597.60
b	-614	+2879	+2013	-889	+758	-932	+628	+478	+7160	+725	-2440	-4033

CAL YR 1981 b +13647

WTR YR 1982 b +5733

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

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

LOCATION.--Lat 39°23'13", long 120°05'40", in NE¼NW¼ sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on right bank 800 ft (244 m) upstream from mouth, 1,000 ft (305 m) downstream from Boca Dam, and 6.2 mi (10.0 km) northeast of Truckee.

DRAINAGE AREA.--173 mi<sup>2</sup> (448 km<sup>2</sup>).

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

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

GAGE.--Water-stage recorder. Altitude of gage is 5,500 ft (1,676 m), from topographic map. Jan. 1, 1911, to Sept. 30, 1915, nonrecording gage at site 650 ft (200 m) downstream at different datum. January 1939 to September 1957, records computed from daily log of rated settings of needle valve in dam, and from computed flow over spillway.

REMARKS.--Records good. Flow regulated by Boca Reservoir (station 10344490), capacity, 40,870 acre-ft (50.4 hm<sup>3</sup>), Independence Lake, capacity, 17,500 acre-ft (21.6 hm<sup>3</sup>), one transmountain diversion to Sierra Valley, and Stampede Reservoir (station 10344300), capacity, 226,500 acre-ft (279 hm<sup>3</sup>) since 1969.

AVERAGE DISCHARGE (unadjusted).--47 years (water years 1912-15, 1940-82), 183 ft<sup>3</sup>/s (5.183 m<sup>3</sup>/s), 132,600 acre-ft/yr (163 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft<sup>3</sup>/s (249 m<sup>3</sup>/s) Dec. 24, 1955, from records of Washoe County Water Conservation District; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,060 ft<sup>3</sup>/s (58.3 m<sup>3</sup>/s) June 10, 11, gage height, 5.68 ft (1.731 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) July 1-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	25	60	150	59	149	224	919	701	1.1	112	61
2	215	25	60	149	60	150	224	920	601	1.1	68	61
3	231	25	60	149	60	150	224	964	738	1.1	42	49
4	231	37	59	121	70	150	224	1010	1050	1.1	53	35
5	231	52	59	103	73	137	224	1080	1350	1.1	44	35
6	232	52	59	85	73	122	224	1150	1640	1.2	67	46
7	232	52	59	47	73	122	224	1130	1760	1.2	97	62
8	231	52	59	47	73	122	224	1130	1900	1.2	102	62
9	231	84	61	47	73	122	235	1120	1990	1.2	72	37
10	231	88	63	47	79	122	263	1120	2030	1.3	46	37
11	231	64	63	48	79	122	122	1110	1940	1.4	65	37
12	232	54	63	48	84	123	26	1110	1690	1.4	79	37
13	232	54	63	48	102	123	86	1100	1480	1.5	57	54
14	232	54	63	48	102	123	218	921	1520	1.5	40	73
15	232	54	63	48	99	164	300	738	1490	1.6	40	64
16	233	54	63	48	3.8	205	300	687	1280	16	40	56
17	233	54	64	48	101	205	299	661	986	30	40	40
18	234	54	64	48	345	205	299	664	899	30	39	28
19	274	54	65	48	381	205	306	665	749	30	40	43
20	295	54	65	48	376	205	350	666	428	30	40	65
21	198	54	66	48	455	211	503	668	79	30	40	99
22	102	55	66	48	455	212	634	670	2.8	30	40	141
23	73	55	67	48	453	212	653	671	2.2	30	40	205
24	72	61	93	48	325	212	770	623	2.0	30	39	205
25	72	60	134	48	203	212	822	585	1.9	30	39	205
26	73	60	142	48	179	230	815	788	1.7	29	39	205
27	46	59	143	82	149	246	809	997	1.6	29	39	204
28	26	59	149	126	149	248	803	1090	1.6	29	55	203
29	25	60	149	126	---	237	807	1210	1.5	39	62	203
30	25	60	149	125	---	224	867	1230	1.2	89	62	203
31	25	---	149	79	---	225	---	985	---	134	61	---
TOTAL	5382	1625	2542	2251	4733.8	5495	12079	28382	26317.5	654.0	1699	2855
MEAN	174	54.2	82.0	72.6	169	177	403	916	877	21.1	54.8	95.2
MAX	295	88	149	150	455	248	867	1230	2030	134	112	205
MIN	25	25	59	47	3.8	122	26	585	1.2	1.1	39	28
AC-FT	10680	3220	5040	4460	9390	10900	23960	56300	52200	1300	3370	5660
CAL YR 1981	TOTAL	57155.56	MEAN 157	MAX 1750	MIN 40	AC-FT 113400						
WTR YR 1982	TOTAL	94015.30	MEAN 258	MAX 2030	MIN 1.1	AC-FT 186500						

## 10346000 TRUCKEE RIVER AT PARAD, CA

LOCATION.--Lat 39°25'41", long 120°01'59", in SE¼NE¼ sec.12, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.5 mi (0.8 km) upstream from Mystic Canyon, 0.7 mi (1.1 km) downstream from Parad powerplant, 2.5 mi (4.0 km) north of Floriston, 3.4 mi (5.5 km) downstream from Bronco Creek, and 3.5 mi (5.6 km) upstream from California-Nevada State line.

DRAINAGE AREA.--932 mi<sup>2</sup> (2,414 km<sup>2</sup>).

PERIOD OF RECORD.--March to October 1890 (monthly discharge only), September 1899 to current year. Monthly discharge only for January 1944 to July 1957, published in WSP 1734. Published as "near Boca" March to October 1890, "at or near Nevada-California State line" September 1899 to August 1912, and as "at Iceland" August 1912 to December 1937.

REVISED RECORDS.--WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,153.21 ft (1,570.698 m) National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). See WSP 2127 for history of changes prior to Aug. 26, 1957.

REMARKS.--Records excellent. Flow regulated by Lake Tahoe and Martis Creek Lake (stations 10337000 and 10339380), Prosser Creek, Stampede, and Boca Reservoirs (stations 10340300, 10344300, and 10344490), Donner and Independence Lakes, and by several powerplants.

AVERAGE DISCHARGE.--83 years (water years 1900-82), 792 ft<sup>3</sup>/s (22.43 m<sup>3</sup>/s), 573,800 acre-ft/yr (707 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s (496 m<sup>3</sup>/s) Nov. 21, 1950, gage height, 14.5 ft (4.420 m) present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 28 ft<sup>3</sup>/s (0.793 m<sup>3</sup>/s) Dec. 19, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,570 ft<sup>3</sup>/s (214 m<sup>3</sup>/s) Dec. 20, gage height, 9.38 ft (2.859 m); minimum daily, 261 ft<sup>3</sup>/s (7.39 m<sup>3</sup>/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	514	318	1030	955	415	1180	738	4410	3330	2250	588	527
2	595	290	748	890	414	1210	772	4500	3050	1620	539	522
3	619	262	727	844	418	1110	756	4630	3080	1140	502	529
4	619	287	642	793	426	1040	759	4810	3020	1110	508	535
5	619	298	582	769	420	936	742	4760	3070	1090	504	534
6	621	297	559	711	420	839	731	4720	3180	1050	510	538
7	658	290	496	618	421	820	709	4800	3260	858	542	555
8	668	276	424	617	403	789	699	4880	3230	820	554	567
9	658	276	432	602	378	773	701	4760	3390	793	522	553
10	661	322	495	586	380	822	799	4560	3280	770	484	569
11	669	330	490	561	377	1170	2950	4400	2970	768	488	587
12	663	357	510	529	376	1030	2380	4340	2630	768	544	583
13	657	767	513	510	411	956	1720	4450	2350	695	529	614
14	684	1370	529	500	879	1000	1750	4320	2330	653	505	654
15	680	729	605	495	2090	1020	2240	4020	2320	636	500	695
16	691	999	616	486	4900	1070	2480	4050	2160	638	491	720
17	711	1230	556	480	2840	1030	2540	4130	1930	633	486	710
18	706	978	553	443	2650	967	2540	4160	1840	606	503	738
19	712	921	3170	395	2560	897	2570	3710	2050	590	506	761
20	709	744	6360	392	2850	834	2640	3720	1490	552	507	778
21	631	1050	3130	386	3070	819	2950	3690	1240	517	500	698
22	424	1850	2440	421	2860	771	3450	3770	1260	502	512	693
23	366	2710	2130	478	2460	726	3580	3880	1730	492	507	779
24	359	3650	1900	468	1960	720	4120	3980	1940	497	500	890
25	355	1680	1840	421	1500	720	4260	4070	2180	503	499	990
26	329	1530	1880	372	1390	724	4270	4440	2440	513	498	966
27	261	1510	1930	376	1280	736	4320	4630	2460	534	492	848
28	409	1400	1450	435	1190	774	4400	4400	2460	524	505	814
29	416	1280	1130	435	---	762	4320	4310	2460	497	514	781
30	376	1260	1210	446	---	723	4260	4180	2320	497	509	767
31	351	---	1040	426	---	730	---	3860	---	599	514	---
TOTAL	17391	29261	40117	16840	39738	27698	71146	133340	74450	23715	15862	20495
MEAN	561	975	1294	543	1419	893	2372	4301	2482	765	512	683
MAX	712	3650	6360	955	4900	1210	4400	4880	3390	2250	588	990
MIN	261	262	424	372	376	720	699	3690	1240	492	484	522
AC-FT	34500	58040	79570	33400	78820	54940	141100	264500	147700	47040	31460	40650
CAL YR 1981	TOTAL	239042	MEAN	655	MAX	6360	MIN	221	AC-FT	474100		
WTR YR 1982	TOTAL	510053	MEAN	1397	MAX	6360	MIN	261	AC-FT	1012000		

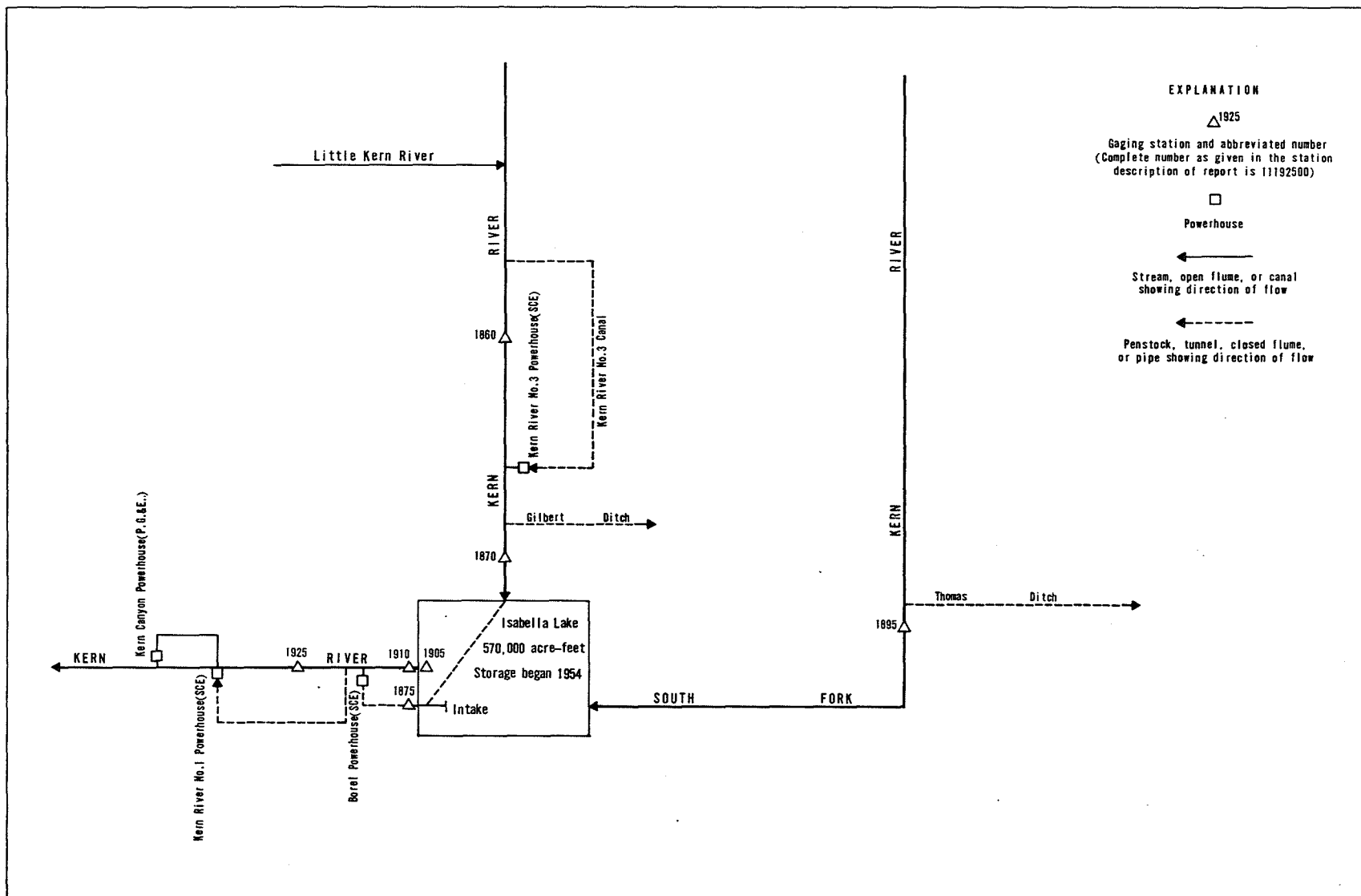


FIGURE 4. — Schematic diagram showing diversions and storage in Kern River basin.

## 11186000 KERN RIVER NEAR KERNVILLE, CA

LOCATION.--Lat 35°56'43", long 118°28'36", unsurveyed, Tulare County, Hydrologic Unit 18030001, on left bank at Packsaddle Canyon Creek, 100 ft (30 m) downstream from diversion dam, and 13.4 mi (21.6 km) north of Kernville.

DRAINAGE AREA.--846 mi<sup>2</sup> (2,191 km<sup>2</sup>).

PERIOD OF RECORD.--January 1912 to current year. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. March 1921 to October 1953, records for river and canal published separately; combined flow only, October 1953 to September 1960.

REVISED RECORDS.--WSP 1445: 1912, 1916(M). WSP 1930: 1914(M), 1918(M).

GAGE.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. Altitude of gage is 3,620 ft (1,103 m), from topographic map. Prior to Apr. 1, 1913, at site 1.4 mi (2.3 km) downstream at different datum. Apr. 1 to Sept. 14, 1913, nonrecording gage and Sept. 15, 1913, to Sept. 30, 1967, water-stage recorder, at site 1.2 mi (1.9 km) downstream at different datum.

REMARKS.--Records good. Since 1921 Kern River No. 3 Canal diverts up to 630 ft<sup>3</sup>/s (17.8 m<sup>3</sup>/s) 100 ft (30 m) upstream from station, from left bank of Kern River for power development; water is returned to river 15 mi (24 km) downstream from station. See schematic diagram of Kern River basin. For records of combined discharge of river and canal, see following page.

COOPERATION.--Gage-height record and 18 discharge measurements for Kern River and gage-height record and 13 discharge measurements for canal furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 9 years (water years 1912-20), 790 ft<sup>3</sup>/s (22.37 m<sup>3</sup>/s), 571,900 acre-ft/yr (705 hm<sup>3</sup>/yr); 55 years (water years 1921-53, 1961-82), 380 ft<sup>3</sup>/s (10.76 m<sup>3</sup>/s), 275,300 acre-ft/yr (339 hm<sup>3</sup>/yr).  
Combined river and diversion: 62 years (water years 1921-82), 731 ft<sup>3</sup>/s (20.70 m<sup>3</sup>/s), 529,600 acre-ft/yr (653 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 60,000 ft<sup>3</sup>/s (1,700 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 22.77 ft (6.940 m) site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft<sup>3</sup>/s (170 m<sup>3</sup>/s) on basis of computed flow over dam at gage height 17.55 ft (5.349 m), basic data for computation furnished by Southern California Edison Co., and slope-area measurement of maximum flow; no flow many days in 1924, 1925.

Combined river and diversion: Maximum discharge, 60,000 ft<sup>3</sup>/s (1,700 m<sup>3</sup>/s) Dec. 6, 1966; minimum daily, 78 ft<sup>3</sup>/s (2.21 m<sup>3</sup>/s) Aug. 30, 31, Sept. 17, 19, 1924.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 10,300 ft<sup>3</sup>/s (292 m<sup>3</sup>/s) Apr. 11, gage height, 10.71 ft (3.264 m); minimum daily, 31 ft<sup>3</sup>/s (0.88 m<sup>3</sup>/s) Jan. 8.

Combined river and diversion: Maximum discharge, 10,900 ft<sup>3</sup>/s (309 m<sup>3</sup>/s) Apr. 11; minimum daily, 170 ft<sup>3</sup>/s (4.81 m<sup>3</sup>/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	44	42	42	38	53	290	2790	2730	1370	972	72
2	49	40	42	42	39	144	232	2880	2550	1340	725	71
3	49	40	43	41	40	98	278	2850	2410	1390	492	72
4	49	40	43	43	40	74	295	2660	2440	1430	411	71
5	49	40	43	79	40	76	290	2680	2160	1400	361	71
6	49	39	43	40	40	76	254	2850	1980	1400	307	71
7	48	40	43	39	40	76	193	2930	1920	1540	332	72
8	48	40	43	31	39	76	172	2950	2030	1550	486	72
9	48	40	43	35	41	76	154	2690	2290	1450	377	72
10	48	40	43	41	41	205	410	2310	2480	1550	292	72
11	49	40	43	40	41	443	5180	2050	2670	1620	216	72
12	49	40	43	40	41	366	3720	1850	2710	1690	170	72
13	49	40	43	40	41	292	2800	1780	2480	1730	142	72
14	48	42	43	40	42	317	2230	1850	2340	1620	131	81
15	49	43	43	40	54	261	1960	1740	2560	1680	105	73
16	51	43	42	40	998	194	1760	1830	2910	1600	82	69
17	51	43	41	40	575	178	1730	2140	2660	1350	83	70
18	51	43	41	40	277	158	1780	2530	2570	1160	92	72
19	51	43	41	40	156	131	1850	2460	2910	1100	92	71
20	51	44	42	40	144	122	1900	2640	2870	1090	92	69
21	51	43	45	40	188	127	1850	2830	2430	1100	106	70
22	51	43	41	75	232	129	1820	2940	2390	1150	162	72
23	51	43	41	122	212	139	1810	3150	2460	1200	242	72
24	51	42	41	153	171	151	1850	3370	2440	1160	404	160
25	50	42	41	132	126	153	1860	3480	2030	1110	299	2480
26	50	43	41	57	84	179	1880	3640	2080	1230	246	5530
27	50	43	41	38	54	193	1960	3740	2500	1190	224	2950
28	50	43	41	38	41	206	2170	3420	2500	1270	309	1530
29	50	43	41	38	---	200	2500	3200	2030	1250	278	1060
30	50	42	42	38	---	177	2640	3040	1740	1130	160	767
31	50	---	42	38	---	234	---	2890	---	1040	91	---
TOTAL	1540	1251	1307	1602	3875	5304	47818	84160	72270	41890	8481	16128
MEAN	49.7	41.7	42.2	51.7	138	171	1594	2715	2409	1351	274	538
MAX	51	44	45	153	998	443	5180	3740	2910	1730	972	5530
MIN	48	39	41	31	38	53	154	1740	1740	1040	82	69
AC-FT	3050	2480	2590	3180	7690	10520	94850	166900	143300	83090	16820	31990
CAL YR 1981	TOTAL	63942	MEAN 175	MAX 1410	MIN 34	AC-FT 126800						
WTR YR 1982	TOTAL	285626	MEAN 783	MAX 5530	MIN 31	AC-FT 566500						

## 11186000 KERN RIVER NEAR KERNVILLE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER  
NO. 3 CANAL NEAR KERNVILLE, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	251	256	427	332	618	897	3400	3340	1970	1570	611
2	182	254	259	307	330	736	839	3490	3160	1940	1330	567
3	183	256	259	261	333	685	885	3460	3020	1990	1090	536
4	184	254	256	341	336	618	902	3270	3050	2040	1010	527
5	180	248	256	606	326	575	897	3290	2770	2010	961	512
6	175	241	250	418	315	540	861	3460	2590	2000	909	490
7	172	241	248	367	319	532	800	3540	2520	2140	933	474
8	172	235	245	375	321	534	779	3560	2630	2150	1090	462
9	171	230	244	382	314	532	761	3300	2900	2050	983	461
10	170	224	246	364	321	776	1020	2920	3090	2150	897	470
11	195	221	240	355	319	1050	5740	2660	3280	2220	821	456
12	212	218	226	342	316	972	4320	2460	3320	2290	773	453
13	204	219	234	330	316	898	3400	2390	3090	2330	744	428
14	204	397	233	326	445	924	2830	2460	2940	2230	733	415
15	206	369	231	322	605	863	2560	2350	3160	2290	707	405
16	208	316	230	316	1600	801	2360	2440	3510	2210	680	394
17	207	309	227	316	1180	785	2330	2750	3270	1960	656	392
18	211	318	225	317	884	765	2380	3130	3170	1770	654	393
19	211	284	226	306	759	738	2460	3060	3510	1710	667	428
20	209	268	291	302	750	729	2510	3250	3480	1700	679	393
21	206	258	526	263	794	733	2460	3440	3040	1710	696	371
22	203	253	328	300	838	736	2430	3550	3000	1750	762	359
23	199	252	282	349	818	746	2420	3760	3060	1800	842	349
24	197	251	270	380	777	758	2460	3980	3050	1760	1010	468
25	195	248	273	386	732	760	2470	4090	2630	1710	900	2950
26	193	231	276	391	690	786	2490	4250	2680	1830	845	6070
27	191	234	266	372	660	800	2570	4350	3110	1790	822	3450
28	240	246	252	359	636	813	2780	4030	3110	1870	910	2000
29	311	260	248	341	---	807	3110	3810	2640	1850	877	1510
30	240	250	353	329	---	784	3250	3650	2340	1730	756	1210
31	244	---	322	332	---	841	---	3500	---	1640	673	---
TOTAL	6248	7836	8278	10882	16366	23235	65971	103050	90460	60590	26980	28004
MEAN	202	261	267	351	585	750	2199	3324	3015	1955	870	933
MAX	311	397	526	606	1600	1050	5740	4350	3510	2330	1570	6070
MIN	170	218	225	261	314	532	761	2350	2340	1640	654	349
AC-FT	12390	15540	16420	21580	32460	46090	130900	204400	179400	120200	53510	55550
CAL YR 1981	TOTAL	177028	MEAN	485	MAX	2000	MIN	168	AC-FT	351100		
WTR YR 1982	TOTAL	447900	MEAN	1227	MAX	6070	MIN	170	AC-FT	888400		

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

LOCATION.--Lat 35°45'16", long 118°25'21", in NE¼SW¼ sec.15, T.25 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 300 ft (91 m) downstream from highway bridge at Kernville, 1.1 mi (1.8 km) upstream from Caldwell Creek, 8.9 mi (14.3 km) upstream from Isabella Dam, and 42 mi (68 km) northeast of Bakersfield.

DRAINAGE AREA.--1,009 mi<sup>2</sup> (2,613 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1905 to December 1912, October 1953 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,621.57 ft (799.055 m) National Geodetic Vertical Datum of 1929. January 1905 to September 1912, nonrecording gage at two sites 3.5 mi (5.6 km) downstream at different datums. October 1953 to Feb. 20, 1967, at present site and datum. Feb. 20, 1967, to Oct. 11, 1976, water-stage recorder 0.6 mi (1.0 km) upstream at datum 2,634.57 ft (803.017 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Slight regulation at times by operation of Kern River No. 3 canal and powerplant. A few small diversions for irrigation above station. Gilbert irrigation ditch diverts up to 7 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) around station during irrigation season.

COOPERATION.--Ten discharge measurements furnished by Southern California Edison Co.

AVERAGE DISCHARGE.--36 years, 876 ft<sup>3</sup>/s (24.81 m<sup>3</sup>/s), 634,700 acre-ft/yr (783 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft<sup>3</sup>/s (2,100 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 20.2 ft (6.16 m), revised, from floodmarks, present site, from rating curve extended above 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum, 70 ft<sup>3</sup>/s (1.98 m<sup>3</sup>/s) Sept. 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known from at least 1912 to December 1966, 18.4 ft (5.61 m) from floodmarks, Nov. 19, 1950, site and datum then in use, discharge, 38,700 ft<sup>3</sup>/s (1,100 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Feb. 16	1345	3,210 90.9	7.55 2.301	May 27	0800	5,050 143	8.59 2.618
Apr. 11	1530	*13,200 374	11.94 3.639	June 16	1315	3,880 110	7.93 2.417
May 8	0600	4,370 124	8.22 2.505	Sep. 26	0915	7,330 208	9.69 2.954

Minimum daily, 176 ft<sup>3</sup>/s (4.98 m<sup>3</sup>/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	191	265	271	458	368	670	1080	3710	3530	2100	1470	591
2	196	266	274	324	366	747	992	3720	3390	1910	1330	541
3	192	266	277	257	369	806	1060	3650	3210	1970	1160	505
4	194	266	276	320	372	676	1080	3510	3130	2040	1030	498
5	190	261	274	1060	359	618	1070	3650	3010	2070	958	485
6	183	255	268	760	343	579	1020	3760	2800	2060	886	467
7	178	256	268	434	345	563	919	3990	2710	2170	879	448
8	178	251	266	421	347	563	879	4190	2820	2220	1050	438
9	177	247	263	419	337	562	854	3870	3070	2140	970	442
10	176	241	266	395	353	740	1090	3370	3280	2190	889	454
11	196	239	260	383	356	1150	7760	2930	3460	2280	821	440
12	223	235	246	368	344	1230	5690	2620	3500	2340	776	437
13	210	236	252	354	341	1030	4200	2550	3280	2390	737	415
14	212	373	251	347	497	1000	3540	2620	3140	2310	715	395
15	210	391	250	341	729	1000	3180	2580	3280	2350	695	393
16	210	316	251	333	2340	876	2910	2750	3580	2310	667	384
17	210	306	249	333	1850	879	2940	3000	3400	2150	636	382
18	213	323	244	332	1180	851	2880	3270	3280	1810	634	379
19	212	289	242	323	927	822	2970	3250	3590	1740	645	420
20	213	276	282	331	878	834	3070	3500	3610	1710	651	389
21	209	267	562	297	916	832	3000	3600	3170	1680	649	364
22	205	261	321	298	996	839	2830	3830	3120	1700	694	352
23	202	259	267	339	978	852	2750	3970	3180	1750	751	350
24	199	260	255	398	906	871	2820	4210	3130	1700	950	351
25	198	259	254	453	842	872	2780	4400	2810	1610	869	2380
26	196	244	258	480	784	867	2840	4610	2760	1680	828	6560
27	194	250	250	445	731	900	2950	4780	3110	1670	778	3850
28	232	268	243	419	695	940	3170	4410	3180	1720	849	2240
29	344	279	236	394	---	947	3590	4050	2780	1700	867	1720
30	260	269	372	372	---	888	3700	3830	2510	1650	767	1360
31	253	---	326	371	---	997	---	3660	---	1540	668	---
TOTAL	6456	8174	8574	12559	19849	26001	79614	111840	94820	60660	26269	28430
MEAN	208	272	277	405	709	839	2654	3608	3161	1957	847	948
MAX	344	391	562	1060	2340	1230	7760	4780	3610	2390	1470	6560
MIN	176	235	236	257	337	562	854	2550	2510	1540	634	350
AC-FT	12810	16210	17010	24910	39370	51570	157900	221800	188100	120300	52100	56390
CAL YR 1981 TOTAL	184052			504	2140	154	AC-FT	365100				
WTR YR 1982 TOTAL	483246			1324	7760	176	AC-FT	958500				

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

CHEMICAL ANALYSES: Water years 1975 to current year.

BIOLOGICAL DATA: Water years 1978-81.

WATER TEMPERATURES: Water years 1962 to current year.

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1962 to current year.

INSTRUMENTATION.--Temperature recorder since June 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C Aug. 20, 1972; minimum recorded, 0.0°C on several days in 1976, 1978-79, 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 19.5°C several days during July and August; minimum recorded, 0.0°C Jan. 21-23.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
NOV 03...	1030	344	130	7.4	9.0	1.8	10.5	K5	K6	42	0
JAN 20...	1130	331	133	7.2	1.5	1.0	13.2	--	--	38	0
MAR 25...	0930	900	108	8.0	6.5	1.6	10.9	K3	K2	32	0
MAY 10...	1600	3200	--	7.0	13.0	1.4	10.3	<1	K18	16	0
JUL 20...	1130	1710	48	7.1	16.5	1.4	8.7	230	100	13	0
SEP 23...	1100	350	104	7.6	15.0	.80	9.3	--	K19	34	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CAC03)	ALKA- LINEITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 03...	13	2.2	12	37	.8	1.6	45	--	7.0	5.5	.3
JAN 20...	12	1.9	14	44	1.0	1.2	50	--	6.0	4.8	.2
MAR 25...	10	1.7	8.9	37	.7	1.3	43	--	<5.0	2.6	.2
MAY 10...	5.1	.8	3.8	33	.4	1.0	23	--	<5.0	1.2	.2
JUL 20...	4.3	.6	3.5	35	.4	.7	17	--	<5.0	1.0	.1
SEP 23...	11	1.6	9.6	37	.7	1.3	--	48	7.0	3.5	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+N03 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 03...	16	99	105	.13	<.10	.08	.43	.03	.01	<.01
JAN 20...	17	81	90	.11	<.09	<.07	.38	.01	.01	.02
MAR 25...	20	78	--	.11	<.10	<.06	.52	.01	.01	.01
MAY 10...	13	42	46	.06	<.10	.11	.52	.05	.07	.03
JUL 20...	8.2	27	--	.04	<.10	.07	1.10	<.01	.03	.03
SEP 23...	15	82	78 <sup>1</sup>	.11	<.10	.11	.30	.02	<.01	.01

<sup>K</sup> Results based on colony count outside the acceptable range (non-ideal colony count).<sup>1</sup> Results based on Laboratory Alkalinity value.

&lt; Actual value is known to be less than the value shown.



11187000 KERN RIVER AT KERNVILLE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 03...	1030	6	5	<100	22	<1	2	<10	<10	<1
JAN 20...	1130	5	4	<100	16	<1	<1	10	<10	<1
MAY 10...	1600	2	1	<100	22	<1	<3	<10	<10	<1
SEP 23...	1100	4	4	<100	16	<1	<1	<10	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 03...	<3	4	1	140	64	2	2	10	6	.1
JAN 20...	<3	4	1	130	44	1	<1	10	4	.2
MAY 10...	<1	4	4	330	43	11	1	20	4	.1
SEP 23...	--	<1	1	270	47	3	<1	20	5	.3

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 03...	<.1	<1	1	<1	<1	<1	<1	10	4
JAN 20...	.1	<1	2	<1	<1	<1	<1	20	8
MAY 10...	<.1	2	<1	<1	<1	<1	<1	30	26
SEP 23...	<.1	2	6	<1	<1	<1	1	60	6

&lt; Actual value is known to be less than the value shown.

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	15.0	10.0	7.5	5.0	3.5	5.5	4.5	4.0	2.5	7.0	6.0
2	17.5	14.5	10.5	8.0	5.5	3.5	4.5	1.5	4.5	2.5	7.5	6.5
3	17.0	14.5	10.5	8.5	6.0	4.0	2.0	0.5	5.0	3.0	6.5	5.0
4	16.5	13.5	10.5	8.5	5.5	4.5	2.0	1.0	5.0	3.5	7.0	4.5
5	15.5	12.5	10.0	8.5	6.5	4.5	3.5	1.5	5.0	3.0	6.5	5.0
6	16.0	12.5	10.5	8.5	6.5	4.5	3.5	2.0	3.5	2.0	6.5	4.5
7	16.5	13.5	11.0	9.0	6.5	4.5	2.5	1.0	3.5	2.0	7.0	4.5
8	16.5	13.5	10.5	8.5	6.5	4.5	2.5	0.5	5.0	3.0	9.0	6.5
9	16.0	12.5	9.5	8.5	6.0	5.0	2.5	0.5	4.5	3.5	9.5	7.0
10	15.5	13.0	9.5	8.0	6.5	5.0	3.0	1.5	4.0	2.5	9.0	8.5
11	14.0	12.0	10.0	7.5	7.0	5.5	4.0	2.5	4.0	2.0	9.0	6.5
12	12.0	10.0	10.0	8.0	6.0	4.0	4.0	2.5	5.0	3.0	8.5	5.5
13	12.0	9.5	10.0	9.0	6.5	4.5	4.0	2.0	6.0	3.5	9.0	7.0
14	11.5	8.5	11.0	9.5	6.5	5.0	3.5	2.0	7.0	5.5	8.5	7.0
15	11.0	8.0	10.0	8.5	7.0	5.0	4.0	2.0	7.0	6.0	8.5	5.5
16	10.5	8.0	9.5	8.0	7.0	5.0	4.5	2.5	8.0	6.0	6.5	4.5
17	11.5	8.5	9.0	8.0	6.5	5.0	4.5	2.5	7.0	5.0	4.5	2.0
18	12.5	9.5	8.5	7.0	6.0	5.0	4.5	3.0	7.0	5.0	3.5	2.0
19	13.0	10.0	8.5	6.5	7.5	5.5	3.5	2.0	7.5	5.0	5.5	2.0
20	13.5	11.0	7.5	6.0	8.0	7.0	2.0	0.5	8.0	6.0	6.0	3.5
21	13.5	10.5	8.0	6.0	7.5	6.0	1.5	0.0	9.0	6.5	7.0	4.0
22	13.5	10.5	8.5	6.5	6.0	4.5	2.5	0.0	8.5	7.0	7.5	4.5
23	13.0	10.5	9.0	7.0	4.5	3.0	2.0	0.0	8.5	7.0	8.0	5.5
24	12.5	10.5	9.0	7.0	4.0	2.0	3.0	0.5	7.5	6.0	8.0	6.0
25	13.0	10.5	8.0	6.5	4.0	2.5	4.0	1.5	7.5	5.5	7.5	6.0
26	13.5	10.5	6.5	5.0	5.0	3.0	4.0	2.0	7.0	5.5	9.5	6.0
27	12.5	10.5	5.5	3.5	6.5	4.5	4.5	3.0	7.0	5.0	10.5	7.5
28	11.5	10.5	4.0	3.0	5.5	4.0	4.0	2.5	7.0	5.5	9.5	7.0
29	10.5	8.5	5.0	3.5	5.5	3.5	3.5	1.5	---	---	6.5	3.0
30	9.5	7.5	5.5	3.5	6.5	5.0	4.0	2.0	---	---	6.0	1.5
31	10.0	7.0	---	---	6.0	5.0	3.5	1.5	---	---	7.0	4.5
MONTH	17.5	7.0	11.0	3.0	8.0	2.0	5.5	0.0	9.0	2.0	10.5	1.5

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

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 03...	1015	260	9.0	3	2.1	52
JAN 20...	1130	331	1.5	2	1.8	41
MAR 25...	0930	900	6.5	4	9.7	56
MAY 10...	1600	3200	13.0	41	354	20
JUL 20...	1130	1710	16.5	10	46	31
SEP 23...	1015	340	15.5	4	3.7	70

## BUENA VISTA LAKE BASIN

11187500 BOREL CANAL BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'32", long 118°28'09", in SW¼NE¼ sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 500 ft (152 m) downstream from Isabella Dam, and 3 mi (5 km) upstream from point where canal crosses Erskine Creek.

PERIOD OF RECORD.--January 1910 to September 1914, October 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Kern River Power Co.'s Canal at or near Kernville 1910-14. Published as "at Tillie Creek" 1925-51.

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft (774 m), from topographic map. Prior to Apr. 29, 1952, at site 4 mi (6 km) upstream at different datum.

REMARKS.--Records excellent. Canal diverts from right bank of Kern River 5.5 mi (8.8 km) upstream from Isabella Dam, and above South Fork Kern River. When capacity of Isabella Reservoir is above 110,000 acre-ft (136 hm³), the diversion is at the dam. Canal is used to supply Borel powerplant of Southern California Edison Co., 6 mi (10 km) downstream from station, at which point water is returned to the Kern River.

COOPERATION.--Sixteen discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--61 years, 378 ft³/s (10.70 m³/s), 273,900 acre-ft/yr (338 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 634 ft³/s (18.0 m³/s) Mar. 13, 14, 1952; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	0	319	297	408	593	599	598	579	576	571	571
2	237	0	319	298	406	593	594	599	579	577	570	570
3	236	0	332	343	444	594	598	599	580	575	592	571
4	202	0	338	408	538	595	601	598	578	576	592	572
5	179	0	338	513	591	597	600	599	581	578	591	570
6	185	0	320	589	596	598	601	598	580	577	590	570
7	185	0	284	592	595	598	601	599	581	577	591	573
8	174	0	278	592	592	598	601	600	581	577	592	570
9	177	0	278	472	594	595	600	599	581	577	592	573
10	176	132	278	431	593	594	601	599	581	576	591	573
11	174	249	289	416	595	592	592	599	581	576	591	572
12	175	242	294	408	594	594	597	599	582	579	591	573
13	187	242	283	408	592	596	600	599	580	579	592	568
14	208	256	269	408	595	593	599	599	582	578	590	563
15	235	295	268	408	596	593	599	597	579	577	594	565
16	224	354	270	408	594	594	600	600	579	578	592	569
17	214	404	286	408	596	596	600	595	578	579	591	575
18	214	403	294	408	596	596	600	596	578	579	590	574
19	3.0	404	293	408	596	580	600	599	576	578	592	575
20	0	345	293	409	596	551	599	601	577	577	583	575
21	0	315	395	409	597	571	599	605	576	576	570	575
22	0	299	536	409	596	594	600	604	576	575	572	575
23	0	287	471	409	596	593	599	604	578	574	571	575
24	0	286	352	409	596	598	599	604	576	576	570	576
25	0	276	335	423	597	602	600	604	577	576	570	576
26	0	271	334	471	596	602	600	602	577	575	570	578
27	0	271	334	470	597	602	600	588	576	569	571	578
28	0	272	308	428	596	603	598	577	576	563	570	576
29	0	303	294	409	---	596	599	580	578	570	571	578
30	0	321	294	409	---	595	599	583	576	572	570	578
31	0	---	296	409	---	602	---	579	---	569	571	---
TOTAL	3577.0	6227	9872	13279	16078	18398	17975	18502	17359	17839	18054	17187
MEAN	115	208	318	428	574	593	599	597	579	575	582	573
MAX	237	404	536	592	597	603	601	605	582	579	594	578
MIN	0	0	268	297	406	551	592	577	576	563	570	563
AC-FT	7090	12350	19580	26340	31890	36490	35650	36700	34430	35380	35810	34090

CAL YR 1981 TOTAL 152751.0 MEAN 418 MAX 602 MIN 0 AC-FT 303000  
WTR YR 1982 TOTAL 174347.0 MEAN 478 MAX 605 MIN 0 AC-FT 345800

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA

LOCATION.--Lat 35°44'22", long 118°10'33", unsurveyed, T.25 S., R.35 E., Kern County, Hydrologic Unit 18030002, on left bank 0.8 mi (1.3 km) north of State Highway 178, 1.6 mi (2.6 km) upstream from Canebrake Creek, and 5 mi (8 km) northeast of Onyx.

DRAINAGE AREA.--530 mi<sup>2</sup> (1,370 km<sup>2</sup>).

PERIOD OF RECORD.--September 1911 to August 1914, January 1919 to September 1942, October 1947 to current year. Yearly estimate for water year 1927 (incomplete) and monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1151: 1948(M). WSP 1445: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,900 ft (884 m), from topographic map. Sept. 12, 1911, to Aug. 31, 1914, nonrecording gage and Jan. 23, 1919, to Apr. 17, 1936, water-stage recorder, at site 140 ft (43 m) upstream at datum 2.88 ft (0.878 m) lower. Apr. 18, 1936, to September 1942, and October 1947 to Feb. 8, 1967, at datum 6.88 ft (2.097 m) higher. Feb. 9, 1967, to May 31, 1972, at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. Lowell and Thomas ditches divert above station for irrigation of 160 acres (64.8 hm<sup>2</sup>) below station; combined capacity, 7 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s).

AVERAGE DISCHARGE.--58 years (water years 1912-13, 1920-25, 1927, 1930-42, 1947-82), 121 ft<sup>3</sup>/s (3.427 m<sup>3</sup>/s), 87,660 acre-ft/yr (108 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft<sup>3</sup>/s (813 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 18.9 ft (5.76 m) from floodmarks, present datum, from rating curve extended above 3,300 ft<sup>3</sup>/s (93.5 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow for several days in 1929, 1934, 1960-61.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	1215	200 5.66	4.64 1.414	Apr. 11	Unknown	*2,590 73.3	8.10 2.469
Feb. 16	1800	470 13.3	5.56 1.695	Apr. 29	1315	1,200 34.0	6.80 2.073
Mar. 13	1315	315 8.92	5.12 1.561	June 21	0015	371 10.5	5.20 1.585

Minimum daily, 21 ft<sup>3</sup>/s (0.59 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	39	36	58	62	129	185	1110	403	167	66	37
2	32	41	42	50	63	134	170	1070	387	158	57	35
3	33	40	45	28	60	120	178	1070	370	143	52	34
4	32	40	44	41	61	112	182	935	351	135	48	33
5	29	39	43	133	57	106	180	909	332	128	46	30
6	27	38	43	95	52	101	173	877	319	121	44	29
7	26	37	43	54	56	102	160	870	307	112	46	29
8	26	37	42	43	54	101	148	870	296	108	49	29
9	26	36	41	44	48	102	142	815	281	105	50	30
10	26	35	41	46	50	122	180	768	265	101	45	32
11	27	34	42	50	51	192	1740	735	255	97	40	33
12	28	35	40	47	51	215	1500	691	248	93	38	34
13	30	35	38	44	55	185	1250	670	246	89	37	34
14	31	37	39	46	76	175	1060	645	244	86	36	32
15	31	56	39	47	127	173	953	615	239	81	35	30
16	32	60	41	46	334	152	896	591	230	75	34	30
17	32	50	41	46	268	151	870	596	223	72	33	32
18	32	46	41	47	185	148	880	605	231	68	34	35
19	32	43	42	43	156	143	929	582	251	66	33	40
20	28	40	46	45	149	140	985	572	316	64	34	41
21	24	40	74	40	152	142	932	563	303	61	37	38
22	24	39	74	42	159	145	869	554	254	59	40	35
23	23	38	53	47	163	148	858	550	231	57	43	33
24	24	38	46	69	164	150	915	536	217	57	47	33
25	25	38	44	73	159	152	922	528	202	60	49	50
26	24	37	47	78	145	148	935	515	184	62	45	106
27	27	35	49	78	135	154	982	523	167	76	42	134
28	33	42	47	69	131	160	1030	488	158	92	42	97
29	59	39	43	65	---	162	1130	463	154	83	44	79
30	51	35	53	59	---	152	1120	445	163	73	42	68
31	42	---	50	59	---	158	---	423	---	69	39	---
TOTAL	937	1199	1409	1732	3223	4474	22454	21184	7827	2818	1327	1332
MEAN	30.2	40.0	45.5	55.9	115	144	748	683	261	90.9	42.8	44.4
MAX	59	60	74	133	334	215	1740	1110	403	167	66	134
MIN	21	34	36	28	48	101	142	423	154	57	33	29
AC-FT	1860	2380	2790	3440	6390	8870	44540	42020	15520	5590	2630	2640

CAL YR 1981 TOTAL 23502.3 MEAN 64.4 MAX 297 MIN 3.2 AC-FT 46620  
WTR YR 1982 TOTAL 69916.0 MEAN 192 MAX 1740 MIN 21 AC-FT 138700

NOTE.--No gage-height record Mar. 12 to Apr. 12.

## BUENA VISTA LAKE BASIN

11190500 ISABELLA LAKE NEAR LAKE ISABELLA, CA

LOCATION.--Lat 35°38'46", long 118°28'41", in SE¼SW¼ sec.19, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, in main control tower near left abutment of main dam on Kern River, 1.5 mi (2.4 km) north of town of Lake Isabella, and 2.8 mi (4.5 km) upstream from Erskine Creek.

DRAINAGE AREA.--2,074 mi<sup>2</sup> (5,372 km<sup>2</sup>).

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1968, published as Isabella Reservoir near Isabella. October 1968 to September 1970 published as "Isabella Reservoir."

REVISED RECORDS.--WSP 1930: Drainage area.

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

REMARKS.--Reservoir is formed by earthfill dam with sidehill spillway and auxiliary earthfill dam completed in 1954. Regulation began Apr. 15, 1954. Usable capacity, 567,891 acre-ft (700 hm<sup>3</sup>) between elevations 2,470.0 ft (752.86 m), invert of main outlet and 2,605.5 ft (794.16 m), spillway crest. Dead storage 184 acre-ft (227,000 m<sup>3</sup>). Surcharge flood control storage, 272,528 acre-ft (336 hm<sup>3</sup>) between ungated spillway crest and elevation 2,627.0 ft (800.71 m), maximum design spillway flood pool. Records, including extremes, represent total contents at 2400 hours. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (station 11187500) through concrete conduit in auxiliary dam.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 585,381 acre-ft (722 hm<sup>3</sup>) July 3, 1980, elevation, 2,607.00 ft (794.614 m); minimum since reservoir first filled, 34,504 acre-ft (42.5 hm<sup>3</sup>) Dec. 14, 16, 1977, elevation, 2,524.35 ft (769.422 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 560,083 acre-ft (691 hm<sup>3</sup>) June 29, 30, elevation, 2,604.80 ft (793.943 m); minimum, 166,966 acre-ft (206 hm<sup>3</sup>) Dec. 12, 19, 27, elevation, 2,559.91 ft (780.261 m).

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

2,500	6,154	2,540	74,802
2,510	13,612	2,570	233,425
2,515	19,161	2,590	403,846
2,520	26,226	2,620	746,024
2,530	45,919		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171800	169102	167676	168983	174766	182916	213210	370509	528333	559514	509249	405696
2	171498	168983	167676	169461	174888	182916	214657	377158	530103	559061	505992	403360
3	171258	168925	167616	169520	174583	183292	216249	383863	531324	558492	502420	401224
4	171198	168865	167499	169819	174644	183481	217988	389957	532321	557810	498860	399479
5	171137	168806	167380	171619	174279	183669	219384	395523	533433	557356	495208	397740
6	171017	168567	167321	172160	173732	183732	220858	401224	533990	556674	491780	395812
7	170897	168508	167321	172100	172825	183607	222194	407061	534321	556110	488790	393600
8	170777	168508	167321	171920	172160	183481	223394	412941	534878	555542	485808	391490
9	170717	168448	167321	171920	172158	183292	224598	418367	536104	554862	482520	389099
10	170477	168329	167380	171920	170957	183481	226163	423529	537663	554069	478711	387189
11	170418	168329	167321	172100	170597	185180	242079	428119	539228	553279	474709	385382
12	170477	168210	166966	172160	170238	186953	257394	432332	540904	552373	470615	383388
13	170418	168329	167143	172220	169700	188289	267325	436564	542024	551356	466955	381117
14	170477	168448	167203	172220	169819	189631	275230	440818	542919	550116	463416	378663
15	170298	168686	167084	172220	170119	191043	282453	444988	544041	548762	459888	375935
16	170179	168627	167203	172220	173550	192397	288715	449176	546062	547525	456475	373404
17	170119	168329	167143	172100	176353	194277	294638	453798	547638	546062	452871	371069
18	170059	168270	167084	172039	177888	195514	300208	458440	548762	544153	449176	369020
19	169999	167972	166966	172220	178936	196692	305835	462896	550568	542136	445396	366791
20	169939	167854	167025	172825	179925	197807	311602	467582	552600	539896	441629	364661
21	169819	167557	167676	172825	180795	198992	316996	472606	553955	537328	437980	362538
22	169700	167499	167499	172885	181604	200117	322180	478288	554975	534655	434243	360421
23	169520	167499	167262	172946	182354	201244	327058	484110	555883	532099	430725	358219
24	169341	167321	167203	173067	182728	202441	331972	490499	556902	529882	427419	356480
25	169222	167380	167143	173370	182979	203644	336393	496817	557242	527226	424224	358402
26	168983	167380	167025	173611	183041	204649	340844	502961	557697	524797	421041	369020
27	168983	167499	166966	173914	183230	205926	345866	508922	558720	522264	418169	374247
28	169162	167854	167084	174097	183104	207074	351107	514152	559855	519846	415798	375559
29	169281	167794	167203	174401	---	208768	357302	518309	560083	517434	413433	376029
30	169281	167735	167676	174522	---	209856	363829	522044	560083	514915	410781	375465
31	169162	---	168270	174644	---	211289	---	525349	---	512295	408137	---
MAX	171800	169102	168270	174644	183230	211289	363829	525349	560083	559514	509249	405696
MIN	168983	167321	166966	168983	169700	182916	213210	370509	528333	512295	408137	356480
a	2560.28	2560.04	2560.13	2561.19	2562.56	2566.86	2585.78	2601.70	2604.80	2600.51	2590.44	2587.03
b	-2336	-1427	+535	+6374	+8460	+28185	+152540	+161520	+34734	-47788	-104158	-32672
c	2586	1743	1076	832	1094	1333	3162	6564	8183	10950	9416	5726

CAL YR 1981 b -61542  
WTR YR 1982 b +203967

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

## 11191000 KERN RIVER BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'21", long 118°29'02", in SW¼NW¼ sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 200 ft (61 m) downstream from highway bridge, 0.6 mi (1.0 km) downstream from Isabella Dam, and 1.6 mi (2.6 km) southwest of town of Lake Isabella.

DRAINAGE AREA.--2,074 mi<sup>2</sup> (5,372 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1945 to current year. Prior to October 1952, published as "below Isabella damsite."

REVISED RECORDS.--WSP 1515: 1956. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,435.07 ft (742.209 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 12, 1952, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum. Mar. 12, 1952, to July 26, 1953, nonrecording gage at present site and datum.

REMARKS.--Record is good. Flow regulated by Isabella Lake (station 11190500) beginning Apr. 15, 1954. Borel Canal (station 11187500) diverts above station. Diversion for irrigation of 3,500 acres (14.2 km<sup>2</sup>) between head of Isabella Lake and upstream stations. An additional 6,500 acres (26.3 km<sup>2</sup>) in the lakebed can be irrigated when the lake is low.

AVERAGE DISCHARGE (adjusted for diversion to Borel Canal since 1945 and for change in contents in and evaporation from Isabella Lake since 1954).--37 years, 930 ft<sup>3</sup>/s (26.34 m<sup>3</sup>/s), 673,800 acre-ft/yr (831 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft<sup>3</sup>/s (1,100 m<sup>3</sup>/s) Nov. 19, 1950, gage height, 28.6 ft (8.72 m) from floodmarks, present site and datum, from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum, 2.1 ft<sup>3</sup>/s (0.059 m<sup>3</sup>/s), regulated, Nov. 27, 1951. Maximum discharge since construction of Isabella Dam in 1954, 7,300 ft<sup>3</sup>/s (207 m<sup>3</sup>/s) May 3, 1969, gage height, 17.67 ft (5.386 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft<sup>3</sup>/s (67.1 m<sup>3</sup>/s) July 21, gage height, 10.77 ft (3.283 m); minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Oct. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	303	3.9	4.4	5.7	381	4.0	642	1500	1820	2110	1290
2	4.8	306	3.9	4.8	5.7	372	3.6	730	1740	1680	2170	1160
3	4.7	308	3.9	4.4	5.7	287	4.4	799	2000	1550	2160	984
4	4.6	309	4.0	4.5	7.5	171	4.4	876	2020	1580	2100	839
5	4.6	310	4.0	4.5	36	117	4.4	974	1920	1760	2090	754
6	4.6	310	3.9	4.5	65	151	4.4	959	1920	1840	2050	849
7	4.7	297	3.8	4.4	202	195	4.6	952	2010	1840	1890	989
8	4.6	270	3.6	4.4	231	232	4.6	958	1990	1840	1850	1020
9	4.7	270	3.6	4.4	256	261	4.6	866	1900	1850	1980	980
10	4.7	154	3.6	4.4	244	261	4.7	709	1880	1920	2050	833
11	4.8	3.9	3.6	4.5	85	174	5.3	553	1960	2010	2100	679
12	5.0	3.7	3.6	4.5	22	7.9	5.2	477	1980	2120	2130	733
13	4.9	3.6	3.6	4.5	27	6.1	5.1	367	2010	2150	2040	949
14	3.0	3.6	3.6	4.5	73	6.1	5.2	266	2030	2270	1890	1060
15	4.0	3.5	3.6	4.4	146	6.2	5.3	209	2090	2320	1820	1080
16	3.9	3.4	3.6	4.3	174	6.2	5.3	221	2110	2240	1820	1080
17	3.9	3.4	3.6	4.3	162	6.1	4.7	257	2070	2080	1840	957
18	21	4.2	4.1	4.2	104	5.4	114	414	2070	2040	1920	914
19	218	4.5	5.1	4.2	54	5.3	190	620	2040	2060	2000	927
20	235	4.4	5.1	4.5	26	5.2	206	653	2020	2120	1980	942
21	254	4.4	5.2	4.5	80	5.1	254	653	2080	2250	1950	892
22	261	4.4	5.1	4.4	162	4.4	261	589	2080	2330	1960	879
23	261	4.4	5.0	4.3	243	4.4	391	621	2080	2290	2000	880
24	261	4.1	5.0	4.3	318	4.3	460	778	2040	2220	2010	828
25	260	4.1	5.0	4.3	347	4.3	536	907	2010	2170	1970	715
26	233	4.1	5.0	4.3	316	4.3	640	1230	1970	2210	1800	667
27	206	4.1	5.0	3.2	305	4.3	646	1370	1950	2210	1670	680
28	198	4.2	5.0	4.2	357	4.3	649	1410	1980	2200	1460	685
29	271	4.1	4.9	5.8	---	4.5	649	1410	1920	2240	1360	802
30	303	3.9	5.3	5.8	---	4.6	632	1420	1880	2220	1400	882
31	303	---	5.2	5.7	---	4.4	---	1420	---	2110	1390	---
TOTAL	3361.4	2922.0	133.4	140.2	4059.6	2705.4	5707.8	24310	59250	63540	58960	26929
MEAN	108	97.4	4.30	4.52	145	87.3	190	784	1975	2050	1902	898
MAX	303	310	5.3	5.8	357	381	649	1420	2110	2330	2170	1290
MIN	3.0	3.4	3.6	3.2	5.7	4.3	3.6	209	1500	1550	1360	667
AC-FT	6670	5800	265	278	8050	5370	11320	48220	117500	126000	116900	53410
MEAN a	229	310	349	550	891	1161	3406	4115	3275	2025	943	1018
AC-FT a	14080	18450	21460	33820	49480	71390	202700	253000	194900	124500	57980	60580

CAL YR 1981 TOTAL 72823.1 MEAN 200 MAX 1450 MIN 2.6 AC-FT 144400 MEAN a 599 AC-FT a 433700  
WTR YR 1982 TOTAL 252018.8 MEAN 690 MAX 2330 MIN 3.0 AC-FT 499900 MEAN a 1523 AC-FT a 1103000

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

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

## WATER-QUALITY RECORDS

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

**CHEMICAL ANALYSES:** Water years 1956-66.

**WATER TEMPERATURES:** Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

**WATER TEMPERATURES:** November 1970 to current year.

**INSTRUMENTATION.**--Temperature recorder since November 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C Aug. 24, 1981; minimum recorded, 4.0°C Jan. 4, 1972, Feb. 1, 1973, Jan. 30, 31, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.5°C Oct. 1; minimum recorded, 9.0°C Apr. 26.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER	NOVEMBER	DECEMBER	JANUARY	FEBRUARY	MARCH
DAY	MAX	MIN	MAX	MIN	MAX	MIN
1	21.5	17.0				
2	20.0	17.5				
3	20.5	17.5				
4	21.0	17.0				
5	21.0	16.5				
6	21.0	15.5				
7	20.5	16.5				
8	20.0	14.5				
9	20.0	16.0				
10	19.5	16.0				
11	17.5	14.5				
12	19.0	13.5				
13	17.5	12.0				
14	17.0	12.5				
15	---	---				
16	---	---				
17	---	---				
18	---	---				
19	---	---				
20	---	---				
21	---	---				
22	---	---				
23	---	---				
24	---	---				
25	---	---				
26	---	---				
27	---	---				
28	---	---				
29	---	---				
30	---	---				
31	---	---				
MONTH	---	---				



11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

## 11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA

LOCATION.--Lat 35°31'15", long 118°40'34", in NE¼SE¼ sec.6, T.28 S., R.31 E., Kern County, Hydrologic Unit 18030003, on left bank 1.0 mi (1.6 km) southwest of Democrat Springs, and 2.1 mi (3.4 km) upstream from Cow Creek.

DRAINAGE AREA.--2,258 mi<sup>2</sup> (5,848 km<sup>2</sup>).

PERIOD OF RECORD.--July 1950 to current year. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder for conduit diversion. Datum of gage is 1,837.7 ft (560.13 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Kern River No. 1 conduit diverts up to about 420 ft<sup>3</sup>/s (11.9 m<sup>3</sup>/s) from left bank of Kern River 0.4 mi (0.6 km) upstream from station in sec.13, T.28 S., R.30 E., for power development; water is returned to river 10 mi (16 km) below station. Flow regulated by Isabella Lake 22 mi (35 km) upstream beginning in 1954 (station 11190500). Many diversions above station for irrigation. See schematic diagram of Kern River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 12 discharge measurements for river and gage-height record and 13 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only, 32 years, 604 ft<sup>3</sup>/s (17.11 m<sup>3</sup>/s), 437,600 acre-ft/yr (540 hm<sup>3</sup>/yr).  
Combined river and diversion, 32 years, 939 ft<sup>3</sup>/s (26.59 m<sup>3</sup>/s), 680,300 acre-ft/yr (839 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 40,000 ft<sup>3</sup>/s (1,130 m<sup>3</sup>/s) Nov. 19, 1950, gage height, 30.7 ft (9.36 m), from rating curve extended above 8,700 ft<sup>3</sup>/s (246 m<sup>3</sup>/s) on basis of computation of maximum flow over dam (basic data for computation furnished by Southern California Edison Co.); minimum daily, 0.7 ft<sup>3</sup>/s (0.020 m<sup>3</sup>/s) Nov. 17-19, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft<sup>3</sup>/s (286 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 18.55 ft (5.654 m); no flow May 26-28, 1977.  
Combined flow: Maximum discharge, 40,000 ft<sup>3</sup>/s (1,130 m<sup>3</sup>/s) Nov. 19, 1950; minimum daily, 123 ft<sup>3</sup>/s (3.48 m<sup>3</sup>/s) Sept. 22, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft<sup>3</sup>/s (286 m<sup>3</sup>/s) Dec. 6, 1966; minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Dec. 17, 1968.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 2,670 ft<sup>3</sup>/s (75.6 m<sup>3</sup>/s) July 12, gage height, 12.08 ft (3.682 m); minimum daily, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Oct. 7, 8.  
Combined flow: Maximum discharge, 3,070 ft<sup>3</sup>/s (86.9 m<sup>3</sup>/s) July 12; minimum daily, 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.9	1.9	8.4	46	601	323	852	1630	2010	2310	1490
2	2.1	2.1	1.9	2.3	41	589	315	921	1820	1890	2380	1360
3	1.9	1.6	1.9	1.8	49	563	319	998	2180	1750	2400	1170
4	1.9	1.6	1.9	38	134	417	321	1050	2240	1720	2320	1050
5	1.8	1.6	1.9	141	218	335	309	1160	2110	1910	2300	924
6	1.8	1.7	2.0	236	262	339	299	1170	2070	2020	2300	971
7	1.3	1.7	1.9	222	356	396	290	1130	2190	2000	2140	1130
8	1.3	1.6	1.8	216	424	426	280	1170	2170	2030	1990	1160
9	1.4	1.4	1.8	161	431	466	276	1080	2080	2000	2160	1150
10	1.4	1.4	1.7	66	498	477	286	972	2020	2090	2260	1050
11	1.6	1.4	1.7	58	344	484	492	793	2130	2170	2300	877
12	2.4	1.5	1.8	40	253	307	544	727	2150	2360	2360	854
13	2.3	1.6	1.9	39	232	256	409	612	2210	2350	2300	1050
14	1.9	2.0	2.0	38	274	256	365	495	2240	2490	2110	1200
15	1.9	2.4	1.9	37	356	258	339	424	2310	2560	2000	1190
16	1.9	2.6	1.9	36	508	256	325	405	2340	2520	2010	1240
17	1.9	32	1.9	36	451	305	313	461	2290	2330	2000	1130
18	2.0	38	1.9	35	380	303	321	503	2290	2250	2090	1080
19	2.0	37	1.9	36	307	295	516	793	2250	2280	2210	1070
20	2.0	27	4.9	53	274	256	454	852	2230	2330	2190	1080
21	2.0	2.0	27	83	271	258	544	846	2300	2450	2150	1040
22	2.0	1.9	170	55	356	290	500	816	2290	2560	2110	1030
23	2.1	1.9	145	46	431	286	595	733	2280	2520	2190	1030
24	2.0	1.9	17	45	503	284	714	959	2240	2470	2180	968
25	2.2	1.9	2.1	52	558	286	733	998	2190	2370	2200	874
26	2.5	2.1	1.9	98	519	273	886	1340	2160	2410	1990	853
27	2.2	1.9	1.9	127	500	267	883	1510	2110	2400	1870	863
28	2.4	2.0	1.9	92	522	273	883	1580	2170	2390	1680	863
29	2.3	1.9	1.8	52	---	288	880	1580	2100	2410	1530	943
30	1.8	1.9	3.2	48	---	295	877	1600	2070	2460	1570	1030
31	1.7	---	1.9	46	---	290	---	1600	---	2330	1590	---
TOTAL	61.2	181.5	414.2	2244.5	9498	10675	14591	30130	64860	69830	65190	31720
MEAN	1.97	6.05	13.4	72.4	339	344	486	972	2162	2253	2103	1057
MAX	3.2	38	170	236	558	601	886	1600	2340	2560	2400	1490
MIN	1.3	1.4	1.7	1.8	41	256	276	405	1630	1720	1530	853
AC-FT	121	360	822	4450	18840	21170	28940	59760	128600	138500	129300	62920

CAL YR 1981 TOTAL 99394.5 MEAN 272 MAX 1140 MIN 1.3 AC-FT 197100  
WTR YR 1982 TOTAL 299395.4 MEAN 820 MAX 2560 MIN 1.3 AC-FT 593900

11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF KERN RIVER AND KERN RIVER  
NO. 1 CONDUIT NEAR DEMOCRAT SPRINGS, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	294	324	365	434	1010	723	1260	2030	2410	2710	1890
2	224	298	323	339	429	993	716	1330	2220	2290	2780	1760
3	239	303	330	327	438	967	720	1400	2580	2150	2800	1570
4	231	302	343	422	528	820	722	1450	2640	2120	2720	1450
5	167	302	342	532	613	736	709	1560	2510	2310	2700	1320
6	176	302	338	630	660	740	699	1570	2470	2420	2700	1370
7	177	304	295	616	757	798	690	1530	2590	2400	2540	1530
8	176	268	282	609	826	829	679	1570	2570	2430	2390	1560
9	174	264	281	551	832	870	675	1480	2480	2410	2560	1550
10	173	272	281	453	898	881	685	1380	2420	2490	2660	1450
11	176	269	287	445	743	886	894	1200	2530	2570	2700	1280
12	174	245	297	426	649	706	948	1130	2550	2760	2760	1250
13	179	246	296	425	627	654	813	1020	2610	2760	2700	1450
14	197	250	273	424	670	653	768	899	2640	2900	2510	1600
15	222	274	271	424	755	654	742	828	2710	2970	2400	1590
16	238	333	273	423	910	652	727	809	2740	2930	2410	1640
17	213	404	279	423	852	702	715	864	2690	2730	2400	1530
18	213	409	299	422	781	700	723	907	2690	2650	2490	1480
19	221	410	296	423	706	692	920	1200	2650	2680	2600	1470
20	220	389	297	441	672	652	859	1260	2630	2730	2580	1480
21	240	320	334	473	669	654	949	1250	2700	2850	2550	1440
22	254	314	548	443	756	686	905	1220	2690	2960	2510	1430
23	256	292	529	434	834	683	1000	1140	2680	2920	2590	1430
24	255	290	388	433	906	681	1120	1360	2640	2870	2580	1370
25	254	286	341	440	961	675	1140	1400	2590	2770	2600	1270
26	247	278	341	489	922	674	1290	1740	2560	2810	2390	1250
27	212	282	342	520	902	668	1290	1910	2510	2800	2270	1260
28	202	287	332	484	925	674	1290	1980	2570	2790	2080	1260
29	225	291	302	441	---	687	1290	1980	2500	2810	1930	1340
30	298	330	353	437	---	694	1280	2000	2470	2860	1970	1420
31	294	---	320	434	---	689	---	2000	---	2730	1990	---
TOTAL	6687	9108	10137	14148	20655	23060	26681	42627	76860	82280	77570	43690
MEAN	216	304	327	456	738	744	889	1375	2562	2654	2502	1456
MAX	298	410	548	630	961	1010	1290	2000	2740	2970	2800	1890
MIN	160	245	271	327	429	652	675	809	2030	2120	1930	1250
AC-FT	13260	18070	20110	28060	40970	45740	52920	84550	152500	163200	153900	86660
CAL YR 1981	TOTAL	224277	MEAN	614	MAX	1540	MIN	129	AC-FT	444900		
WTR YR 1982	TOTAL	433503	MEAN	1188	MAX	2970	MIN	160	AC-FT	859900		

## 11196400 CALIENTE CREEK ABOVE TEHACHAPI CREEK, NEAR CALIENTE, CA

LOCATION.--Lat 35°18'41", long 118°34'10", in SE¼SW¼ sec.17, T.30 S., R.32 E., Kern County, Hydrologic Unit 18030003, on right bank 0.5 mi (0.8 km) upstream from Harper Canyon, 1.0 mi (1.6 km) upstream from Oiler Canyon, and 3.6 mi (5.8 km) northeast of Caliente.

DRAINAGE AREA.--165 mi<sup>2</sup> (427 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,617.27 ft (492.944 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage height record, which are fair. Small diversion above station for stock and domestic use.

AVERAGE DISCHARGE.--21 years, 3.95 ft<sup>3</sup>/s (0.112 m<sup>3</sup>/s), 2,860 acre-ft/yr (3.53 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,060 ft<sup>3</sup>/s (86.7 m<sup>3</sup>/s) Feb. 10, 1978, gage height, 9.72 ft (2.963 m) from floodmarks, from rating curve extended above 190 ft<sup>3</sup>/s (5.38 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Apr. 3	0015	*126 3.57	2.63 0.802
Apr. 11	2130	101 2.86	2.49 .759

Minimum daily, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Aug. 20-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	.68	.80	5.9	1.8	1.7	67	6.9	1.9	1.3	.14	.15
2	6.2	.61	.80	3.8	1.8	2.1	85	6.5	1.9	1.1	.14	.15
3	.30	.60	.80	2.4	1.7	2.1	93	6.1	1.8	.84	.14	.16
4	.30	.59	.88	2.0	1.7	2.0	73	6.4	1.9	.85	.14	.16
5	.30	.59	.88	12	1.6	1.8	52	6.6	1.9	.87	.14	.17
6	.30	.62	.80	6.0	1.6	1.7	37	5.8	1.7	.91	.14	.17
7	.30	.62	.76	3.2	1.6	1.7	28	5.4	1.7	.75	.13	.18
8	.30	.64	.74	2.6	1.5	1.6	24	5.2	1.7	.72	.12	.17
9	.30	.59	.73	2.2	1.6	1.6	22	5.2	1.6	.70	.12	.19
10	.30	.57	.70	1.9	1.8	1.8	21	5.2	1.4	.65	.12	.22
11	.40	.60	.73	1.7	2.0	2.5	49	5.1	1.4	.52	.13	.24
12	.90	.58	.72	1.5	1.7	3.1	68	4.9	1.5	.47	.13	.24
13	.80	.56	.72	1.4	1.6	2.6	42	4.6	1.6	.56	.12	.25
14	.68	.57	.73	1.4	1.8	2.6	27	4.4	1.5	.42	.12	.25
15	.65	.60	.73	1.4	1.8	3.1	23	4.1	1.4	.38	.13	.28
16	.64	.58	.73	1.4	2.7	3.2	21	3.7	1.3	.34	.12	.40
17	.60	.67	.73	1.4	2.9	3.8	19	3.4	1.3	.32	.12	.51
18	.54	.73	.71	1.3	2.5	9.5	16	3.2	1.3	.29	.12	.52
19	.46	.67	.70	1.3	2.3	18	15	3.2	1.2	.28	.12	.59
20	.42	.65	.76	1.7	2.1	17	13	2.8	1.1	.26	.11	.59
21	.42	.62	3.5	3.9	2.0	17	13	2.6	1.0	.25	.11	.55
22	.39	.61	1.9	3.0	2.0	15	13	2.5	.90	.23	.11	.44
23	.39	.61	1.3	2.6	2.0	12	12	2.4	.92	.22	.11	.39
24	.40	.63	1.1	2.4	2.0	10	11	2.2	.81	.19	.12	.51
25	.40	.69	1.0	2.3	1.8	9.2	9.8	2.1	.80	.16	.13	.81
26	.38	.74	.96	2.2	1.8	8.9	9.0	1.9	.71	.16	.13	1.3
27	.45	.96	1.0	2.1	1.7	8.1	8.4	2.0	.71	.16	.13	1.3
28	.75	1.0	1.2	2.2	1.7	8.1	8.0	2.0	.86	.15	.13	1.1
29	1.7	1.0	1.1	2.1	---	14	7.7	2.0	.98	.15	.14	.88
30	1.1	.89	3.7	2.0	---	47	7.3	1.9	1.5	.14	.15	.82
31	.84	---	3.0	1.9	---	49	---	1.9	---	.14	.15	---
TOTAL	28.61	20.07	34.91	83.2	53.1	281.8	894.2	122.2	40.29	14.49	3.96	13.69
MEAN	.92	.67	1.13	2.68	1.90	9.09	29.8	3.94	1.34	.47	.13	.46
MAX	6.7	1.0	3.7	12	2.9	49	93	6.9	1.9	1.3	.15	1.3
MIN	.30	.56	.70	1.3	1.5	1.6	7.3	1.9	.71	.14	.11	.15
AC-FT	57	40	69	165	105	559	1770	242	80	29	7.9	27

CAL YR 1981	TOTAL	454.52	MEAN	1.25	MAX	6.7	MIN	.04	AC-FT	902
WTR YR 1982	TOTAL	1590.52	MEAN	4.36	MAX	93	MIN	.11	AC-FT	3150

NOTE.--No gage-height record Nov. 25 to Jan. 13.

## 11196420 TEHACHAPI CREEK NEAR TEHACHAPI, CA

LOCATION.--Lat 35°10'26", long 118°28'43", in NE¼SW¼ sec.6, T.32 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 1.3 mi (2.1 km) downstream from Brite Creek, and 3.2 mi (5.1 km) northwest of Tehachapi.

DRAINAGE AREA.--53.2 mi<sup>2</sup> (137.8 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-72-2: 1967.

GAGE.--Water-stage recorder and steel-weir in concrete channel. Datum of gage is 3,534.48 ft (1,077.310 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 5, 1964, at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--20 years, 0.47 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s), 341 acre-ft/yr (420,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) Aug. 8, 1963, gage height, 5.30 ft (1.615 m) in gage well, 6.40 ft (1.951 m) from floodmarks, site and datum then in use, from slope-area measurement of maximum flow; no flow for parts of most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 1	2400	20 0.57	0.70 0.213	Mar. 17	1600	24 .68	.73 .223
Jan. 5	1345	25 .71	.74 .226	Mar. 29	2015	78 2.21	1.07 .326
Mar. 11	1815	15 .42	.66 .201	Apr. 11	1600	*120 3.40	1.26 .384

Minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) several days during October and November, and Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.01	.04	1.0	.14	.21	14	1.1	.21	.06	.10	.03
2	1.1	.01	.04	.08	.12	.60	22	.68	.21	.06	.07	.03
3	.02	.01	.04	.07	.17	.62	11	.57	.20	.06	.10	.03
4	.02	.03	.04	.07	.17	.24	7.7	.67	.20	.05	.15	.03
5	.02	.04	.04	6.9	.34	.24	5.8	.85	.21	.05	.14	.03
6	.02	.04	.04	.26	.37	.24	5.1	1.4	.25	.05	.12	.03
7	.02	.04	.04	.29	.24	.24	4.5	1.2	.22	.05	.12	.03
8	.02	.04	.04	.19	.24	.24	3.5	.66	.21	.05	.13	.03
9	.02	.04	.04	.17	.20	.24	3.0	.73	.20	.05	.09	.05
10	.03	.04	.04	.16	.34	.32	3.7	.60	.21	.05	.12	.03
11	.04	.04	.04	.11	.23	3.9	41	.44	.21	.05	.13	.03
12	.02	.04	.04	.11	.21	2.2	17	.36	.24	.06	.09	.02
13	.02	.02	.04	.09	.24	.59	12	.41	.24	.06	.06	.02
14	.02	.03	.04	.07	.31	1.7	10	.32	.24	.05	.12	.03
15	.02	.04	.04	.08	.25	7.3	8.2	.24	.23	.04	.09	.02
16	.02	.04	.04	.11	.95	2.7	6.6	.25	.25	.03	.05	.03
17	.02	.04	.05	.11	.24	10	6.5	.26	.27	.02	.07	.03
18	.02	.04	.04	.11	.18	5.8	4.0	.24	.30	.03	.07	.03
19	.02	.02	.04	.11	.17	7.5	3.6	.13	.25	.03	.06	.04
20	.03	.02	.07	.19	.17	3.5	2.0	.12	.24	.02	.03	.03
21	.01	.02	.13	.18	.17	2.1	1.9	.08	.22	.03	.03	.03
22	.02	.03	.05	.15	.17	1.6	2.6	.11	.24	.04	.05	.05
23	.02	.04	.04	.12	.17	1.4	3.3	.15	.24	.03	.02	.05
24	.02	.04	.04	.11	.17	1.2	2.7	.14	.21	.03	.02	.06
25	.01	.04	.04	.12	.17	1.1	2.0	.19	.18	.07	.02	.06
26	.02	.06	.04	.12	.17	1.4	1.8	.24	.15	.10	.01	.07
27	.02	.06	.20	.11	.17	1.0	1.1	.23	.17	.05	.10	.06
28	.05	.17	.06	.14	.17	4.9	1.4	.21	.13	.04	.03	.05
29	.03	.04	.04	.12	---	18	1.0	.22	.09	.05	.03	.05
30	.02	.04	.20	.11	---	9.6	.92	.22	.07	.03	.03	.06
31	.01	---	.11	.11	---	4.3	---	.22	---	.04	.03	---
TOTAL	2.93	1.17	1.79	11.67	6.64	94.98	209.92	13.24	6.29	1.43	2.28	1.14
MEAN	.095	.039	.058	.38	.24	3.06	7.00	.43	.21	.046	.074	.038
MAX	1.2	.17	.20	6.9	.95	18	41	1.4	.30	.10	.15	.07
MIN	.01	.01	.04	.07	.12	.21	.92	.08	.07	.02	.01	.02
AC-FT	5.8	2.3	3.6	23	13	188	416	26	12	2.8	4.5	2.3

CAL YR 1981	TOTAL	34.29	MEAN .094	MAX	3.2	MIN 0	AC-FT 68
WTR YR 1982	TOTAL	353.48	MEAN .97	MAX	41	MIN .01	AC-FT 701

## TULARE LAKE BASIN

11197000 TULARE LAKE IN KINGS COUNTY, CA

LOCATION.--Lat 36°02'36", long 119°38'34", in SE¼NE¼ sec.1, T.22 S., R.21 E., Kings County, Hydrologic Unit 18030012, at El Rico Ranch, 6.0 mi (9.7 km) southwest of Corcoran, and 14.2 mi (22.8 km) southeast of Stratford.

PERIOD OF RECORD.--March 1906 to September 1920 (incomplete), February 1937 to September 1961 (elevations only), January 1969 to September 1979, October 1980 to current year.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929. March 1906 to September 1920, nonrecording gages at various sites at different datums. February 1937 to September 1958, water-stage recorder or nonrecording gage at various sites.

REMARKS.--Tulare Lake receives water from Kings, Kaweah, and Tule Rivers during high-water periods and occasionally from Kern River, Deer Creek, and several small intermittent streams. Its natural boundary has been greatly altered by construction of levees and other reclamation work. Elevation at lowest point of lakebed is now about 175 ft (53.3 m) lower than previously determined because of variable subsidence.

COOPERATION.--Records of contents furnished by J. G. Boswell Co. Area-capacity curves furnished by J. B. Summers, civil engineer, Corcoran, based on surveys in 1966.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 196.8 ft (59.98 m) June 27, 28, 1941; lake dry or practically dry for parts of 1906, 1914-16, 1919, 1937, 1946, 1950-53, 1955-56, 1958, 1969, 1971, 1978; lake dry for entire years 1920-22, 1924-36, 1947-49, 1954, 1957, 1959-61, 1972-77, 1979, 1981. Lake elevation of June 27, 28, 1941, was highest known since about 1890.

EXTREMES OUTSIDE PERIOD OF RECORD.--Historical accounts indicate that Tulare Lake under natural conditions reached an elevation of 216 ft (65.8 m) NGVD in 1862 and 1868. This lake elevation was the highest since at least the early 1800's.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,000 acre-ft (13.6 hm<sup>3</sup>) Apr. 23, from estimate furnished by J. G. Boswell Co.; lake dry most of year.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 1200

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	6100				
2							0	5300				
3							0	4300				
4							0	3200				
5							0	2100				
6							0	1100				
7							0	400				
8							0	0				
9							0	0				
10							0	0				
11							0	0				
12							0	0				
13							0	0				
14							900	0				
15							2400	0				
16							4100	0				
17							5500	0				
18							6900	0				
19							8300	0				
20							9400	0				
21							10200	0				
22							10800	0				
23							11000	0				
24							10800	0				
25							10400	0				
26							9900	0				
27							9100	0				
28							8300	0				
29					---		7800	0				
30					---		7000	0				
31		---			---		---	0	---			---
MAX	0	0	0	0	0	0	11000	6100	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
a	0	0	0	0	0	0	+7000	-7000	0	0	0	0

CAL YR 1981 a 0  
WTR YR 1982 a 0

a Change in contents, in acre-feet.

11197250 AVENAL CREEK NEAR AVENAL, CA

LOCATION.--Lat 35°51'15", long 120°07'34", in SW¼NW¼ sec.10, T.24 S., R.17 E., Kings County, Hydrologic Unit 18030011, on right bank 550 ft (168 m) downstream from road ford, 0.4 mi (0.6 km) downstream from unnamed tributary, and 10 mi (16 km) south of Avenal.

DRAINAGE AREA.--57.1 mi<sup>2</sup> (147.9 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 825 ft (251.5 m), from topographic map.

REMARKS.--Records good except those for period of no gage height record, which are fair. Minor diversions for stock above station.

AVERAGE DISCHARGE.--21 years, 3.39 ft<sup>3</sup>/s (0.096 m<sup>3</sup>/s), 2,460 acre-ft/yr (3.03 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft<sup>3</sup>/s (74.6 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 7.89 ft (2.405 m), from rating curve extended above 510 ft<sup>3</sup>/s (14.4 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 5.72 ft (1.743 m) and 7.54 ft (2.298 m); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Mar. 18	0100	38 1.08	2.56 0.780
Apr. 1	0015	456 12.9	3.70 1.128
Apr. 11	Unknown	*560 15.9	3.93 1.198

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0		0	138	1.1				
2				0		.01	34	.98				
3				0		.01	20	.88				
4				0		0	13	.81				
5				0		0	10	.74				
6				0		0	8.5	.65				
7				0		0	7.4	.58				
8				0		0	5.8	.60				
9				0		0	5.0	.69				
10				0		0	11	.73				
11				0		0	200	.64				
12				0		0	68	.55				
13				0		0	34	.47				
14				0		0	20	.36				
15				0		0	13	.32				
16				0		.03	9.7	.26				
17				0		11	8.0	.21				
18				0		25	5.9	.20				
19				0		10	4.9	.21				
20				.07		5.2	4.1	.15				
21				.02		4.1	3.1	.06				
22				0		1.4	2.8	.01				
23				0		.63	2.4	0				
24				0		.26	2.2	0				
25				0		.16	1.9	0				
26				0		.19	1.9	0				
27				0		.11	1.7	0				
28				0		.08	1.6	0				
29				0	---	2.4	1.5	0				
30				0	---	8.0	1.3	0				
31		---		0	---	89	---	0	---			---
TOTAL	0	0	0	.09	0	157.58	640.7	11.20	0	0	0	0
MEAN	0	0	0	.003	0	5.08	21.4	.36	0	0	0	0
MAX	0	0	0	.07	0	89	200	1.1	0	0	0	0
MIN	0	0	0	0	0	0	1.3	0	0	0	0	0
AC-FT	0	0	0	.2	0	313	1270	22	0	0	0	0

CAL YR 1981 TOTAL 298.38 MEAN .82 MAX 79 MIN 0 AC-FT 592  
WTR YR 1982 TOTAL 809.57 MEAN 2.22 MAX 200 MIN 0 AC-FT 1610

NOTE.--No gage-height record Apr. 11-16.

## TULARE LAKE BASIN

11197800 POSO CREEK NEAR OILDALE, CA

LOCATION.--Lat 35°30'49", long 118°54'17", in SW¼SW¼ sec.6, T.28 S., R.29 E., Kern County, Hydrologic Unit 18030012, on downstream side of highway bridge opposite mouth of Hillvale Canyon, 10 mi (16 km) northeast of Oildale, and 12 mi (19 km) northeast of Bakersfield.

DRAINAGE AREA.--230 mi<sup>2</sup> (600 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1735: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 700 ft (213 m), from topographic map.

REMARKS.--Records good except those for periods of no gage height record, which are fair. Oilfield waste comprises most of low flow.

AVERAGE DISCHARGE.--23 years, 31.8 ft<sup>3</sup>/s (0.901 m<sup>3</sup>/s), 23,040 acre-ft/yr (28.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,700 ft<sup>3</sup>/s (190 m<sup>3</sup>/s) Feb. 25, 1969, gage height, 12.85 ft (3.917 m), from rating curve extended above 820 ft<sup>3</sup>/s (23.2 m<sup>3</sup>/s) on basis of contracted-opening measurement at gage height 11.57 ft (3.527 m); no flow for many days in 1975-82.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 4, 1958, reached a stage of 8.6 ft (2.62 m) from floodmarks, discharge, 2,750 ft<sup>3</sup>/s (77.9 m<sup>3</sup>/s), furnished by Kern County Land Co.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 70 ft<sup>3</sup>/s (1.98 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 22	Unknown	Unknown	Unknown	Mar. 3	1215	106 3.00	8.12 2.475
Jan. 1	Unknown	Unknown	Unknown	Mar. 18	0945	201 5.69	8.73 2.661
Jan. 5	Unknown	270 7.65	9.03 2.752	Apr. 3	0015	373 10.6	9.34 2.847
Jan. 27	2300	72 2.04	7.82 2.384	Apr. 12	Unknown	*2,090 59.2	11.60 3.536
Feb. 17	Unknown	785 22.2	10.13 3.088				

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	100	43	54	215	119	45	42	1.3	0
2			0	94	42	60	273	115	44	33	1.1	0
3			0	64	40	90	373	111	45	27	1.1	0
4			0	50	38	77	358	108	45	25	1.3	0
5			.20	205	37	67	313	106	44	23	1.5	0
6			1.1	136	34	61	270	101	41	22	2.0	0
7			3.5	84	32	56	249	96	39	18	2.1	0
8			9.3	60	30	53	222	92	37	17	1.5	0
9			16	48	30	50	202	91	36	16	.74	0
10			28	41	33	52	193	92	34	14	.53	0
11			30	38	47	61	399	89	33	12	.61	0
12			32	35	43	95	1620	88	32	12	.64	0
13			31	32	36	82	1460	85	32	12	.70	0
14			30	30	38	77	700	81	30	9.9	.34	0
15			32	28	64	116	340	79	29	9.0	.19	0
16			32	26	159	110	290	77	28	8.0	.16	0
17			33	25	472	125	257	73	28	7.6	0	0
18			34	24	199	186	233	70	27	6.9	0	0
19			34	24	142	177	219	67	27	6.0	0	0
20			38	28	114	188	210	64	26	5.9	0	0
21			63	37	97	182	190	62	26	4.8	0	0
22			75	31	90	188	179	59	25	3.3	0	0
23			47	28	85	190	170	57	24	3.0	0	0
24			32	28	79	186	163	56	23	3.2	0	0
25			28	38	74	172	153	53	23	3.0	0	1.2
26			26	51	66	165	147	50	22	3.0	0	7.5
27			25	61	62	164	141	48	22	2.6	0	12
28			29	68	57	162	135	48	20	2.3	0	16
29			30	62	---	174	129	48	21	2.2	0	15
30			76	53	---	191	124	47	31	1.8	0	12
31		---	87	47	---	188	---	46	---	1.5	0	---
TOTAL	0	0	902.10	1676	2283	3799	9927	2378	939	357.0	15.81	63.7
MEAN	0	0	29.1	54.1	81.5	123	331	76.7	31.3	11.5	.51	2.12
MAX	0	0	87	205	472	191	1620	119	45	42	2.1	16
MIN	0	0	0	24	30	50	124	46	20	1.5	0	0
AC-FT	0	0	1790	3320	4530	7540	19690	4720	1860	708	31	126

CAL YR 1981 TOTAL 6558.54 MEAN 18.0 MAX 180 MIN 0 AC-FT 13010  
WTR YR 1982 TOTAL 22340.61 MEAN 61.2 MAX 1620 MIN 0 AC-FT 44310

NOTE.--No gage height record Dec. 5 to Jan. 8.



11199500 WHITE RIVER NEAR DUCOR, CA

LOCATION.--Lat 35°48'36", long 118°55'03", in NW¼SE¼ sec.26, T.24 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi (1.0 km) upstream from Tyler Gulch, and 9.0 mi (14.5 km) southeast of Ducor.

DRAINAGE AREA.--90.6 mi<sup>2</sup> (234.7 km<sup>2</sup>).

PERIOD OF RECORD.--October 1942 to September 1953, February 1971 to current year. Monthly discharge only for October 1942 to September 1944, published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 715 ft (218 m), from topographic map. October 1942 to September 1946, at site 3,800 ft (1,160 m) downstream, October 1946 to September 1953, at site 4,300 ft (1,310 m) downstream, and October 1971 to November 1978, at site 4,000 ft (1,220 m) downstream, all at different datum.

REMARKS.--Records good except those for period of no gage-height record, which are fair.

AVERAGE DISCHARGE.--22 years (water years 1943-53, 1972-82), 9.68 ft<sup>3</sup>/s (0.274 m<sup>3</sup>/s), 7,010 acre-ft/yr (8.64 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft<sup>3</sup>/s (65.1 m<sup>3</sup>/s), estimated by Bureau of Reclamation, Mar. 9, 1943; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 1	1545	34 0.96	1.98 0.604	Mar. 17	2030	131 3.71	2.33 .710
Jan. 5	1915	79 2.24	2.10 .640	Apr. 1	0945	196 5.55	2.60 .792
Feb. 16	1315	226 6.40	2.76 .841	Apr. 11	2000	*311 8.81	3.19 .972

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	3.9	13	8.9	11	131	29	9.6	8.7	.47	0
2		0	3.7	10	8.4	15	136	29	9.5	5.5	.41	0
3		0	3.6	5.4	7.9	19	87	28	9.3	4.8	.41	0
4		0	3.8	3.3	7.6	14	62	28	8.9	4.4	.43	0
5		0	3.7	36	7.0	13	51	26	8.9	4.1	.47	0
6		0	3.7	36	6.5	12	45	25	8.7	3.8	.46	0
7		0	3.7	17	6.3	11	41	25	8.3	3.5	.43	0
8		0	3.7	9.8	5.7	11	36	24	7.9	3.4	.32	0
9		0	3.6	7.7	5.2	10	33	24	7.5	3.2	.24	0
10		0	3.5	6.8	7.5	11	37	23	6.9	2.9	.15	0
11		0	3.7	6.2	13	15	171	22	6.6	2.8	.10	0
12		0	3.9	5.7	8.9	20	165	20	6.4	2.6	.07	0
13		0	3.7	5.2	7.8	15	96	19	6.2	2.4	.04	0
14		0	3.6	4.8	8.3	23	77	18	6.1	2.2	.03	0
15		0	3.8	4.6	11	32	68	19	5.7	2.1	.02	0
16		0	3.9	4.3	111	24	61	18	5.3	1.9	.01	0
17		.22	4.0	4.3	56	58	55	17	5.0	1.8	0	0
18		.67	4.1	4.2	31	58	51	17	5.5	1.8	0	0
19		.98	4.1	4.3	23	87	48	16	5.1	1.7	0	0
20		1.7	4.5	6.4	19	62	46	14	5.0	1.6	0	0
21		2.0	8.0	11	17	42	42	14	4.9	1.4	0	0
22		2.1	7.0	9.6	16	35	39	14	4.6	1.3	0	0
23		2.2	2.9	7.7	15	32	37	13	4.3	1.2	0	0
24		2.4	1.6	8.0	14	29	35	12	4.2	1.2	0	0
25		2.8	1.3	9.9	13	27	34	11	4.2	1.1	0	1.5
26		3.3	1.1	10	12	28	33	11	4.0	1.1	0	5.1
27		3.8	.98	12	12	27	32	11	3.9	.96	0	4.2
28		4.4	1.3	13	11	27	31	11	3.8	.85	0	3.3
29		4.8	1.4	13	---	35	31	10	4.1	.80	0	2.5
30		4.1	8.6	11	---	47	30	10	9.1	.66	0	2.1
31		---	9.4	9.7	---	34	---	9.7	---	.55	0	---
TOTAL	0	35.47	119.78	309.9	470.0	884	1841	567.7	189.5	76.32	4.06	18.7
MEAN	0	1.18	3.86	10.0	16.8	28.5	61.4	18.3	6.32	2.46	.13	.62
MAX	0	4.8	9.4	36	111	87	171	29	9.6	8.7	.47	5.1
MIN	0	0	.98	3.3	5.2	10	30	9.7	3.8	.55	0	0
AC-FT	0	70	238	615	932	1750	3650	1130	376	151	8.1	37

CAL YR 1981 TOTAL 1646.86 MEAN 4.51 MAX 111 MIN 0 AC-FT 3270  
WTR YR 1982 TOTAL 4516.43 MEAN 12.4 MAX 171 MIN 0 AC-FT 8960

NOTE.--No gage-height record July 24 to Sept 30.

## TULARE LAKE BASIN

11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA

LOCATION.--Lat 35°56'30", long 118°49'19", in SE¼NE¼ sec.10, T.23 S., R.29 E., Tulare County, Hydrologic Unit 18030005, on left bank 1.0 mi (1.6 km) upstream from Pothole Creek, 6.3 mi (10.1 km) northeast of Fountain Springs, and 12 mi (19 km) east of Terra Bella.

DRAINAGE AREA.--83.3 mi<sup>2</sup> (215.7 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 980 ft (299 m), from topographic map.

REMARKS.--Records good. No storage or diversion above station.

AVERAGE DISCHARGE.--14 years, 32.4 ft<sup>3</sup>/s (0.918 m<sup>3</sup>/s), 23,470 acre-ft/yr (28.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft<sup>3</sup>/s (94.6 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 9.85 ft (3.002 m), from rating curve extended above 600 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 8.83 ft (2.691 m) in gage well, 9.18 ft (2.798 m) from floodmarks, and 12.54 ft (3.822 m) from floodmarks; no flow Aug. 14-22, 1968 and for several months in 1972, 1976-77.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 6, 1966, reached a stage of 12.54 ft (3.822 m), from floodmarks, discharge, 5,330 ft<sup>3</sup>/s (151 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	1400	278 7.87	4.62 1.408	Mar. 19	1730	156 4.42	4.02 1.225
Feb. 16	1215	724 20.5	6.00 1.829	Apr. 1	1830	204 5.78	4.27 1.301
Mar. 3	0015	109 3.09	3.75 1.143	Apr. 11	1645	*1,040 29.5	6.64 2.024

Minimum daily, 2.8 ft<sup>3</sup>/s (0.079 m<sup>3</sup>/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	8.4	10	74	32	37	175	99	42	37	8.3	5.1
2	3.5	7.5	10	46	31	57	173	96	44	30	7.6	4.9
3	3.4	6.9	10	29	30	69	156	94	44	27	7.3	4.7
4	3.4	6.6	11	25	29	50	141	91	42	25	7.6	4.1
5	3.4	6.5	11	157	28	45	128	88	42	24	7.9	4.2
6	3.2	6.3	10	84	26	41	118	84	40	23	7.7	4.2
7	2.8	6.5	9.5	46	25	39	109	82	37	23	7.8	4.4
8	3.0	6.8	9.2	41	25	37	101	80	36	22	6.9	4.5
9	3.7	6.5	9.1	33	24	36	97	80	36	20	6.7	4.5
10	3.6	6.3	8.8	29	30	43	147	78	35	19	6.3	5.2
11	6.6	6.3	9.1	26	43	62	654	75	35	19	6.5	5.4
12	8.6	6.5	9.0	24	33	71	420	73	34	16	6.9	5.2
13	5.9	6.6	9.0	22	29	56	279	69	33	16	6.9	4.9
14	5.3	7.3	9.1	21	39	77	232	67	33	16	6.9	4.6
15	5.4	8.3	9.1	20	52	86	200	66	30	16	6.9	5.0
16	5.3	7.5	9.1	20	323	74	178	63	27	16	6.6	5.9
17	5.1	7.8	9.1	20	149	106	166	61	27	15	6.3	6.5
18	5.2	10	8.9	19	99	111	159	59	29	14	6.1	6.6
19	4.9	9.0	8.7	20	78	139	155	59	27	12	6.0	6.6
20	4.5	8.2	9.5	25	69	119	151	57	27	12	6.0	6.6
21	4.5	7.8	44	31	64	105	139	55	26	11	6.0	6.6
22	4.5	7.6	24	25	60	102	131	54	25	11	5.8	6.2
23	4.5	7.5	16	25	56	98	126	53	25	11	5.0	5.4
24	4.5	8.0	14	29	52	94	122	52	24	11	5.1	6.0
25	4.7	9.4	13	39	47	91	117	50	24	10	5.4	8.9
26	4.7	9.1	12	47	43	95	113	50	23	10	4.7	32
27	4.9	12	13	54	40	93	109	49	23	9.5	4.7	28
28	5.7	13	15	47	38	96	107	50	22	9.8	4.7	21
29	21	13	13	45	---	108	104	49	25	8.4	4.8	15
30	15	11	46	37	---	116	101	47	52	7.8	5.2	13
31	9.4	---	38	34	---	102	---	45	---	8.3	5.2	---
TOTAL	173.4	244.2	437.2	1194	1594	2455	5108	2075	969	509.8	195.8	245.2
MEAN	5.59	8.14	14.1	38.5	56.9	79.2	170	66.9	32.3	16.4	6.32	8.17
MAX	21	13	46	157	323	139	654	99	52	37	8.3	32
MIN	2.8	6.3	8.7	19	24	36	97	45	22	7.8	4.7	4.1
AC-FT	344	484	867	2370	3160	4870	10130	4120	1920	1010	388	486

CAL YR 1981	TOTAL	5547.52	MEAN 15.2	MAX 140	MIN 0	AC-FT	11000
WTR YR 1982	TOTAL	15200.60	MEAN 41.6	MAX 654	MIN 2.8	AC-FT	30150

## 11201200 DEER CREEK DIVERSION NEAR TERRA BELLA, CA

LOCATION.--Lat 35°59'27", long 118°59'06", in NE¼NE¼ sec.30, T.22 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft (305 m) downstream from diversion structure, 3.8 mi (6.1 km) northeast of Terra Bella.

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

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 510 ft (155 m), from topographic map.

REMARKS.--Records fair. Diversion receives water from Deer Creek 1,000 ft (305 m) upstream. Water is used for ground-water recharge.

AVERAGE DISCHARGE.--12 years, 1.91 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s), 1,380 acre-ft/yr (1.70 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Dec. 28, 1977, Feb. 15, 1982; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	8.1	0	8.7	11	12	6.4	7.2		0
2			0	8.6	5.1	9.8	6.9	12	6.7	6.6		0
3			0	6.9	7.9	12	4.0	12	6.6	6.8		0
4			0	4.8	8.3	11	.24	12	6.6	5.7		0
5			0	11	8.0	10	0	11	7.1	4.4		0
6			0	9.2	7.6	9.7	0	11	7.0	7.8		0
7			0	8.6	7.4	9.3	0	11	6.6	9.2		0
8			0	9.6	7.2	8.9	0	11	8.3	8.5		0
9			0	8.4	6.9	8.6	0	11	10	7.6		0
10			0	7.6	8.7	9.2	0	11	9.3	6.7		0
11			0	7.1	15	10	6.1	11	8.4	6.5		0
12			0	6.7	13	12	2.8	10	8.6	5.2		0
13			0	6.2	12	11	0	9.9	8.3	3.5		0
14			0	5.8	12	12	0	9.8	7.7	4.0		0
15			0	4.7	15	13	0	9.5	6.6	4.0		0
16			0	4.3	13	12	0	9.4	9.7	3.3		0
17			0	3.5	.35	13	0	9.1	11	2.9		0
18			0	3.5	0	14	0	11	12	2.3		0
19			0	5.5	0	14	0	12	12	1.4		0
20			0	6.3	0	.61	0	12	12	.78		0
21			0	7.6	0	0	0	11	11	.42		0
22			4.9	6.5	5.8	0	0	11	10	.34		0
23			5.8	6.5	10	0	0	11	9.9	.21		0
24			6.7	6.2	10	0	7.4	9.5	9.4	.03		0
25			6.6	7.8	9.7	8.0	13	9.0	9.4	0		0
26			6.5	9.5	9.3	13	13	8.4	8.7	0		0
27			6.5	10	9.1	13	12	8.3	8.3	0		7.7
28			6.5	10	8.7	13	12	8.6	7.8	0		12
29			6.5	10	---	14	12	8.5	8.2	0		6.8
30			6.9	8.6	---	14	12	8.0	9.6	0		2.4
31		---	7.6	.81	---	14	---	6.9	---	0		---
TOTAL	0	0	64.5	219.91	210.05	297.81	112.44	317.9	263.2	105.38	0	28.9
MEAN	0	0	2.08	7.09	7.50	9.61	3.75	10.3	8.77	3.40	0	.96
MAX	0	0	7.6	11	15	14	13	12	12	9.2	0	12
MIN	0	0	0	.81	0	0	0	6.9	6.4	0	0	0
AC-FT	0	0	128	436	417	591	223	631	522	209	0	57
CAL YR 1981	TOTAL	1135.64	MEAN	3.11	MAX	12	MIN	0	AC-FT	2250		
WTR YR 1982	TOTAL	1620.09	MEAN	4.44	MAX	15	MIN	0	AC-FT	3210		

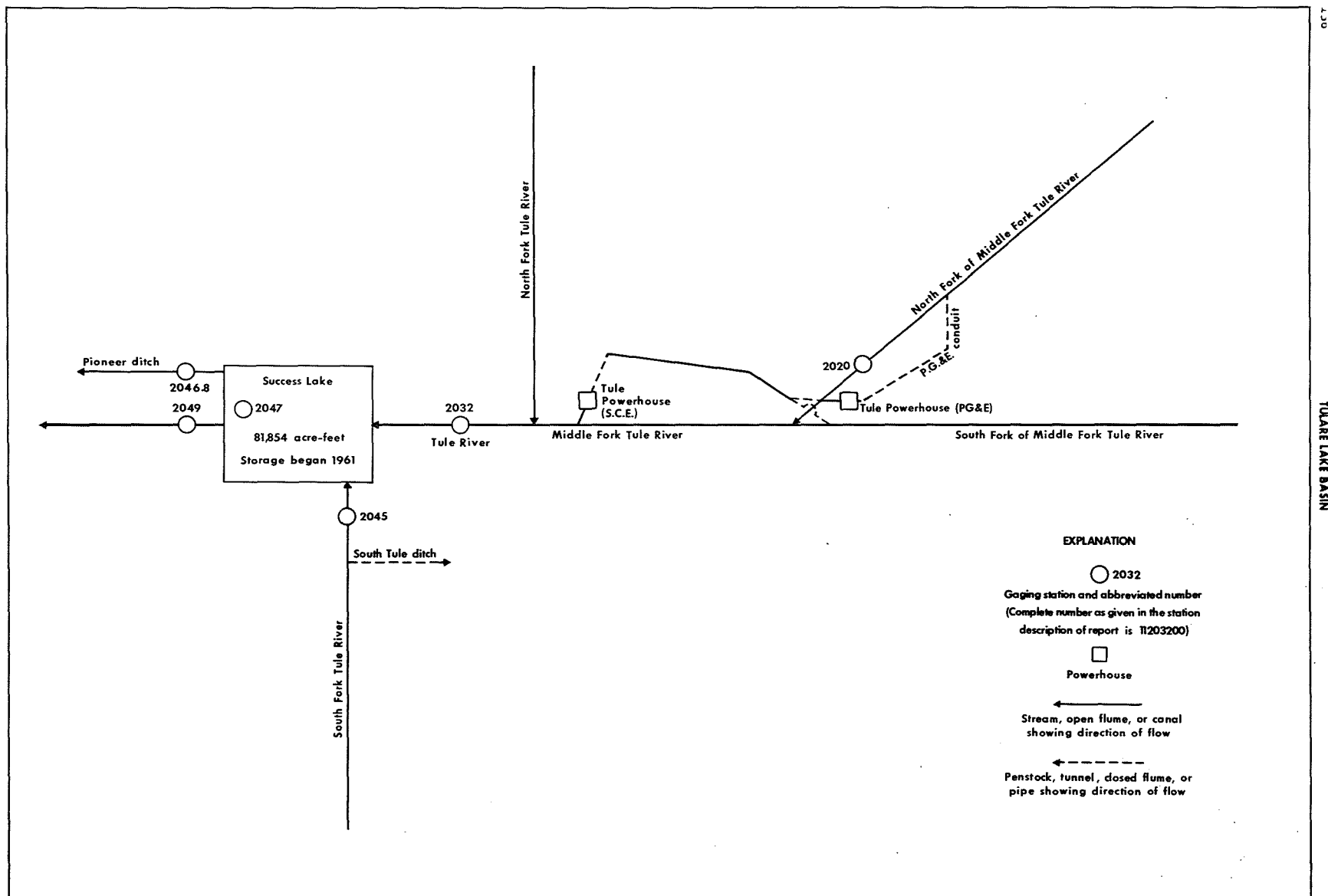


FIGURE 5.--Schematic diagram showing diversions and storage in Tule River basin.

## 11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°10'29", long 118°41'41", in T.20 S., R.30 E., unsurveyed, Tulare County, Hydrologic Unit 18030006, on right bank 1.2 mi (1.9 km) upstream from mouth, 2.2 mi (3.5 km) downstream from Hossack Creek, and 7.4 mi (11.9 km) northeast of Springville.

DRAINAGE AREA.--39.3 mi<sup>2</sup> (101.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A. January 1909 to December 1912 at site 2 mi (3 km) upstream, records not equivalent. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

REVISED RECORDS.--WSP 1445: 1951.

GAGE.--Water-stage recorder. Concrete control on river since Aug. 6, 1958. Water-stage recorder and rectangular concrete channel for conduit diversion. Altitude of gage is 2,920 ft (890 m), from topographic map.

REMARKS.--Pacific Gas and Electric Co. conduit diverts 2.5 mi (4.0 km) upstream from station; water is returned to North Fork of Middle Fork Tule River 1.1 mi (1.8 km) downstream from station. See schematic diagram of Tule River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 43 years, 26.7 ft<sup>3</sup>/s (0.756 m<sup>3</sup>/s), 19,340 acre-ft/yr (23.8 hm<sup>3</sup>/yr).  
Combined river and diversion: 43 years, 58.4 ft<sup>3</sup>/s (1.654 m<sup>3</sup>/s), 42,310 acre-ft/yr (52.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 16,900 ft<sup>3</sup>/s (479 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 13.83 ft (4.215 m), from floodmarks, from rating curve extended above 270 ft<sup>3</sup>/s (7.65 m<sup>3</sup>/s) on basis of critical-depth determinations at gage heights 9.67 ft (2.947 m) and 12.47 ft (3.801 m); no flow Sept. 10, 11, 1955.

Combined flow: Maximum discharge, 16,900 ft<sup>3</sup>/s (479 m<sup>3</sup>/s) Dec. 6, 1966; minimum daily, 6.7 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Aug. 15, 1977.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 2,570 ft<sup>3</sup>/s (72.8 m<sup>3</sup>/s) Apr. 11, gage height, 7.85 ft (2.393 m); minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Nov. 22-24.

Combined flow: Maximum discharge, 2,580 ft<sup>3</sup>/s (73.1 m<sup>3</sup>/s) Apr. 11; minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Oct. 1, 7, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	3.0	2.1	17	5.8	13	35	239	97	12	4.2	3.9
2	2.8	2.8	2.1	7.9	5.7	43	31	241	93	9.0	4.1	3.9
3	3.2	2.7	3.0	5.9	5.6	25	28	236	87	7.5	4.2	3.8
4	3.0	2.6	5.9	22	5.5	15	25	219	83	7.2	4.6	3.6
5	3.4	2.6	2.1	125	5.1	10	23	212	76	6.9	4.6	3.5
6	2.6	3.6	2.2	28	4.9	7.0	22	212	69	6.6	4.5	3.5
7	4.3	2.6	2.1	12	4.7	6.3	19	217	65	6.5	4.6	3.5
8	4.1	2.6	2.0	8.2	4.6	6.0	17	212	61	6.8	4.5	3.6
9	2.8	2.6	2.0	6.8	4.4	6.1	16	191	62	6.6	4.4	3.7
10	3.2	2.6	2.0	6.1	5.4	27	147	166	61	6.4	4.3	3.7
11	7.6	2.6	2.0	5.5	5.0	51	1520	146	62	6.2	4.3	3.6
12	3.2	2.7	2.0	5.0	5.5	47	629	122	62	6.0	4.3	3.7
13	3.2	2.4	2.0	6.0	7.2	38	405	114	56	5.8	4.2	11
14	2.8	2.4	1.9	5.2	11	42	315	111	49	5.6	4.2	20
15	3.0	5.0	2.0	5.0	23	40	231	108	47	5.7	4.1	21
16	2.9	1.9	2.0	4.7	300	29	202	114	46	5.5	4.1	21
17	2.8	2.4	1.9	4.6	134	28	193	129	45	5.5	4.1	17
18	3.2	2.4	1.9	3.9	78	23	193	136	43	5.6	4.0	4.4
19	4.4	2.1	1.9	4.0	58	20	207	134	42	5.5	4.0	4.2
20	3.7	1.9	2.6	5.3	56	19	214	139	39	5.3	3.9	4.1
21	2.6	1.9	33	9.0	64	17	212	146	33	5.2	3.9	4.0
22	2.6	1.8	5.1	8.6	64	15	207	152	31	5.1	3.9	3.7
23	2.4	1.8	3.1	9.0	54	16	205	156	28	5.0	3.9	4.3
24	2.6	1.8	3.2	12	44	16	200	164	25	4.9	3.9	7.0
25	3.4	2.0	2.9	15	35	15	198	166	20	4.7	3.9	14
26	2.8	2.1	2.8	14	26	21	196	166	17	4.6	3.8	116
27	2.6	2.4	3.0	9.4	20	28	196	162	16	4.6	3.8	13
28	6.7	2.5	2.9	7.8	16	31	212	146	14	4.4	3.8	6.7
29	6.2	2.4	3.0	7.2	---	29	224	129	13	4.4	3.8	6.0
30	3.6	2.2	18	6.6	---	28	234	114	17	4.3	3.8	6.0
31	3.2	---	7.7	6.1	---	26	---	109	---	4.2	3.9	---
TOTAL	109.2	96.0	153.8	392.8	1052.4	737.4	6556	5008	1459	183.6	127.6	327.4
MEAN	3.52	3.20	4.96	12.7	37.6	23.8	219	162	48.6	5.92	4.12	10.9
MAX	7.6	24	33	125	300	51	1520	241	97	12	4.6	116
MIN	2.4	1.8	1.9	3.9	4.4	6.0	16	108	13	4.2	3.8	3.5
AC-FT	217	190	305	779	2090	1460	13000	9930	2890	364	253	649
CAL YR 1981 TOTAL	2714.6			MEAN 7.44	MAX 78	MIN 1.7	AC-FT 5380					
WTR YR 1982 TOTAL	16203.2			MEAN 44.4	MAX 1520	MIN 1.8	AC-FT 32140					

11202000 NORTH FORK OF MIDDLE FORK TULE RIVER NEAR SPRINGVILLE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF NORTH FORK OF MIDDLE FORK TULE RIVER AND  
PACIFIC GAS AND ELECTRIC CO. CONDUIT NEAR SPRINGVILLE, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	21	22	76	40	81	100	306	163	76	35	26
2	15	20	23	41	41	111	92	308	159	71	35	25
3	15	19	22	36	41	92	90	304	153	68	34	25
4	15	19	23	57	40	82	91	286	149	66	35	25
5	15	18	22	184	38	76	87	279	142	65	34	25
6	15	18	21	91	37	72	86	279	135	63	34	24
7	14	18	21	53	37	69	80	284	131	61	34	24
8	15	18	20	46	36	68	77	279	127	59	34	25
9	15	17	20	43	34	67	76	257	128	58	32	26
10	14	17	20	42	36	96	213	233	127	55	31	25
11	26	17	20	40	35	119	1550	213	127	54	31	25
12	18	17	19	37	34	115	630	189	126	53	31	25
13	18	16	19	37	34	106	409	181	121	52	30	19
14	17	66	19	37	61	110	346	178	114	50	30	21
15	18	34	19	37	91	108	298	175	112	49	29	22
16	17	25	18	38	364	97	269	181	111	49	29	22
17	18	29	18	39	200	96	260	196	110	48	29	26
18	16	27	18	37	144	91	260	204	108	46	29	24
19	17	24	18	36	124	86	274	202	107	45	28	24
20	17	22	65	35	123	82	281	207	104	43	28	23
21	17	21	95	34	131	81	279	213	98	43	28	23
22	16	20	44	36	131	80	274	219	96	43	28	22
23	15	20	35	34	121	82	272	223	93	42	29	21
24	16	20	31	42	111	82	267	231	91	41	29	41
25	15	20	29	50	103	81	265	233	85	40	29	56
26	16	20	28	54	94	89	263	233	82	41	28	184
27	16	21	28	50	88	95	263	229	81	41	28	70
28	32	22	26	48	84	99	279	213	79	38	28	49
29	31	21	27	44	---	95	291	196	78	37	27	43
30	24	21	71	42	---	94	301	181	82	36	27	40
31	22	---	41	40	---	89	---	175	---	36	26	---
TOTAL	549	668	902	1516	2453	2791	8323	7087	3419	1569	939	1030
MEAN	17.7	22.3	29.1	48.9	87.6	90.0	277	229	114	50.6	30.3	34.3
MAX	32	66	95	184	364	119	1550	308	163	76	35	184
MIN	14	16	18	34	34	67	76	175	78	36	26	19
AC-FT	1090	1320	1790	3010	4870	5540	16510	14060	6780	3110	1860	2040
CAL YR 1981	TOTAL	13286	MEAN 36.4	MAX 146	MIN 14	AC-FT 26350						
WTR YR 1982	TOTAL	31246	MEAN 85.6	MAX 1550	MIN 14	AC-FT 61980						

## 11203200 TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°06'02", long 118°52'07", in NE¼SW¼ sec.17, T.21 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 10 ft (3 m) downstream from highway bridge, 3.5 mi (5.6 km) southwest of Springville, and 4.1 mi (6.6 km) upstream from Success Dam.

DRAINAGE AREA.--247 mi<sup>2</sup> (640 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 680 ft (207 m), from topographic map. Prior to Mar. 20, 1968, at site 1.9 mi (3.1 km) upstream at different datum.

REMARKS.--Records good. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries. Diversion to Tule River diversion ditch starts 400 ft (122 m) upstream most of which is returned to the river 0.5 mi (0.8 km) downstream. Records since Mar. 20, 1968, include flow diverted to Tule River diversion ditch.

AVERAGE DISCHARGE.--25 years, 149 ft<sup>3</sup>/s (4.220 m<sup>3</sup>/s), 108,000 acre-ft/yr (133 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft<sup>3</sup>/s (1,400 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 17.18 ft (5.236 m) in gage well, 19.7 ft (6.00 m) from floodmarks, site and datum then in use, from rating curve extended above 7,400 ft<sup>3</sup>/s (210 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow many days in 1961 and Aug. 16, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in December 1955 reached a stage of 13.7 ft (4.18 m) previous site and datum, from floodmarks, discharge, 21,000 ft<sup>3</sup>/s (595 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft<sup>3</sup>/s (9.91 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)
Dec. 21	0415	408 11.6	Apr. 1	0600	1,490 42.2
Jan. 5	1245	2,010 56.9	Apr. 11	1615	*10,900 309
Feb. 16	1315	2,560 72.5	June 30	0330	433 12.3
Mar. 19	0245	1,220 34.6	Sep. 26	1415	784 22.2

Minimum daily, 8.2 ft<sup>3</sup>/s (0.232 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	36	46	257	148	209	974	747	323	190	39	26
2	8.2	33	46	218	141	351	641	739	317	161	38	25
3	9.0	32	47	144	139	361	524	740	306	148	38	24
4	13	30	46	146	137	269	494	714	296	141	40	23
5	14	30	49	1210	132	241	451	682	284	134	38	22
6	16	29	45	434	124	222	423	667	274	126	36	22
7	13	31	44	241	120	210	390	662	258	121	36	19
8	9.8	30	44	181	117	202	358	635	247	114	36	20
9	13	29	44	155	113	194	339	613	244	106	34	24
10	13	28	44	143	121	237	632	581	241	101	34	24
11	29	27	44	136	138	350	6380	549	241	98	33	23
12	41	27	44	127	119	444	2970	519	237	93	34	22
13	28	28	42	117	110	352	1680	487	229	86	33	22
14	24	67	42	115	162	490	1250	466	221	83	31	21
15	24	83	41	113	251	519	1050	446	212	79	30	22
16	24	49	41	111	1380	427	906	430	203	74	31	26
17	24	42	41	111	752	595	894	425	199	72	30	28
18	23	57	40	110	476	602	910	425	197	70	28	28
19	22	48	39	110	383	761	878	420	195	68	28	29
20	20	43	55	141	352	487	885	421	205	63	27	30
21	19	40	291	216	357	418	865	430	186	61	26	28
22	18	38	137	163	361	399	829	445	178	58	26	26
23	16	36	97	135	330	387	785	458	169	56	30	26
24	17	36	79	142	300	382	764	472	167	54	27	44
25	18	39	70	194	273	365	730	472	161	53	27	89
26	19	40	65	234	252	398	712	463	153	50	26	518
27	19	49	63	231	234	412	692	454	147	51	26	250
28	24	52	63	205	221	440	721	428	146	48	26	149
29	92	52	60	190	---	657	748	393	153	45	27	107
30	59	47	215	166	---	563	742	359	294	43	30	93
31	43	---	183	154	---	468	---	337	---	40	29	---
TOTAL	721.9	1208	2207	6350	7743	12412	30617	16079	6683	2687	974	1810
MEAN	23.3	40.3	71.2	205	277	400	1021	519	223	86.7	31.4	60.3
MAX	92	83	291	1210	1380	761	6380	747	323	190	40	518
MIN	8.2	27	39	110	110	194	339	337	146	40	26	19
AC-FT	1430	2400	4380	12600	15360	24620	60730	31890	13260	5330	1930	3590
CAL YR 1981 TOTAL	29479.2			MEAN 80.8	MAX 655	MIN 1.6	AC-FT 58470					
WTR YR 1982 TOTAL	89491.9			MEAN 245	MAX 6380	MIN 8.2	AC-FT 177500					

## TULARE LAKE BASIN

11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1969 to current year.

CHEMICAL ANALYSES: Water years 1964-66.

WATER TEMPERATURES: Water years 1966-67, 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to September 1967, October 1968 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1967, and since October 1968.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 35.5°C July 1, 1972; minimum recorded, 2.5°C Jan. 5-8, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 27.5°C Aug. 21-24; minimum recorded, 4.5°C Jan. 3.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	21.5	19.0	14.5	11.5	10.5	9.5	9.5	8.0	8.0	6.5	10.5	10.0
2	22.5	19.0	14.5	12.0	10.0	9.0	8.0	6.0	8.5	7.0	11.0	9.5
3	21.5	19.5	15.0	12.5	9.0	8.5	6.0	4.5	8.5	7.5	9.5	7.5
4	22.0	18.5	15.0	12.5	10.0	9.0	7.0	6.0	8.5	7.5	11.0	8.0
5	21.5	17.5	14.0	12.5	10.0	9.0	7.0	7.0	8.5	8.0	11.0	9.0
6	20.0	17.0	14.5	13.0	10.0	9.0	7.0	6.5	8.5	7.0	10.5	8.0
7	19.5	16.0	15.5	13.5	9.5	9.0	7.0	6.5	8.5	7.5	11.0	8.5
8	19.5	15.0	15.0	13.0	9.5	8.5	6.5	5.5	9.5	8.0	12.5	9.5
9	19.0	15.0	14.5	12.5	10.0	8.5	6.5	5.5	9.0	8.5	12.5	9.5
10	18.0	15.5	14.5	12.5	10.5	9.5	7.0	6.0	9.0	8.5	12.5	11.5
11	17.0	14.5	14.5	12.0	11.0	10.0	8.0	6.5	9.5	8.5	12.0	10.5
12	15.0	12.5	14.0	12.0	10.0	9.0	7.5	6.5	9.5	8.5	11.5	10.5
13	15.0	12.0	14.0	13.0	10.5	9.5	7.5	7.0	10.0	9.0	12.5	10.0
14	16.5	13.5	15.0	13.5	10.5	9.0	7.5	6.5	11.5	10.0	12.5	10.0
15	17.0	13.5	13.5	12.5	10.5	9.0	8.0	7.5	11.5	11.0	10.0	8.5
16	17.0	13.5	14.0	12.0	11.5	10.0	7.5	7.0	11.5	10.5	8.5	7.5
17	17.0	13.5	13.5	12.5	11.0	10.0	7.5	7.0	10.0	9.5	8.5	7.5
18	17.5	13.5	12.5	11.0	10.5	9.5	7.5	6.5	11.0	9.5	8.5	7.0
19	18.0	14.0	12.0	10.5	12.0	10.5	7.0	6.0	11.5	9.0	9.5	6.5
20	18.0	14.5	11.5	10.0	11.5	10.5	7.0	6.5	12.0	9.5	10.5	7.0
21	18.0	14.5	12.0	10.0	11.5	9.5	6.5	5.5	13.0	10.0	11.0	7.5
22	18.0	14.5	12.0	10.5	9.5	8.5	6.0	5.0	12.0	10.0	11.0	7.5
23	18.0	14.5	12.5	10.5	8.5	7.5	6.0	5.0	10.0	9.0	12.0	8.5
24	18.0	15.0	12.0	11.0	8.0	6.5	7.0	5.5	9.5	8.0	11.5	9.0
25	18.0	15.0	11.5	10.0	8.0	7.0	8.0	6.0	10.5	8.0	11.0	9.5
26	17.5	14.5	10.5	9.0	8.0	7.5	8.0	7.5	10.5	7.5	11.0	9.5
27	18.0	15.0	9.5	8.5	8.5	8.0	8.5	8.0	11.5	9.0	12.0	9.5
28	16.5	15.5	9.0	9.0	9.0	7.5	8.0	7.5	10.5	8.5	11.5	9.0
29	15.0	13.5	10.0	9.0	9.0	7.5	7.5	7.0	---	---	8.5	7.5
30	13.5	12.0	10.0	9.0	10.0	9.0	7.5	6.0	---	---	10.5	6.5
31	14.0	11.5	---	---	9.5	9.5	7.5	6.5	---	---	9.5	7.5
MONTH	22.5	11.5	15.5	8.5	12.0	6.5	9.5	4.5	13.0	6.5	12.5	6.5



11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	8.0	13.0	13.0	15.0	15.0	19.0	18.5	27.0	25.5	25.0	24.0
2	10.5	7.0	13.0	13.0	15.0	15.0	19.5	19.0	26.5	25.0	25.0	23.5
3	11.5	7.5	13.0	13.0	15.0	14.5	20.0	19.5	25.5	24.5	25.0	24.0
4	11.0	9.5	13.0	13.0	15.0	14.5	20.5	20.0	25.0	24.0	25.0	24.0
5	11.0	8.0	13.0	13.0	15.0	14.5	20.5	20.0	25.5	24.0	25.0	23.5
6	10.0	8.5	---	---	15.0	14.5	20.5	20.0	25.0	24.5	25.0	23.5
7	10.5	6.5	---	---	15.0	14.5	21.0	20.5	25.5	24.0	24.5	23.5
8	10.5	7.5	---	---	15.0	15.0	22.5	21.0	26.5	24.5	24.0	23.0
9	10.0	8.5	---	---	15.5	15.0	23.0	19.5	26.5	25.0	24.0	23.5
10	11.0	9.5	---	---	16.0	15.5	23.5	20.0	26.5	25.0	24.0	23.0
11	10.0	8.0	---	---	16.5	16.0	24.0	20.5	26.0	25.0	23.5	22.5
12	10.0	8.0	---	---	16.5	16.5	24.5	21.5	26.5	25.0	23.0	22.0
13	10.0	8.0	---	---	16.5	16.5	24.5	22.0	26.5	25.0	22.5	21.5
14	10.5	9.5	---	---	16.5	16.5	24.5	22.0	26.0	25.0	22.5	21.5
15	10.5	10.5	---	---	17.5	17.0	25.0	22.5	26.0	25.0	22.0	21.0
16	10.5	10.5	---	---	18.5	17.5	25.0	23.0	26.5	25.0	21.5	20.5
17	11.0	10.5	---	---	18.5	18.5	24.0	22.5	27.0	25.5	20.5	20.0
18	11.5	11.0	---	---	18.5	18.5	24.0	22.5	27.0	25.5	20.5	20.0
19	11.5	11.5	---	---	19.0	18.5	24.5	22.5	27.0	25.5	20.5	20.0
20	12.0	11.5	---	---	19.5	19.0	24.5	23.0	27.0	25.5	20.5	19.5
21	12.0	12.0	14.0	13.5	19.5	19.0	25.0	23.5	27.5	26.0	20.5	19.5
22	12.0	12.0	14.0	14.0	20.0	19.5	25.0	23.5	27.5	26.5	20.5	19.5
23	12.0	12.0	14.5	14.5	20.0	20.0	25.0	23.5	27.5	26.5	20.5	19.5
24	12.5	12.0	15.0	14.5	20.5	20.0	25.5	24.0	27.5	26.5	20.0	20.0
25	12.5	12.5	15.5	15.0	20.0	20.0	25.5	24.0	27.0	25.5	20.0	19.5
26	12.5	12.5	15.5	15.5	20.0	20.0	25.5	24.5	26.5	25.5	19.5	18.0
27	12.5	12.5	16.0	15.5	20.5	20.0	26.0	24.5	26.5	25.0	18.0	17.0
28	12.5	12.5	15.5	15.0	20.5	20.5	26.0	25.0	26.0	25.0	17.0	16.5
29	13.0	12.5	15.5	15.0	20.5	20.0	26.5	25.0	26.0	25.0	17.0	16.5
30	13.0	12.5	15.5	14.5	20.0	19.0	27.0	25.5	25.5	24.0	16.5	15.5
31	---	---	15.0	14.5	---	---	27.0	25.5	25.0	24.0	---	---
MONTH	13.0	6.5	---	---	20.5	14.5	27.0	18.5	27.5	24.0	25.0	15.5

11204500 SOUTH FORK TULE RIVER NEAR SUCCESS, CA

LOCATION.--Lat 36°02'33", long 118°51'24", in NW¼SW¼ sec.4, T.22 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.5 mi (0.8 km) upstream from Crew Creek, 4 mi (6 km) southeast of Success, and 5 mi (8 km) upstream from mouth.

DRAINAGE AREA.--109 mi<sup>2</sup> (282 km<sup>2</sup>).

PERIOD OF RECORD.--June 1930 to December 1954, January 1956 to current year. Monthly and yearly discharge only for some periods, published in WSP 1735.

REVISED RECORDS.--WSP 1315-A: 1931-32(M). WSP 1445: 1952-53(P), drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 770 ft (235 m), from topographic map. Prior to June 26, 1951, at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Diversions for irrigation of about 640 acres (25.9 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--50 years, 42.5 ft<sup>3</sup>/s (1.204 m<sup>3</sup>/s), 30,790 acre-ft/yr (38.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft<sup>3</sup>/s (405 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 12.50 ft (3.810 m) in gage wall, 13.3 ft (4.05 m) from floodmarks, from rating curve extended above 4,300 ft<sup>3</sup>/s (122 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	1230	716 20.3	4.85 1.478	Mar. 19	0330	259 7.33	3.75 1.143
Feb. 16	1245	750 21.2	4.90 1.494	Apr. 1	0500	540 15.3	4.55 1.387
Mar. 2	2315	215 6.09	3.55 1.082	Apr. 11	1645	*4,020 114	7.90 2.408

Minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	9.1	10	88	44	64	333	193	80	49	11	4.5
2	1.4	7.7	10	62	41	131	261	190	79	43	10	4.3
3	1.9	6.0	11	39	41	124	236	189	78	38	9.9	4.2
4	2.6	4.8	12	39	41	89	221	186	74	37	9.9	4.2
5	3.2	4.5	13	333	38	78	194	174	72	35	10	4.1
6	2.7	4.6	12	132	34	72	179	168	72	33	9.8	3.7
7	2.1	4.7	10	73	32	68	162	165	71	31	10	3.7
8	1.9	4.3	10	53	30	64	149	163	69	30	9.3	3.9
9	2.0	4.0	10	45	29	63	141	159	68	29	8.5	4.6
10	2.5	3.7	10	41	38	75	256	154	64	28	8.1	4.6
11	9.4	3.9	11	38	47	105	2030	142	61	26	8.4	4.4
12	13	4.3	11	34	37	119	1050	133	61	25	8.5	4.2
13	7.0	4.2	10	31	34	96	546	125	60	24	8.1	4.2
14	6.1	7.6	9.6	29	60	134	412	120	61	23	8.1	4.0
15	5.3	12	9.8	28	81	144	351	116	60	23	8.0	4.2
16	3.6	8.2	9.9	28	417	120	307	111	58	21	7.5	4.9
17	3.3	8.5	9.8	28	217	166	288	108	56	20	6.6	5.3
18	3.3	13	9.8	27	147	160	280	108	57	18	6.6	5.4
19	3.2	9.0	10	28	120	191	278	105	56	18	6.4	5.6
20	3.1	7.8	17	36	109	158	278	101	57	18	6.4	5.8
21	2.1	7.3	86	47	105	142	261	99	56	16	6.3	5.5
22	2.0	7.0	31	38	102	139	249	97	51	15	6.4	5.0
23	3.4	6.9	21	36	94	136	241	96	51	14	6.7	5.1
24	3.1	7.3	18	42	86	134	231	95	50	14	6.1	8.4
25	2.3	8.9	16	56	78	130	220	92	50	14	4.1	17
26	2.4	8.7	15	67	72	137	213	91	49	13	4.1	74
27	2.7	12	15	83	67	138	204	90	47	13	4.3	35
28	6.2	13	18	67	63	150	203	91	47	12	4.5	23
29	31	14	15	61	---	200	201	89	49	12	5.1	20
30	16	11	75	52	---	186	195	86	72	11	4.9	18
31	9.7	---	51	48	---	166	---	82	---	10	4.4	---
TOTAL	160.2	228.0	576.9	1809	2304	3879	10170	3918	1836	713	228.0	300.8
MEAN	5.17	7.60	18.6	58.4	82.3	125	339	126	61.2	23.0	7.35	10.0
MAX	31	14	86	333	417	200	2030	193	80	49	11	74
MIN	1.4	3.7	9.6	27	29	63	141	82	47	10	4.1	3.7
AC-FT	318	452	1140	3590	4570	7690	20170	7770	3640	1410	452	597

CAL YR 1981 TOTAL 7803.86 MEAN 21.4 MAX 227 MIN .05 AC-FT 15480  
WTR YR 1982 TOTAL 26122.90 MEAN 71.6 MAX 2030 MIN 1.4 AC-FT 51810

LOCATION.--Lat 36°03'34", long 118°55'22", in SW¼NW¼ sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit. 18030006, on left bank 0.1 mi (0.2 km) downstream from Success Dam, and 5.5 mi (8.8 km) east of Porterville.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 549.00 ft (167.335 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 1, 1961, at site 0.5 mi (0.8 km) downstream at different datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 29 ft<sup>3</sup>/s (0.82 m<sup>3</sup>/s) Apr. 15, 1961; no flow at times in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	.60	1.2	2.0	.60	0	1.7	4.8	9.7	4.7	9.1	13
2	10	.60	1.2	1.7	.60	0	2.5	7.5	9.1	5.2	9.7	15
3	7.1	.80	1.2	1.6	.60	0	2.5	11	12	4.4	8.7	15
4	7.1	3.4	1.2	1.6	.60	0	2.5	12	12	4.0	8.0	17
5	9.7	5.1	1.2	1.6	.60	0	2.5	13	9.7	5.5	8.0	16
6	12	2.5	1.2	1.6	.70	0	1.4	10	7.0	7.5	11	18
7	12	.90	1.3	1.5	.20	0	1.0	10	10	8.2	14	18
8	7.8	.80	1.4	1.4	0	0	1.0	11	10	13	13	19
9	4.2	.90	1.4	.80	0	0	1.4	9.0	8.9	16	13	19
10	4.2	1.1	1.4	.60	1.0	0	1.4	6.9	12	16	13	19
11	3.4	1.1	1.5	.50	1.2	0	1.4	5.7	13	11	12	19
12	4.5	1.1	1.5	.60	1.2	0	1.5	5.3	14	13	12	19
13	4.9	1.1	1.5	.40	.40	0	1.5	11	10	15	15	19
14	6.4	1.1	1.5	.20	0	0	1.5	14	9.6	15	15	18
15	5.0	1.1	1.6	.20	0	0	1.5	13	11	17	14	16
16	3.6	1.1	1.4	.20	0	0	1.5	9.7	11	19	14	12
17	3.6	1.2	1.4	.30	0	0	1.5	8.2	14	18	14	10
18	3.6	1.2	1.4	.20	.50	0	1.5	9.8	15	13	14	9.4
19	6.0	1.2	1.4	.20	.80	0	3.3	10	15	11	14	13
20	8.7	4.6	1.4	.20	.90	0	4.7	14	11	10	13	16
21	10	5.9	1.5	.30	.90	0	4.7	18	9.1	11	16	16
22	7.5	2.5	1.5	.20	.90	0	2.5	16	9.5	14	17	15
23	4.6	2.1	1.5	.20	.90	0	1.4	11	9.6	16	16	11
24	5.3	2.4	1.5	.20	2.0	0	1.5	11	13	16	13	5.0
25	5.8	2.4	1.5	.30	1.9	0	1.5	12	14	15	15	2.0
26	6.2	2.4	1.4	.30	1.6	1.6	1.0	11	14	12	18	2.0
27	6.5	2.4	1.6	.30	1.6	2.5	.10	14	11	11	18	1.1
28	5.4	1.7	1.5	.30	.50	2.5	.10	15	9.1	8.3	18	.70
29	2.1	1.2	1.5	.30	---	.90	2.2	14	9.4	10	18	1.4
30	.50	1.2	1.4	.30	---	0	3.3	10	5.5	13	18	1.8
31	.50	---	1.8	.50	---	0	---	10	---	10	15	---
TOTAL	191.20	55.70	44.0	20.60	20.20	7.50	56.10	337.9	328.2	362.8	426.5	378.40
MEAN	6.17	1.86	1.42	.66	.72	.24	1.87	10.9	10.9	11.7	13.8	12.6
MAX	13	5.9	1.8	2.0	2.0	2.5	4.7	18	15	19	18	19
MIN	.50	.60	1.2	.20	0	0	.10	4.8	5.5	4.0	8.0	.70
AC-FT	379	110	87	41	40	15	111	670	651	720	846	751
CAL YR 1981	TOTAL	2537.50	MEAN 6.95	MAX 20	MIN 0	AC-FT 5030						
WTR YR 1982	TOTAL	2229.10	MEAN 6.11	MAX 19	MIN 0	AC-FT 4420						

## TULARE LAKE BASIN

11204700 SUCCESS LAKE NEAR SUCCESS, CA

LOCATION.--Lat 36°03'40", long 118°55'18", in SE¼NW¼ sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030006, in control tower near right abutment of Success Dam on Tule River, 5 mi (8 km) east of Porterville.

DRAINAGE AREA.--391 mi<sup>2</sup> (1,013 km<sup>2</sup>).

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

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

REMARKS.--Lake is formed by earthfill dam and dike. Storage began November 1961. Usable capacity, 81,734 acre-ft (101 hm<sup>3</sup>) between elevations 559.0 ft (170.38 m), invert of outlet structure and 652.5 ft (198.88 m), spillway crest. Surcharge flood control storage, 120,413 acre-ft (148 hm<sup>3</sup>) between ungated spillway crest and elevation 686.8 ft (209.34 m), maximum spillway design flood pool. Dead storage, 557 acre-ft (0.69 hm<sup>3</sup>). Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 101,300 acre-ft (125 hm<sup>3</sup>) Dec. 7, 1966, elevation, 658.63 ft (200.750 m); minimum since reservoir first filled, 3,406 acre-ft (4.20 hm<sup>3</sup>) Oct. 17, 1972, elevation, 579.52 ft (176.638 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 92,769 acre-ft (114 hm<sup>3</sup>) May 23, elevation, 656.52 ft (200.107 m); minimum, 6,876 acre-ft (8.48 hm<sup>3</sup>) Oct. 10, 11, elevation, 587.87 ft (179.183 m).

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

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

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7288	7503	8961	13584	10345	26900	37847	81673	90360	81920	75124	45638
2	7215	7544	9060	13844	10261	27801	39056	82266	90226	81821	74486	44789
3	7166	7574	9161	13902	10245	28690	40034	83062	90199	81772	73831	43926
4	7126	7595	9272	13972	10287	29318	40966	84041	90226	81821	73203	43076
5	7086	7612	9379	16267	10434	29849	42038	84952	90252	81895	72447	42241
6	7042	7620	9561	16560	10608	30334	43146	86002	90279	81920	71567	41432
7	6990	7641	9665	16174	10774	30792	44193	87061	90279	81895	70739	40623
8	6942	7671	9770	15490	10964	31234	45133	88053	90279	81871	69878	39827
9	6907	7692	9871	14645	11172	31353	46060	89002	90226	81821	69027	39056
10	6876	7709	9968	13768	11451	31472	47603	89559	90199	81772	67892	38259
11	6876	7730	10075	12945	11762	31898	60403	89799	90119	81723	66672	37487
12	6935	7743	10173	12132	12016	32461	66611	89932	90038	81673	65433	36727
13	6982	7764	10266	11322	12244	32617	69430	90012	89959	81575	64194	35967
14	7014	7807	10360	10502	12606	33122	71523	90252	89852	81452	63016	35172
15	7054	7919	10455	10132	13215	33700	73069	90574	89719	81256	61878	34378
16	7094	7997	10550	9912	16267	33975	74011	90924	89214	80987	60740	33609
17	7130	8063	10651	9690	18175	34634	74804	91247	88553	80816	59604	32863
18	7170	8142	10737	9462	19367	35278	75559	91653	87844	80670	58468	32118
19	7198	8285	10834	9438	20303	36171	76344	92033	87322	80499	57460	31385
20	7223	8307	10953	9576	21141	36352	77160	92387	86957	80281	56539	30664
21	7239	8338	11671	9881	21974	36352	77889	92606	86543	80063	55579	29954
22	7227	8370	12004	9851	22810	36231	78528	92688	85950	79822	54652	29235
23	7198	8401	12238	9675	23576	35979	79005	92769	85259	79557	53721	28527
24	7170	8483	12344	9526	24257	35645	79340	92688	84572	79316	52789	27971
25	7146	8528	12403	9680	24867	35278	79581	92442	83864	79053	51888	27651
26	7122	8588	12451	10003	25420	34996	79846	92196	83312	78790	50969	28243
27	7110	8671	12492	10345	25923	34727	80136	91952	82813	78314	50049	28243
28	7114	8740	12546	10534	26394	34575	80499	91680	82340	77653	49144	28041
29	7292	8820	12606	10635	---	34972	80865	91382	82068	76949	48254	27791
30	7399	8885	12945	10593	---	35408	81207	91004	82167	76321	47378	27521
31	7461	---	13203	10471	---	35764	---	90681	---	75720	46501	---
MAX	7461	8885	13203	16560	26394	36352	81207	92769	90360	81920	75124	45638
MIN	6876	7503	8961	9438	10245	26900	37847	81673	82068	75720	46501	27521
a	589.32	592.54	600.49	595.72	617.21	625.93	652.06	655.75	652.45	649.75	634.03	618.36
b	+50	+1424	+4318	-2732	+15923	+9370	+45443	+9474	-8514	-6447	-29219	-18980
c	144	68	41	31	70	148	568	1294	1348	1713	1269	564

CAL YR 1981 b +1239  
WTR YR 1982 b +20110

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

## 11204900 TULE RIVER BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'23", long 118°55'22", in NW¼SW¼ sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft (300 m) downstream from Success Dam, and 5 mi (8 km) east of Porterville.

DRAINAGE AREA.--393 mi<sup>2</sup> (1,018 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1960, published as "at Worth Bridge, near Porterville."

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 536.00 ft (163.373 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to October 1960, at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by Success Lake beginning Nov. 23, 1961 (station 11204700). Discharge records during periods of high flow include flow over spillway that bypasses the gaging station. Pioneer ditch (station 11204680) diverts above station for irrigation.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--29 years, 188 ft<sup>3</sup>/s (5.324 m<sup>3</sup>/s), 136,200 acre-ft/yr (168 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft<sup>3</sup>/s (765 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 21.65 ft (6.599 m) site and datum then in use, from rating curve extended above 1,400 ft<sup>3</sup>/s (39.6 m<sup>3</sup>/s) on basis of studies of upstream peaks; no flow at times in 1954-57, 1959-61. Maximum discharge since construction of Success Dam in 1961, 9,050 ft<sup>3</sup>/s (256 m<sup>3</sup>/s) Dec. 6, 1966 (includes flow through spillway); no flow at times in 1962, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 26 ft (7.9 m) from floodmarks, site and datum then in use, discharge, 32,000 ft<sup>3</sup>/s (906 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 853 ft<sup>3</sup>/s (24.2 m<sup>3</sup>/s) Apr. 23, gage height, 6.75 ft (2.057 m); minimum daily, 0.40 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) Dec. 18, 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64	21	8.6	136	253	38	326	730	549	359	317	457
2	39	21	.50	148	217	38	336	656	435	239	323	455
3	27	20	.50	148	182	38	276	534	360	167	334	448
4	27	22	.50	150	153	39	253	378	313	125	332	436
5	27	22	.50	290	97	39	118	351	300	102	400	425
6	27	22	.50	457	73	39	41	284	300	127	458	414
7	27	22	.50	524	73	39	36	254	300	130	451	406
8	27	22	.50	583	59	35	26	254	300	122	447	404
9	27	22	.50	638	42	192	26	256	300	122	447	402
10	27	23	.50	642	31	250	26	399	300	122	594	399
11	27	22	.50	608	30	250	233	501	300	118	646	392
12	9.4	22	.50	589	28	286	579	501	302	116	645	383
13	.80	22	.50	581	31	370	759	501	303	116	640	377
14	.70	23	.50	570	32	397	633	388	308	116	612	394
15	.70	23	.50	333	32	398	627	317	314	158	601	400
16	.70	24	.70	252	33	428	754	317	500	177	601	398
17	.70	24	.50	252	35	486	757	317	566	132	598	391
18	.80	24	.40	250	35	500	757	319	608	116	599	380
19	.80	24	.50	156	35	572	758	314	487	138	528	377
20	.80	24	.50	120	36	597	757	322	436	152	498	368
21	.80	24	.50	121	36	597	760	368	435	152	498	358
22	18	24	.40	221	37	638	762	474	521	151	496	359
23	27	24	.40	258	37	682	805	513	554	150	492	357
24	27	24	40	256	37	722	853	601	551	150	489	334
25	27	24	56	169	37	719	853	669	550	150	474	297
26	22	24	56	147	38	719	837	658	457	150	467	283
27	22	24	56	148	38	719	792	652	429	267	467	283
28	22	24	56	182	38	719	770	642	404	361	463	265
29	22	24	56	196	---	725	782	627	316	373	463	238
30	22	24	96	240	---	575	796	613	363	336	461	229
31	22	---	107	256	---	507	---	588	---	317	460	---
TOTAL	593.20	689	542.50	9621	1805	12353	16088	14298	12161	5511	15301	11109
MEAN	19.1	23.0	17.5	310	64.5	398	536	461	405	178	494	370
MAX	64	24	107	642	253	725	853	730	608	373	646	457
MIN	.70	20	.40	120	28	35	26	254	300	102	317	229
AC-FT	1180	1370	1080	19080	3580	24500	31910	28360	24120	10930	30350	22030

CAL YR 1981 TOTAL 34847.10 MEAN 95.5 MAX 676 MIN .30 AC-FT 69120 MEAN a 111 AC-FT a 80360  
WTR YR 1982 TOTAL 100071.70 MEAN 274 MAX 853 MIN .40 AC-FT 198500 MEAN a 318 AC-FT a 230200

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

## 11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

## WATER-QUALITY RECORDS

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

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

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 34.0°C July 15, Sept. 9, 1977; minimum recorded, 3.0°C Jan. 3, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.5°C Sept. 18; minimum recorded, 5.0°C Jan. 25.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.0	22.0	18.5	16.0	15.5	12.0	10.0	9.5	8.0	6.5	9.0	8.0
2	24.0	22.0	18.5	16.0	15.0	9.5	10.0	9.5	8.5	7.0	9.5	8.0
3	23.5	21.5	19.0	15.0	11.0	9.0	10.0	8.5	8.5	7.0	10.0	8.0
4	23.5	21.5	18.0	15.5	13.0	10.0	9.5	8.5	8.5	7.0	10.0	8.0
5	23.0	21.0	17.0	15.5	13.0	10.0	9.5	8.5	8.5	6.0	9.5	8.0
6	23.0	20.5	17.5	15.0	14.5	10.0	9.0	8.0	8.5	7.0	10.0	8.5
7	22.0	20.0	18.0	15.5	13.5	10.5	8.5	8.0	8.0	7.0	10.0	8.0
8	22.0	20.0	18.5	15.5	12.5	9.0	8.5	8.0	8.5	7.0	10.0	7.5
9	22.0	20.0	17.5	15.5	13.0	8.0	8.5	8.0	8.5	6.5	10.0	8.0
10	21.5	20.0	17.5	15.0	13.0	9.5	8.0	7.5	8.0	7.0	10.5	8.0
11	21.0	19.5	17.5	15.0	14.0	11.5	8.0	7.0	9.0	7.5	11.0	8.5
12	24.5	15.5	17.0	15.0	14.5	9.0	8.0	7.0	9.0	7.5	10.0	8.5
13	22.0	13.5	16.5	15.5	15.5	10.5	8.0	7.5	9.0	7.0	10.0	9.5
14	23.0	11.5	17.0	15.5	15.5	9.5	8.5	7.5	9.5	7.5	10.0	9.0
15	22.5	11.5	17.5	14.0	15.5	9.0	8.0	7.5	9.0	7.5	10.5	9.0
16	23.5	11.5	17.5	14.5	16.0	12.0	8.0	7.5	9.0	7.5	11.0	9.0
17	23.0	12.0	16.5	14.5	16.0	10.5	8.0	7.5	9.0	7.5	11.0	9.0
18	23.5	12.5	16.5	14.5	14.5	9.5	8.0	7.5	9.5	7.0	10.5	8.5
19	24.0	13.5	16.5	14.5	18.0	11.5	8.0	7.5	9.5	7.5	10.0	9.5
20	23.5	14.0	16.0	14.5	14.5	11.5	7.5	7.5	9.5	8.0	10.0	8.5
21	23.5	14.0	16.0	14.5	14.0	10.5	8.0	7.0	9.5	8.0	10.0	8.0
22	19.5	15.0	16.0	14.0	14.0	9.0	7.5	6.5	8.5	8.0	10.0	8.5
23	19.5	14.5	16.0	14.0	12.5	7.0	8.0	6.5	9.5	8.0	10.0	8.5
24	19.5	16.0	15.0	14.0	11.0	6.0	7.5	6.0	9.5	7.5	10.5	8.0
25	20.5	14.5	15.5	13.5	11.0	10.0	8.0	5.0	9.5	7.5	10.0	8.0
26	19.5	15.0	14.5	13.5	10.5	9.5	8.0	7.0	9.5	7.5	10.5	8.5
27	19.5	15.5	13.5	13.0	10.5	9.5	7.5	7.0	9.5	8.0	11.0	9.5
28	19.0	15.5	13.5	13.0	10.5	9.5	8.0	7.0	9.5	8.0	11.0	8.0
29	19.5	16.5	14.0	12.5	10.5	9.5	8.0	7.0	---	---	11.0	10.0
30	20.0	16.5	13.5	12.0	10.0	9.5	8.0	7.0	---	---	11.0	9.5
31	18.5	16.0	---	---	10.0	10.0	8.5	7.0	---	---	11.0	8.5
MONTH	24.5	11.5	19.0	12.0	18.0	6.0	10.0	5.0	9.5	6.0	11.0	7.5

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	8.5	11.5	8.5	13.0	12.0	15.5	12.5	16.0	14.0	22.0	21.5
2	10.5	8.5	11.5	7.5	13.0	11.5	15.5	12.5	16.5	14.0	22.5	22.0
3	10.5	9.0	11.0	9.0	13.5	11.5	15.5	12.5	16.5	13.5	23.5	21.5
4	11.5	8.5	11.0	8.0	13.5	11.0	15.0	12.0	16.5	13.5	24.0	20.5
5	11.0	8.0	11.5	9.5	13.5	12.0	15.0	12.5	16.5	13.5	24.5	21.0
6	11.0	7.5	11.5	9.0	14.0	12.5	15.0	12.0	18.0	14.5	25.0	22.5
7	12.0	8.5	11.5	8.5	13.5	11.5	15.5	13.0	16.5	15.0	24.5	23.0
8	12.0	9.0	11.5	9.5	14.0	12.0	16.0	12.0	17.0	15.0	24.5	24.0
9	11.0	9.0	12.0	9.0	13.5	12.0	16.0	11.5	17.0	15.5	24.5	24.0
10	10.5	9.0	12.5	9.0	13.5	11.5	16.0	12.0	17.0	16.0	24.5	24.5
11	11.5	8.5	12.0	8.5	13.5	11.0	16.0	12.0	17.0	16.5	25.0	24.5
12	10.5	9.0	11.5	9.0	13.5	11.0	15.5	12.0	17.5	17.0	25.0	24.5
13	10.0	9.0	12.0	8.5	13.5	11.5	15.5	13.0	17.5	17.5	25.0	24.5
14	10.0	9.0	12.5	8.5	14.0	11.5	16.0	12.5	18.0	17.0	25.0	24.5
15	10.5	8.5	12.5	10.0	14.0	11.5	15.5	12.5	18.0	16.0	25.0	24.5
16	10.5	8.5	12.5	9.5	14.0	11.5	16.0	12.5	18.5	15.5	25.0	24.0
17	11.0	9.0	12.5	9.5	14.0	11.0	16.0	13.0	19.5	15.5	25.0	23.5
18	10.5	9.0	12.5	9.5	14.0	11.5	16.5	13.5	19.0	17.0	26.5	23.5
19	10.5	7.5	12.5	10.0	14.5	12.0	16.5	13.5	19.5	15.0	24.5	24.0
20	10.5	8.0	13.0	10.0	14.5	12.0	15.5	12.5	20.5	15.5	24.5	23.5
21	11.0	8.0	12.5	10.0	14.5	11.5	16.0	13.5	20.5	15.5	24.5	23.5
22	11.0	8.5	13.0	10.0	15.0	11.5	16.0	13.0	19.5	18.0	24.5	23.0
23	11.5	9.0	13.0	10.5	15.0	11.5	15.5	12.5	19.5	19.0	24.5	23.0
24	11.5	9.0	12.5	11.0	15.0	11.0	16.5	13.0	20.0	19.5	24.5	23.0
25	11.5	8.5	12.5	10.0	15.0	11.5	16.5	12.5	20.0	19.5	24.0	23.5
26	11.0	8.0	13.0	11.0	15.5	12.0	17.0	13.0	21.0	19.5	24.0	23.5
27	11.0	8.0	13.0	11.0	15.5	12.0	15.5	12.5	20.5	20.0	23.5	22.5
28	11.5	9.0	13.0	11.5	15.5	12.0	15.5	14.0	21.0	20.0	22.5	21.5
29	11.5	8.5	13.0	12.0	15.5	12.0	16.0	14.0	21.5	21.0	22.0	22.0
30	11.5	8.5	13.0	12.0	16.0	12.5	16.5	14.5	21.5	21.0	22.0	21.5
31	---	---	13.0	12.5	---	---	16.5	14.0	22.0	21.0	---	---
MONTH	12.0	7.5	13.0	7.5	16.0	11.0	17.0	11.5	22.0	13.5	26.5	20.5

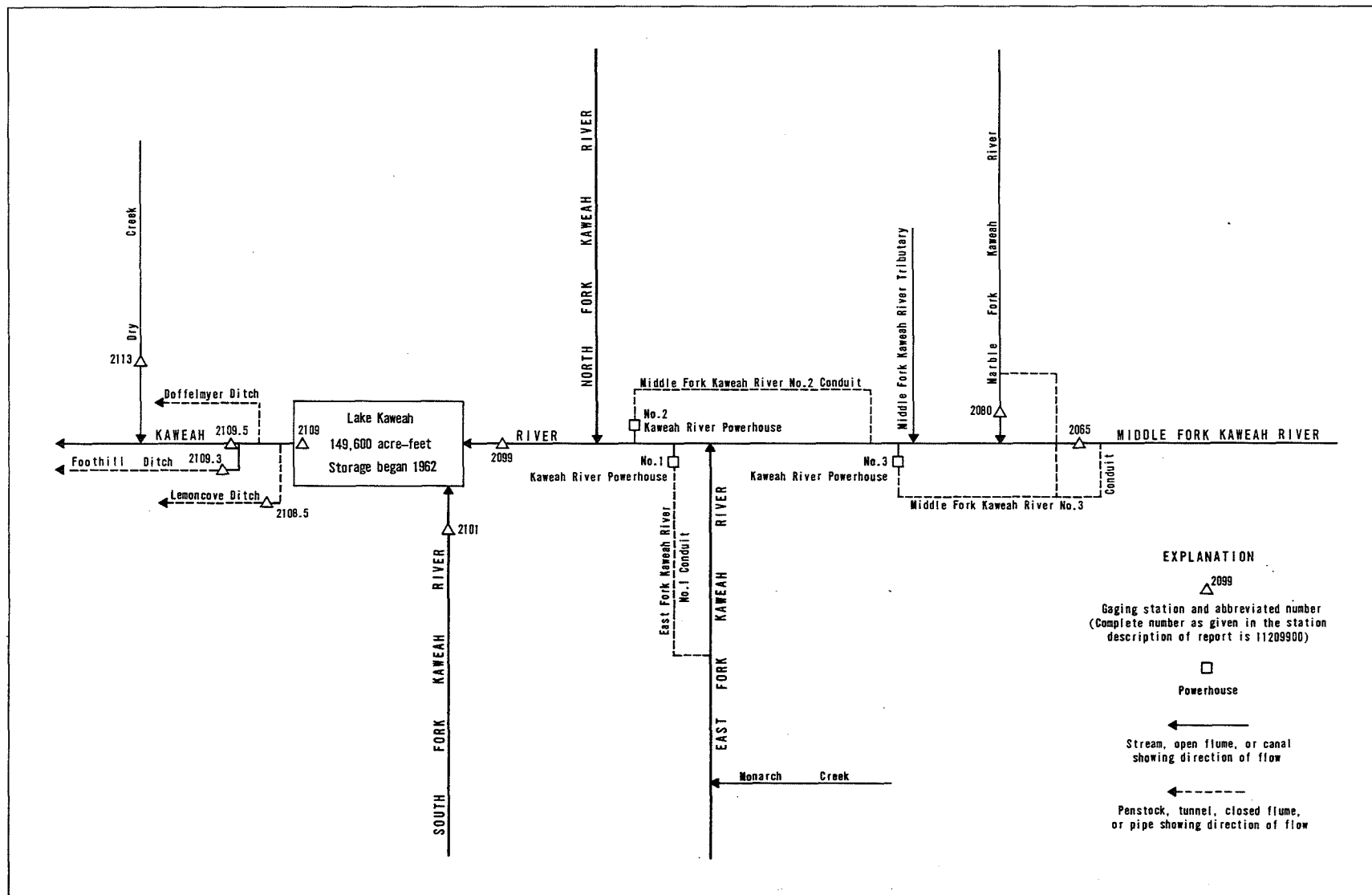


FIGURE 6. — Schematic diagram showing diversions and storage in Kaweah River basin.



## 11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA

LOCATION.--Lat 36°30'48", long 118°47'27", unsurveyed, T.16 S., R.29 E., Tulare County Hydrologic Unit 18030007, Sequoia National Park, on right bank 0.5 mi (0.8 km) southeast of Potwisha Camp, and 0.7 mi (1.1 km) upstream from confluence with Marble Fork Kaweah River.

DRAINAGE AREA.--102 mi<sup>2</sup> (264 km<sup>2</sup>).

PERIOD OF RECORD.--July 1949 to current year. Monthly discharge only for water years 1956-57, published in WSP 1735. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

GAGE.--Water-stage recorder and concrete control on river; water-stage recorder and concrete-lined channel for conduit diversion. Altitude of gage is 2,100 ft (640 m), from topographic map. Prior to October 1955, at datum 0.70 ft (0.213 m) higher.

REMARKS.--Records good. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River, 0.1 mi (0.2 km) upstream from station. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 conduit, and the combined flow passes through Kaweah River No. 3 powerhouse of Southern California Edison Co. Water is returned to Kaweah River 2.7 mi (4.3 km) downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 11 discharge measurements for river and gage-height record and 12 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 33 years, 138 ft<sup>3</sup>/s (3,908 m<sup>3</sup>/s), 99,980 acre-ft/yr (123 hm<sup>3</sup>/yr).  
Combined river and diversion: 33 years, 179 ft<sup>3</sup>/s (5,069 m<sup>3</sup>/s), 129,700 acre-ft/yr (160 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,800 ft<sup>3</sup>/s (1,330 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 29.0 ft (8.84 m) from floodmarks, datum then in use, by slope-area measurement of maximum flow; minimum daily, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Nov. 12-15, 1949.  
Combined flow, maximum discharge, 46,800 ft<sup>3</sup>/s (1,330 m<sup>3</sup>/s) Dec. 23, 1955; minimum daily, 7.7 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) Oct. 4, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 5,610 ft<sup>3</sup>/s (159 m<sup>3</sup>/s) Apr. 11, gage height, 11.61 ft (3.539 m); minimum daily, 8.7 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Oct. 30.  
Combined flow, maximum discharge, 5,630 ft<sup>3</sup>/s (159 m<sup>3</sup>/s) Apr. 11; minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	11	116	40	123	236	734	612	306	200	21
2	12	15	14	54	40	185	198	747	590	312	160	16
3	12	15	14	43	40	141	193	769	566	355	134	11
4	12	14	12	104	39	127	189	736	557	365	122	11
5	12	13	11	535	35	118	175	759	518	354	110	11
6	12	13	10	157	33	111	170	766	464	384	102	10
7	11	12	10	91	32	107	153	774	451	397	111	9.8
8	11	12	10	76	31	105	143	732	485	367	114	9.6
9	12	12	10	61	28	104	137	636	563	379	101	9.5
10	12	12	10	55	27	240	541	534	600	421	92	10
11	15	11	10	50	25	310	3650	450	645	446	82	9.9
12	13	11	9.9	47	23	237	1650	388	629	465	75	10
13	12	27	10	43	24	202	996	379	560	444	73	10
14	11	355	9.9	41	80	234	776	415	519	452	71	11
15	12	142	10	39	147	217	665	397	618	451	64	10
16	12	87	10	40	771	189	600	471	648	395	57	9.4
17	12	99	9.9	40	355	185	576	575	619	331	54	9.9
18	12	67	9.8	37	230	177	575	619	627	294	47	9.9
19	12	40	10	35	190	165	605	630	640	294	49	10
20	12	27	161	35	189	155	612	675	592	290	49	9.9
21	11	18	165	37	200	153	595	729	548	297	56	9.5
22	11	15	77	35	198	151	588	773	565	318	66	12
23	12	14	51	38	181	153	575	820	556	307	64	15
24	12	14	39	59	165	153	552	910	542	282	69	422
25	12	12	34	80	150	149	561	923	489	258	55	1040
26	11	10	29	80	138	176	563	962	547	256	51	1960
27	11	11	24	67	129	163	580	906	580	252	44	503
28	13	11	17	60	124	180	651	790	520	237	61	245
29	14	11	22	53	---	170	697	685	482	258	50	162
30	8.7	11	107	45	---	175	710	611	418	236	38	131
31	13	---	50	41	---	179	---	627	---	223	28	---
TOTAL	369.7	1127	977.5	2294	3664	5234	18912	20922	16750	10426	2449	4718.4
MEAN	11.9	37.6	31.5	74.0	131	169	630	675	558	336	79.0	157
MAX	15	355	165	535	771	310	3650	962	648	465	200	1960
MIN	8.7	10	9.8	35	23	104	137	379	418	223	28	9.4
AC-FT	733	2240	1940	4550	7270	10380	37510	41500	33220	20680	4860	9360

CAL YR 1981 TOTAL 27704.1 MEAN 75.9 MAX 577 MIN 8.7 AC-FT 54960  
WTR YR 1982 TOTAL 87843.6 MEAN 241 MAX 3650 MIN 8.7 AC-FT 174200

## 11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MIDDLE FORK KAWEAH RIVER AND MIDDLE FORK KAWEAH RIVER NO. 3 CONDUIT NEAR POTWISHA CAMP, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	73	66	176	99	183	297	792	671	362	257	81
2	15	75	74	115	99	246	257	805	648	368	217	74
3	15	76	75	103	98	201	252	825	624	411	191	69
4	16	73	72	163	96	187	248	788	615	421	179	69
5	15	66	68	588	92	178	234	815	576	410	167	66
6	15	58	63	217	90	171	228	828	521	440	159	61
7	14	55	60	151	89	167	211	836	508	453	168	58
8	14	52	58	136	88	165	201	793	543	423	171	56
9	15	49	58	122	85	164	195	695	621	434	158	55
10	15	45	57	116	84	301	600	593	658	477	149	62
11	45	41	53	110	82	371	3670	509	702	502	138	61
12	34	40	49	107	81	297	1680	447	686	521	131	57
13	30	80	50	103	83	262	1050	438	617	500	127	52
14	27	419	50	101	141	295	802	474	576	509	124	51
15	32	205	47	99	209	277	676	456	676	508	118	48
16	31	150	46	100	821	249	660	531	705	452	113	46
17	35	162	44	100	411	245	635	635	676	388	112	45
18	37	130	43	97	289	236	625	680	684	351	107	45
19	36	102	49	95	249	224	657	691	697	351	109	48
20	34	89	215	95	248	214	665	736	649	347	108	44
21	31	79	226	99	260	212	649	790	605	355	115	40
22	29	73	138	98	259	210	644	834	622	376	124	35
23	28	70	112	101	242	212	631	881	613	365	123	32
24	28	69	99	122	226	212	610	969	599	340	127	464
25	27	67	94	141	211	208	619	979	546	316	113	1090
26	24	58	89	141	198	235	621	1020	604	314	109	1990
27	23	62	84	128	190	223	637	967	637	308	102	544
28	45	66	76	120	184	240	709	850	576	295	120	306
29	72	64	81	113	---	230	755	744	538	315	109	220
30	61	63	167	105	---	234	768	670	474	293	98	176
31	67	---	110	100	---	238	---	686	---	280	89	---
TOTAL	925	2711	2573	4162	5304	7087	20486	22757	18467	12185	4232	6045
MEAN	29.8	90.4	83.0	134	189	229	683	734	616	393	137	202
MAX	72	419	226	588	821	371	3670	1020	705	521	257	1990
MIN	14	40	43	95	81	164	195	438	474	280	89	32
AC-FT	1830	5380	5100	8260	10520	14060	40630	45140	36630	24170	8390	11990

CAL YR 1981 TOTAL 41805 MEAN 115 MAX 632 MIN 14 AC-FT 82920  
WTR YR 1982 TOTAL 106934 MEAN 293 MAX 3670 MIN 14 AC-FT 212100

## 11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA

LOCATION.--Lat 36°31'08", long 118°48'03", in NE¼SW¼ sec.23, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank 0.1 mi (0.2 km) north of Potwisha Camp, 0.3 mi (0.5 km) upstream from confluence with Middle Fork Kaweah River, and 7.9 mi (12.7 km) northeast of Three Rivers.

DRAINAGE AREA.--51.4 mi<sup>2</sup> (133.1 km<sup>2</sup>).

PERIOD OF RECORD.--March 1950 to current year. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

GAGE.--Water-stage recorder on river; water-stage recorder and concrete control for conduit diversion. Altitude of gage is 2,150 ft (655 m), from topographic map.

REMARKS.--Records good. Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mi (0.5 km) above station. Water is returned to Kaweah River 2.7 mi (4.3 km) downstream from confluence of Marble and Middle Forks. See schematic diagram of Kaweah River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 13 discharge measurements for river and gage-height record and 12 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 32 years, 77.4 ft<sup>3</sup>/s (2.192 m<sup>3</sup>/s), 56,080 acre-ft/yr (69.1 hm<sup>3</sup>/yr).  
Combined river and diversion: 32 years, 102 ft<sup>3</sup>/s (2.889 m<sup>3</sup>/s), 73,900 acre-ft/yr (91.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 12,500 ft<sup>3</sup>/s (354 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 13.4 ft (4.08 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow Sept. 5-15, Oct. 24-28, 1953, Oct. 26-31, 1957.  
Combined flow, maximum discharge, 12,500 ft<sup>3</sup>/s (354 m<sup>3</sup>/s) Dec. 23, 1955; minimum daily, 0.82 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Oct. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 3,140 ft<sup>3</sup>/s (88.9 m<sup>3</sup>/s) Apr. 11, gage height, 9.37 ft (2.856 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Nov. 22, 23.  
Combined flow, maximum discharge, 3,180 ft<sup>3</sup>/s (90.1 m<sup>3</sup>/s) Apr. 11; minimum daily, 4.5 ft<sup>3</sup>/s (0.127 m<sup>3</sup>/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	14	1.3	34	8.2	58	71	566	414	151	81	2.9
2	1.9	15	1.4	11	8.2	75	67	561	398	169	59	1.4
3	1.8	11	1.9	5.4	9.0	58	66	566	387	208	45	1.4
4	1.8	7.1	1.8	8.2	9.4	54	66	537	378	206	40	1.5
5	1.8	3.0	1.4	196	6.7	50	62	563	341	191	34	1.5
6	1.8	1.6	1.4	55	6.4	47	59	561	309	209	30	1.5
7	1.8	1.6	1.4	28	6.8	47	55	573	308	213	34	1.5
8	1.8	1.6	1.5	16	6.7	46	57	552	325	196	42	2.1
9	1.8	1.6	1.6	14	5.4	46	56	474	376	201	32	4.4
10	1.9	1.6	1.6	12	4.8	120	195	384	394	217	25	3.2
11	2.6	1.6	1.7	11	4.5	151	2180	327	423	225	19	2.9
12	1.6	1.7	1.7	8.6	4.2	110	1100	282	409	228	17	1.6
13	1.6	8.1	1.7	7.1	4.2	98	621	270	354	210	17	1.7
14	2.1	150	1.8	6.4	29	98	492	302	328	224	17	1.6
15	2.9	45	1.8	6.4	59	88	426	282	398	215	16	4.5
16	2.0	25	1.9	7.0	378	77	380	341	400	182	15	4.6
17	2.1	33	1.9	7.5	170	75	355	428	402	149	15	1.3
18	4.3	20	1.8	7.5	107	71	360	462	427	133	13	1.9
19	4.1	6.0	1.9	6.4	92	71	407	456	414	140	9.1	4.7
20	2.4	1.9	56	6.4	96	65	426	499	375	136	6.3	1.6
21	2.4	1.2	58	5.7	104	62	415	539	334	139	6.0	1.3
22	2.3	1.1	24	8.2	107	60	406	567	367	150	7.2	1.3
23	2.5	1.1	14	8.3	97	62	398	599	350	136	22	1.3
24	2.8	1.2	8.6	12	88	63	387	619	320	122	39	319
25	3.1	1.3	7.8	13	81	60	402	605	275	116	8.7	1020
26	3.4	1.3	6.0	13	71	64	404	618	323	115	5.4	1180
27	3.7	1.3	1.9	13	65	63	402	603	332	136	5.1	145
28	14	1.3	1.3	13	62	70	486	542	285	120	5.7	69
29	16	1.3	1.4	11	---	65	528	469	250	117	5.3	43
30	7.1	1.3	29	8.6	---	64	537	407	201	119	5.1	37
31	7.6	---	14	8.5	---	64	---	432	---	92	4.9	---
TOTAL	108.9	362.8	253.5	568.2	1690.5	2202	11866	14986	10597	5165	680.8	2864.7
MEAN	3.51	12.1	8.18	18.3	60.4	71.0	396	483	353	167	22.0	95.5
MAX	16	150	58	196	378	151	2180	619	427	228	81	1180
MIN	1.6	1.1	1.3	5.4	4.2	46	55	270	201	92	4.9	1.3
AC-FT	216	720	503	1130	3350	4370	23540	29720	21020	10240	1350	5680

CAL YR 1981 TOTAL 15270.1 MEAN 41.8 MAX 340 MIN 1.1 AC-FT 30290  
WTR YR 1982 TOTAL 51345.4 MEAN 141 MAX 2180 MIN 1.1 AC-FT 101800

## 11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF MARBLE FORK KAWEAH RIVER AND MARBLE FORK KAWEAH RIVER NO. 3 CONDUIT AT POTWISHA CAMP, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CURIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	33	23	70	38	90	102	597	448	185	114	24
2	4.8	35	26	49	38	107	98	593	432	204	93	22
3	4.7	34	28	41	39	90	97	600	421	245	80	20
4	4.8	32	28	44	39	86	97	572	412	243	75	21
5	4.5	28	26	230	38	82	93	599	374	228	69	20
6	5.1	24	25	90	37	79	91	597	342	246	65	18
7	5.4	24	25	62	38	78	88	608	341	249	70	17
8	5.4	21	26	50	38	77	91	586	358	232	77	16
9	5.4	20	26	48	35	79	91	506	410	237	67	16
10	5.7	19	25	46	35	155	230	416	428	253	60	17
11	12	18	23	45	35	185	2220	359	457	261	55	18
12	13	17	22	43	34	141	1140	315	443	265	51	16
13	9.8	28	22	40	34	129	648	303	388	246	50	15
14	8.2	180	22	39	60	129	511	335	362	260	49	15
15	8.8	76	21	39	93	118	439	315	432	251	45	12
16	8.7	55	21	40	415	108	398	375	434	217	44	14
17	8.8	60	21	41	205	106	384	461	437	184	43	15
18	11	47	21	41	140	102	391	495	462	168	41	16
19	13	35	23	38	125	102	439	489	449	175	40	19
20	12	30	84	38	129	97	456	531	410	171	40	18
21	12	28	91	37	137	94	447	571	368	173	40	16
22	12	26	56	39	140	92	439	599	402	183	43	15
23	12	26	46	39	130	94	430	630	385	171	61	14
24	12	26	40	43	120	95	418	650	355	156	79	339
25	13	24	39	43	113	92	433	637	309	150	47	1050
26	12	22	37	42	103	96	435	652	357	149	38	1210
27	12	22	34	43	97	95	433	638	366	170	34	179
28	25	23	32	43	94	102	517	576	319	154	38	108
29	31	24	33	41	---	96	559	503	284	151	35	82
30	23	22	65	39	---	95	568	441	235	153	31	78
31	25	---	50	39	---	95	---	466	---	125	26	---
TOTAL	345.1	1059	1061	1582	2579	3186	12783	16015	11620	6255	1700	3440
MEAN	11.1	35.3	34.2	51.0	92.1	103	426	517	387	202	54.8	115
MAX	31	180	91	230	415	185	2220	652	462	265	114	1210
MIN	4.5	17	21	37	34	77	88	303	235	125	26	12
AC-FT	685	2100	2100	3140	5120	6320	25360	31770	23050	12410	3370	6820
CAL YR 1981	TOTAL	22709.7	MEAN	62.2	MAX	379	MIN	2.7	AC-FT	45040		
WTR YR 1982	TOTAL	61625.1	MEAN	169	MAX	2220	MIN	4.5	AC-FT	122200		

## 11209900 KAWEAH RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°26'38", long 118°54'09", in SW¼SW¼ sec.13, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank opposite schoolhouse in Three Rivers, 0.2 mi (0.3 km) downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 mi<sup>2</sup> (1,083 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 809.62 ft (246.772 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions to 200 acres (80.9 hm<sup>2</sup>) above station. Power is developed on the Middle and East Fork Kaweah River.

AVERAGE DISCHARGE.--24 years, 533 ft<sup>3</sup>/s (15.09 m<sup>3</sup>/s), 386,200 acre-ft/yr (476 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft<sup>3</sup>/s (2,070 m<sup>3</sup>/s) Dec. 5, 1966, gage height, 16.69 ft (5.087 m) in gage well, 19.0 ft (5.79 m) from floodmarks, from rating curve extended above 13,000 ft<sup>3</sup>/s (368 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 13.68 ft (4.170 m) and 16.69 ft (5.087 m); minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Sept. 29, Oct. 4, 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 17.9 ft (5.46 m) from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft<sup>3</sup>/s (51.0 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	1200	1,920 54.4	6.48 1.975	Apr. 11	1415	*23,700 671	12.42 3.786
Jan. 5	1100	4,230 120	7.70 2.347	May 8	0030	3,430 97.1	7.35 2.240
Feb. 16	1030	5,870 166	8.32 2.536	May 26	2230	3,520 99.7	7.39 2.252
Mar. 14	1700	1,950 55.2	6.50 1.981	June 12	0015	2,210 62.6	6.68 2.036
Apr. 1	0300	2,570 72.8	6.90 2.103	Sep. 26	1115	8,190 232	9.09 2.771

Minimum daily, 31 ft<sup>3</sup>/s (0.88 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	146	137	513	289	574	1660	2970	2030	1000	552	153
2	31	151	149	360	287	831	1170	2970	1960	976	467	142
3	33	147	160	262	286	700	1060	3000	1870	1090	403	135
4	35	137	156	427	286	606	1040	2840	1840	1110	374	131
5	36	130	152	2600	272	567	944	2900	1710	1060	348	128
6	36	112	144	841	261	538	915	2930	1550	1100	325	121
7	34	114	140	509	257	527	837	2990	1510	1130	334	117
8	34	106	137	402	251	508	780	2910	1550	1060	369	113
9	35	100	134	352	243	509	760	2540	1750	1050	323	109
10	36	92	133	328	236	898	1670	2130	1810	1120	297	115
11	86	89	127	305	233	1250	15400	1870	1940	1150	274	119
12	96	85	119	287	225	1080	7620	1650	1920	1170	260	116
13	73	97	117	272	221	902	4590	1570	1720	1130	250	112
14	63	825	117	263	382	1250	3470	1680	1560	1120	244	107
15	71	428	114	257	663	1140	2860	1590	1810	1120	230	105
16	71	268	112	257	3210	968	2500	1780	1880	1020	219	109
17	71	274	109	258	1550	1050	2410	2100	1800	895	213	110
18	73	297	106	254	1030	1080	2370	2260	1830	801	205	110
19	69	212	110	251	883	988	2500	2240	1850	793	204	123
20	77	177	274	294	875	900	2570	2380	1740	786	207	117
21	72	156	794	328	897	854	2510	2540	1570	777	207	107
22	63	145	376	281	911	825	2460	2680	1650	808	226	97
23	62	138	274	275	841	803	2390	2810	1560	792	230	92
24	61	134	230	320	766	796	2320	3020	1510	740	279	1050
25	61	140	214	425	709	751	2330	3030	1370	677	219	2750
26	59	127	202	459	657	862	2340	3110	1500	686	202	5970
27	57	135	189	421	615	811	2290	3010	1600	682	191	1380
28	111	148	178	377	598	901	2620	2680	1480	660	207	788
29	228	151	169	342	---	940	2830	2350	1330	636	201	587
30	149	140	500	314	---	917	2850	2060	1320	661	183	493
31	129	---	363	298	---	916	---	2110	---	589	166	---
TOTAL	2143	5401	6236	13132	17934	26242	82066	76700	50520	28389	8409	15706
MEAN	69.1	180	201	424	641	847	2736	2474	1684	916	271	524
MAX	228	825	794	2600	3210	1250	15400	3110	2030	1170	552	5970
MIN	31	85	106	251	221	508	760	1570	1320	589	166	92
AC-FT	4250	10710	12370	26050	35570	52050	162800	152100	100200	56310	16680	31150

CAL YR 1981 TOTAL 108420 MEAN 297 MAX 1580 MIN 27 AC-FT 215100  
WTR YR 1982 TOTAL 332878 MEAN 912 MAX 15400 MIN 31 AC-FT 660300

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1968 to current year.

CHEMICAL ANALYSES: Water years 1964-66, 1977.

WATER TEMPERATURES: Water years 1966, 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to December 1966, January 1968 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to December 1966, and since January 1968.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 30.0°C July 14, 15, 1972, July 15, 18, 1977; minimum recorded, 0.5°C Jan. 7, 1971, Dec. 12, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.5°C Aug. 20, 21, 23, 25; minimum recorded, 2.0°C Jan. 22.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	6.0	13.0	10.0	13.0	10.5	15.5	11.0	23.0	19.5	22.5	19.0
2	11.0	7.0	13.0	10.0	12.5	10.0	17.5	14.0	21.5	18.0	23.5	18.5
3	10.5	8.5	13.0	10.0	13.5	10.0	17.5	15.0	21.5	17.0	24.0	19.0
4	---	---	13.0	9.5	13.0	10.0	17.5	15.0	21.5	17.0	23.5	19.0
5	---	---	13.5	10.0	12.5	9.0	17.0	13.5	22.0	17.5	23.5	19.0
6	10.0	7.0	13.5	10.0	13.0	9.5	17.5	14.0	20.5	18.0	23.5	19.0
7	9.5	5.5	13.5	10.5	13.5	10.0	18.5	15.0	21.5	18.5	23.0	19.5
8	10.5	6.5	12.5	9.5	14.0	10.5	18.5	15.0	23.0	18.0	24.0	19.0
9	9.5	8.0	11.0	8.0	14.5	11.0	18.5	15.0	23.5	19.0	24.0	19.5
10	10.5	9.0	9.0	7.0	15.0	12.0	18.5	15.5	23.0	18.5	23.5	19.5
11	9.0	7.5	9.0	6.5	15.0	12.5	20.5	15.5	23.0	18.5	22.5	18.5
12	9.0	7.5	11.5	7.5	15.0	12.0	---	---	23.0	18.5	22.0	17.5
13	9.5	7.5	13.0	9.5	14.5	11.0	---	---	23.5	18.5	22.0	17.0
14	9.5	8.5	12.5	10.5	15.0	11.5	---	---	23.0	18.5	21.5	17.0
15	9.0	8.0	13.0	10.0	16.5	13.5	---	---	23.0	18.5	19.0	17.5
16	10.0	8.0	14.0	11.0	15.5	13.0	---	---	23.5	18.5	18.5	16.5
17	11.5	7.5	14.0	11.0	15.0	13.5	---	---	23.5	19.0	20.0	15.5
18	12.0	8.5	13.0	10.5	16.0	13.0	---	---	24.0	19.0	18.0	16.0
19	12.5	9.0	12.5	9.0	17.0	12.5	---	---	24.0	19.5	21.0	16.5
20	12.5	9.0	13.5	10.0	16.0	13.0	---	---	24.5	20.0	21.0	17.0
21	12.0	8.5	14.0	10.5	17.0	13.5	---	---	24.5	20.5	21.0	16.0
22	12.0	9.0	14.5	10.5	17.0	14.0	---	---	23.5	20.5	21.5	16.5
23	12.5	9.0	14.5	11.0	17.5	14.0	21.0	18.0	24.5	21.0	20.5	17.0
24	12.0	9.5	15.0	11.0	16.5	15.0	21.0	17.5	23.5	21.0	19.0	17.0
25	12.5	9.0	15.0	11.0	16.5	14.0	21.5	18.0	24.5	19.5	17.5	16.5
26	12.5	9.0	15.5	11.5	17.0	14.0	21.0	18.5	23.5	20.5	16.5	15.0
27	13.0	9.5	13.5	11.0	17.0	14.0	22.0	18.5	23.0	19.5	14.5	13.0
28	13.5	10.0	13.0	10.5	16.0	14.5	22.5	18.5	23.5	20.0	14.5	11.5
29	12.5	9.5	12.0	10.5	15.0	13.0	23.0	19.5	23.5	19.5	13.5	11.5
30	13.0	9.5	13.0	9.5	13.0	11.5	23.0	19.5	23.0	19.0	13.0	10.0
31	---	---	13.5	10.0	---	---	23.5	20.0	23.5	18.5	---	---
MONTH	13.5	5.5	15.5	6.5	17.5	9.0	---	---	24.5	17.0	24.0	10.0

## 11210100 SOUTH FORK KAWAHE RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°25'00", long 118°54'48", in SW¼SE¼ sec.26, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank 200 ft (61 m) upstream from unnamed tributary, 0.5 mi (0.8 km) upstream from mouth, and 1.8 mi (2.9 km) southwest of Three Rivers.

DRAINAGE AREA.--86.7 mi<sup>2</sup> (224.6 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 807.22 ft (246.041 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several small diversions above station for irrigation.

AVERAGE DISCHARGE.--24 years, 69.5 ft<sup>3</sup>/s (1.968 m<sup>3</sup>/s), 50,350 acre-ft/yr (62.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft<sup>3</sup>/s (329 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 9.30 ft (2.835 m) in gage well, 10.4 ft (3.17 m) from floodmarks, from rating curve extended above 2,600 ft<sup>3</sup>/s (73.6 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in 1960-62.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 23, 1955, reached a stage of 9.5 ft (2.90 m) from floodmarks, discharge, 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0245	522 14.8	3.66 1.116	May 25	2345	697 19.7	3.95 1.204
Apr. 1	0300	533 15.1	3.68 1.122	Sep. 26	1130	596 16.9	3.78 1.152
Apr. 11	1545	*3,320 94.0	5.78 1.762				

Minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	8.0	13	77	39	60	336	400	330	132	16	4.6
2	.92	7.9	13	56	38	113	214	392	319	117	14	4.3
3	1.2	8.7	13	39	37	95	183	374	300	112	13	3.9
4	1.4	9.4	13	85	36	75	175	346	302	104	13	3.7
5	1.4	9.0	14	362	34	67	154	357	278	98	12	3.6
6	1.1	8.4	13	124	33	62	143	383	253	93	12	3.3
7	1.0	8.1	13	68	32	59	129	409	254	90	12	3.2
8	1.1	7.8	13	52	31	57	117	401	263	84	14	3.2
9	1.1	7.1	12	45	30	55	111	349	284	80	12	3.1
10	1.2	6.8	13	41	30	71	281	275	284	75	10	3.5
11	2.9	6.7	12	39	31	111	1990	234	289	69	9.6	3.4
12	5.2	6.6	11	36	30	118	1250	204	281	65	8.8	3.4
13	3.5	6.8	11	34	29	94	746	208	266	60	8.2	3.4
14	3.2	28	11	32	50	214	546	243	235	56	8.0	3.5
15	3.4	32	11	31	83	180	465	235	253	54	7.6	4.0
16	3.4	19	11	30	272	134	398	293	255	49	7.3	4.7
17	3.2	19	11	30	178	167	363	339	231	44	6.7	4.7
18	3.3	26	10	29	130	174	345	363	225	39	6.5	5.6
19	3.4	18	10	28	106	148	349	341	232	37	5.7	6.5
20	3.4	15	27	38	95	127	353	371	224	35	5.4	5.7
21	3.4	14	108	46	96	119	346	396	221	32	4.8	4.6
22	3.4	12	48	37	97	117	332	418	205	30	4.8	4.2
23	3.2	11	34	34	91	114	318	445	197	28	5.3	3.7
24	3.1	11	28	43	85	112	317	481	186	27	5.9	32
25	3.2	12	26	59	78	108	312	501	156	25	6.2	101
26	3.1	12	24	67	71	130	318	517	160	24	7.0	416
27	3.2	13	22	67	66	125	326	494	159	28	5.7	123
28	4.9	16	21	57	62	138	358	415	148	24	5.4	77
29	15	16	21	50	---	157	382	377	143	22	5.6	57
30	12	14	66	45	---	155	391	333	176	18	5.3	46
31	8.5	---	48	41	---	148	---	341	---	17	4.9	---
TOTAL	109.22	389.3	701	1822	1990	3604	12048	11235	7109	1768	262.7	945.8
MEAN	3.52	13.0	22.6	58.8	71.1	116	402	362	237	57.0	8.47	31.5
MAX	15	32	108	362	272	214	1990	517	330	132	16	416
MIN	.90	6.6	10	28	29	55	111	204	143	17	4.8	3.1
AC-FT	217	772	1390	3610	3950	7150	23900	22280	14100	3510	521	1880

CAL YR 1981	TOTAL	13560.75	MEAN	37.2	MAX	266	MIN	.16	AC-FT	26900
WTR YR 1982	TOTAL	41984.02	MEAN	115	MAX	1990	MIN	.90	AC-FT	83280



## 11210850 LEMONCOVE DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'55", long 119°00'22", in SW¼SW¼ sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, on left bank 250 ft (76 m) downstream from outlet tunnel of Terminus Dam, and 2.4 mi (3.9 km) northeast of Lemoncove.

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

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 546.3 ft (166.51 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records excellent. Ditch receives water from Lake Kaweah (station 11210900) which is used for irrigation. At times up to 3 ft³/s (0.085 m³/s) is diverted 200 ft (61 m) upstream into Doffelmyer ditch for irrigation.

AVERAGE DISCHARGE.--20 years, 4.93 ft³/s (0.140 m³/s), 3,570 acre-ft/yr (4.40 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.8 ft³/s (0.25 m³/s) May 5, 1970; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.9	5.1	4.1	1.0	.90	1.2	1.2	4.9	6.5	6.6	7.9	8.0
2	6.9	5.0	2.3	1.0	.90	1.2	1.2	4.9	6.5	6.6	7.9	8.0
3	6.9	5.0	1.0	1.0	.90	1.1	1.2	4.9	6.5	6.7	7.9	8.0
4	6.9	5.0	1.0	1.0	.90	1.2	1.2	6.3	6.5	6.8	7.9	8.0
5	6.9	5.0	1.0	1.0	.90	1.0	1.2	7.0	6.5	6.8	7.9	8.0
6	6.9	5.0	1.0	1.0	.90	.90	1.3	7.1	6.5	6.8	7.9	8.0
7	6.8	5.0	1.0	1.0	.90	.90	1.3	7.0	6.5	6.8	7.9	8.0
8	6.7	5.0	1.1	.90	.90	.90	1.3	6.9	6.5	6.9	7.9	8.1
9	6.8	5.0	1.2	.90	.90	.90	1.2	6.9	6.5	6.8	7.9	8.2
10	6.9	5.0	1.1	.90	.90	.90	1.2	6.9	6.5	6.6	7.9	8.2
11	6.9	5.0	1.0	.90	1.0	.90	1.2	6.9	6.6	6.6	8.0	8.2
12	6.9	5.0	1.0	.90	1.0	.90	1.0	6.9	6.6	6.6	8.0	8.2
13	7.0	5.0	1.0	.90	1.1	.90	1.0	6.9	6.6	6.6	7.9	8.2
14	6.5	5.0	1.0	.90	1.1	.90	1.0	6.9	6.6	7.4	7.9	8.2
15	6.0	5.0	1.0	.90	1.1	.90	1.0	6.9	6.6	8.0	7.9	8.2
16	6.0	5.0	1.0	.90	1.1	.90	1.1	6.9	6.6	7.9	7.9	8.2
17	6.0	5.0	1.0	.90	1.0	.90	1.1	6.9	6.6	7.9	7.9	8.2
18	6.0	5.0	1.0	.90	.80	.80	1.1	6.5	6.6	7.9	7.9	8.2
19	6.0	5.0	1.0	.90	1.0	.70	1.1	6.5	6.6	7.9	7.8	8.2
20	6.0	5.0	1.0	.90	1.2	.70	1.1	6.5	6.6	7.9	7.7	8.2
21	6.0	5.0	1.0	.90	1.2	.70	3.2	6.5	6.6	7.9	7.6	8.2
22	6.0	5.0	1.0	.90	1.2	.70	3.2	6.5	6.6	7.9	7.6	8.1
23	5.4	5.1	1.0	.90	1.2	.70	3.1	6.5	6.6	7.9	7.6	8.0
24	5.0	5.2	1.0	.90	1.2	.70	3.1	6.5	6.6	7.9	7.6	7.4
25	5.0	5.2	1.0	.90	1.2	.70	3.1	6.5	6.6	7.9	7.6	7.1
26	5.0	5.2	1.0	.90	1.2	1.0	3.1	6.5	6.6	7.9	7.6	7.1
27	5.0	5.0	1.0	.90	1.2	1.2	3.1	6.5	6.6	7.9	7.7	7.1
28	5.0	5.0	1.0	.90	1.2	1.2	3.1	6.5	6.6	7.9	7.8	5.5
29	5.0	5.0	1.0	.90	---	1.2	4.2	6.5	6.6	7.9	7.8	4.3
30	5.0	4.5	1.0	.90	---	1.2	4.9	6.5	6.6	7.9	7.9	4.3
31	5.0	---	1.0	.90	---	1.2	---	6.5	---	7.9	7.9	---
TOTAL	189.3	150.3	35.8	28.60	29.00	29.20	57.1	202.1	197.0	229.0	242.6	229.6
MEAN	6.11	5.01	1.15	.92	1.04	.94	1.90	6.52	6.57	7.39	7.83	7.65
MAX	7.0	5.2	4.1	1.0	1.2	1.2	4.9	7.1	6.6	8.0	8.0	8.2
MIN	5.0	4.5	1.0	.90	.80	.70	1.0	4.9	6.5	6.6	7.6	4.3
AC-FT	375	298	71	57	58	58	113	401	391	454	481	455

CAL YR 1981 TOTAL 1790.60 MEAN 4.91 MAX 8.2 MIN .70 AC-FT 3550  
WTR YR 1982 TOTAL 1619.60 MEAN 4.44 MAX 8.2 MIN .70 AC-FT 3210

## 11210900 LAKE KAWEAH NEAR LEMONCOVE, CA

LOCATION.--Lat 36°24'53", long 119°00'07", in SE¼SW¼ sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 mi (3.4 km) northeast of Lemoncove.

DRAINAGE AREA.--560 mi<sup>2</sup> (1,450 km<sup>2</sup>).

PERIOD OF RECORD.--October 1961 to current year. Fragmentary prior to March 1962.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to May 22, 1962, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam and earthfill auxiliary dam, completed in February 1962. Usable capacity, 142,931 acre-ft (176 hm<sup>3</sup>) between elevations 520.0 ft (158.50 m) invert of outlet structure, and 694.0 ft (211.53 m) spillway crest. Dead storage, 33 acre-ft (40,700 m<sup>3</sup>). Spillway design flood pool elevation, 745.1 ft (227.11 m), capacity, 256,167 acre-ft (316 hm<sup>3</sup>). Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 160,200 acre-ft (198 hm<sup>3</sup>) July 3, 4, 1967, elevation, 699.39 ft (213.174 m) storage increased by a temporary sandbag dam in the ungated spillway; minimum since reservoir first filled, 7,378 acre-ft (9.10 hm<sup>3</sup>) Oct. 10, 1981, elevation, 571.68 ft (174.248 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 143,328 acre-ft (177 hm<sup>3</sup>) June 30, elevation, 694.19 ft (211.589 m); minimum, 7,378 acre-ft (9.10 hm<sup>3</sup>) Oct. 10, elevation, 571.68 ft (174.248 m).

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

520	33	580	10,112
525	170	600	19,970
530	436	620	35,541
535	832	640	57,212
540	1,347	660	84,644
550	2,703	680	117,289
560	4,509	700	154,644
570	6,903	720	196,552

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7669	9838	18617	13707	10116	24262	65402	133446	138141	142600	92275	23315
2	7630	10098	18851	11871	10094	22435	66839	133631	138179	142123	88635	22353
3	7595	10412	19111	10914	10053	21360	67806	133539	138405	142123	85020	21980
4	7562	10646	19367	11089	10009	20631	68753	132741	138744	142219	81553	21612
5	7533	10855	19620	15997	9936	20311	69420	132020	138895	142180	78185	21216
6	7503	11037	19851	16077	9838	20140	69953	131410	138669	142104	74888	20798
7	7477	11213	20070	14710	9729	19938	70200	130950	138461	142238	72246	20381
8	7442	11374	20279	13060	9668	19788	70241	130379	138480	142429	70104	19945
9	7410	11518	20470	11563	9629	19657	70159	129096	138990	142448	68495	19509
10	7378	11637	20676	10179	9576	20279	72232	127254	139576	141952	66692	19080
11	7430	11745	20863	9178	9523	22108	108669	125369	140467	141113	64059	18665
12	7568	11846	21026	8860	9449	22108	123156	123820	141399	140201	61048	18250
13	7621	11959	21183	8830	9361	22108	128329	122423	141513	139066	59227	17825
14	7672	13417	21374	8813	9565	22108	131171	121834	140847	137614	56365	17402
15	7729	14316	21566	8807	10401	22108	132575	121210	140866	135794	54970	16981
16	7810	14750	21759	8800	16280	31780	133111	120997	141380	133631	53534	16579
17	7886	15128	21946	8803	19245	34106	133353	121442	141837	131392	51792	16243
18	7963	15612	21235	8803	20747	36727	133501	122280	142238	129023	49945	15944
19	8034	15928	19595	8807	21900	39035	133892	123013	142734	126564	48092	15680
20	8111	16216	18191	8947	23049	40970	134413	124054	143079	124126	46344	15410
21	8202	16464	18280	9178	24241	42763	134748	125442	143155	121816	45301	10516
22	8272	16683	17578	9226	25393	44495	134934	127091	143251	119613	44666	14443
23	8338	16881	17289	9250	26314	46169	134953	129059	142926	117464	43782	13787
24	8399	17081	17368	9340	27079	47813	134879	131244	142696	115262	42274	14820
25	8457	17294	17510	9611	27707	49353	134711	133186	142276	112924	40312	18653
26	8508	17487	17624	9899	28201	51130	134226	135308	142734	110539	37754	30085
27	8560	17704	17704	10083	27953	52788	133260	136749	143309	108059	34911	32233
28	8678	17952	17762	10168	26575	54753	133001	137425	143213	105438	32330	32770
29	9092	18197	17837	10393	---	56487	133204	137839	143155	102433	29851	32172
30	9375	18415	17796	10190	---	59113	133279	137896	143328	99144	27541	30963
31	9597	---	15733	10138	---	61240	---	138065	---	95712	25333	---
MAX	9597	18415	21946	16077	28201	61240	134953	138065	143328	142600	92275	32770
MIN	7378	9838	15733	8800	9361	19657	65402	120997	138141	95712	25333	10516
a	578.58	597.45	592.64	580.07	609.46	643.21	688.86	691.42	694.19	667.13	607.82	614.87
b	+1895	+8818	-2682	-5595	+16437	+34665	+72039	+4786	+5263	-47616	-70379	+5630
c	127	89	49	22	55	127	457	956	1032	1415	923	331

CAL YR 1981 b +878  
WTR YR 1982 b +23261

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

## 11210930 FOOTHILL DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'48", long 119°00'47", in NW¼NE¼ sec.35, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.7 mi (1.1 km) downstream from Terminus Dam, and 2.1 mi (3.4 km) northeast of Lemoncove.

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

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 492.8 ft (150.21 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

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

AVERAGE DISCHARGE.--21 years, 17.7 ft<sup>3</sup>/s (0.501 m<sup>3</sup>/s), 12,820 acre-ft/yr (15.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) Apr. 7, 1979; no flow many days in 1975, 1978-82.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	0					0	16	17	16	15	15
2	13	0					0	16	16	16	15	15
3	13	0					0	16	16	15	15	14
4	13	0					0	17	16	15	15	14
5	13	0					0	17	16	15	15	14
6	13	0					0	17	16	15	15	15
7	13	0					0	17	16	15	15	14
8	13	0					0	17	16	15	15	14
9	13	6.2					0	16	16	15	14	14
10	13	9.5					0	17	16	16	15	15
11	13	9.6					0	18	16	16	15	15
12	13	9.6					0	18	16	16	15	15
13	13	9.6					0	17	16	16	15	15
14	13	9.2					0	15	16	16	14	15
15	12	9.1					0	12	16	16	14	15
16	12	3.1					0	13	16	16	15	15
17	12	0					0	13	16	16	15	14
18	12	0					0	13	16	15	15	14
19	12	0					4.9	13	16	15	15	14
20	12	0					7.8	13	16	15	15	14
21	12	0					8.0	13	16	15	14	15
22	12	0					8.2	13	16	15	14	15
23	12	0					8.4	13	16	15	15	15
24	12	0					8.9	14	16	15	15	15
25	11	0					9.2	17	16	15	15	16
26	11	0					9.4	17	16	15	16	15
27	11	0					8.9	17	16	15	16	8.9
28	5.9	0					8.9	17	16	15	16	4.0
29	.10	0					15	17	16	15	16	5.4
30	0	0					20	16	16	15	16	7.6
31	0	---					---	16	---	15	16	---
TOTAL	340.00	65.9	0	0	0	0	117.6	481	481	475	466	406.9
MEAN	11.0	2.20	0	0	0	0	3.92	15.5	16.0	15.3	15.0	13.6
MAX	13	9.6	0	0	0	0	20	18	17	16	16	16
MIN	0	0	0	0	0	0	0	12	16	15	14	4.0
AC-FT	674	131	0	0	0	0	233	954	954	942	924	807

CAL YR 1981 TOTAL 3088.00 MEAN 8.46 MAX 18 MIN 0 AC-FT 6130  
WTR YR 1982 TOTAL 2833.40 MEAN 7.76 MAX 20 MIN 0 AC-FT 5620

## TULARE LAKE BASIN

## 11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'51", long 119°00'42", in SE¼SE¼ sec.26, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi (1.0 km) downstream from Terminus Dam, and 2.2 mi (3.5 km) northeast of Lemoncove.

DRAINAGE AREA.--561 mi<sup>2</sup> (1,453 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-71-2: 1963.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 495.90 ft (151.150 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Flow regulated by Lake Kaweah (station 11210900). Lemoncove ditch (station 11210850) diverts water from Lake Kaweah for irrigation. Foothill ditch (station 11210930) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) above station for irrigation. At times some of this water is returned to the river above the station.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion).--21 years, 660 ft<sup>3</sup>/s (18.69 m<sup>3</sup>/s), 478,200 acre-ft/yr (590 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,610 ft<sup>3</sup>/s (159 m<sup>3</sup>/s) June 3, 1969, gage height, 8.77 ft (2.673 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,560 ft<sup>3</sup>/s (101 m<sup>3</sup>/s) May 4, gage height, 7.43 ft (2.265 m); minimum daily, 8.3 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) Mar. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	25	46	1690	370	1830	292	3160	2340	1560	2330	1210
2	27	24	45	1460	362	1930	748	3160	2240	1390	2340	678
3	27	24	43	888	371	1440	885	3300	2060	1240	2300	315
4	27	25	43	400	371	1110	850	3480	1980	1220	2200	306
5	26	27	43	437	371	869	855	3510	1980	1220	2130	316
6	27	26	43	1030	371	733	875	3510	1980	1270	2070	319
7	28	24	43	1360	368	734	915	3510	1920	1220	1750	318
8	27	24	45	1380	340	685	953	3510	1820	1090	1510	317
9	27	18	46	1250	319	661	977	3500	1770	1150	1220	318
10	27	15	46	1160	319	672	912	3300	1820	1480	1240	316
11	28	19	46	939	319	516	140	3050	1790	1690	1640	313
12	28	19	46	547	317	402	1280	2670	1760	1740	1840	312
13	28	17	46	353	317	401	2510	2490	2020	1820	1740	312
14	26	16	36	330	315	321	2520	2280	2170	1960	1250	311
15	22	17	23	317	317	272	2610	2180	2030	2130	982	308
16	18	61	22	311	214	250	2690	2180	1900	2200	989	306
17	16	94	22	305	304	168	2690	2180	1840	2110	1140	275
18	16	94	432	305	442	99	2690	2180	1860	2070	1200	256
19	16	79	984	306	434	66	2680	2180	1850	2110	1190	255
20	16	56	967	306	406	81	2690	2190	1830	2090	1150	254
21	15	46	959	321	409	91	2690	2190	1790	2020	787	296
22	13	46	860	333	447	87	2690	2200	1870	1990	561	383
23	13	46	520	333	477	83	2700	2200	1980	1950	701	424
24	14	46	243	334	481	97	2700	2270	1910	1930	1070	412
25	14	46	183	354	484	106	2710	2400	1760	1930	1270	488
26	14	47	183	395	487	106	2910	2410	1460	1960	1550	519
27	16	47	183	416	821	104	3100	2610	1500	2000	1710	467
28	21	47	183	418	1390	106	3040	2640	1740	2070	1580	613
29	28	47	184	403	---	78	3040	2500	1610	2190	1530	990
30	26	46	562	394	---	48	3100	2370	1400	2380	1420	1200
31	25	---	1520	394	---	70	---	2340	---	2380	1320	---
TOTAL	683	1168	8647	19169	11943	14216	59442	83650	55980	55560	45710	13107
MEAN	22.0	38.9	279	618	427	459	1981	2698	1866	1792	1475	437
MAX	28	94	1520	1690	1390	1930	3100	3510	2340	2380	2340	1210
MIN	13	15	22	305	214	48	140	2180	1400	1090	561	254
AC-FT	1350	2320	17150	38020	23690	28200	117900	165900	111000	110200	90670	26000
MEAN a	71.9	196	237	529	725	1025	3206	2814	1994	1064	368	558
AC-FT a	4420	11660	14570	32530	40260	63030	190800	173000	118700	65420	22630	33200
CAL YR 1981	TOTAL	121926	MEAN	334	MAX	1710	MIN 13	AC-FT	241800	MEAN a 356	AC-FT a	257700
WTR YR 1982	TOTAL	369275	MEAN	1012	MAX	3510	MIN 13	AC-FT	732500	MEAN a 1064	AC-FT a	770300

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

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

CHEMICAL ANALYSES: Water years 1962-75.

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.5°C Sept. 1, 2, 4, 1976; minimum recorded, 5.0°C Jan. 9, 10, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 27.5°C Sept. 8; minimum recorded 6.0°C Jan. 22-25, 27.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	8.0	11.0	10.5	14.0	13.5	16.0	15.5	19.5	19.0	26.5	25.5
2	9.5	8.5	11.5	10.5	14.0	13.5	16.0	15.5	19.5	19.0	27.0	25.5
3	9.0	8.5	11.5	11.0	14.5	13.5	16.0	15.5	20.0	19.5	27.0	25.5
4	9.5	8.5	11.5	11.0	14.5	13.5	16.0	15.5	20.5	19.5	27.0	25.0
5	9.5	8.5	12.0	11.5	14.5	13.0	16.0	15.5	21.0	20.0	27.0	26.0
6	10.0	8.5	12.0	11.5	14.5	13.5	16.5	15.5	20.5	20.0	27.0	26.0
7	9.5	9.0	12.5	12.0	14.5	13.0	16.5	16.0	21.5	20.5	27.0	26.0
8	9.5	8.0	12.5	12.0	14.5	14.0	16.5	16.0	21.0	20.5	27.5	26.0
9	9.5	8.0	12.5	12.5	14.5	12.5	16.5	16.0	22.0	20.5	27.0	26.0
10	9.5	9.0	13.0	12.5	14.5	14.0	16.5	16.0	21.5	21.0	27.0	25.0
11	13.0	9.5	12.5	12.5	14.5	13.5	16.5	16.0	22.0	21.0	27.0	26.0
12	13.0	9.0	12.5	11.5	14.5	12.0	16.5	16.0	22.0	21.5	27.0	26.0
13	9.5	7.5	12.5	12.5	14.5	14.5	16.5	16.5	22.5	22.0	27.0	25.5
14	10.0	7.0	12.5	12.0	14.5	14.5	17.0	16.5	22.5	22.0	26.5	25.5
15	9.5	9.0	13.0	12.5	15.0	14.5	---	---	22.5	22.0	25.5	24.5
16	9.5	9.0	13.0	12.5	15.0	14.5	---	---	23.5	22.0	25.0	24.0
17	11.0	8.5	13.0	13.0	14.5	14.5	---	---	23.5	22.5	25.0	23.5
18	10.0	8.0	13.0	13.0	15.0	14.5	---	---	23.0	22.5	24.5	23.5
19	10.0	8.5	13.5	13.0	15.0	14.5	---	---	24.0	23.0	24.5	23.0
20	9.5	7.0	13.5	13.0	15.0	14.0	---	---	24.0	23.0	24.0	23.0
21	9.5	9.5	13.5	13.0	15.0	15.0	---	---	24.0	23.0	25.0	23.0
22	9.5	9.5	13.5	13.0	15.5	15.0	---	---	24.0	23.0	24.0	23.0
23	10.0	9.5	13.5	13.0	15.5	15.0	18.0	17.5	25.0	23.5	23.5	23.0
24	10.0	9.5	13.5	13.5	15.5	15.0	18.5	17.5	24.5	24.0	23.5	22.5
25	10.0	10.0	13.5	13.5	15.5	15.0	18.5	18.0	24.5	24.0	23.0	21.0
26	10.0	10.0	14.0	13.5	15.5	15.0	18.5	18.0	24.5	24.5	21.0	18.0
27	10.5	10.0	14.0	13.5	16.0	15.0	18.5	18.0	25.0	24.5	18.0	17.0
28	10.5	10.0	14.0	13.5	16.0	15.5	18.5	18.0	25.0	25.0	18.0	17.0
29	10.5	10.5	14.0	13.5	16.0	15.5	18.5	18.5	25.0	25.0	17.5	17.0
30	11.0	10.5	14.0	13.5	16.0	15.5	19.0	18.5	26.0	25.0	17.5	16.5
31	---	---	14.0	13.5	---	---	19.0	18.5	25.5	25.0	---	---
MONTH	13.0	7.0	14.0	10.5	16.0	12.0	---	---	26.0	19.0	27.5	16.5

## 11211300 DRY CREEK NEAR LEMONCOVE, CA

LOCATION.--Lat 36°26'51", long 119°01'38", in NE¼SE¼ sec.15, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on right bank 0.5 mi (0.8 km) downstream from Bequette Canyon, 2.9 mi (4.7 km) upstream from mouth, and 4.4 mi (7.1 km) north of Lemoncove.

DRAINAGE AREA.--75.6 mi<sup>2</sup> (195.8 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 570 ft (174 m), from topographic map. Prior to Mar. 8, 1969, 1.6 mi (2.6 km) downstream at different datum.

REMARKS.--Records good. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--23 years, 21.9 ft<sup>3</sup>/s (0.620 m<sup>3</sup>/s), 15,870 acre-ft/yr (19.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft<sup>3</sup>/s (411 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 7.30 ft (2.225 m) in gage well, 8.94 ft (2.725 m) from floodmarks, site and datum then in use; no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 6,070 ft<sup>3</sup>/s (172 m<sup>3</sup>/s) from slope-area measurement. Flood of 1867 is believed to have exceeded that of December 1955, from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 30	1745	80 2.27	2.58 0.786	Mar. 14	2015	395 11.2	4.00 1.219
Jan. 5	0800	928 26.3	4.88 1.487	Apr. 1	Unknown	1,260 35.7	5.30 1.615
Jan. 21	0900	62 1.76	2.44 .744	Apr. 11	1345	*3,890 110	8.29 2.527
Feb. 16	1245	466 13.2	4.16 1.268	Sep. 26	1300	56 1.59	2.28 .695
Mar. 2	2100	76 2.15	2.55 .777				

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	1.5	28	18	16	633	64	23	17	1.4	.19
2		0	1.3	26	17	49	285	62	23	13	1.3	.21
3		0	1.2	16	16	51	224	60	23	12	1.2	.20
4		0	1.1	32	15	32	194	59	22	12	1.1	.20
5		0	1.2	577	14	26	164	57	21	11	1.1	.20
6		0	1.1	107	13	23	147	55	21	10	1.1	.20
7		0	1.1	47	12	21	130	53	20	9.6	1.2	.17
8		0	1.1	29	12	19	116	51	20	9.1	1.1	.17
9		0	1.0	21	11	18	107	50	19	8.7	1.1	.17
10		0	.94	17	11	26	160	50	18	8.2	1.1	.17
11		0	.92	14	10	59	1920	52	17	7.6	.97	.17
12		0	.92	12	9.4	84	696	50	17	7.1	.96	.17
13		0	.92	10	9.0	49	443	47	16	5.2	.90	.17
14		0	.92	9.2	12	159	317	45	16	3.9	.84	.17
15		0	.97	8.3	21	180	242	43	16	3.7	.81	.17
16		0	1.0	7.3	215	123	211	41	15	3.4	.74	.17
17		0	1.1	6.7	97	208	186	39	14	3.3	.64	.17
18		1.4	1.1	6.5	56	255	169	37	15	3.2	.56	.23
19		2.1	1.2	6.2	43	207	156	35	14	3.0	.48	.23
20		1.3	2.2	23	36	163	145	33	14	2.8	.40	.23
21		.84	13	54	32	141	129	32	13	2.5	.34	.30
22		.61	14	34	28	125	117	31	13	2.3	.28	.50
23		.57	7.9	23	26	107	110	30	12	2.3	.24	.50
24		.53	5.2	22	24	92	111	28	12	2.1	.22	1.5
25		.63	3.8	31	22	82	111	27	11	1.9	.20	4.9
26		1.1	3.1	42	19	96	101	26	10	1.9	.19	36
27		4.4	2.8	41	18	83	87	25	9.6	1.8	.18	18
28		11	2.5	34	17	97	79	27	9.1	1.7	.18	9.6
29		6.4	3.2	29	---	150	74	25	9.6	1.6	.19	7.1
30		2.3	34	23	---	152	69	24	21	1.6	.19	5.7
31		---	23	19	---	150	---	23	---	1.5	.19	---
TOTAL	0	33.18	135.29	1355.2	833.4	3043	7633	1281	484.3	175.0	21.40	87.86
MEAN	0	1.11	4.36	43.7	29.8	98.2	254	41.3	16.1	5.65	.69	2.93
MAX	0	11	34	577	215	255	1920	64	23	17	1.4	36
MIN	0	0	.92	6.2	9.0	16	69	23	9.1	1.5	.18	.17
AC-FT	0	66	268	2690	1650	6040	15140	2540	961	347	42	174
CAL YR 1981	TOTAL	2845.32	MEAN	7.80	MAX	178	MIN	0	AC-FT	5640		
WTR YR 1982	TOTAL	15082.63	MEAN	41.3	MAX	1920	MIN	0	AC-FT	29920		

11211790 COTTONWOOD CREEK NEAR ELDERWOOD, CA

LOCATION.--Lat 36°31'47", long 119°07'33", in SE¼SE¼ sec.15, T.16 S., R.26 E., Tulare County, Hydrologic Unit 18030012, on left bank 25 ft (8 m) upstream from State Highway 65 bridge, 4.0 mi (6.4 km) north of Elderwood, and 8.0 mi (12.9 km) north of Woodlake.

DRAINAGE AREA.--60.4 mi<sup>2</sup> (156.4 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 575 ft (175.3 m), from topographic map.

REMARKS.--Records fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--11 years, 12.3 ft<sup>3</sup>/s (0.348 m<sup>3</sup>/s), 8,910 acre-ft/yr (11.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,660 ft<sup>3</sup>/s (47.0 m<sup>3</sup>/s) Apr. 1, 1974, gage height, 5.56 ft (1.695 m), maximum gage height, 7.65 ft (2.332 m) Feb. 20, 1980 (backwater from debris); no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 24, 1969, reached a stage of 10.4 ft (3.17 m) from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0430	370 10.5	3.97 1.210	Mar. 30	Unknown	790 22.4	5.30 1.615
Feb. 16	1100	288 8.16	3.71 1.131	Apr. 11	1315	*1,320 37.4	6.61 2.015
Mar. 14	1815	510 14.4	4.41 1.344				

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	8.9	2.5	2.6	120	30	11	6.4	.19	0
2			0	11	2.3	9.5	85	28	11	4.9	.18	0
3			0	8.9	2.2	9.1	80	27	11	3.7	.15	0
4			0	9.8	2.1	3.8	72	25	10	3.6	.12	0
5			0	201	1.8	3.7	64	24	10	3.3	.09	0
6			0	39	1.4	3.6	64	24	10	3.3	.06	0
7			0	20	1.3	3.6	49	24	9.9	3.1	.02	0
8			0	11	1.5	3.2	44	22	9.5	2.9	0	0
9			0	8.1	1.5	2.9	39	22	8.8	2.8	0	0
10			0	6.8	1.7	3.5	46	22	8.5	2.1	0	0
11			0	6.1	2.0	10	578	22	7.9	1.8	0	0
12			0	5.1	1.8	20	251	21	7.7	1.7	0	0
13			0	4.1	2.0	6.2	159	20	7.4	1.5	0	0
14			0	3.7	3.1	115	123	18	7.3	1.8	0	0
15			0	3.6	3.9	79	103	18	7.1	2.2	0	0
16			0	3.4	93	120	93	18	6.4	2.5	0	0
17			0	3.4	33	141	84	17	6.0	2.1	0	1.3
18			0	3.3	15	70	78	17	6.2	1.9	0	2.0
19			2.5	3.4	8.2	48	74	16	5.9	1.5	0	2.1
20			4.8	13	4.6	39	70	16	5.4	1.2	0	2.3
21			7.4	30	3.8	34	64	15	5.4	.92	0	2.1
22			5.6	17	3.8	37	59	15	4.9	.59	0	1.9
23			3.8	5.6	3.8	36	55	14	4.4	.42	0	1.7
24			3.8	4.4	3.7	36	52	14	4.0	.32	0	2.7
25			3.8	4.4	3.6	33	49	13	4.2	.29	0	4.2
26			3.8	4.4	3.4	27	44	13	4.0	.29	0	8.0
27			3.8	5.1	3.1	60	38	12	3.6	.27	0	6.1
28			3.8	4.4	2.8	83	35	13	3.7	.25	0	4.6
29			4.0	3.8	---	52	34	12	4.4	.25	0	3.9
30			11	3.2	---	277	32	12	7.0	.23	0	3.6
31		---	8.9	2.9	---	227	---	12	---	.21	0	---
TOTAL	0	0	67.0	458.8	212.9	1595.7	2738	576	212.6	58.34	.81	46.5
MEAN	0	0	2.16	14.8	7.60	51.5	91.3	18.6	7.09	1.88	.026	1.55
MAX	0	0	11	201	93	277	578	30	11	6.4	.19	8.0
MIN	0	0	0	2.9	1.3	2.6	32	12	3.6	.21	0	0
AC-FT	0	0	133	910	422	3170	5430	1140	422	116	1.6	92
CAL YR 1981	TOTAL	2660.70	MEAN	7.29	MAX	294	MIN	0	AC-FT	5280		
WTR YR 1982	TOTAL	5966.65	MEAN	16.3	MAX	578	MIN	0	AC-FT	11830		



LOCATION.--Lat 36°37'36", long 119°14'48", in SW¼NW¼ sec.15, T.15 S., R.25 E., Tulare County, Hydrologic Unit 18030012, on right bank 3.8 mi (6.1 km) east of Orange Cove.

PERIOD OF RECORD.--October 1944 to September 1954, annual maximum, water years 1956, 1967, 1969, February 1971 to current year.

REMARKS.--Records fair. Flood control dam 2.9 mi (4.7 km) upstream was completed in October 1980. Capacity, 1,200 acre-feet (1.48 hm<sup>3</sup>) at maximum design release of 700 ft<sup>3</sup>/s (19.8 m<sup>3</sup>/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft<sup>3</sup>/s (29.7 m<sup>3</sup>/s) Feb. 10, 1978, gage height, 5.78 ft (1.762 m), in gage well, 6.38 ft (1.945 m) from floodmarks, from rating curve extended above 160 ft/s (4.53 m/s) on basis of slope-area measurement of peak flow; no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a stage of 8.35 ft (2.545 m) from floodmarks, discharge, 2,900 ft<sup>3</sup>/s (82.1 m<sup>3</sup>/s). Maximum discharge since 1944, 3,520 ft<sup>3</sup>/s (99.7 m<sup>3</sup>/s) Jan. 25, 1969, gage height, 8.75 ft (2.667 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 463 ft<sup>3</sup>/s (13.1 m<sup>3</sup>/s) Apr. 1, gage height, 4.86 ft (1.481 m); minimum, no flow for several months.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	5.0	2.6	3.4	271	7.9	1.7	1.8		0
2			0	5.6	2.6	7.9	63	7.7	1.7	.93		0
3			0	4.8	2.5	8.2	40	7.3	1.6	.69		0
4			0	8.0	2.5	5.0	32	7.0	1.5	.58		0
5			0	47	2.4	4.2	26	6.6	1.5	.42		0
6			0	12	2.3	3.7	23	6.2	1.5	.30		0
7			0	6.2	2.2	3.7	20	5.9	1.3	.21		0
8			0	4.5	2.3	3.5	18	5.8	1.2	.15		0
9			0	3.8	2.4	3.3	16	5.8	1.1	.11		0
10			0	3.5	2.4	4.6	21	6.0	.99	.09		0
11			0	3.1	2.5	7.4	205	5.8	1.0	.08		0
12			0	2.8	2.4	10	64	5.4	1.0	.07		0
13			0	2.5	2.5	5.9	39	5.0	.97	.07		0
14			0	2.3	2.6	43	31	5.0	.94	.07		0
15			0	2.3	2.8	42	26	4.9	.84	.07		0
16			0	2.1	40	21	23	4.5	.67	.06		0
17			0	2.1	15	41	20	4.1	.59	.06		0
18			0	2.1	5.5	63	18	3.9	.88	.05		0
19			0	2.1	4.9	49	17	3.7	.71	.05		0
20			0	4.4	4.3	28	15	3.5	.65	.05		0
21			.96	7.2	3.9	20	14	3.2	.61	.04		0
22			1.6	5.3	3.8	15	12	2.8	.49	.04		0
23			1.2	4.2	3.7	12	12	2.6	.43	.03		0
24			1.1	3.0	3.6	11	11	2.3	.42	.03		0
25			1.1	2.8	3.5	9.8	10	2.0	.55	.02		0
26			1.2	2.9	3.3	15	9.8	1.8	.51	.01		0
27			1.4	3.2	3.3	9.8	9.3	1.9	.39	0		.12
28			1.5	3.0	3.3	16	8.9	2.4	.37	0		.20
29			2.0	2.9	---	48	8.5	1.9	.91	0		.24
30			5.9	2.8	---	41	8.2	1.7	3.1	0		.31
31		---	4.5	2.7	---	27	---	1.7	---	0		---
TOTAL	0	0	22.46	166.2	135.1	582.4	1091.7	136.3	30.12	6.08	0	.87
MEAN	0	0	.72	5.36	4.83	18.8	36.4	4.40	1.00	.20	0	.029
MAX	0	0	5.9	47	40	63	271	7.9	3.1	1.8	0	.31
MIN	0	0	0	2.1	2.2	3.3	8.2	1.7	.37	0	0	0
AC-FT	0	0	45	330	268	1160	2170	270	60	12	0	1.7
CAL YR 1981	TOTAL	521.87	MEAN	1.43	MAX	28	MIN	0	AC-FT	1040		
WTR YR 1982	TOTAL	2171.23	MEAN	5.95	MAX	271	MIN	0	AC-FT	4310		

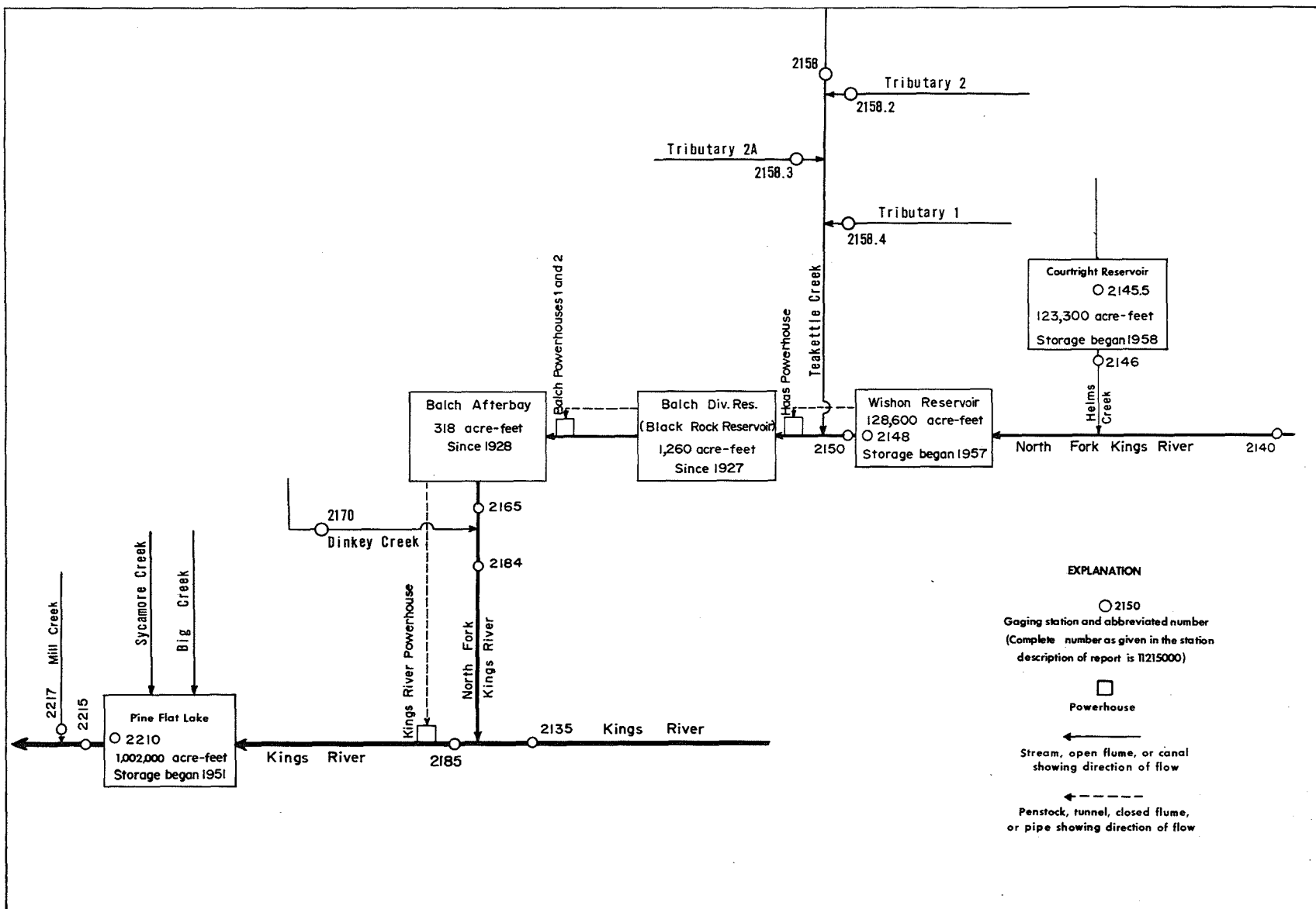


FIGURE 7.--Schematic diagram showing diversions and storage in Kings River basin.

## 11213500 KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER, CA

LOCATION.--Lat 36°51'48", long 119°07'24", in NW¼NE¼ sec.27, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, on right bank at Rogers Crossing, 0.9 mi (1.4 km) upstream from North Fork, 2.9 mi (4.7 km) south of Balch Camp, and 9.6 mi (15.4 km) southeast of Trimmer.

DRAINAGE AREA.--952 mi<sup>2</sup> (2,466 km<sup>2</sup>).

PERIOD OF RECORD.--October 1926 to December 1928, October 1931 to September 1982 (discontinued). Monthly figures only for some periods, published in WSP 1315-A. Prior to September 1965, published as Kings River above North Fork.

REVISED RECORDS.--WSP 1395: 1938(M), 1951(M).

GAGE.--Water-stage recorder. Datum of gage is 1,001.5 ft (305.26 m) National Geodetic Vertical Datum of 1929 (river-profile survey). March 1927 to December 1928, at site 0.5 mi (0.8 km) downstream at different datum. October 1931 to September 1965, on left bank at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records good. No diversion or regulation above station. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--53 years, 1,456 ft<sup>3</sup>/s (41.23 m<sup>3</sup>/s), 1,055,000 acre-ft/yr (1.30 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,100 ft<sup>3</sup>/s (1,670 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 18.26 ft (5.566 m) present datum, from rating curve extended above 19,000 ft<sup>3</sup>/s (538 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 70 ft<sup>3</sup>/s (1.98 m<sup>3</sup>/s) Jan. 14, 1963, Oct. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,300 ft<sup>3</sup>/s (178 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Apr. 11	1400	29,500 835	13.53 4.124	June 28	0300	8,680 246	8.15 2.484
May 7	2330	7,150 202	7.64 2.329	July 13	0330	7,000 198	7.59 2.313
May 26	2400	10,700 303	8.82 2.688	Sept. 26	0200	*31,100 881	13.83 4.215
June 20	0100	8,960 254	8.24 2.512				

Minimum daily, 136 ft<sup>3</sup>/s (3.85 m<sup>3</sup>/s) Oct. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	358	436	763	614	1070	1770	5880	6670	3930	3600	1130
2	153	369	442	672	598	1340	1650	5940	6500	3820	2960	1010
3	150	376	451	588	593	1180	1700	6080	6350	4410	2490	952
4	148	373	463	916	593	1100	1640	6050	6140	4560	2250	934
5	145	361	459	2510	578	1040	1570	6410	5650	4760	2120	887
6	145	343	444	1240	563	989	1480	6470	5200	4940	2000	829
7	143	337	437	1180	549	962	1400	6580	5200	5350	2050	784
8	140	321	430	1040	549	975	1310	6440	5630	5410	2340	748
9	136	306	431	931	535	948	1290	5680	6380	5270	2170	730
10	136	292	436	845	530	1630	2060	4690	6820	5430	1990	890
11	218	281	417	782	516	2390	19800	3960	7280	5710	1810	872
12	236	269	389	729	502	2090	11000	3440	7410	5940	1660	780
13	212	375	411	682	502	1830	6740	3400	7120	6020	1630	708
14	204	1800	404	654	752	2050	5340	3800	6580	5820	1630	660
15	200	1070	393	636	1170	1920	4620	3480	7250	5960	1510	629
16	202	847	382	627	4360	1620	4110	4120	7840	5710	1420	602
17	208	824	375	624	2300	1490	3890	5090	7870	4960	1390	570
18	213	743	363	620	1730	1390	3790	5710	7630	4310	1340	532
19	218	644	363	604	1490	1330	4010	5650	7930	4190	1380	575
20	217	573	746	619	1480	1290	4190	6140	7840	4190	1460	533
21	213	531	1220	640	1550	1270	4110	6820	7220	4120	1480	486
22	209	500	763	624	1580	1270	3960	7250	6910	4290	1510	450
23	203	484	640	634	1530	1230	3970	7570	6880	4440	2270	421
24	197	480	573	667	1430	1350	4030	8360	6820	4100	2490	3100
25	193	472	549	758	1330	1310	4100	8770	5790	3710	2070	13500
26	190	418	525	811	1230	1400	4220	9400	6380	4000	1840	23800
27	187	422	502	795	1150	1430	4240	9420	7490	4610	1630	8180
28	272	449	480	746	1100	1440	4810	8330	7490	4740	1910	4460
29	423	460	471	700	---	1690	5410	7570	6260	4290	1820	3140
30	337	443	828	656	---	2100	5570	7090	5120	3910	1540	2440
31	340	---	683	634	---	1840	---	6880	---	3820	1300	---
TOTAL	6344	15521	15906	24927	31404	44964	127780	192470	201650	146720	59060	75332
MEAN	205	517	513	804	1122	1450	4259	6209	6722	4733	1905	2511
MAX	423	1800	1220	2510	4360	2390	19800	9420	7930	6020	3600	23800
MIN	136	269	363	588	502	948	1290	3400	5120	3710	1300	421
AC-FT	12580	30790	31550	49440	62290	89190	253500	381800	400000	291000	117100	149400
CAL YR 1981 TOTAL	360685	MEAN	988	MAX	5550	MIN	136	AC-FT	715400			
WTR YR 1982 TOTAL	942078	MEAN	2581	MAX	23800	MIN	136	AC-FT	1869000			

## TULARE LAKE BASIN

## RESERVOIRS IN TULARE LAKE BASIN, CA

11214550 COURTRIGHT RESERVOIR.--Lat 37°04'40", long 118°58'05", in NW¼ sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, at left end of dam on Helms Creek 2.5 mi (4.0 km) upstream from mouth, 4.6 mi (7.4 km) east of Nelson Mountain, and 9.7 mi (15.6 km) west of Blackcap Mountain. DRAINAGE AREA, 39.7 mi<sup>2</sup> (102.8 km<sup>2</sup>). PERIOD OF RECORD, October 1958 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,300 acre-ft (152 hm<sup>3</sup>) between elevations 7,902 ft (2,408.5 m), invert of tunnel and 8,184 ft (2,494.5 m), elevation of spillway. Dead storage negligible. See schematic diagram of Kings River basin. Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project. EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 124,220 acre-ft (153 hm<sup>3</sup>) Sept. 26, 1982, elevation, 8,184.57 ft (2,494.657 m); no contents in 1961-62, 1968, 1970. EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,220 acre-ft (153 hm<sup>3</sup>) Sept. 26, elevation, 8,184.57 ft (2,494.657 m); minimum, 32,160 acre-ft (39.7 hm<sup>3</sup>) Oct. 9, elevation, 8,101.20 ft (2,469.246 m).

11214800 WISHON RESERVOIR.--Lat 37°00'20", long 118°58'00", in NW¼ sec.6, T.11 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right end of dam on North Fork Kings River 1.2 mi (1.9 km) north of Cliff Camp, 1.3 mi (2.1 km) upstream from Cliff Camp gaging station, and 20 mi (32 km) southeast of town of Big Creek. DRAINAGE AREA, 177 mi<sup>2</sup> (458 km<sup>2</sup>). PERIOD OF RECORD, December 1957 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Reservoir is formed by rockfill dam completed in 1957. Capacity, 128,600 acre-ft (159 hm<sup>3</sup>) between elevations 6,317 ft (1,925.4 m), bottom of slide gates and 6,550 ft (1,996.4 m), operating crest of spillway gates. Dead storage negligible. Water is diverted to Haas powerhouse for power. See schematic diagram of Kings River basin. Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project. EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 129,700 acre-ft (160 hm<sup>3</sup>) July 29, 1958, elevation, 6,551.1 ft (1,996.78 m); no contents in 1960. EXTREMES FOR CURRENT YEAR.--Maximum contents, 127,400 acre-ft (157 hm<sup>3</sup>) July 16, elevation, 6,548.83 ft (1,996.083 m); minimum, 10,460 acre-ft (12.9 hm<sup>3</sup>) Apr. 8, elevation, 6,382.26 ft (1,945.313 m).

## MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
11214550 COURTRIGHT RESERVOIR				11214800 WISHON RESERVOIR		
Sept. 30.....	8,101.3	32,200	--	6,415.2	25,900	--
Oct. 31.....	8,101.4	32,300	+100	6,397.0	17,000	-8,900
Nov. 30.....	8,103.3	33,600	+1,300	6,396.9	16,900	-100
Dec. 31.....	8,105.6	35,200	+1,600	6,392.9	15,100	-1,800
CAL YR 1981.....	--	--	+34,500	--	--	-300
Jan. 31.....	8,108.1	36,900	+1,700	6,386.2	12,100	-3,000
Feb. 28.....	8,111.0	39,100	+2,200	6,413.5	25,000	+12,900
Mar. 31.....	8,114.8	42,000	+2,900	6,386.5	12,300	-12,700
Apr. 30.....	8,133.0	57,800	+15,800	6,430.4	34,000	+21,700
May 31.....	8,167.9	98,800	+41,000	6,502.9	84,800	+50,800
June 30.....	8,183.9	123,200	+24,400	6,542.0	120,500	+35,700
July 31.....	8,183.9	123,200	0	6,545.8	124,400	+3,900
Aug. 31.....	8,183.3	122,100	-1,100	6,518.1	98,100	-26,300
Sept. 30.....	8,180.6	117,800	-4,300	6,506.8	88,200	-9,900
WTR YR 1982.....	--	--	+85,600	--	--	+62,300

LOCATION.--Lat 37°04'35", long 118°58'04", in SW¼NW¼ sec.7, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 500 ft (152 m) downstream from Courtright Dam, 2.5 mi (4.0 km) upstream from North Fork Kings River, and 17 mi (27 km) southeast of town of Huntington Lake.

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

GAGE.--Water-stage recorder and broad-crested weir with trapezoidal-notch. Altitude of gage is 7,836 ft (2,388.4 m), from photogrammetry survey.

REMARKS.--Flow regulated since October 1958 by Courtright Reservoir (station 11214550) 500 ft (152 m) upstream.  
No diversion above station. See schematic diagram of Kings River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage).--24 years, 78.3 ft<sup>3</sup>/s (2.217 m<sup>3</sup>/s), 56,730 acre-ft/yr (69.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,340 ft<sup>3</sup>/s (37.9 m<sup>3</sup>/s) Aug. 29, 1969, gage height, 5.81 ft (1.771 m); maximum gage height, 7.70 ft (2.347 m) Aug. 23, 1978; no flow on several days in 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 689 ft<sup>3</sup>/s (19.5 m<sup>3</sup>/s) Sept. 26; gage height, 6.78 ft (2.067 m); minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m/s) many days during January.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	4.3	3.3	2.4	3.7	4.4	4.3	7.6	13	127	37	17
2	4.3	4.3	2.6	2.4	3.7	4.3	4.3	7.8	13	225	37	17
3	4.3	4.3	2.6	2.4	3.7	4.4	4.3	8.0	13	243	36	17
4	4.3	4.3	2.6	2.4	3.7	4.4	4.3	8.0	13	242	24	17
5	4.3	4.3	2.6	2.2	3.8	4.4	4.3	8.3	13	242	14	17
6	4.3	4.3	2.6	2.2	3.8	4.4	4.3	8.3	13	242	14	17
7	4.1	4.1	2.6	2.2	3.8	4.4	4.3	8.3	13	242	14	17
8	4.1	4.1	2.6	2.2	3.8	4.4	104	8.3	13	148	14	17
9	4.1	4.1	2.6	2.2	3.8	4.4	230	8.1	12	16	14	17
10	4.1	4.1	2.6	2.2	3.8	4.3	230	8.0	11	16	14	17
11	4.1	4.1	2.6	2.2	3.8	4.4	230	8.0	11	16	14	17
12	4.1	4.1	2.6	2.2	3.7	4.4	118	8.0	10	17	15	17
13	4.1	4.1	2.6	2.2	3.7	4.4	5.5	8.7	10	17	15	17
14	4.1	4.1	2.5	2.2	3.7	4.4	5.4	8.5	10	17	15	17
15	4.1	4.1	2.5	2.2	3.8	4.4	5.4	8.9	11	17	15	17
16	4.1	4.1	2.5	2.2	4.4	4.3	5.4	9.3	11	17	15	17
17	4.1	4.1	2.5	2.2	4.4	4.1	5.5	9.5	11	17	15	17
18	4.3	4.0	2.4	2.2	4.4	4.1	6.0	9.7	11	17	15	17
19	4.3	4.0	2.4	2.2	4.4	4.0	6.2	9.7	11	17	15	18
20	4.3	4.0	2.5	2.2	4.4	4.0	6.0	10	11	17	17	18
21	4.3	4.0	2.5	2.2	4.4	4.1	5.9	10	11	17	17	17
22	4.1	4.0	2.6	2.2	4.4	4.1	6.4	10	11	16	17	18
23	4.3	4.0	2.6	2.2	4.4	4.1	6.4	11	11	14	17	18
24	4.3	4.0	2.6	2.2	4.4	4.0	6.5	11	86	14	17	19
25	4.1	4.0	2.5	2.2	4.4	4.0	6.7	11	161	14	17	21
26	4.3	4.0	2.5	2.2	4.3	4.0	6.7	12	161	14	17	238
27	4.1	4.0	2.5	2.2	4.3	4.0	7.1	12	161	16	17	441
28	4.3	4.0	2.4	2.2	4.3	4.1	7.4	12	140	24	17	299
29	4.3	3.8	2.4	3.1	---	4.1	7.4	12	90	31	17	58
30	4.3	3.8	2.4	3.7	---	4.0	7.6	13	90	39	17	24
31	4.3	---	2.4	3.7	---	4.0	---	13	---	39	17	---
TOTAL	130.5	122.5	79.2	72.9	113.2	130.8	1055.6	298.0	1156	2150	556	1495
MEAN	4.21	4.08	2.55	2.35	4.04	4.22	35.2	9.61	38.5	69.4	17.9	49.8
MAX	4.3	4.3	3.3	3.7	4.4	4.4	230	13	161	243	37	441
MIN	4.1	3.8	2.4	2.2	3.7	4.0	4.3	7.6	10	14	14	17
AC-FT	259	243	157	145	225	259	2090	591	2290	4260	1100	2970
CL YR 1981	TOTAL	1807.6	MEAN	4.95	MAX	94	MIN	1.5	AC-FT	3590		
WTR YR 1982	TOTAL	7359.7	MEAN	20.2	MAX	441	MIN	2.2	AC-FT	14600		

## TULARE LAKE BASIN

11215000 NORTH FORK KINGS RIVER NEAR CLIFF CAMP, CA

LOCATION.--Lat 36°59'38", long 118°58'49", in NE¼NW¼ sec.12, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank at Cliff Camp bridge, 1 mi (2 km) northwest of Cliff Camp, 1.2 mi (1.9 km) downstream from Wishon Dam, and 2 mi (3 km) downstream from Woodchuck Creek.

DRAINAGE AREA.--181 mi<sup>2</sup> (469 km<sup>2</sup>).

PERIOD OF RECORD.--August 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1951, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,143.95 ft (1,872.676 m) National Geodetic Vertical Datum of 1929 (levels by San Joaquin Light and Power Corp.). Prior to Nov. 24, 1922, at site 1 mi (2 km) upstream at different datum.

REMARKS.--Flow regulated since Dec. 5, 1957, by Wishon Reservoir (station 11214800), 1.2 mi (1.9 km) upstream, and since Oct. 17, 1958, by Courtright Reservoir (station 11214550). Water diverted for power from Wishon Reservoir by tunnel to Haas powerhouse since Dec. 10, 1958. See schematic diagram of Kings River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage and diversion).--61 years, 370 ft<sup>3</sup>/s (10.48 m<sup>3</sup>/s), 268,100 acre-ft/yr (331 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon Reservoir).--Maximum discharge, 14,000 ft<sup>3</sup>/s (396 m<sup>3</sup>/s) Dec. 11, 1937, gage height, 18.0 ft (5.49 m), from floodmarks, from rating curve extended above 4,200 ft<sup>3</sup>/s (119 m<sup>3</sup>/s) on basis of velocity-area studies; minimum, 0.6 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) Dec. 30, 1930. 1957 to current year.--Maximum discharge, 5,110 ft<sup>3</sup>/s (145 m<sup>3</sup>/s) Sept. 5, 1978, gage height, 11.96 ft (3.645 m); minimum daily, 0.8 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Dec. 14, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s) Apr. 11, gage height, 7.28 ft (2.219 m); minimum daily, 6.5 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Jan. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	16	13	13	6.8	17	12	42	890	24	22	19
2	16	16	8.6	11	6.9	23	11	41	694	23	22	19
3	16	14	8.4	10	7.5	17	12	41	488	22	22	19
4	16	15	8.1	9.7	8.2	15	14	38	342	22	22	19
5	16	15	8.0	17	7.5	14	14	37	194	22	21	18
6	16	15	7.7	13	7.4	13	12	33	194	22	21	18
7	16	15	7.4	11	7.5	13	11	33	230	22	21	18
8	15	15	7.2	11	7.2	14	12	29	253	22	21	18
9	15	15	7.0	11	7.0	15	13	27	254	22	21	18
10	17	15	7.1	11	7.5	70	73	25	255	22	20	18
11	17	15	7.1	11	8.6	54	608	24	257	22	21	18
12	16	15	7.9	11	8.7	33	94	22	258	22	21	17
13	16	38	8.1	10	10	27	52	22	261	22	21	17
14	16	106	7.9	11	29	25	44	22	261	23	20	17
15	15	22	7.8	11	46	20	36	22	261	23	20	17
16	16	18	7.7	11	169	17	38	23	264	23	20	17
17	17	25	7.6	11	46	14	43	23	266	23	20	17
18	17	20	8.1	10	31	13	50	22	122	23	20	17
19	17	18	9.1	9.0	31	12	53	21	19	23	20	16
20	16	17	34	9.2	35	12	50	21	19	22	20	16
21	16	17	21	9.7	36	12	45	21	19	22	20	16
22	16	17	14	8.1	32	13	45	21	19	22	20	16
23	16	17	12	8.2	27	14	470	21	19	22	20	16
24	16	17	11	9.5	23	14	1030	379	65	22	20	20
25	16	17	8.9	11	21	13	476	695	242	22	20	71
26	16	17	8.6	11	19	16	43	699	301	22	20	65
27	16	17	8.8	9.8	18	20	45	884	303	22	20	24
28	22	17	8.3	9.5	17	18	50	886	183	22	20	22
29	18	17	9.3	8.2	---	14	42	890	28	22	19	21
30	17	17	22	6.5	---	14	42	891	27	22	19	13
31	16	---	15	6.6	---	12	---	890	---	21	19	---
TOTAL	507	615	326.7	320.0	680.8	598	3540	6845	6988	690	633	637
MEAN	16.4	20.5	10.5	10.3	24.3	19.3	118	221	233	22.3	20.4	21.2
MAX	22	106	34	17	169	70	1030	891	890	24	22	71
MIN	15	14	7.0	6.5	6.8	12	11	21	19	21	19	13
AC-FT	1010	1220	648	635	1350	1190	7020	13580	13860	1370	1260	1260
CAL YR 1981	TOTAL	6978.7	MEAN	19.1	MAX	106	MIN	7.0	AC-FT	13840		
WTR YR 1982	TOTAL	22380.5	MEAN	61.3	MAX	1030	MIN	6.5	AC-FT	44390		

11215800 TEAKETTLE CREEK AT SITE NO. 3, NEAR DINKEY CREEK, CA

LOCATION.--Lat 36°57'40", long 119°01'37", in SE¼NE¼ sec.21, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 1.8 mi (2.9 km) upstream from mouth, 2.9 mi (4.7 km) northwest of Black Rock Reservoir, and 10.6 mi (17.1 km) southeast of town of Dinkey Creek.

DRAINAGE AREA.--0.86 mi<sup>2</sup> (2.23 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Spring and summer flows only water year 1982. Published as "near Patterson Mountain", October 1957 to September 1969.

GAGE.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,705.4 ft (2,043.81 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft (1.219 m) lower.

REMARKS.--Records good except those for Apr. 10-12, which are fair. No diversion or regulation above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--16 years (water years 1958-69, 1978-81), 1.66 ft<sup>3</sup>/s (0.047 m<sup>3</sup>/s), 1,200 acre-ft/yr (1.48 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 99.0 ft<sup>3</sup>/s (2.80 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 3.81 ft (1.161 m); minimum daily, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Sept. 25-28, 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							2.3	8.8	7.8	3.2	1.4	
2							1.9	9.3	7.5	3.0	1.3	
3							1.9	11	7.1	2.8	1.3	
4							1.9	11	6.7	2.7	1.3	
5							1.9	11	6.4	2.6	1.3	
6							1.8	11	6.0	2.5	1.2	
7							1.8	12	5.8	2.5	1.4	
8							1.8	11	5.6	2.5	1.3	
9							1.8	9.9	5.5	2.4	1.2	
10							4.5	8.9	5.3	2.3	1.2	
11							31	8.1	5.1	2.2	1.2	
12							11	7.6	4.9	2.1	1.1	
13							8.2	7.9	4.8	2.1	1.1	
14							7.1	8.0	4.6	2.1	1.1	
15							6.3	8.4	4.4	2.0	1.1	
16							5.9	9.0	4.2	2.0	1.1	
17							5.8	9.6	4.3	1.9	1.0	
18							5.9	9.6	4.2	1.9	1.0	
19							6.3	9.4	3.9	1.8	1.0	
20							6.5	9.8	3.7	1.8	.98	
21							6.6	10	3.5	1.8	.95	
22							6.5	10	3.4	1.7	.96	
23							6.7	11	3.3	1.7	1.0	
24							6.8	11	3.3	1.6	1.0	
25							7.0	11	3.2	1.6	.97	
26							6.8	11	3.2	1.6	.94	
27							7.1	11	3.3	1.6	.91	
28							7.9	9.8	3.4	1.5	.96	
29							7.9	9.2	4.4	1.5	.94	
30							8.3	8.6	3.7	1.4	.93	
31							---	8.2	---	1.4	.86	
TOTAL							187.2	302.1	142.5	63.8	34.00	
MEAN							6.24	9.75	4.75	2.06	1.10	
MAX							31	12	7.8	3.2	1.4	
MIN							1.8	7.6	3.2	1.4	.86	
AC-FT							371	599	283	127	67	

NOTE.--No gage-height record Apr. 10-12.

## TULARE LAKE BASIN

11215820 TEAKETTLE CREEK TRIBUTARY NO. 2 NEAR DINKEY CREEK, CA

LOCATION.--Lat 36°57'32", long 119°02'00", in SE¼NW¼ sec.21, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 0.8 mi (1.3 km) upstream from junction with Teakettle Creek, 2.8 mi (4.5 km) north of Black Rock Reservoir, and 10.5 mi (16.9 km) southeast of town of Dinkey Creek.

DRAINAGE AREA.--0.85 mi<sup>2</sup> (2.20 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Spring and summer flows only 1982 water year. Published as "near Patterson Mountain" October 1957 to September 1969.

GAGE.--Water-stage recorder, sharp-crested 90° V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,905.4 ft (2,104.77 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 2.00 ft (0.610 m) lower.

REMARKS.--Records good except those for Apr. 1-21, which are fair. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yields. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--16 years (water years 1958-69, 1978-81), 1.40 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s), 1,010 acre-ft/yr (1.25 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70.2 ft<sup>3</sup>/s (1.99 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 3.62 ft (1.103 m); minimum daily, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 6-13, 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							1.3	7.1	8.9	3.3	1.1	
2							1.2	7.5	8.6	3.0	1.1	
3							1.2	8.3	8.2	2.9	1.1	
4							1.2	8.8	7.8	2.7	1.1	
5							1.2	9.2	7.4	2.7	1.1	
6							1.1	9.3	7.1	2.5	1.0	
7							1.1	9.9	6.9	2.4	1.2	
8							1.1	9.4	6.8	2.4	1.0	
9							1.1	8.4	6.7	2.3	1.0	
10							5.0	7.4	6.6	2.2	.97	
11							20	6.7	6.5	2.1	.95	
12							8.0	6.3	6.2	2.0	.93	
13							6.2	6.6	5.8	2.0	.91	
14							5.4	6.7	5.6	1.9	.89	
15							4.8	7.3	5.4	1.9	.86	
16							4.5	7.9	5.2	1.8	.84	
17							4.4	8.6	5.2	1.7	.82	
18							4.4	8.7	4.9	1.7	.80	
19							4.7	8.5	4.6	1.6	.79	
20							4.9	9.1	4.3	1.6	.77	
21							4.9	9.6	4.1	1.6	.75	
22							4.8	10	3.9	1.5	.76	
23							5.0	11	3.7	1.4	.78	
24							5.2	12	3.6	1.4	.77	
25							5.3	13	3.4	1.4	.75	
26							5.2	13	3.3	1.4	.73	
27							5.5	13	3.2	1.3	.70	
28							6.3	11	3.2	1.3	.72	
29							6.3	10	4.3	1.2	.71	
30							6.6	9.8	3.7	1.2	.70	
31							---	9.4	---	1.2	.66	
TOTAL							137.9	283.5	165.1	59.6	27.26	
MEAN							4.60	9.15	5.50	1.92	.88	
MAX							20	13	8.9	3.3	1.2	
MIN							1.1	6.3	3.2	1.2	.66	
AC-FT							274	562	327	118	54	

NOTE.--No gage-height record Apr. 1-21.



## 11215830 TEAKETTLE CREEK TRIBUTARY NO. 2A NEAR DINKEY CREEK, CA

LOCATION.--Lat 36°57'22", long 119°01'57", in NE¼SW¼ sec.21, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 0.1 mi (0.2 km) upstream from confluence with Teakettle Creek Tributary No. 2, 2.6 mi (4.2 km) northwest of Black Rock Reservoir, and 10.7 mi (17.2 km) southeast of town of Dinkey Creek.

DRAINAGE AREA.--0.27 mi<sup>2</sup> (0.70 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Spring and summer flows only 1982 water year. Published as "near Patterson Mountain" October 1957 to September 1969.

GAGE.--Water-stage recorder and 90° sharp-crested V-notched weir. Datum of gage is 6,924 ft (2,110.4 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Forest Service). Prior to Oct. 1, 1961, at datum 4.00 ft (1.219 m) lower.

REMARKS.--Records good except those for Apr. 1-21, which are fair. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--16 years (water years 1958-69, 1978-81), 0.49 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s), 355 acre-ft/yr (438,000 m<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60.3 ft<sup>3</sup>/s (1.71 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 3.61 ft (1.100 m); no flow on several days during September 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							.60	3.3	2.7	.87	.31	
2							.56	3.5	2.6	.81	.32	
3							.54	4.0	2.4	.78	.32	
4							.53	4.3	2.3	.75	.32	
5							.53	4.6	2.2	.73	.30	
6							.53	4.7	2.1	.70	.30	
7							.50	5.0	1.9	.67	.35	
8							.50	4.6	1.8	.64	.30	
9							.50	4.0	1.6	.61	.28	
10							2.5	3.4	1.7	.59	.27	
11							10	3.0	1.6	.57	.27	
12							5.0	2.8	1.5	.55	.26	
13							3.0	2.9	1.5	.54	.25	
14							2.5	3.0	1.4	.52	.25	
15							2.2	3.2	1.3	.51	.24	
16							2.1	3.5	1.3	.49	.23	
17							2.1	3.7	1.2	.48	.23	
18							2.1	3.8	1.2	.46	.23	
19							2.2	3.6	1.1	.45	.23	
20							2.3	3.8	1.1	.44	.22	
21							2.3	3.9	1.0	.43	.21	
22							2.2	4.1	.98	.42	.21	
23							2.4	4.2	.94	.40	.22	
24							2.5	4.4	.92	.40	.22	
25							2.6	4.4	.88	.39	.21	
26							2.6	4.4	.85	.38	.20	
27							2.7	4.1	.82	.37	.19	
28							3.0	3.6	.88	.36	.20	
29							2.9	3.3	1.3	.34	.20	
30							3.1	3.1	1.0	.33	.19	
31							---	2.9	---	.32	.18	
TOTAL							67.09	117.1	44.27	16.30	7.71	
MEAN							2.24	3.78	1.48	.53	.25	
MAX							10	5.0	2.7	.87	.35	
MIN							.50	2.8	.82	.32	.18	
AC-FT							133	232	88	32	15	

NOTE.--No gage-height record Apr. 1-21.

## 11215840 TEAKETTLE CREEK TRIBUTARY NO. 1 NEAR DINKEY CREEK, CA

LOCATION.--Lat 36°56'59", long 119°01'07", in NW¼NW¼ sec.27, T.11 S., R.27 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 2.1 mi (3.4 km) northeast of Black Rock Reservoir, and 11.5 mi (18.5 km) southeast of town of Dinkey Creek.

DRAINAGE AREA.--0.77 mi<sup>2</sup> (1.99 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Spring and summer flows only 1982 water year. Published as "near Patterson Mountain", October 1957 to September 1969.

GAGE.--Water-stage recorder, 90° sharp-crested V-notch weir, and sharp-crested Cipolletti weir. Datum of gage is 6,407.7 ft (1,953.07 m) National Geodetic Vertical Datum of 1929 (levels by U.S. Forest Service). Prior to August 1959, at datum 4.00 ft (1.219 m) lower.

REMARKS.--Records good. No regulation or diversion above station. This station is operated in connection with studies to develop and test methods of managing forest and other lands for improved water yield. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--16 years (water years 1958-69, 1978-81), 1.55 ft<sup>3</sup>/s (0.044 m<sup>3</sup>/s), 1,120 acre-ft/yr (1.38 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 142 ft<sup>3</sup>/s (4.02 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 4.49 ft (1.369 m); minimum daily, 0.05 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 5-29, Oct. 1-3, 1977.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							1.7	9.5	7.1	2.8	1.2	
2							1.6	10	6.8	2.6	1.2	
3							1.5	11	6.4	2.5	1.1	
4							1.5	12	6.0	2.4	1.1	
5							1.5	12	5.7	2.4	1.1	
6							1.5	12	5.4	2.3	1.1	
7							1.4	13	5.2	2.2	1.2	
8							1.4	12	5.0	2.2	1.1	
9							1.4	10	4.8	2.1	1.1	
10							4.6	9.1	4.6	2.0	1.0	
11							30	8.2	4.5	2.0	1.0	
12							13	7.7	4.3	1.9	.98	
13							8.4	8.0	4.2	1.9	.96	
14							6.9	8.2	4.0	1.8	.94	
15							5.9	8.7	3.8	1.8	.91	
16							5.8	9.2	3.7	1.8	.89	
17							5.7	9.9	3.6	1.7	.87	
18							5.7	9.8	3.5	1.7	.85	
19							6.2	9.4	3.4	1.6	.84	
20							6.6	9.8	3.2	1.6	.82	
21							6.6	10	3.1	1.6	.80	
22							6.7	10	3.0	1.5	.79	
23							7.0	11	3.0	1.5	.81	
24							7.1	11	2.9	1.4	.80	
25							7.3	11	2.8	1.4	.78	
26							7.4	11	2.7	1.4	.76	
27							7.8	10	2.7	1.3	.75	
28							8.7	9.1	2.8	1.3	.78	
29							8.6	8.4	3.7	1.3	.75	
30							8.9	7.9	3.2	1.2	.75	
31							---	7.5	---	1.2	.71	
TOTAL							188.4	306.4	125.1	56.4	28.74	
MEAN							6.28	9.88	4.17	1.82	.93	
MAX							30	13	7.1	2.8	1.2	
MIN							1.4	7.5	2.7	1.2	.71	
AC-FT							374	608	248	112	57	

LOCATION.--Lat 36°54'12", long 119°07'14", in SE¼NE¼ sec.10, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 12 ft (4 m) downstream from bridge at Balch Camp, 300 ft (91 m) upstream from Dinkey Creek, and 9.3 mi (15.0 km) east of Trimmer.

PERIOD OF RECORD.--October 1919 to September 1930 (published as "above Dinkey Creek"), March 1960 to current year. Records for water year 1920 incomplete, yearly estimate and monthly discharge only for some months, published in WSP 1315-A.

GAGE.--Water-stage recorder. Concrete control since Apr. 15, 1966. Altitude of gage is 1,240 ft (378 m), from river-profile map. October 1919 to Sept. 30, 1930, and Mar. 24, 1960, to Apr. 14, 1966, at site 100 ft (30 m) downstream at different datum.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD (prior to regulation by Wishon and Courtright Reservoirs): Maximum discharge, 6,080 ft<sup>3</sup>/s (172 m<sup>3</sup>/s) June 4, 1922, gage height, 12.18 ft (3.712 m) site and datum then in use; minimum, 4 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Aug. 29 to Sept. 1, 1924.

1960 to current year: Maximum discharge, 14,000 ft<sup>3</sup>/s (396 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 13.24 ft (4.036 m) site and datum then in use, backwater from Pinkey Creek, from rating curve extended above 890 ft<sup>3</sup>/s (25.2 m<sup>3</sup>/s); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Nov. 3, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,970 ft<sup>3</sup>/s (55.8 m<sup>3</sup>/s) May 27, gage height, 4.21 ft (1.283 m); minimum daily, 9.8 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Feb. 5.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	15	13	71	10	49	513	986	469	15	15
2	16	15	13	13	22	16	40	538	861	525	15	15
3	15	15	11	12	18	13	29	594	600	525	15	15
4	16	15	11	29	17	11	23	588	545	525	15	15
5	16	15	10	106	9.8	10	19	653	428	525	15	15
6	15	15	10	34	30	11	17	593	422	525	15	16
7	16	15	10	18	155	13	15	964	439	525	16	18
8	16	17	10	15	71	11	15	986	481	525	16	17
9	16	17	10	14	105	11	14	753	519	525	16	16
10	16	16	10	13	48	12	20	361	538	525	16	16
11	17	16	10	12	46	16	71	404	538	525	16	15
12	16	16	10	12	13	14	627	433	532	519	15	17
13	16	17	10	11	13	13	539	404	512	525	16	15
14	16	47	10	11	13	31	431	455	487	525	15	15
15	16	46	10	11	16	22	357	415	506	525	15	15
16	16	59	10	11	231	17	347	460	512	525	15	16
17	16	73	10	11	25	20	469	545	506	519	15	16
18	16	34	10	11	18	22	425	538	519	525	15	16
19	16	16	10	11	16	18	409	445	532	525	15	16
20	16	17	11	11	15	16	427	532	896	525	14	16
21	16	15	11	11	13	15	415	558	525	525	15	16
22	16	15	10	11	13	14	435	586	525	525	15	16
23	15	16	11	11	11	13	548	586	525	512	15	17
24	15	15	11	11	11	15	634	752	525	225	15	18
25	15	15	11	11	11	12	464	1280	525	36	15	35
26	15	16	10	11	11	14	348	1150	525	47	15	119
27	18	17	10	11	11	13	401	1420	525	95	15	43
28	18	17	10	12	11	14	408	1320	525	16	15	15
29	16	17	11	12	---	16	396	1280	525	15	15	17
30	16	17	13	12	---	16	448	1000	525	15	15	17
31	16	---	12	10	---	19	---	1040	---	15	15	---
TOTAL	495	658	331	502	1044.8	468	8840	22146	16609	12458	470	628
MEAN	16.0	21.9	10.7	16.2	37.3	15.1	295	714	554	402	15.2	20.4
MAX	18	73	15	106	231	31	634	1420	986	525	16	119
MIN	15	15	10	10	9.8	10	14	361	422	15	14	15
AC-FT	982	1310	657	996	2070	928	17530	43930	32940	24710	932	1250
CAL YR 1981	TOTAL	5515.0	MEAN	15.1	MAX	78	MIN	10	AC-FT	10940		
WTR YR 1982	TOTAL	64649.8	MEAN	177	MAX	1420	MIN	9.8	AC-FT	128200		

## 11217000 DINKEY CREEK AT DINKEY MEADOW, NEAR SHAVER LAKE, CA

LOCATION.--Lat 37°02'50", long 119°08'52", in SW¼NW¼ sec.21, T.10 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 0.5 mi (0.8 km) downstream from Dinkey Meadow, 2.0 mi (3.2 km) south of Dinkey Creek Post Office, and 14.4 mi (23.2 km) southeast of town of Shaver Lake.

DRAINAGE AREA.--50.7 mi<sup>2</sup> (131.3 km<sup>2</sup>).

PERIOD OF RECORD.--September 1910 to September 1915 (fragmentary records), published as "near Ockenden"; October 1921 to September 1935, published as "at Dinkey Meadow"; July 1977 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft (1,658 m), from topographic map. September 1910 to September 1915, at site 1 mi (1.6 km) upstream at different datum. October 1921 to September 1935, at present site at same datum.

REMARKS.--Records good. No diversion or regulation above gage.

AVERAGE DISCHARGE.--19 years (water years 1922-35, 1978-82), 111 ft<sup>3</sup>/s (3.144 m<sup>3</sup>/s), 80,420 acre-ft/yr (99.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s (317 m<sup>3</sup>/s) Apr. 11, 1982, gage height, 12.07 ft (3.679 m); minimum recorded, 0.2 ft<sup>3</sup>/s (0.06 m<sup>3</sup>/s) Aug. 24-30, 1931, Sept. 7-9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0445	3,550 101	8.43 2.569	May 3	1815	1,480 41.9	6.41 1.954
Dec. 20	1930	806 22.8	5.33 1.625	May 25	2115	1,320 37.4	6.18 1.884
Feb. 16	0745	2,760 78.2	7.79 2.374	June 29	1200	632 17.9	4.95 1.509
Mar. 10	0845	806 22.8	5.33 1.625	Sept. 25	1815	2,380 67.4	7.44 2.268
Apr. 11	0815	*11,200 317	12.07 3.679				

Minimum daily, 3.1 ft<sup>3</sup>/s (0.088 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	20	41	73	61	164	108	1030	525	234	21	5.1
2	3.2	18	45	66	64	181	117	1050	508	188	21	4.8
3	3.6	17	44	60	65	151	117	1110	487	162	21	4.4
4	4.8	16	43	57	63	139	114	1100	460	149	21	4.3
5	4.2	13	40	71	58	131	105	1090	413	138	16	4.1
6	3.9	12	39	110	57	127	101	1050	375	131	15	3.8
7	3.9	12	38	96	58	124	97	1030	376	130	19	3.7
8	4.4	11	37	102	56	126	99	885	401	123	20	3.5
9	4.1	9.8	37	105	53	124	104	702	437	115	19	3.6
10	4.7	8.9	36	103	52	519	491	546	453	108	20	4.0
11	12	8.4	33	92	50	489	6310	474	464	103	19	3.6
12	6.1	9.0	31	76	50	276	2050	435	447	97	10	3.6
13	5.2	511	34	66	59	243	1150	493	388	91	9.2	3.4
14	4.1	1160	32	63	234	231	855	526	347	84	8.2	3.4
15	4.3	153	31	63	420	188	685	549	400	78	7.7	3.7
16	4.0	98	29	63	1670	158	634	670	407	71	7.2	4.3
17	4.1	202	28	64	552	146	646	738	393	63	6.7	4.1
18	4.5	101	28	61	349	138	713	740	430	56	6.3	3.8
19	4.4	74	41	58	330	134	815	727	411	52	6.2	4.1
20	4.1	60	379	57	340	125	845	778	362	49	6.0	3.9
21	3.9	52	223	78	348	122	790	809	345	46	5.7	3.6
22	3.7	49	107	79	322	123	776	833	333	43	13	3.4
23	3.5	50	84	81	275	130	825	881	309	41	19	3.1
24	3.3	55	71	89	236	130	795	908	280	38	9.9	82
25	3.2	48	68	85	211	122	805	937	233	35	8.2	889
26	3.2	38	63	79	186	124	786	933	238	34	7.1	1260
27	3.3	37	66	67	174	131	851	835	233	33	6.5	204
28	74	42	57	64	165	132	1000	699	214	31	6.9	119
29	30	40	59	60	---	118	929	617	392	28	6.5	105
30	18	39	115	58	---	122	971	574	338	26	6.1	105
31	20	---	84	58	---	113	---	558	---	24	5.4	---
TOTAL	258.9	2964.1	2063	2304	6558	5281	24684	24307	11399	2601	373.8	2853.3
MEAN	8.35	98.8	66.5	74.3	234	170	823	784	380	83.9	12.1	95.1
MAX	74	1160	379	110	1670	519	6310	1110	525	234	21	1260
MIN	3.2	8.4	28	57	50	113	97	435	214	24	5.4	3.1
AC-FT	514	5880	4090	4570	13010	10470	48960	48210	22610	5160	741	5660
CAL YR 1981	TOTAL	29809.9	MEAN	81.7	MAX	1160	MIN	1.6	AC-FT	59130		
WTR YR 1982	TOTAL	85647.1	MEAN	235	MAX	6310	MIN	3.1	AC-FT	169900		

11218400 NORTH FORK KINGS RIVER BELOW DINKEY CREEK, NEAR BALCH CAMP, CA

LOCATION.--Lat 36°52'47", long 119°07'40", in NW¼ sec.22, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on right bank 1.1 mi (1.8 km) upstream from mouth, 1.7 mi (2.7 km) south of Balch Camp, 2.1 mi (3.4 km) downstream from Dinkey Creek, and 9 mi (14 km) east of Trimmer.

DRAINAGE AREA.--387 mi<sup>2</sup> (1,002 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,035 ft (315.5 m), from river-profile map.

REMARKS.--Flow regulated by Courtright Reservoir (station 11214550), Wishon Reservoir (station 11214800), Black Rock Reservoir, capacity, 1,260 acre-ft (1.55 hm<sup>3</sup>), Balch Afterbay, capacity, 318 acre-ft (392,000 m<sup>3</sup>), and Haas and Balch powerplants. Diversion from Balch Afterbay to Kings River powerhouse began Mar. 1, 1962. See schematic diagram of Kings River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,400 ft<sup>3</sup>/s (776 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 19.20 ft (5.852 m), from rating curve extended above 4,900 ft<sup>3</sup>/s (139 m<sup>3</sup>/s); minimum daily, 6.4 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Oct. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,100 ft<sup>3</sup>/s (711 m<sup>3</sup>/s) Apr. 11, gage height, 17.33 ft (5.282 m); minimum daily, 31 ft<sup>3</sup>/s (0.88 m<sup>3</sup>/s) Oct. 1-3, 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	71	101	260	219	399	580	2580	2280	1020	90	52
2	31	70	106	190	175	542	498	2610	2170	925	86	51
3	31	65	106	154	172	420	472	2780	1750	864	84	49
4	33	61	102	285	170	377	463	2760	1590	837	82	48
5	34	54	98	1120	155	354	410	2730	1330	815	81	47
6	31	50	93	330	168	339	391	2690	1190	798	76	47
7	31	47	91	227	287	336	355	2690	1200	788	80	49
8	31	49	91	192	208	323	350	2440	1260	776	86	51
9	32	46	89	188	243	329	354	2060	1320	761	77	49
10	32	44	88	182	219	886	936	1650	1330	745	74	50
11	56	40	83	173	184	1060	13900	1470	1350	733	75	50
12	56	41	75	164	139	660	5080	1350	1310	718	74	48
13	46	379	85	156	143	576	3260	1410	1220	707	71	50
14	41	2590	82	155	398	717	2520	1520	1100	696	70	47
15	39	361	79	154	707	590	2110	1520	1190	685	69	54
16	39	224	76	156	3500	490	1920	1730	1200	674	67	50
17	38	348	74	159	1260	477	1910	1920	1170	664	65	52
18	39	255	73	157	776	456	1990	1950	1220	650	63	52
19	41	175	82	155	683	436	2190	1880	1200	641	62	53
20	39	143	550	161	705	407	2240	1970	1560	635	61	53
21	37	127	553	161	712	392	2150	2030	1090	629	60	50
22	36	117	248	159	688	383	2100	2110	1080	623	58	47
23	35	121	194	155	612	385	2310	2170	1050	609	76	44
24	34	121	162	179	542	390	2460	2400	1020	323	69	153
25	33	123	156	195	496	371	2330	2970	946	132	64	1010
26	33	103	147	211	453	404	2120	2840	943	147	61	2200
27	36	103	147	195	421	389	2190	2950	938	175	58	421
28	137	107	135	185	412	435	2490	2680	912	112	57	268
29	131	101	144	167	---	401	2440	2520	1150	106	58	213
30	74	99	288	159	---	401	2370	2390	1190	100	57	228
31	67	---	223	155	---	467	---	2350	---	94	55	---
TOTAL	1404	6235	4621	6639	14847	14592	64889	69120	38259	18182	2166	5636
MEAN	45.3	208	149	214	530	471	2163	2230	1275	587	69.9	188
MAX	137	2590	553	1120	3500	1060	13900	2970	2280	1020	90	2200
MIN	31	40	73	154	139	323	350	1350	912	94	55	44
AC-FT	2780	12370	9170	13170	29450	28940	128700	137100	75890	36060	4300	11180
CAL YR 1981 TOTAL	67352		MEAN 185	MAX 2590	MIN 29	AC-FT 133600						
WTR YR 1982 TOTAL	246590		MEAN 676	MAX 13900	MIN 31	AC-FT 489100						

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 36°52'29", long 119°08'27", in SW¼NE¼ sec.21, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, on right bank 0.8 mi (1.3 km) downstream from North Fork, 2.4 mi (3.9 km) southwest of Balch Camp, and 8.5 mi (13.7 km) southeast of Trimmer.

DRAINAGE AREA.--1,342 mi<sup>2</sup> (3,476 km<sup>2</sup>).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year. Prior to January 1952 monthly discharge only, published in WSP 1735. Published as Kings River below North Fork, October 1951 to September 1965.

REVISED RECORDS.--WSP 1930: Drainage area. WDR CA-72-2: Adjusted data for 1971.

GAGE.--Water-stage recorder. Datum of gage is 942.42 ft (287.250 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Flow regulated by Courtright and Wishon Reservoirs (stations 11214550, 11214800). Records include flow diverted to Kings River powerplant since Mar. 1, 1962. This station measures inflow to Pine Flat Lake. See schematic diagram of Kings River basin.

COOPERATION.--Records of diversion to Kings River powerplant and contents for Courtright and Wishon Reservoirs furnished by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--(adjusted for change in contents in Wishon and Courtright Reservoirs).--31 years, 2,247 ft<sup>3</sup>/s (63.64 m<sup>3</sup>/s), 1,628,000 acre-ft/yr (2.01 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,200 ft<sup>3</sup>/s (2,410 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 23.08 ft (7.035 m), from rating curve extended above 22,000 ft<sup>3</sup>/s (623 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 86 ft<sup>3</sup>/s (2.44 m<sup>3</sup>/s) Oct. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 21.6 ft (6.58 m) from floodmarks, discharge, 74,200 ft<sup>3</sup>/s (2,100 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 34,500 ft<sup>3</sup>/s (977 m<sup>3</sup>/s) Apr. 11; minimum daily 185 ft<sup>3</sup>/s (5.24 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	460	592	1220	824	1830	3570	10200	10600	6030	4160	2140
2	186	452	597	1020	771	2600	2950	10400	10200	5690	3600	2010
3	185	446	635	982	758	2220	2750	10800	9360	6130	2970	1920
4	211	430	630	1570	760	2020	2490	10700	9060	6260	2930	1920
5	486	454	571	4530	734	1900	2580	11200	8110	6430	2720	1880
6	549	393	549	1910	718	1820	2470	11200	7350	6630	3110	1800
7	712	400	520	1960	821	1840	2200	11300	7330	6920	3100	1750
8	620	369	513	1750	747	1880	2050	10600	7960	7010	3330	1700
9	614	381	591	1450	774	1890	2030	9200	9000	6850	2860	1680
10	194	341	572	1310	747	3160	3600	7430	9550	6980	2600	1870
11	302	373	491	1320	705	4360	34500	6510	10300	7240	2410	1850
12	315	793	496	1140	640	3490	18400	5790	10400	7500	2280	1740
13	497	1100	570	1120	776	3110	11700	5830	10000	7610	2220	1670
14	542	5300	536	993	1370	3510	8980	6340	9070	7240	2250	1610
15	416	1870	497	948	2190	3180	7630	6120	9970	7460	2150	1610
16	445	1500	521	930	8840	2980	6900	6970	10900	7140	2010	1510
17	256	1450	568	933	4290	2670	6650	8290	10800	6250	2030	1510
18	321	1060	591	889	2830	2660	6660	9110	10400	5510	1930	1470
19	781	834	556	963	2460	2590	7090	9000	10700	5360	1740	1520
20	399	736	1750	865	2510	2510	7310	9760	10700	5340	2070	1470
21	269	698	2610	990	2590	2270	7160	10800	9560	5260	2160	1430
22	251	628	1360	906	2600	2340	6940	11400	9170	5410	2020	1310
23	266	1120	1040	896	2330	2160	7170	11900	9090	5680	2940	1290
24	232	735	874	951	2190	2200	7340	13100	9060	4710	3090	4180
25	227	573	706	1140	1920	2160	7240	14100	7760	4060	2660	15900
26	276	566	758	1150	1840	2480	7180	14600	8520	4710	2450	25300
27	242	529	768	1260	1800	2070	7300	14800	9960	4970	2310	8540
28	736	565	989	1030	1740	2260	8370	13200	10000	5210	2890	4650
29	595	587	1000	865	---	2580	9220	12100	8470	4810	2820	3600
30	427	672	1490	1050	---	2510	9410	11300	7390	4500	2540	2360
31	416	---	1390	837	---	2780	---	11000	---	4350	2300	---
TOTAL	12419	25815	25331	38878	51275	78030	219840	315050	280740	185250	80650	103190
MEAN	401	861	817	1254	1831	2517	7328	10160	9358	5976	2602	3440
MAX	781	5300	2610	4530	8840	4360	34500	14800	10900	7610	4160	25300
MIN	185	341	491	837	640	1820	2030	5790	7330	4060	1740	1290
AC-FT	24630	51200	50240	77110	101700	154800	436100	624900	556800	367400	160000	204700
MEAN a	257	881	814	1233	2103	2358	7957	11660	10370	6039	2157	3201
AC-FT a	15800	52420	50050	75810	116800	145000	473500	717000	617100	371300	132600	190500

CAL YR 1981 TOTAL 524488 MEAN 1437 MAX 7080 MIN 185 AC-FT 1040000 MEAN a 1484 AC-FT a 1074000  
WTR YR 1982 TOTAL 1416468 MEAN 3881 MAX 34500 MIN 185 AC-FT 2810000 MEAN a 4086 AC-FT a 2958000

a Adjusted for change in contents in Wishon and Courtright Reservoirs.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956 to current year.

CHEMICAL ANALYSES: Water years 1956-66, 1968-70, 1973 to current year.

BIOLOGICAL DATA: Water years 1978-81.

WATER TEMPERATURES: Water years 1967 to current year.

SEDIMENT RECORDS: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

REMARKS.--Quality of water samples are obtained at the gaging station upstream from the powerplant. Temperature recorder located 1 mi (2 km) downstream from gaging station. Temperature subject to fluctuation because of powerplant operation upstream. Temperature sensor inundated by Pine Flat Lake from Mar. 20 to Aug. 21 and Sept. 27-30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 26.5°C Sept. 2, 1977; minimum recorded, 0.0°C on several days in 1966 and 1967.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 19.5°C Oct. 2-5; minimum recorded, 2.5°C Jan. 22-24.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (CCLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV											
04...	1200	430	47	6.4	15.0	2.2	10.7	K3	K3	15	0
JAN											
21...	1100	765	47	6.4	3.5	1.0	13.0	23	15	16	0
MAR											
24...	1100	1600	55	6.8	10.0	.60	10.6	K1	K1	18	0
MAY											
11...	1400	5500	34	6.2	8.0	1.1	10.7	K5	16	9	0
JUL											
21...	1630	5100	23	6.5	18.0	2.0	9.7	<1	K12	5	0
SEP											
22...	1000	475	40	6.9	16.0	.50	9.4	--	K1	14	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIFLU (MG/L CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV										
04...	4.8	.6	3.1	30	.4	.8	15	5.0	2.1	.1
JAN										
21...	5.2	.7	2.8	27	.3	.8	17	<5.0	1.5	<.1
MAR										
24...	5.7	.9	3.1	26	.3	.9	21	<5.0	1.0	.1
MAY										
11...	2.9	.4	2.0	30	.3	.8	12	<5.0	1.7	.2
JUL										
21...	1.8	.2	1.0	27	.2	.5	7.0	<5.0	.9	<.1
SEP										
22...	4.1	.5	2.5	27	.3	.9	15	<5.0	1.1	<.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV										
04...	9.6	35	34	.05	.12	.11	.45	.02	.02	<.01
JAN										
21...	12	33	--	.04	<.09	<.07	.43	.01	<.01	.01
MAR										
24...	16	42	--	.06	<.10	<.06	.54	.01	.01	.02
MAY										
11...	9.4	33	31	.04	<.10	.07	.38	.03	.02	<.01
JUL										
21...	4.4	17	--	.02	<.10	.08	--	<.01	.04	.04
SEP										
22...	8.9	20	--	.03	<.10	.07	.30	.01	<.01	.01

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

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 04...	1200	1	2	<100	11	<1	<1	<10	<10	<1
JAN 21...	1100	1	1	<100	11	<1	<1	10	<10	<1
MAY 11...	1400	1	1	<100	12	<1	<3	<10	<10	<1
SEP 22...	1000	1	1	<100	12	<1	<1	<10	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 04...	<3	4	2	160	14	3	<1	10	4	.1
JAN 21...	<3	13	<1	40	21	1	1	<10	2	.1
MAY 11...	<1	14	3	310	17	5	2	20	3	.2
SEP 22...	<1	6	2	110	13	<1	<1	10	1	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 04...	<.1	<1	<1	<1	<1	<1	<1	10	10
JAN 21...	.1	<1	2	<1	<1	<1	<1	40	13
MAY 11...	.1	1	<1	<1	<1	7	<1	20	17
SEP 22...	.1	8	2	<1	<1	<1	1	10	9

&lt; Actual value is known to be less than the value shown.



11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	17.0	11.5	7.5	8.0	5.0	---	---	5.5	4.0	8.0	7.0
2	19.5	17.5	12.5	8.0	7.5	4.5	---	---	6.0	4.0	7.0	6.0
3	19.5	17.0	12.5	9.0	8.0	4.5	---	---	6.0	4.5	6.0	5.0
4	19.5	18.0	12.5	8.0	7.5	4.5	---	---	6.5	4.5	6.5	5.0
5	19.5	18.0	11.5	8.5	8.0	5.0	---	---	6.5	5.0	7.0	5.0
6	---	---	13.0	10.0	8.0	5.0	---	---	6.0	4.5	7.5	5.0
7	---	---	13.0	9.5	7.5	5.5	---	---	5.5	4.0	7.0	5.0
8	---	---	12.5	9.0	7.5	5.0	---	---	7.0	5.0	7.5	5.5
9	17.5	15.5	12.0	10.0	8.0	5.0	---	---	6.0	5.5	7.0	5.5
10	18.5	15.0	11.5	9.5	9.0	6.5	---	---	6.5	5.0	8.5	6.5
11	17.5	15.5	11.5	8.0	9.5	6.0	---	---	6.5	4.5	8.5	6.5
12	17.0	13.0	10.5	9.0	7.5	5.0	---	---	7.0	5.0	7.5	6.0
13	15.5	13.5	11.5	8.0	8.5	6.0	5.0	3.5	7.5	6.0	8.5	6.0
14	15.0	12.5	10.5	8.0	8.5	5.5	4.5	3.5	7.5	5.5	9.0	6.0
15	15.5	11.5	11.0	8.0	8.5	5.5	4.5	4.0	7.5	6.0	7.0	6.0
16	15.5	11.5	9.5	7.0	8.0	5.0	5.0	4.0	---	---	6.0	5.0
17	16.0	12.5	10.0	7.5	7.5	4.5	5.5	4.0	---	---	5.5	4.0
18	16.5	12.0	10.0	7.0	7.5	5.0	5.0	4.0	---	---	5.0	4.0
19	13.5	10.0	9.5	6.0	10.5	5.5	5.0	4.0	---	---	6.0	4.0
20	15.0	9.5	9.5	6.0	10.0	6.0	4.5	3.5	---	---	---	---
21	15.0	10.5	9.5	6.0	8.5	5.5	4.0	3.0	---	---	---	---
22	15.5	11.0	11.0	7.5	6.5	4.5	3.5	2.5	---	---	---	---
23	15.0	10.5	10.0	6.5	6.0	4.0	4.0	2.5	---	---	---	---
24	15.0	9.5	10.0	7.5	5.5	3.5	4.5	2.5	---	---	---	---
25	15.5	11.5	10.5	7.5	5.5	3.5	5.5	3.5	---	---	---	---
26	15.0	11.0	9.0	5.5	6.5	3.5	5.5	4.5	8.5	7.0	---	---
27	14.5	11.0	7.0	4.5	7.0	5.0	5.5	4.5	9.5	6.5	---	---
28	13.5	11.0	7.0	5.0	---	---	5.5	4.5	8.5	6.5	---	---
29	12.0	10.5	8.0	4.5	---	---	5.5	4.5	---	---	---	---
30	11.5	8.0	7.5	5.5	---	---	5.0	3.5	---	---	---	---
31	11.0	8.5	---	---	---	---	5.5	3.5	---	---	---	---
MONTH	19.5	8.0	13.0	4.5	10.5	3.5	---	---	---	---	---	---

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1									---	---	14.5	12.5
2									---	---	14.5	11.5
3									---	---	14.5	12.0
4									---	---	15.0	12.0
5									---	---	15.0	12.5
6									---	---	15.0	12.0
7									---	---	15.0	12.5
8									---	---	15.5	13.0
9									---	---	16.0	13.5
10									---	---	16.0	13.0
11									---	---	16.0	12.5
12									---	---	15.5	13.0
13									---	---	15.0	13.0
14									---	---	15.5	13.0
15									---	---	14.5	13.0
16									---	---	16.5	13.0
17									---	---	15.0	13.0
18									---	---	15.0	13.5
19									---	---	15.5	13.0
20									---	---	16.0	12.5
21									---	---	16.0	13.0
22									15.0	12.5	18.5	13.5
23									14.5	13.0	16.0	14.0
24									15.0	13.0	17.0	14.5
25									15.0	12.5	17.0	16.0
26									15.0	13.0	17.0	16.0
27									15.5	13.5	---	---
28									15.0	13.0	---	---
29									14.5	13.0	---	---
30									14.5	12.5	---	---
31									14.5	12.0	---	---
MONTH									---	---	18.5	11.5

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 04...	1200	430	15.0	2	2.3	48
JAN 21...	1100	765	3.5	1	2.1	58
MAR 24...	1100	1600	10.0	3	13	44
MAY 11...	1400	5500	8.0	9	134	23
JUL 21...	1630	5100	18.0	1	14	33
SEP 22...	0940	532	15.0	1	1.4	63

## 11221000 PINE FLAT LAKE NEAR PIEDRA, CA

LOCATION.--Lat 36°49'58", long 119°19'29", in SE¼NE¼ sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030010, near center of Pine Flat Dam on Kings River, 1.9 mi (3.1 km) upstream from Mill Creek, 3.5 mi (5.6 km) northeast of Piedra, and 16 mi (26 km) northeast of Sanger.

DRAINAGE AREA.--1,545 mi<sup>2</sup> (4,002 km<sup>2</sup>).

PERIOD OF RECORD.--October 1951 to current year. Prior to October 1970, published as "Pine Flat Reservoir."

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Apr. 8, 1952, nonrecording mercury gage on dam at same datum.

REMARKS.--Reservoir is formed by gravity-type concrete dam; regulation of discharge from reservoir began Dec. 4, 1951. Total capacity, 1,001,055 acre-ft (1.23 km<sup>3</sup>) between elevations 565.5 ft (172.36 m), bottom of lower tier of river outlets, and 951.5 ft (290.02 m), gross pool elevation. No dead storage. Reservoir is used for flood control and conservation storage. Water is released down Kings River for diversion by the Kings River Water Association. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Kings River basin.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,009,000 acre-ft (1.24 km<sup>3</sup>) July 15, 1967, June 8, 9, 1974, elevation, 952.76 ft (290.401 m); minimum since gross pool elevation first obtained, 66,339 acre-ft (81.8 hm<sup>3</sup>) Sept. 12, 1977, elevation, 691.29 ft (210.705 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 984,462 acre-ft (1.21 km<sup>3</sup>) July 8, elevation, 948.70 ft (289.164 m); minimum, 328,731 acre-ft (405 hm<sup>3</sup>) Oct. 1, elevation, 804.02 ft (245.065 m).

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

690	64,528	820	383,196
700	74,248	840	457,481
710	95,542	860	538,559
720	113,424	890	673,065
740	154,021	920	823,775
760	201,186	950	992,146
780	255,055	960	1,052,445
800	315,716		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	328731	349684	401966	453798	549855	635290	793883	924788	930878	982870	883926	674490
2	328895	350496	403129	456123	550881	640180	802016	923311	931447	981516	877138	671737
3	329092	351342	404331	458491	551736	642817	809040	922291	930764	981104	869232	669179
4	329288	352088	405571	464852	552548	644949	815570	920987	929510	981221	861094	666626
5	330009	352868	406629	482846	553277	646901	821652	919853	926833	981575	853218	664691
6	330895	353480	407654	487851	553919	648575	825740	918381	922574	982281	845490	663230
7	332078	354092	408569	492438	554691	650158	827496	916743	919004	983459	838447	661629
8	333164	354636	409449	496359	555206	651744	828614	913976	918381	984462	831813	659373
9	334154	355352	410550	499605	555335	653144	827656	909245	919853	983871	824252	657216
10	334484	355966	411543	502576	555550	657544	830320	901169	922234	983282	815464	655249
11	335013	356648	412500	505352	555593	665020	911777	891022	925696	982693	806467	653425
12	335607	358152	413384	507808	555292	670647	940429	879894	929453	982045	797526	651371
13	336369	360620	414454	510106	555206	675488	953044	870382	932645	980927	789006	649460
14	337330	371766	415229	512038	556494	684846	959651	864802	934245	979221	780999	647272
15	338027	375685	416153	513850	560583	692486	963138	859515	937162	977988	772835	645089
16	338757	378744	417079	515666	582361	699107	964244	856634	941061	976344	765074	642724
17	339157	382098	418079	517362	590793	705908	964360	855821	944623	973354	757560	640688
18	339656	384402	419044	519101	595724	713185	963721	856743	947329	968443	749684	638748
19	340989	386108	420047	521092	599513	719766	962963	857340	950559	962790	741402	637271
20	341723	387604	423510	523337	603719	725537	962091	859025	953681	956402	733869	636165
21	342157	388960	429129	526004	608255	730242	960173	862293	956170	949521	726823	635198
22	342525	390247	431876	528177	612853	734765	957155	866879	958084	943416	719125	633910
23	342892	392397	434029	530145	616926	738704	953565	872027	959767	938422	713136	632577
24	343227	393977	435617	532283	620649	742704	949808	879231	961684	931504	707761	638101
25	343529	395129	437020	534721	624156	746465	946004	888135	962208	923482	700949	666578
26	343897	396282	438387	537292	627444	751850	941520	898039	964885	916913	694030	715440
27	344266	397365	439794	540123	630420	756295	936190	908457	970253	911215	687771	730441
28	345944	398412	441661	542367	632853	761717	932190	916008	975933	906548	685084	737805
29	347323	399571	443800	545126	---	768132	929510	921666	980104	901281	682548	742104
30	348098	400840	447248	546488	---	774116	926607	926038	983871	895808	680015	743657
31	348873	---	450479	548447	---	782081	---	929225	---	890022	677345	---
MAX	348873	400840	450479	548447	632853	782081	964360	929225	983871	984462	883926	743657
MIN	328731	349684	401966	453798	549855	635290	793883	855821	918381	890022	677345	632577
a	810.08	824.92	838.19	862.33	881.39	912.03	938.71	939.17	948.60	932.20	890.90	904.47
b	+20959	+51967	+49639	+97968	+84406	+149228	+144526	+2618	+54646	-93849	-212677	+66312
c	1118	521	328	301	411	673	1495	2646	3117	4214	3482	2252

CAL YR 1981 b -287076  
WTR YR 1982 b +415743

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

## TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA

LOCATION.--Lat 36°49'50", long 119°20'07", in SW¼NW¼ sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030012, on right bank 0.6 mi (1.0 km) downstream from Pine Flat Dam, and 2.9 mi (4.7 km) northeast of Piedra.

DRAINAGE AREA.--1,545 mi<sup>2</sup> (4,002 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1953 to current year. Monthly and yearly discharges only and adjusted flow for some periods published in WSP 1735.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control since Sept. 1, 1956. Datum of gage is 556.97 ft (169.764 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1956, at site 0.2 mi (0.3 km) downstream at datum 3.48 ft (1.061 m) lower.

REMARKS.--Records good. Flow regulated by Pine Flat Lake (station 11221000) 0.6 mi (1.0 km) upstream and Wishon and Courtright Reservoirs (stations 11214550 and 11214800). See schematic diagram of Kings River basin.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation).--29 years, 2,321 ft<sup>3</sup>/s (65.73 m<sup>3</sup>/s), 1,682,000 acre-ft/yr (2.07 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft<sup>3</sup>/s (484 m<sup>3</sup>/s) June 3, 4, 8, 9, 1969, gage height, 10.73 ft (3.271 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Feb. 26, 27, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,300 ft<sup>3</sup>/s (348 m<sup>3</sup>/s) May 12, gage height, 9.36 ft (2.853 m); minimum daily, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Jan. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	57	65	27	198	735	49	11000	9300	6280	7250	3360
2	103	56	68	27	379	819	44	11000	9520	6120	6980	3210
3	103	56	68	33	387	1130	42	11100	9510	6010	7080	3030
4	104	56	70	43	390	1080	43	11200	9510	6000	7050	2990
5	103	71	70	35	412	1070	106	11400	9500	6020	6930	2650
6	103	100	76	31	450	1090	1390	11600	9510	6010	6770	2340
7	103	99	84	30	466	1130	1710	11700	9140	6010	6660	2410
8	103	100	84	29	534	1180	1880	11900	8180	6310	6750	2650
9	103	74	84	29	692	1260	2820	11800	8020	6830	6670	2600
10	92	50	84	29	622	1240	3120	11800	8010	7120	6980	2640
11	76	50	85	30	759	1090	1900	12100	8000	7270	6930	2610
12	76	50	85	32	802	919	5060	11800	8020	7480	6790	2570
13	76	50	84	72	865	845	5910	10900	8000	7890	6460	2520
14	75	53	84	140	855	445	6330	9420	8020	7950	6220	2500
15	75	50	84	142	761	174	6650	8860	8090	7860	6170	2560
16	82	48	100	142	333	343	7040	8440	8240	7840	5800	2550
17	76	50	100	142	649	247	7220	8470	8440	7720	5710	2370
18	75	48	102	150	707	81	7550	8480	8520	7970	5790	2300
19	75	44	108	158	733	66	7990	8460	8420	8260	5770	2160
20	74	46	107	100	630	127	8270	8470	8390	8610	5780	1890
21	74	50	96	30	498	390	8580	8480	7860	8780	5620	1800
22	74	50	97	26	477	512	8940	8460	7870	8510	5800	1840
23	75	47	107	29	466	549	9410	8470	7920	8170	5860	1830
24	75	45	108	29	443	567	9640	8470	7730	8220	5740	1380
25	75	46	108	29	357	615	9690	8520	7410	8090	6010	888
26	75	49	110	30	326	346	9940	8500	6960	8030	5840	692
27	74	49	110	31	432	227	10200	8490	6730	7880	5360	888
28	65	49	111	32	599	191	10600	8500	6600	7600	4090	1020
29	57	69	104	33	---	38	10800	8500	6340	7470	3940	1480
30	56	70	79	33	---	75	10900	8500	5280	7260	3660	1570
31	55	---	29	33	---	102	---	8760	---	7300	3430	---
TOTAL	2513	1732	2751	1756	15222	18683	173824	303550	243040	228870	185890	65298
MEAN	81.1	57.7	88.7	56.6	544	603	5794	9792	8101	7383	5996	2177
MAX	104	100	111	158	865	1260	10900	12100	9520	8780	7250	3360
MIN	55	44	29	26	198	38	42	8440	5280	6000	3430	692
AC-FT	4980	3440	5460	3480	30190	37060	344800	602100	482100	454000	368700	129500
MEAN a	297	960	898	1634	2343	2881	8879	11370	10080	5989	2148	3090
AC-FT a	18260	57120	55220	100500	130100	177100	528300	699100	599800	368300	132100	183900

CAL YR 1981 TOTAL 669198 MEAN 1833 MAX 8060 MIN 27 AC-FT 1327000 MEAN a 1512 AC-FT a 1095000  
WTR YR 1982 TOTAL 1243129 MEAN 3406 MAX 12100 MIN 26 AC-FT 2466000 MEAN a 4213 AC-FT a 3050000

a Adjusted for change in contents in Wishon and Courtright Reservoirs, Pine Flat Lake, and evaporation from Pine Flat Lake.

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1970 to current year.

CHEMICAL ANALYSES: Water years 1956-66.

WATER TEMPERATURES: Water years 1970 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1969 to current year.

INSTRUMENTATION.--Temperature recorder since October 1969.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 25.0°C Sept. 21, 1976; minimum recorded, 6.5°C on several days in January 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.0°C Oct. 13, 15; minimum recorded, 6.5°C on several days in January.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

## 11221700 MILL CREEK NEAR PIEDRA, CA

LOCATION.--Lat 36°49'07", long 119°20'27", in NE¼NE¼ sec.10, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030008, on left bank 150 ft (46 m) upstream from road bridge, 0.7 mi (1.1 km) upstream from mouth, and 2.3 mi (3.7 km) east of Piedra.

DRAINAGE AREA.--127 mi<sup>2</sup> (329 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to current year. November 1938 to September 1957 in reports of Kings River Water Association.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 550 ft (168 m), from topographic map. Prior to July 14, 1958, at site 150 ft (46 m) upstream at same datum.

REMARKS.--Records good. Some small diversions above station for irrigation. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--25 years (water year 1958-82), 42.0 ft<sup>3</sup>/s (1.189 m<sup>3</sup>/s), 30,430 acre-ft/yr (37.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s (311 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 9.53 ft (2.905 m) in gage well, 10.2 ft (3.11 m) from floodmarks; maximum gage height, 9.65 ft (2.941 m) in gage well, Jan. 19, 1969 (backwater from debris); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft<sup>3</sup>/s (7.08 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)		Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Jan. 5	0400	1,540	43.6	4.80	1.463	Apr. 1	0300	2,320	65.7	5.30	1.615
Feb. 16	1130	742	21.0	4.06	1.237	Apr. 11	1315	*4,900	139	6.58	2.006
Mar. 14	1745	1,230	34.8	4.56	1.390						

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	5.0	40	34	34	1330	93	22	22		0
2		0	4.9	46	33	68	569	89	21	16		0
3		0	4.8	33	32	74	403	86	20	14		0
4		0	4.8	116	30	53	356	82	24	13		0
5		0	4.8	1020	29	47	300	79	24	12		0
6		0	4.8	198	28	43	263	74	24	10		0
7		0	4.8	87	27	41	233	71	22	9.1		0
8		0	4.9	57	26	38	201	68	20	8.2		0
9		0	4.3	47	25	36	183	67	19	7.6		0
10		0	3.9	40	24	46	237	66	18	7.1		0
11		0	4.1	35	24	76	2740	64	16	6.5		0
12		0	4.0	32	21	108	991	62	16	5.6		0
13		0	3.9	29	21	68	566	57	15	5.0		0
14		0	3.7	26	26	438	432	54	15	4.6		0
15		1.4	3.7	23	44	368	360	53	15	4.2		0
16		2.9	3.9	22	415	206	311	51	14	3.8		0
17		3.3	3.9	20	163	378	272	48	12	3.5		0
18		7.4	3.9	19	86	435	240	46	13	3.3		0
19		5.3	3.9	20	68	335	219	44	13	2.9		0
20		4.5	5.3	42	60	219	201	42	12	2.7		0
21		4.7	15	87	54	176	180	40	11	2.5		0
22		3.6	18	64	50	147	163	37	9.9	2.2		0
23		3.2	12	48	47	122	147	36	9.2	1.9		0
24		3.0	9.2	43	45	105	137	34	8.9	1.8		0
25		3.1	8.0	44	42	94	126	31	9.3	1.6		0
26		3.4	7.5	49	39	129	118	29	9.1	1.1		19
27		4.8	7.1	53	36	98	111	28	7.0	1.0		27
28		6.3	7.0	49	35	146	107	30	3.8	.57		13
29		6.6	7.4	45	---	370	103	29	12	.08		9.3
30		5.4	36	39	---	303	98	25	20	.18		7.6
31		---	40	37	---	291	---	23	---	0		---
TOTAL	0	68.9	254.5	2510	1564	5092	11697	1638	455.2	174.03	0	75.9
MEAN	0	2.30	8.21	81.0	55.9	164	390	52.8	15.2	5.61	0	2.53
MAX	0	7.4	40	1020	415	438	2740	93	24	22	0	27
MIN	0	0	3.7	19	21	34	98	23	3.8	0	0	0
AC-FT	0	137	505	4980	3100	10100	23200	3250	903	345	0	151
CAL YR 1981 TOTAL		5341.61		MEAN 14.6	MAX 288	MIN 0	AC-FT 10600					
WTR YR 1982 TOTAL		23529.53		MEAN 64.5	MAX 2740	MIN 0	AC-FT 46670					

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA

LOCATION.--Lat 36°12'53", long 120°28'11", in NW¼SE¼ sec.5, T.20 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on right bank 50 ft (15 m) downstream from highway bridge, 1.1 mi (1.8 km) upstream from Nunez Canyon, 3.0 mi (4.8 km) downstream from White Creek, and 8.1 mi (13.0 km) northwest of Coalinga.

DRAINAGE AREA.--95.8 mi<sup>2</sup> (248.1 km<sup>2</sup>).

PERIOD OF RECORD.--May 1945 to current year. Prior to October 1949 monthly discharge only, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1950. WSP 1735: 1952(M), 1956(M). WSP 1930: Drainage area. WDR CA-72-2: 1971(P).

GAGE.--Water-stage recorder. Datum of gage is 1,067.2 ft (325.28 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 2, 1959, at site 100 ft (30 m) downstream at same datum.

REMARKS.--Records good. Minor diversion for irrigation and stock ponds.

AVERAGE DISCHARGE.--37 years, 4.93 ft<sup>3</sup>/s (0.140 m<sup>3</sup>/s), 3,570 acre-ft/yr (4.40 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).--Maximum discharge, 4,360 ft<sup>3</sup>/s (123 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 10.34 ft (3.152 m) in gage well, 11.30 ft (3.444 m) from floodmarks, from rating curve extended above 800 ft<sup>3</sup>/s (22 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.34 ft (3.152 m), maximum gage height, 10.65 ft (3.246 m) in gage well, 11.95 ft (3.642 m) from floodmarks, Jan. 16, 1978; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Mar. 31	2330	382	10.8	3.48	1.061
Apr. 11	0830	*1,330	37.7	5.38	1.640

Minimum, no flow several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	1.2	1.1	101	4.6	.63	.06		
2				0	1.1	4.4	41	4.6	.62	.06		
3				0	1.0	3.1	29	4.1	.52	.06		
4				0	1.1	1.7	21	4.1	.46	.06		
5				6.6	.99	1.3	15	4.1	.47	.05		
6				3.7	.93	1.1	15	4.1	.45	.05		
7				1.5	.90	1.1	14	3.7	.36	.06		
8				.87	.90	.99	12	3.7	.29	.06		
9				.50	.90	.90	11	3.7	.24	.05		
10				.38	1.0	1.1	19	3.7	.20	.04		
11				.28	.98	1.6	356	3.3	.18	.03		
12				.22	.85	1.6	75	3.3	.18	.03		
13				.19	.78	1.3	46	3.3	.17	.02		
14				.20	.90	1.3	34	3.3	.17	.01		
15				.22	.97	1.6	26	2.9	.15	.01		
16				.23	1.5	2.4	17	2.6	.13	.01		
17				.24	1.5	11	14	2.6	.11	0		
18				.26	1.2	11	12	2.7	.11	0		
19				.31	.99	7.2	11	2.7	.11	0		
20				1.8	.87	5.9	9.9	2.2	.10	0		
21				4.7	.84	5.3	8.7	1.8	.10	0		
22				1.8	.78	3.8	8.0	1.6	.10	0		
23				1.2	.74	3.1	7.3	1.4	.08	0		
24				.86	.73	2.6	6.8	1.0	.08	0		
25				.99	.72	2.3	6.5	.72	.08	0		
26				1.2	.66	2.6	6.2	.60	.07	0		
27				1.5	.64	2.4	5.9	.60	.07	0		
28				1.7	.66	2.2	5.7	.67	.07	0		
29				1.6	---	8.7	5.5	.71	.06	0		
30				1.4	---	9.9	4.9	.66	.06	0		
31		---		1.3	---	76	---	.63	---	0		---
TOTAL	0	0	0	35.75	26.33	180.59	944.4	79.69	6.42	.66	0	0
MEAN	0	0	0	1.15	.94	5.83	31.5	2.57	.21	.021	0	0
MAX	0	0	0	6.6	1.5	76	356	4.6	.63	.06	0	0
MIN	0	0	0	0	.64	.90	4.9	.60	.06	0	0	0
AC-FT	0	0	0	71	52	358	1870	158	13	1.3	0	0

CAL YR 1981 TOTAL 382.93 MEAN 1.05 MAX 63 MIN 0 AC-FT 760  
WTR YR 1982 TOTAL 1273.84 MEAN 3.49 MAX 356 MIN 0 AC-FT 2530



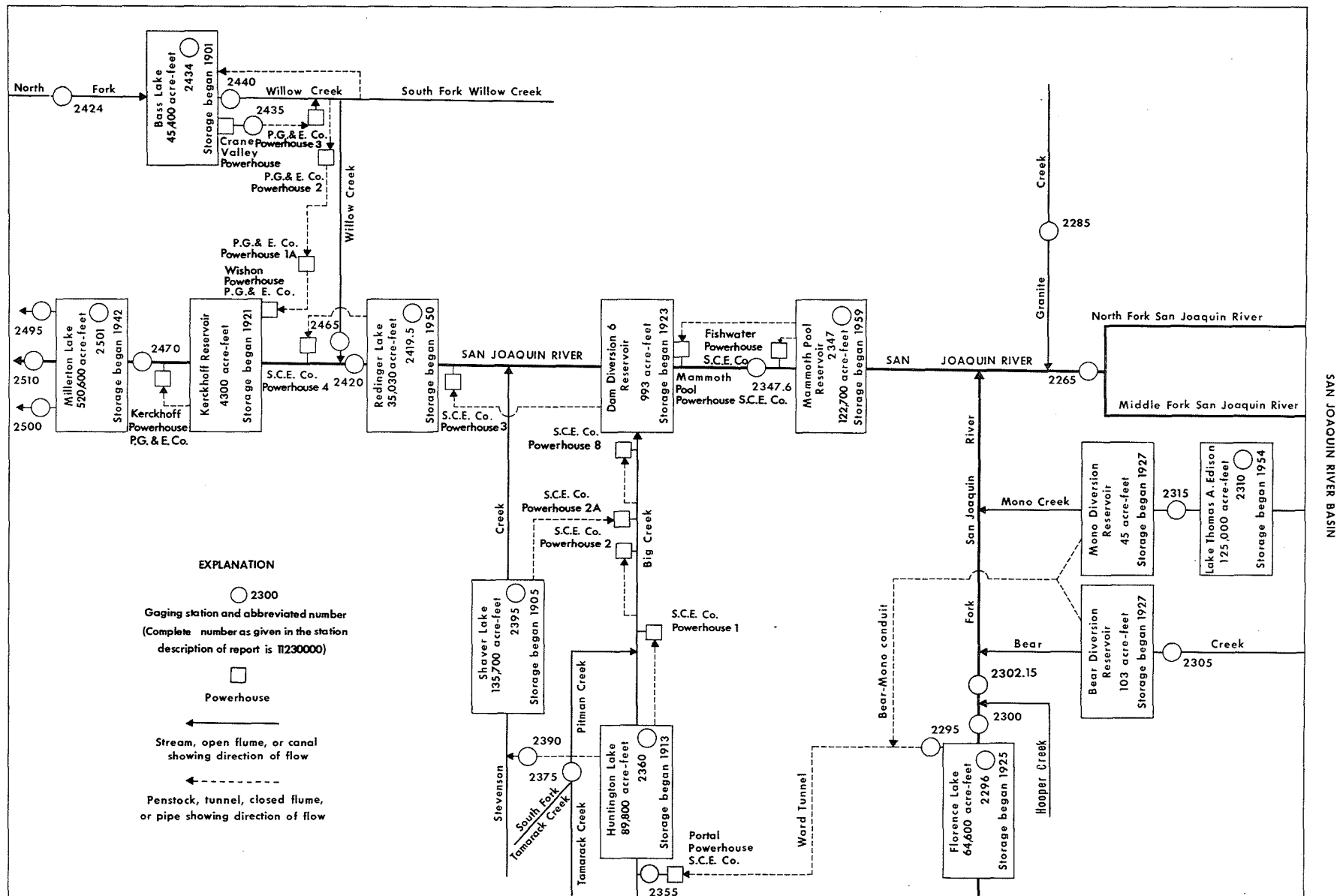


FIGURE 8.-- Schematic diagram showing diversions and storage in San Joaquin River basin.

## SAN JOAQUIN RIVER BASIN

## 11226500 SAN JOAQUIN RIVER AT MILLER CROSSING, CA

LOCATION.--Lat 37°30'38", long 119°11'47", in SE¼NE¼ sec.11, T.5 S., R.25 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank at Miller Crossing, 2.4 mi (3.9 km) downstream from North Fork San Joaquin River, 4.6 mi (7.4 km) east of Clover Meadow Ranger Station, and 23 mi (37 km) northeast of town of Bass Lake.

DRAINAGE AREA.--249 mi<sup>2</sup> (645 km<sup>2</sup>).

PERIOD OF RECORD.--October 1921 to September 1928, October 1951 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as Middle Fork San Joaquin River at Miller Bridge.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,570 ft (1,393 m), from topographic map. Prior to Mar. 24, 1922, nonrecording gage at same site and datum.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and one discharge measurement furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--38 years, 608 ft<sup>3</sup>/s (17.22 m<sup>3</sup>/s), 440,500 acre-ft/yr (543 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,600 ft<sup>3</sup>/s (470 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 21.28 ft (6.486 m), from rating curve extended above 5,200 ft<sup>3</sup>/s (147 m<sup>3</sup>/s) on basis of contracted-opening measurement of maximum flow; minimum, 19 ft<sup>3</sup>/s (0.54 m<sup>3</sup>/s) Nov. 17, 1961.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s (57.0 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2300	2,360 66.8	14.54 4.432	May 26	2115	5,990 170	17.19 5.240
Feb. 15	2245	2,440 69.1	14.62 4.456	Sep. 25	2030	*11,500 326	19.69 6.002
Apr. 11	1045	10,600 300	19.35 5.898				

Minimum daily, 55 ft<sup>3</sup>/s (1.56 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	213	199	294	244	441	340	2480	2870	2750	1480	454
2	56	222	210	292	244	473	452	2750	2820	2710	1280	409
3	65	216	207	256	246	412	444	3090	2750	2670	1110	412
4	74	204	205	251	246	380	410	3420	2520	2630	1030	410
5	66	184	191	252	230	349	351	3120	2210	2590	966	376
6	62	174	185	403	226	330	324	2810	2000	2550	912	346
7	76	171	182	536	224	331	298	2910	2060	2510	990	314
8	93	161	184	650	223	325	298	2670	2420	2470	1000	307
9	82	148	188	550	213	322	307	2200	2890	2430	964	302
10	115	140	185	500	204	503	929	1670	3260	2390	916	320
11	146	129	172	480	193	736	8140	1440	3540	2350	793	321
12	125	127	165	460	191	521	3460	1410	3460	2310	736	276
13	109	854	183	450	207	503	2080	1650	3010	2270	711	255
14	102	1630	178	480	532	548	1720	1810	2790	2230	702	245
15	102	643	176	500	1090	484	1510	1800	3440	2190	650	234
16	98	471	170	526	1780	422	1380	2250	3920	2150	614	218
17	103	518	166	298	933	398	1360	2720	4200	2110	600	203
18	124	386	167	246	647	386	1430	2830	4060	2070	631	196
19	130	327	307	235	647	362	1540	2720	4210	2030	651	203
20	124	281	1060	234	719	336	1560	3000	3760	2000	671	187
21	120	257	797	237	786	325	1460	3340	3510	1970	712	175
22	112	258	447	240	781	321	1460	3610	3440	1940	865	168
23	106	291	356	241	664	329	1590	4020	3420	1910	1370	168
24	104	345	306	274	571	340	1660	4390	3280	1880	1330	2210
25	98	285	285	310	519	334	1700	4410	2830	1850	992	6600
26	99	231	265	333	481	350	1710	4790	3140	1820	797	7240
27	95	231	261	292	438	353	1780	4840	3450	1790	692	1940
28	206	228	236	276	417	388	2210	3970	3590	1760	803	1160
29	207	214	249	255	---	351	2210	3370	3820	1730	730	859
30	185	197	339	241	---	367	2130	3020	2790	1730	630	699
31	188	---	310	238	---	378	---	3060	---	1630	525	---
TOTAL	3427	9736	8531	10830	13896	12398	46243	91570	95460	67420	26853	27207
MEAN	111	325	275	349	496	400	1541	2954	3182	2175	866	907
MAX	207	1630	1060	650	1780	736	8140	4840	4210	2750	1480	7240
MIN	55	127	165	234	191	321	298	1410	2000	1630	525	168
AC-FT	6800	19310	16920	21480	27560	24590	91720	181600	189300	133700	53260	53970

CAL YR 1981	TOTAL	162168	MEAN	444	MAX	2560	MIN	55	AC-FT	321700
WTR YR 1982	TOTAL	413571	MEAN	1133	MAX	8140	MIN	55	AC-FT	820300

## 11228500 GRANITE CREEK NEAR CATTLE MOUNTAIN, CA

LOCATION.--Lat 37°31'36", long 119°15'28", in NE¼ sec.5, T.5 S., R.25 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.7 mi (1.1 km) downstream from confluence of East and West Forks of Granite Creek, 1.6 mi (2.6 km) northwest of Cattle Mountain, and 21 mi (34 km) northeast of town of Bass Lake.

DRAINAGE AREA.--47.8 mi<sup>2</sup> (123.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1921 to September 1928, May 1952 to current year (no winter records). Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1445: Drainage area. WDR CA-80-3: 1975.

GAGE.--Water-stage recorder. Altitude of gage is 6,800 ft (2,073 m), from topographic map. Prior to May 14, 1922, nonrecording gage at same site at different datum.

REMARKS.--Records fair. Some regulation by manipulation of stoplogs in controls for fishwater purposes; no diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and five discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--7 years (water years 1922-28), 110 ft<sup>3</sup>/s (3.115 m<sup>3</sup>/s) 79,640 acre-ft/yr (98.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 8,610 ft<sup>3</sup>/s (244 m<sup>3</sup>/s) Apr. 11, 1982, gage height, 11.55 ft (3.520 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s); no flow at times in 1924, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge recorded, 8,610 ft<sup>3</sup>/s (244 m<sup>3</sup>/s) Apr. 11, gage height, 11.55 ft (3.520 m); minimum daily, 0.10 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	47	40	49	---	79	82	759	683	450	97	12
2	.10	55	47	49	---	79	69	845	720	451	77	10
3	.42	53	51	50	---	70	61	965	664	404	61	8.7
4	.74	48	46	40	---	59	52	1020	606	342	55	8.2
5	.86	36	39	33	---	55	52	941	517	345	52	7.3
6	.63	38	38	136	---	58	48	928	465	435	45	6.4
7	.74	37	40	282	---	63	52	877	548	435	54	5.6
8	1.3	31	42	294	---	59	51	753	707	410	62	4.9
9	1.7	26	41	255	---	59	49	568	841	418	50	4.9
10	2.1	23	40	260	---	64	144	364	929	441	43	5.6
11	5.9	20	38	242	---	86	4290	285	947	447	33	7.8
12	5.5	21	39	197	---	83	1510	353	853	450	28	6.0
13	3.7	204	38	---	---	96	811	538	673	417	29	5.2
14	2.6	339	35	---	---	96	489	527	706	399	26	4.9
15	3.0	134	33	---	151	82	358	545	878	364	24	4.5
16	2.8	102	34	---	519	73	277	771	1000	338	22	4.2
17	3.0	100	34	---	281	71	274	876	1030	281	19	4.2
18	8.9	71	35	---	168	71	320	853	869	239	19	4.2
19	11	61	126	---	131	62	339	856	896	239	19	4.5
20	10	52	347	---	143	59	405	990	898	226	20	4.5
21	10	49	169	---	168	57	394	1040	812	221	21	3.9
22	9.4	58	89	---	168	57	391	1080	817	221	23	3.6
23	8.0	78	73	---	141	57	421	1190	761	190	75	3.0
24	6.8	92	58	---	124	59	401	1230	669	190	63	285
25	5.5	62	57	---	121	59	429	1260	595	195	33	949
26	5.1	44	52	---	103	57	421	1340	717	259	27	688
27	4.7	47	45	---	87	58	486	1220	692	274	21	126
28	30	45	48	---	83	65	664	1000	869	210	21	62
29	22	41	39	---	---	62	640	848	1120	175	21	50
30	26	42	66	---	---	63	640	753	590	147	20	47
31	32	---	51	---	---	59	---	746	---	122	14	---
TOTAL	224.59	2056	1930	---	---	2077	14620	26321	23072	9735	1174	2341.1
MEAN	7.24	68.5	62.3	---	---	67.0	487	849	769	314	37.9	78.0
MAX	32	339	347	---	---	96	4290	1340	1120	451	97	949
MIN	.10	20	33	---	---	55	48	285	465	122	14	3.0
AC-FT	445	4080	3830	---	---	4120	29000	52210	45760	19310	2330	4640

## 11229500 WARD TUNNEL INTAKE AT FLORENCE LAKE, CA

LOCATION.--Lat 37°16'27", long 118°58'23", in NW¼ sec.1, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse at entrance to tunnel.

PERIOD OF RECORD.--April 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Florence Lake tunnel at intake 1925-36 and as Ward tunnel at intake 1937-60.

REVISED RECORDS.--WSP 1515: 1931.

GAGE.--Water-stage recorder, concrete control, and Venturi meter. Datum of gage is 7,213.89 ft (2,198.794 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. Ward tunnel diverts from Florence Lake, a reservoir on South Fork San Joaquin River, to Huntington Lake via Portal powerhouse and further used in Big Creek powerplants. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record (no discharge measurements) and rating table for Venturi meter furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--57 years, 280 ft³/s (7.930 m³/s), 202,900 acre-ft/yr (250 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,990 ft³/s (56.4 m³/s) Apr. 30, 1926; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	224	84	74	79	81	114	109	5.2	330	1150	725	621
2	348	65	76	79	78	116	141	5.3	618	1150	734	619
3	346	59	74	83	79	111	166	5.6	628	1150	756	471
4	346	56	73	95	80	110	157	5.8	635	1150	775	382
5	343	53	71	70	75	103	140	5.9	649	1150	774	382
6	339	50	68	96	72	98	128	6.1	657	1150	718	381
7	336	47	66	179	70	99	109	6.1	656	1150	656	380
8	493	43	64	204	71	95	105	6.3	655	1160	619	361
9	569	40	64	189	67	93	104	6.6	656	788	678	316
10	562	38	63	154	67	138	145	6.8	637	397	722	415
11	527	37	58	130	61	180	431	193	628	445	687	415
12	494	37	54	112	60	169	518	405	639	437	619	414
13	487	149	60	102	61	174	520	468	655	429	641	358
14	446	313	60	99	99	178	516	558	654	471	672	315
15	422	281	59	96	150	159	509	557	653	555	671	190
16	414	206	58	95	299	143	497	556	654	588	603	99
17	406	174	56	95	323	131	440	560	654	587	556	402
18	398	145	56	88	256	131	285	564	653	600	554	559
19	390	128	58	85	195	124	245	571	653	608	554	555
20	381	113	97	88	204	114	193	575	654	608	553	565
21	373	104	121	98	218	110	205	583	689	674	554	582
22	395	99	90	100	228	107	226	592	672	690	553	577
23	398	98	80	102	204	109	229	564	651	631	525	574
24	384	97	75	105	176	111	232	546	651	721	572	717
25	367	86	75	114	162	108	233	554	659	791	629	995
26	350	71	70	117	141	108	233	368	1110	776	629	350
27	331	69	68	102	127	109	236	248	1460	703	575	1020
28	311	74	60	94	119	112	98	200	1620	676	831	1150
29	290	77	59	88	---	109	4.8	9.5	1430	675	809	1170
30	308	74	72	85	---	111	4.9	9.5	1210	659	623	1180
31	192	---	79	83	---	121	---	9.5	---	642	622	---
TOTAL	11970	2967	2158	3306	3823	3795	7159.7	8750.2	22770	23361	20189	16515
MEAN	386	98.9	69.6	107	137	122	239	282	759	754	651	551
MAX	569	313	121	204	323	180	520	592	1620	1160	831	1180
MIN	192	37	54	70	60	93	4.8	5.2	330	397	525	99
AC-FT	23740	5890	4280	6560	7580	7530	14200	17360	45160	46340	40040	32760
CAL YR 1981 TOTAL	89892.5			MEAN 246	MAX 1350	MIN 5.8	AC-FT 178300					
WTR YR 1982 TOTAL	126763.9			MEAN 347	MAX 1620	MIN 4.8	AC-FT 251400					

## 11229600 FLORENCE LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°16'26", long 118°58'23", in NW¼ sec.1, T.8 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of Ward tunnel intake near dam on South Fork San Joaquin River, 16 mi (26 km) northeast of town of Big Creek.

DRAINAGE AREA.--171 mi<sup>2</sup> (443 km<sup>2</sup>).

PERIOD OF RECORD.--November 1925 to current year. Prior to October 1931, published in WSP 721.

REVISED RECORDS.--WDR CA-78-3: 1977.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by multiple-arch concrete dam; storage began in April 1925. Usable capacity, 64,400 acre-ft (79.4 hm<sup>3</sup>) between elevations 7,220.94 ft (2,200.943 m), throat of Venturi tube in Ward Tunnel intake and 7,327.50 ft (2,233.422 m), top of spillway drum gates, NGVD. Additional storage of 168 acre-ft (207,000 m<sup>3</sup>) is not available for diversion. Water is diverted through Ward tunnel to Huntington Lake via Portal powerhouse and used for further power development in Big Creek powerplants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 66,000 acre-ft (81.4 hm<sup>3</sup>) July 3, 1932, elevation, 7,329.14 ft (2,233.922 m); minimum occurred during period of no record, Oct. 2-4, 1926, or Nov. 30 to Dec. 2, 1927.

NOTE.--Prior to 1960, maximum and minimum daily contents were published. Maximum and minimum daily contents (water years 1926-39) summarized in WSP 881.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,907 acre-ft (80.0 hm<sup>3</sup>) June 28, elevation, 7,328.02 ft (2,233.580 m); minimum, 906 acre-ft (1.12 hm<sup>3</sup>) Nov. 10, elevation, 7,230.12 ft (2,203.741 m).

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

7,220.94	0	7,235	1,774	7,260	11,608	7,290	31,966
7,222	63	7,240	2,976	7,265	14,580	7,300	39,851
7,224	201	7,245	4,666	7,270	17,755	7,310	48,284
7,227	495	7,250	6,648	7,275	21,097	7,320	57,312
7,230	887	7,255	8,950	7,280	24,588	7,330	66,826

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23443	1170	969	963	965	1000	1002	14834	62767	63877	64763	63475
2	22764	944	968	972	965	999	1040	16741	63139	63772	64801	62938
3	22096	938	966	966	965	1000	1047	18722	63245	63705	64724	62586
4	21434	932	963	974	965	994	1037	20879	63245	63590	64551	62405
5	20730	926	960	944	957	985	1019	23155	62910	63638	64339	62147
6	20060	923	955	1033	955	978	1003	25288	62872	63906	64127	61862
7	19395	916	954	1096	952	977	992	27574	63120	64089	64185	61549
8	18456	912	952	1093	952	977	989	29669	63427	63973	64397	61226
9	17340	907	954	1066	947	975	988	31404	63781	63848	64426	61046
10	16261	906	951	1033	947	1062	1180	33434	63915	63743	64214	60810
11	15250	906	941	1014	941	1061	4733	33627	63781	63753	63925	60470
12	14293	916	947	1000	940	1061	5188	33689	63753	63820	63705	60092
13	13356	1166	947	991	941	1056	5142	33860	63695	63800	63436	59753
14	12542	1271	947	991	988	1056	5001	34023	63580	64079	63044	59471
15	11729	1137	947	988	1002	1042	4703	34031	63714	64214	62567	59339
16	10938	1078	941	989	1393	1020	4382	34474	63762	64118	62166	59461
17	10172	1061	940	986	1244	1014	4206	35382	63484	64021	61872	58945
18	9424	1031	938	982	1098	1016	4433	36509	63494	64262	61568	58103
19	8682	1017	954	980	1083	1011	4859	37567	63686	64811	61340	57293
20	7952	1005	1030	980	1095	1003	5483	39023	63628	64811	61207	56405
21	7242	997	1003	980	1112	997	5861	40907	63446	64753	61103	55464
22	6497	991	975	980	1103	994	6236	42997	63571	64772	61027	54500
23	5737	992	969	980	1079	996	6627	45241	63618	64763	62328	53550
24	4975	992	968	980	1054	996	7099	48058	63532	64628	63187	56331
25	4213	971	961	980	1034	991	7588	51235	63695	64782	63465	64407
26	3473	958	957	996	1019	994	8060	55033	64407	64907	63532	64281
27	2776	951	952	986	1006	996	8618	59001	64734	64849	63714	64772
28	2578	951	946	983	999	997	9756	59292	64416	64792	64349	64503
29	2048	971	952	974	---	996	11358	60139	64243	64801	64233	63666
30	1524	968	966	969	---	1003	12987	61103	64041	64628	64233	62519
31	1223	---	969	966	---	1005	---	62338	---	64705	64098	---
MAX	23443	1271	1030	1096	1393	1062	12987	62338	64734	64907	64801	64772
MIN	1223	906	938	944	940	975	988	14834	62767	63590	61027	53550
a	7232.06	7230.52	7230.53	7230.51	7230.72	7230.76	7262.36	7325.34	7327.12	7327.81	7327.18	7325.53
b	-22621	-255	+1	-3	+33	+6	+11982	+49351	+1703	+664	-607	-1579

CAL YR 1981 b +95

WTR YR 1982 b +38675

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

## SAN JOAQUIN RIVER BASIN

11230215 SOUTH FORK SAN JOAQUIN RIVER BELOW HOOPER CREEK, NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°18'30", long 118°57'40", unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank, 0.2 mi (0.3 km) downstream from Hooper Creek, 3.2 mi (5.1 km) downstream from spillway of Florence Lake Dam, and 17 mi (27 km) northeast of town of Big Creek.

DRAINAGE AREA.--184 mi<sup>2</sup> (477 km<sup>2</sup>).

PERIOD OF RECORD.--October 1978 to current year. October 1946 to September 1978, operated as a low-flow station only, in files of the Geological Survey.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Datum of gage is 6,949.41 ft (2,118.180 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. Flow regulated by Florence Lake (station 11229600), 3.2 mi (5.1 km) upstream, and Hooper Creek diversion dam (capacity less than 2 acre-ft), 0.7 mi (1.1 km) upstream. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft<sup>3</sup>/s (169 m<sup>3</sup>/s) Sept. 26, 1982, gage height, 11.42 ft (3.481 m), from rating curve extended above 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) on basis of spill flow at Florence Lake; minimum daily, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Oct. 24, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,950 ft<sup>3</sup>/s (169 m<sup>3</sup>/s) Sept. 26, gage height, 11.42 ft (3.481 m); minimum daily, 7.2 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	13	14	16	16	26	30	44	600	273	380	27
2	14	13	14	15	16	26	24	42	693	219	296	28
3	7.2	13	14	17	16	23	24	41	751	208	93	27
4	9.4	13	14	17	16	23	25	38	798	111	61	27
5	12	13	14	18	16	22	26	36	714	91	48	27
6	14	13	14	16	16	21	24	34	475	194	31	26
7	14	13	14	16	15	21	22	34	394	273	34	26
8	14	13	14	15	15	21	22	33	584	447	34	26
9	14	13	14	16	15	21	22	33	873	713	36	29
10	14	13	14	16	15	37	38	32	957	913	34	35
11	15	12	14	15	15	41	264	32	1000	927	32	32
12	14	12	15	15	14	34	93	31	1020	941	29	31
13	14	22	15	15	15	34	65	30	951	969	25	28
14	14	40	15	15	20	35	60	30	1020	969	24	28
15	14	18	15	15	32	30	53	30	960	941	28	28
16	14	16	14	15	121	28	49	30	1030	955	26	29
17	13	17	14	16	47	26	50	35	1170	955	22	31
18	14	15	14	16	33	24	49	36	1040	682	23	28
19	13	15	15	16	34	23	55	37	952	500	26	28
20	13	14	18	17	37	22	55	39	1080	736	26	28
21	14	14	18	17	42	22	51	39	1090	724	26	28
22	14	14	16	16	40	22	49	40	982	771	26	29
23	14	14	16	15	36	22	51	41	918	927	29	31
24	14	14	15	16	36	23	50	43	954	820	28	39
25	14	14	15	17	31	24	49	46	784	508	27	404
26	14	14	15	19	28	24	49	49	572	567	27	5200
27	14	14	15	17	26	25	48	146	685	736	30	1430
28	17	14	15	17	25	27	50	219	787	736	33	208
29	15	14	16	16	---	25	47	300	547	692	29	63
30	14	14	16	16	---	24	45	400	424	713	28	47
31	14	---	15	16	---	24	---	500	---	549	27	---
TOTAL	427.6	451	461	499	788	800	1539	2520	24805	19760	1618	8048
MEAN	13.8	15.0	14.9	16.1	28.1	25.8	51.3	81.3	827	637	52.2	268
MAX	19	40	18	19	121	41	264	500	1170	969	380	5200
MIN	7.2	12	14	15	14	21	22	30	394	91	22	26
AC-FT	848	895	914	990	1560	1590	3050	5000	49200	39190	3210	15960
CAL YR 1981 TOTAL	6869.6			18.8	MAX 40	MIN 7.2	AC-FT 13630					
WTR YR 1982 TOTAL	61716.6			MEAN 169	MAX 5200	MIN 7.2	AC-FT 122400					

11230500 BEAR CREEK NEAR LAKE THOMAS A. EDISON, CA

LOCATION.--Lat 37°20'18", long 118°58'23", in SW¼ sec.12, T.7 S., R.27 E., unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 0.2 mi (0.3 km) upstream from diversion dam, 1.7 mi (2.7 km) upstream from mouth, 2.1 mi (3.4 km) south of Lake Thomas A. Edison, and 2.4 mi (3.9 km) northeast of Mono Hot Springs.

DRAINAGE AREA.--52.5 mi<sup>2</sup> (136.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermillion Valley."

REVISED RECORDS.--WSP 611: 1922(M). WSP 1345: 1931-35. WSP 1515: 1922-30. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7,366.94 ft (2,245.443 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and four discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--61 years, 91.8 ft<sup>3</sup>/s (2.600 m<sup>3</sup>/s), 66,510 acre-ft/yr (82.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,660 ft<sup>3</sup>/s (104 m<sup>3</sup>/s) Sept. 26, 1982, gage height, 8.35 ft (2.545 m), from rating curve extended above 570 ft<sup>3</sup>/s (16.1 m<sup>3</sup>/s); minimum daily recorded, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Sept. 29 to Oct. 5, 1924.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 440 ft<sup>3</sup>/s (12 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Apr. 11	0930	549 15.5	5.28 1.609	July 12	2230	664 18.8	5.48 1.670
May 26	1930	926 26.2	5.88 1.792	Aug. 23	1315	688 19.5	5.52 1.682
June 16	2215	869 24.6	5.80 1.768	Sep. 26	0300	*3,660 104	8.35 2.545

Minimum daily, 6.1 ft<sup>3</sup>/s (0.17 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.4	21	28	27	37	32	33	256	397	294	313	100
2	6.1	21	27	33	36	32	41	253	388	299	271	87
3	6.8	20	28	37	37	34	44	271	380	306	227	80
4	7.8	19	25	29	39	33	39	347	355	306	211	78
5	7.4	18	25	29	40	31	35	309	316	318	196	73
6	7.1	17	20	41	40	31	31	298	280	375	183	67
7	7.1	16	21	87	40	30	31	312	298	426	201	62
8	7.5	16	21	114	36	29	30	280	367	432	215	59
9	7.8	15	21	64	34	28	28	222	452	426	198	77
10	8.3	15	20	46	31	33	49	157	506	483	183	119
11	14	14	20	42	32	37	352	126	541	534	159	91
12	14	14	20	38	30	41	171	118	516	555	149	70
13	13	25	19	34	29	41	122	150	453	546	146	61
14	13	42	20	34	38	42	108	165	398	527	140	54
15	13	66	20	35	45	40	97	157	509	532	127	50
16	13	52	20	36	83	37	90	225	623	527	117	45
17	14	43	19	38	57	35	96	284	722	454	115	42
18	13	38	19	35	43	34	106	291	670	393	116	40
19	13	35	25	37	43	34	123	302	600	394	127	43
20	12	33	38	42	49	35	133	365	647	403	147	39
21	11	31	35	61	56	33	127	384	619	399	153	36
22	11	31	28	84	56	32	125	367	624	428	171	33
23	10	32	26	72	48	31	138	452	509	459	496	31
24	9.5	29	25	59	44	31	142	546	475	411	343	725
25	9.6	23	23	58	41	30	147	592	415	369	225	1840
26	9.7	21	22	55	37	29	152	662	547	434	181	2610
27	9.5	22	21	45	34	30	162	623	671	435	190	565
28	11	26	21	40	33	30	228	517	627	452	319	286
29	14	27	20	39	---	27	222	466	481	427	215	193
30	21	27	25	38	---	33	233	428	383	392	161	149
31	21	---	26	37	---	33	---	438	---	346	123	---
TOTAL	341.6	809	728	1466	1168	1028	3435	10363	14769	13082	6118	7805
MEAN	11.0	27.0	23.5	47.3	41.7	33.2	115	334	492	422	197	260
MAX	21	66	38	114	83	42	352	662	722	555	496	2610
MIN	6.1	14	19	27	29	27	28	118	280	294	115	31
AC-FT	678	1600	1440	2910	2320	2040	6810	20560	29290	25950	12140	15480
CAL YR 1981 TOTAL	27549.3			MEAN 75.5	MAX 593	MIN 4.5	AC-FT 54640					
WTR YR 1982 TOTAL	61112.6			MEAN 167	MAX 2610	MIN 6.1	AC-FT 121200					

## 11231000 LAKE THOMAS A. EDISON NEAR BIG CREEK, CA

LOCATION.--Lat 37°22'13", long 118°59'13", in sec.26, T.6 S., R.27 E., unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in outlet works of dam on Mono Creek at lower end of Vermilion Valley, 18.1 mi (29.1 km) northeast of town of Big Creek.

DRAINAGE AREA.--90.0 mi<sup>2</sup> (233.1 km<sup>2</sup>).

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by earthfill dam; dam completed and storage began on Oct. 12, 1954. Usable capacity, 125,000 acre-ft (154 hm<sup>3</sup>) between elevations 7,508.9 ft (2,288.71 m), invert of outlet works and 7,642.50 ft (2,329.434 m), top of gates in service spillway, NGVD. Dead storage negligible. Water is released for diversion to Ward tunnel via Mono Creek diversion works. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 126,983 acre-ft (157 hm<sup>3</sup>) Sept. 26, 1982, elevation, 7,643.55 ft (2,329.754 m); minimum since appreciable storage was attained, 5,080 acre-ft (6.26 hm<sup>3</sup>) Mar. 27, 1969, elevation, 7,553.09 ft (2,302.182 m).

NOTE.--Prior to 1960, maximum and minimum daily contents were published.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 126,983 acre-ft (157 hm<sup>3</sup>) Sept. 26, elevation, 7,643.55 ft (2,329.754 m); minimum, 14,679 acre-ft (18.1 hm<sup>3</sup>) Apr. 10, elevation, 7,566.24 ft (2,306.190 m).

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

7,508.9	0	7,535	513	7,560	9,521	7,610	68,616
7,515	18	7,540	928	7,570	18,137	7,620	85,006
7,520	64	7,545	1,833	7,580	28,515	7,630	102,367
7,525	156	7,550	3,567	7,590	40,454	7,640	120,424
7,530	297	7,555	6,147	7,600	53,769	7,644	127,820

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76570	77047	78482	60288	42137	22815	17977	18598	54390	105571	125128	123814
2	76456	77113	77788	59654	41395	22113	17618	19079	55765	106286	125128	123371
3	76456	77113	77097	59026	40645	21360	17269	19657	57241	107629	125183	123131
4	76456	77113	76472	58895	39925	20587	16907	20427	58909	108939	125202	123131
5	76456	77113	75753	58311	39120	19813	16490	21167	60347	110307	125146	123131
6	76489	77130	75132	57616	38298	19079	16113	21879	61473	111913	125202	123112
7	76538	77146	74532	56982	37469	18358	15722	22464	62653	113234	125202	123057
8	76554	77146	73883	56507	36656	17599	15322	23115	63996	114287	125220	123020
9	76570	77179	73252	56022	35814	16953	14920	23587	65616	115287	125128	123038
10	76619	77179	72625	55494	35015	16472	14697	23828	67397	116399	125128	123057
11	76668	77196	71950	54870	34184	16195	15394	23954	69232	117494	125072	123057
12	76685	77278	71343	54108	33363	16186	15904	24048	71088	118591	124998	123057
13	76685	77607	70721	53378	32644	16333	16333	24451	72834	120021	124887	123038
14	76685	77854	70100	52737	31951	16537	16750	25270	74515	120902	124776	123020
15	76652	77986	69453	51891	31582	16666	17074	26036	76423	121362	124609	122946
16	76652	78101	68821	51229	31397	16703	17194	26917	78581	121766	124405	122891
17	76636	78283	68210	50831	31050	16972	17449	28028	80795	122116	124202	122817
18	76701	78382	67600	50463	30523	17101	17364	29221	82994	122817	123998	122780
19	76734	78448	67053	49931	29852	17222	17279	30386	85295	123998	123795	122743
20	76767	78498	66435	49267	29143	17317	17222	31697	87579	124424	123648	122688
21	76767	78581	66033	48848	28493	17401	17166	33208	89740	124739	123592	122632
22	76767	78664	64668	48443	27962	17515	17111	34773	91740	124887	123592	122521
23	76784	78731	64836	47840	27310	17637	17111	36522	93610	125072	124479	122429
24	76767	78780	64393	47238	26611	17760	17120	38510	95384	125091	125016	123629
25	76767	78797	63709	46626	25885	17892	17157	40683	97044	125109	125016	125220
26	76734	78830	63136	46057	25078	18033	17232	43024	98975	125072	124942	126798
27	76751	78897	62563	45450	24302	18147	17326	45332	101217	125405	124757	124961
28	76850	78930	61965	44965	23524	18300	17562	47439	103558	125535	124850	124998
29	76916	78963	61637	44244	---	18454	17845	49334	104893	125276	124887	125016
30	76965	79029	61443	43621	---	18550	18175	51036	105375	125016	124665	124979
31	77014	---	60848	42857	---	18262	---	52765	---	125016	124294	---
MAX	77014	79029	78482	60288	42137	22815	18175	52765	105375	125535	125220	126798
MIN	76456	77047	60848	42857	23524	16186	14697	18598	54390	105571	123592	122429
a	7615.22	7616.44	7604.91	7591.88	7575.38	7570.13	7570.04	7599.28	7631.69	7642.49	7642.10	7642.47
b	+230	+2015	-18181	-17991	-19333	-5262	-87	+34590	+52610	+19641	-722	+685

CAL YR 1981 b -16150

WTR YR 1982 b +48195

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.



LOCATION.--Lat 37°21'40", long 118°59'26", in SW¼ sec.35, T.6 S., R.27 E., unsurveyed, Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 0.6 mi (1.0 km) upstream from diversion dam, 1 mi (2 km) downstream from Lake Thomas A. Edison Dam, and 1.9 mi (3.1 km) northeast of Mono Hot Springs.

PERIOD OF RECORD.--October 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1954, published as "near Vermilion Valley."

GAGE.--Water-stage recorder. Altitude of gage is 7,400 ft (2,256 m), from topographic map.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for storage).--61 years, 158 ft<sup>3</sup>/s (4.475 m<sup>3</sup>/s), 114,500 acre-ft/yr (141 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,160 ft<sup>3</sup>/s (61.2 m<sup>3</sup>/s) Sept. 26, 1982, gage height, 8.87 ft (2.704 m); minimum daily, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Nov. 11, 12, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,160 ft<sup>3</sup>/s (61.2 m<sup>3</sup>/s) Sept. 26, gage height, 8.87 ft (2.704 m); minimum daily, 9.9 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Mar. 14.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	12	320	394	424	484	284	324	19	549	447	408
2	14	12	370	392	422	484	282	325	19	208	473	410
3	12	12	350	394	422	482	279	327	19	16	398	248
4	12	12	340	401	423	478	278	330	19	16	365	134
5	12	12	340	427	443	474	280	328	19	16	392	134
6	11	12	340	427	469	473	281	329	18	15	308	134
7	11	12	340	442	468	469	281	331	18	164	351	134
8	12	12	340	374	464	465	279	331	17	318	371	104
9	11	12	368	331	467	409	277	331	17	317	382	89
10	11	12	366	331	464	376	277	330	17	317	317	91
11	12	12	361	395	463	276	101	329	16	318	317	92
12	12	12	360	435	459	96	21	328	17	319	317	92
13	12	14	363	432	455	15	20	150	17	320	317	93
14	12	13	363	434	403	9.9	20	25	16	465	318	93
15	12	13	360	432	383	11	39	25	16	668	317	94
16	12	12	356	376	289	12	96	26	16	678	318	94
17	11	13	358	276	293	13	150	27	17	612	318	94
18	11	13	355	277	361	13	280	26	18	304	318	94
19	11	12	357	363	435	12	310	25	18	137	318	94
20	11	12	360	432	467	12	311	26	18	563	319	94
21	11	12	358	282	430	12	310	26	19	649	318	94
22	12	12	362	277	381	12	310	25	19	622	321	94
23	12	12	359	367	429	12	312	23	18	640	244	94
24	13	12	359	366	453	11	312	23	18	672	238	122
25	12	13	356	362	475	11	313	22	18	670	368	763
26	12	13	354	363	491	12	314	22	18	746	333	2080
27	12	11	353	364	489	12	315	22	18	654	380	1900
28	13	11	354	364	485	12	319	21	19	855	322	439
29	13	11	270	363	---	13	319	21	322	885	307	321
30	13	11	194	362	---	68	322	20	551	879	365	325
31	12	---	393	424	---	282	---	20	---	570	392	---
TOTAL	541	364	10779	11659	12107	5520.9	7292	4518	1371	14162	10569	9052
MEAN	17.5	12.1	348	376	432	178	243	146	45.7	457	341	302
MAX	184	14	393	442	491	484	322	331	551	885	473	2080
MIN	11	11	194	276	289	9.9	20	20	16	15	238	89
AC-FT	1070	722	21380	23130	24010	10950	14460	8960	2720	28090	20960	17950
CAL YR 1981	TOTAL	47800.0	MEAN	131	MAX	441	MIN	11	AC-FT	94810		
WTR YR 1982	TOTAL	87934.9	MEAN	241	MAX	2080	MIN	9.9	AC-FT	174400		

## 11234700 MAMMOTH POOL RESERVOIR NEAR BIG CREEK, CA

LOCATION.--Lat 37°19'45", long 119°19'40", in SW¼ sec.10, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, in gatehouse of power tunnel intake near dam on San Joaquin River, 10 mi (16 km) northwest of town of Big Creek.

DRAINAGE AREA.--995 mi<sup>2</sup> (2,577 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Reservoir is formed by an earthfill dam; storage began Oct. 8, 1959. Usable capacity, 119,900 acre-ft (148 hm<sup>3</sup>) between elevations 3,100.00 ft (944.880 m), invert of power tunnel and 3,330.00 ft (1,014.984 m), crest of spillway, NGVD. Additional storage of 2,780 acre-ft (3.43 hm<sup>3</sup>) is not available for release. Water is diverted through tunnel for power development; water is returned to river 8.5 mi (13.7 km) downstream from dam. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 126,500 acre-ft (156 hm<sup>3</sup>) June 2, 3, 1969; maximum elevation, 3,335.86 ft (1,016.770 m) June 3, 1969; minimum contents since appreciable storage was attained, 2,956 acre-ft (3.64 hm<sup>3</sup>) Feb. 6, 1982, elevation, 3,128.81 ft (953.661 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,053 acre-ft (153 hm<sup>3</sup>) May 27, elevation, 3,333.69 ft (1,016.109 m); minimum, 2,956 acre-ft (3.64 hm<sup>3</sup>) Feb. 6, elevation, 3,128.81 ft (953.661 m).

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

3,100	0	3,130	3,114	3,180	14,060	3,260	56,381
3,105	417	3,140	4,605	3,190	17,414	3,280	72,109
3,110	861	3,150	6,402	3,200	21,400	3,300	89,781
3,115	1,355	3,160	8,618	3,220	31,109	3,320	109,336
3,120	1,900	3,170	11,165	3,240	42,787	3,336	126,661

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40450	36280	54578	17890	3230	39932	24784	123010	122428	121592	120294	67504
2	39932	36309	54155	17890	3318	38677	23418	123177	122372	121270	119733	64766
3	39451	37006	52815	17512	3199	37154	22078	123368	122305	121125	118610	61825
4	38852	37469	52104	17243	3240	35996	20822	123559	122182	120936	117553	58788
5	38005	38071	51600	18653	3009	34723	19231	123200	121926	120826	116027	56566
6	37059	38629	50889	20366	2956	33267	17493	123244	121615	121036	114669	53714
7	36958	39184	50266	21973	2989	31831	15596	123166	121570	121370	113043	51544
8	36564	39718	50577	22270	3000	30329	13582	122753	122038	121414	111479	50141
9	36094	40175	49296	22100	2998	28785	11692	122317	122507	121359	109958	48251
10	35887	40640	48064	22165	2994	29159	12890	121793	122876	121782	108235	45708
11	36134	41083	46980	22047	2980	31673	66169	121503	123121	121871	106318	43282
12	36332	41566	45597	21811	3001	32357	88642	121559	122920	121871	105217	42034
13	35910	43569	45643	21319	2981	38508	100503	122462	122540	121848	103650	39871
14	35554	55973	45014	20423	4105	33261	108605	121837	122529	121759	101942	37373
15	34998	58953	44518	17738	9305	33317	114775	121915	123032	121882	101008	34998
16	34533	59820	43066	15881	24340	35378	119722	122361	123379	121882	98433	32505
17	34639	62233	41679	13348	31667	35664	121704	122674	123525	121503	95906	30164
18	34740	64144	40499	10799	34891	35664	121871	122630	123503	120958	93475	28749
19	35709	65526	40108	8344	37355	36566	121982	122585	123446	120671	91200	27101
20	35265	66775	42819	5943	40114	34342	121949	122842	123390	120936	87950	24699
21	35333	67805	44106	5768	43149	33957	121826	123088	122943	121014	86511	21158
22	35197	67277	42165	5212	46164	33512	121837	123177	122943	121080	86045	17565
23	35276	65350	39907	4664	47937	33156	122093	123525	122853	121336	84983	14350
24	35276	63616	37379	4762	48305	32847	122104	123649	122540	121314	84729	17316
25	35618	62503	34785	5847	47599	32522	122104	123649	122115	121003	83554	32390
26	35498	61587	32071	5597	45929	31979	122171	123873	122216	121370	81660	66969
27	35208	59699	29736	5160	43978	31564	122339	123795	122305	121403	79554	75386
28	35526	58421	26914	4569	41866	30361	122976	123559	122753	121492	77255	76466
29	35304	56765	24317	3811	---	28821	122529	122898	122853	121281	75634	75011
30	35037	55037	22283	2994	---	27167	122797	122641	122104	121203	73542	73280
31	35635	---	19889	2984	---	26075	---	122507	---	120792	70644	---
MAX	40450	67805	54578	22270	48305	39932	122976	123873	123525	121882	120294	76466
MIN	34533	36280	19889	2984	2956	26075	11692	121503	121570	120671	70644	14350
a	3228.16	3258.15	3196.36	3129.02	3238.53	3210.26	3332.57	3332.31	3331.95	3330.77	3278.24	3281.39
b	-5324	+19402	-35148	-16905	+38882	-15791	+96722	-290	-403	-1312	-50148	+2636

CAL YR 1981 b -12128

WTR YR 1982 b +32321

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

## 11234760 SAN JOAQUIN RIVER ABOVE SHAKEFLAT CREEK, NEAR BIG CREEK, CA

LOCATION.--Lat 37°19'00", long 119°19'37", in NW¼SW¼ sec.14, T.7 S., R.24 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft (457 m) upstream from Shakeflat Creek, 4,900 ft (1,494 m) downstream from Mammoth Pool Dam, and 10 mi (16 km) northwest of town of Big Creek.

DRAINAGE AREA.--1,003 mi<sup>2</sup> (2,598 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 2,865.50 ft (873.404 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. Flow regulated by Mammoth Pool Reservoir (station 11234700) 4,900 ft (1,494 m) upstream. Flow partly regulated by Florence Lake (station 11229600), Lake Thomas A. Edison (station 11231000) and diversions through Ward tunnel (station 11229500), and through Mono-Bear conduit to Ward tunnel. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 22 discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft<sup>3</sup>/s (521 m<sup>3</sup>/s) June 3, 1969, gage height, 18.38 ft (5.602 m); minimum daily, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Oct. 14, Dec. 5, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,230 ft<sup>3</sup>/s (261 m<sup>3</sup>/s) May 27, gage height, 14.40 ft (4.389 m); minimum daily, 8.1 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Jan. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	14	10	14	9.1	1530	56	5390	4880	2860	248	29
2	26	9.5	10	14	9.1	1530	51	5740	4370	2110	56	28
3	26	9.5	10	13	9.1	1260	51	6380	4150	1630	29	28
4	26	9.5	10	14	9.1	930	51	6980	3960	1270	25	27
5	26	9.8	10	25	9.1	908	50	6680	3410	1070	25	27
6	26	9.8	10	16	9.1	912	50	5990	2680	1270	25	27
7	26	9.8	10	15	9.1	907	42	6140	2320	1820	25	26
8	26	9.8	10	11	9.1	898	29	5650	2810	2170	25	26
9	26	9.8	10	11	9.1	898	32	4570	3510	1940	25	26
10	26	9.8	10	11	9.1	898	49	3090	4750	2750	26	26
11	25	9.8	10	11	9.1	907	141	2210	5650	3050	26	26
12	25	9.8	10	11	9.1	907	54	1850	5760	3140	26	27
13	25	21	10	11	9.1	778	47	2340	4960	3170	26	30
14	26	23	10	11	9.1	702	45	2930	3960	2970	26	30
15	26	11	10	11	9.5	698	44	2450	4830	2990	25	29
16	26	11	11	11	11	548	51	3340	6080	3150	25	28
17	26	11	11	9.5	11	435	1620	4380	6860	2840	25	28
18	26	11	11	9.1	74	418	2730	4710	6510	1710	25	27
19	26	11	12	9.5	104	435	3130	4390	6390	963	24	27
20	26	11	15	9.5	104	432	3410	4760	6130	949	24	26
21	25	11	14	8.4	98	432	3050	5330	5740	1380	24	26
22	25	11	11	8.1	95	432	2830	5890	5480	1550	21	26
23	25	11	11	8.8	620	407	3450	6180	5080	1700	21	26
24	25	10	11	9.5	881	407	3340	6990	4980	1520	21	26
25	25	10	11	9.8	1220	432	3340	6980	3980	1220	21	26
26	25	10	11	9.8	1510	663	3430	7530	3510	1300	21	30
27	25	10	11	9.8	1520	422	3320	7770	4180	1980	23	33
28	25	11	11	9.5	1550	51	4320	7340	4440	1940	23	33
29	25	11	14	9.5	---	50	5300	6450	5830	1600	23	35
30	25	11	14	9.1	---	50	4440	5420	4460	1300	24	35
31	25	---	13	9.1	---	55	---	5080	---	991	28	---
TOTAL	792	336.9	342	349.0	7934.9	20332	48553	160930	141650	60303	1011	844
MEAN	25.5	11.2	11.0	11.3	283	656	1618	5191	4722	1945	32.6	28.1
MAX	26	23	15	25	1550	1530	5300	7770	6860	3170	248	35
MIN	25	9.5	10	8.1	9.1	50	29	1850	2320	949	21	26
AC-FT	1570	668	678	692	15740	40330	96300	319200	281000	119600	2010	1670
CAL YR 1981 TOTAL	7259.5		MEAN	19	MAX	39	MIN	7.5	AC-FT	14400		
WTR YR 1982 TOTAL	443377.8		MEAN	1215	MAX	7770	MIN	8.1	AC-FT	879400		

## SAN JOAQUIN RIVER BASIN

## 11235500 WARD TUNNEL OUTLET AT HUNTINGTON LAKE, CA

LOCATION.--Lat 37°15'25", long 119°09'38", in SE¼SW¼ sec.5, T.8 S., R.26 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, at tunnel outlet at east end of Huntington Lake, 0.9 mi (1.4 km) east of Lakeshore Post Office, and 6 mi (10 km) northeast of Big Creek.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1960, published as Ward tunnel at outlet.

GAGE.--Pressure-differential recorder to record discharge through penstock. November 1927 to May 23, 1956, water-stage recorder at datum 6,999.00 ft (2,133.295 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). May 24, 1956, to Sept. 30, 1968, no recorder, see REMARKS below.

REMARKS.--Daily discharge for the period May 24, 1956, to Sept. 30, 1968, computed as the sum of Ward tunnel at intake, Mono-Bear conduit, Camp Creek conduit, and corrected for change in contents of Portal Forebay. Tunnel diverts from Florence Lake to Huntington Lake via Portal powerhouse, receives diversions from Bear and Mono Creeks and at times from several other small tributaries of South Fork San Joaquin River. See record for station 11229500 Ward tunnel intake at Florence Lake.

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

AVERAGE DISCHARGE.--55 years, 487 ft<sup>3</sup>/s (13.79 m<sup>3</sup>/s), 352,800 acre-ft/yr (435 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,080 ft<sup>3</sup>/s (58.9 m<sup>3</sup>/s) June 21, 1935; no flow at times many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	502	158	331	510	580	638	496	0	344	1200	1240	1110
2	362	94	581	470	558	639	481	138	707	1220	1250	1080
3	389	91	466	490	578	640	517	0	716	1190	1250	738
4	369	62	453	570	539	635	491	146	716	1190	1260	618
5	369	70	457	492	550	624	470	157	716	1190	1250	622
6	356	71	457	527	580	623	452	0	710	1190	1180	606
7	340	71	456	673	570	609	435	167	711	1280	1150	600
8	364	70	432	691	564	604	446	132	711	1530	1200	620
9	599	70	440	592	565	657	418	0	712	1230	1190	574
10	588	72	444	527	553	566	484	125	715	913	1200	593
11	558	49	445	576	549	568	980	171	720	977	1190	672
12	524	0	447	581	556	291	845	462	708	1000	1080	627
13	513	178	448	578	578	241	770	498	717	1000	1080	530
14	457	424	448	581	581	338	719	605	717	912	1110	516
15	442	396	450	569	721	217	716	600	717	1090	1090	481
16	427	378	451	531	733	195	714	613	717	1090	1050	192
17	422	226	445	404	738	194	716	632	718	1070	965	510
18	428	200	439	397	733	197	717	641	720	1110	973	688
19	428	187	442	465	732	212	716	624	720	1130	931	699
20	422	184	465	580	740	193	717	671	720	1160	1010	713
21	431	162	562	472	741	176	715	665	721	1190	962	721
22	446	167	506	445	738	179	715	689	724	1240	1010	701
23	451	145	485	515	714	116	685	679	728	1240	1090	700
24	432	150	480	565	721	195	600	622	728	1250	1050	1110
25	444	103	479	562	723	156	600	632	721	1270	1140	1640
26	430	104	463	568	584	108	592	522	1030	1300	1120	1020
27	363	83	475	538	669	209	597	404	1370	1220	1020	1600
28	372	99	481	541	638	188	403	283	1690	1220	1330	1690
29	405	136	212	512	---	196	0	99	1480	1200	1310	1690
30	339	149	23	509	---	122	122	67	1240	1190	1120	1670
31	205	---	492	592	---	443	---	101	---	1110	1120	---
TOTAL	13177	4349	13655	16623	17826	10969	17329	11145	24364	36102	34921	25331
MEAN	425	145	440	536	637	354	578	360	812	1165	1126	844
MAX	599	424	581	691	741	657	980	689	1690	1530	1330	1690
MIN	205	0	23	397	539	108	0	0	344	912	931	192
AC-FT	26140	8630	27080	32970	35360	21760	34370	22110	48330	71610	69270	50240
CAL YR 1981 TOTAL	166214.00			MEAN 455	MAX 1720	MIN 0	AC-FT 329700					
WTR YR 1982 TOTAL	225791.00			MEAN 619	MAX 1690	MIN 0	AC-FT 447900					

## 11236000 HUNTINGTON LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°14'03", long 119°12'41", in SW¼ sec.14, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, in gate tower of dam 1 on Big Creek, 2 mi (3 km) northeast of town of Big Creek.

DRAINAGE AREA.--80.5 mi<sup>2</sup> (208.5 km<sup>2</sup>).

PERIOD OF RECORD.--April 1913 to current year. Prior to October 1926, monthly contents only, published in WSP 1315-A; 1926-31, published in WSP 721.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). Prior to June 19, 1920, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by four dams; storage began Apr. 11, 1913. Dams were raised in 1914 and again in 1917. Usable capacity, 89,200 acre-ft (110 hm<sup>3</sup>) between elevations 6,819.90 ft (2,078.706 m), invert of outlet tunnel No. 1 and 6,950.00 ft (2,118.360 m), spillway crest at dam 1, NGVD. Additional storage of 600 acre-ft (740,000 m<sup>3</sup>) is not available for release. Huntington-Shaver conduit (station 11239000) has diverted water from Huntington Lake to Shaver Lake since Apr. 21, 1928. Water is used for power development in Big Creek powerplants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 90,500 acre-ft (112 hm<sup>3</sup>) May 31, 1926, elevation, 6,950.92 ft (2,118.640 m); minimum, 2,100 acre-ft (2.59 hm<sup>3</sup>) Nov. 6, 1937, elevation, 6,838.53 ft (2,084.384 m).

NOTE.--Prior to 1960, maximum and minimum daily contents were published. Maximum and minimum daily contents (water years 1913-39) were summarized in WSP 881.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,425 acre-ft (110 hm<sup>3</sup>) July 26, elevation, 6,950.18 ft (2,118.415 m); minimum, 25,065 acre-ft (30.9 hm<sup>3</sup>) Apr. 10, elevation, 6,892.92 ft (2,100.962 m).

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

6,819.90	0	6,835	1,552	6,870	11,293	6,920	50,812
6,820	8	6,840	2,354	6,880	16,370	6,930	62,555
6,822	142	6,845	3,324	6,890	22,882	6,940	75,344
6,825	382	6,850	4,480	6,900	30,861	6,950	89,166
6,830	899	6,860	7,427	6,910	40,216	6,951	90,606

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87836	82804	79531	75278	76425	85191	39600	37418	64907	88008	89324	88565
2	87395	81904	79586	75238	76412	85205	37631	38741	66322	88094	89310	88608
3	86998	82083	79422	75172	76412	85148	35723	39968	67611	88208	89310	88380
4	86558	82221	79205	75704	76372	85022	33858	41558	68732	88265	89324	88365
5	86176	82360	79042	75878	76372	84867	32047	43167	69810	88294	89310	88351
6	85697	82540	78839	75865	76452	84699	30293	44565	70636	88437	89195	88308
7	85261	82707	78676	76145	76479	84518	28361	46304	71464	88380	89137	88279
8	84881	82859	78676	76465	76519	84322	26750	47782	72417	88737	89152	88351
9	84993	83012	78432	76505	76519	84014	25530	48654	73454	88923	89137	88022
10	85191	83150	78201	76425	76559	84140	25196	49271	74509	88952	89123	88065
11	85360	83275	77958	76492	76586	84210	28229	49392	75531	89052	89123	88251
12	85289	83331	77715	76546	76559	83358	29095	49039	76666	88980	89009	88351
13	85374	83930	77500	76626	76652	81298	29212	49017	77433	88966	88994	88165
14	85191	85613	77271	76679	77029	79381	29390	49469	78106	88737	89052	87908
15	85177	85852	77029	76719	77648	77312	29687	49922	78906	88708	89066	87651
16	85177	85993	76800	76854	79150	75013	29907	50756	79654	88766	88994	86870
17	85177	86530	76532	76827	80009	72967	30224	51891	80392	88823	88780	86686
18	85120	86984	76279	76760	80720	70778	30585	53072	81256	88880	88580	86757
19	85008	87367	76092	76626	81353	68566	30975	54185	81973	88809	88337	86814
20	84923	87708	76372	76881	81973	66322	31412	55658	82443	88780	88294	86913
21	84839	87552	76599	76841	82637	64074	31798	57219	82859	88937	88108	87041
22	84839	86743	76546	76612	83275	61626	32198	58905	83317	89066	88165	87112
23	84825	85923	76465	76679	83888	59169	32625	60665	83651	89137	88322	87168
24	84825	85134	76345	76692	84448	57077	32860	62029	83833	89310	88365	87793
25	84797	84210	76238	76706	84993	54729	33167	63135	83861	89368	88565	88694
26	84741	83303	76038	76706	85275	52424	33528	64136	84615	89425	88694	88551
27	84629	82443	75985	76679	85050	50167	33959	64571	86120	89382	88594	88094
28	84713	81587	75771	76626	85148	47967	34844	64335	87936	89382	88708	87908
29	84629	80706	76145	76546	---	45803	35487	63838	88880	89339	88480	87537
30	84252	79927	75291	76425	---	43687	36489	63813	88265	89382	88408	87140
31	83595	---	75251	76452	---	41619	---	64223	---	89339	88508	---
MAX	87836	87708	79586	76881	85275	85205	39600	64571	88880	89425	89324	88694
MIN	83595	79927	75251	75172	76372	41619	25196	37418	64907	88008	88108	86686
a	6946.06	6943.40	6939.93	6940.83	6947.17	6911.39	6096.18	6931.35	6949.37	6950.12	6949.54	6948.58
b	-4441	-3668	-4676	+1201	+8696	-43529	-5130	+27734	+24042	+1074	-831	-1368

CAL YR 1981 b -10334

WTR YR 1982 b -896

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

## SAN JOAQUIN RIVER BASIN

11237500 PITMAN CREEK BELOW TAMARACK CREEK, CA

LOCATION.--Lat 37°11'54", long 119°12'48", in NW¼NW¼ sec.35, T.8 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 250 ft (76 m) upstream from Huntington-Shaver conduit tunnel, 0.8 mi (1.3 km) downstream from confluence of Tamarack Creek and South Fork Tamarack Creek, 1.4 mi (2.3 km) upstream from mouth, and 1.9 mi (3.1 km) east of town of Big Creek.

DRAINAGE AREA.--22.9 mi<sup>2</sup> (59.3 km<sup>2</sup>).

PERIOD OF RECORD.--October 1927 to current year. Records for water year 1928 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WSP 931: 1940. WSP 1315-A: 1944. WSP 1395: 1928-29, 1938. WSP 1515: 1929.

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,005 ft (2,135 m), from Southern California Edison Co. contour map. Prior to Sept. 29, 1940, at site 10 ft (3 m) downstream at same datum.

REMARKS.--Records fair. No diversion above station; practically all flow diverted below station to Huntington-Shaver conduit. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and eight discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--55 years, 40.9 ft<sup>3</sup>/s (1.158 m<sup>3</sup>/s), 29,630 acre-ft/yr (36.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft<sup>3</sup>/s (104 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 11.20 ft (3.414 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.77 ft (3.283 m); no flow Oct. 15-18, 1931.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft<sup>3</sup>/s (5.7 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0545	294 8.33	5.83 1.777	May 5	1930	649 18.4	7.04 2.146
Feb. 16	0715	726 20.6	7.25 2.210	Sep. 26	0300	342 9.69	6.05 1.844
Apr. 11	1700	*1,650 46.7	9.00 2.743				

Minimum daily, 0.27 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.27	2.5	9.8	16	14	58	37	412	200	83	6.6	2.1
2	.27	2.6	9.6	15	14	55	43	430	189	68	6.1	2.0
3	.40	2.4	12	15	14	55	40	443	177	60	5.9	1.9
4	.45	2.3	9.7	13	14	50	38	460	165	56	5.5	1.8
5	.41	2.1	9.4	9.7	14	48	38	473	150	51	5.2	1.7
6	.38	2.1	9.2	15	14	46	36	462	139	47	4.8	1.5
7	.37	2.0	9.1	19	14	44	42	435	138	45	5.3	1.5
8	.39	1.9	9.0	16	14	42	36	392	140	42	5.7	1.4
9	.40	1.7	9.2	16	13	41	35	318	145	39	5.0	1.3
10	.57	1.6	9.4	16	13	101	71	225	145	36	4.4	1.5
11	1.3	1.6	8.8	15	13	103	1210	187	144	34	3.8	1.6
12	1.2	1.9	8.2	15	13	79	978	188	140	32	3.5	1.5
13	.90	60	8.6	14	13	78	438	234	127	28	3.3	1.4
14	.79	142	8.5	14	35	73	307	259	114	24	3.1	1.4
15	.79	39	8.5	14	57	65	238	279	121	22	3.0	1.5
16	.85	27	8.3	14	324	57	205	336	124	21	2.9	1.6
17	.93	35	7.9	14	197	52	203	361	126	19	2.8	1.7
18	1.0	25	7.9	14	131	52	220	355	143	17	2.6	1.7
19	.96	20	11	14	105	50	255	339	128	16	2.6	1.9
20	.85	17	79	14	103	53	281	359	110	15	2.1	1.7
21	.77	16	65	15	105	48	278	370	102	14	1.9	1.5
22	.71	15	30	15	106	47	274	377	97	13	3.2	1.3
23	.67	16	26	14	94	46	295	388	89	12	7.3	1.2
24	.64	16	22	15	82	46	292	392	81	12	4.7	26
25	.62	14	22	15	73	42	296	385	70	11	3.8	119
26	.62	11	20	15	67	41	294	379	69	11	3.1	212
27	.59	10	20	15	62	41	311	344	66	10	2.8	44
28	4.8	11	17	15	60	41	380	291	63	10	3.0	30
29	4.1	10	16	14	---	39	363	256	131	9.2	2.9	26
30	2.4	9.6	18	14	---	42	385	229	117	8.2	2.9	25
31	2.4	---	18	14	---	37	---	220	---	7.3	2.5	---
TOTAL	31.80	518.3	527.1	453.7	1778	1672	7919	10578	3750	872.7	122.3	518.7
MEAN	1.03	17.3	17.0	14.6	63.5	53.9	264	341	125	28.2	3.95	17.3
MAX	4.8	142	79	19	324	103	1210	473	200	83	7.3	212
MIN	.27	1.6	7.9	9.7	13	37	35	187	63	7.3	1.9	1.2
AC-FT	63	1030	1050	900	3530	3320	15710	20980	7440	1730	243	1030

CAL YR 1981 TOTAL 9659.61 MEAN 26.5 MAX 252 MIN .17 AC-FT 19160  
WTR YR 1982 TOTAL 28741.60 MEAN 78.7 MAX 1210 MIN .27 AC-FT 57010

## 11239000 HUNTINGTON-SHAVER CONDUIT OUTLET NEAR SHAVER LAKE, CA

LOCATION.--Lat 37°09'18", long 119°13'53", in NW¼NW¼ sec.15, T.9 S., R.25 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank at tunnel outlet, 2.3 mi (3.7 km) northeast of Shaver Lake, and 3.5 mi (5.6 km) south of town of Big Creek.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October 1928, published in WSP 1315-A. Prior to October 1960, published as Huntington-Shaver conduit at outlet.

REVISED RECORDS.--WSP 931: 1940.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 6,680 ft (2,036 m), from topographic map.

REMARKS.--Records fair. Conduit diverts from Huntington Lake to Shaver Lake with additions from Pitman Creek and seepage en route. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and nine discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--54 years, 224 ft<sup>3</sup>/s (6.344 m<sup>3</sup>/s), 162,300 acre-ft/yr (200 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,780 ft<sup>3</sup>/s (50.4 m<sup>3</sup>/s) June 3, 4, 1938; no flow Oct. 19, 1978, July 1, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.9	9.1	16	14	259	1240	448	700	1150	642	516
2	1.8	1.9	9.5	15	14	287	1180	463	693	915	641	516
3	1.8	1.8	8.3	15	14	285	1100	483	685	870	641	298
4	1.9	1.7	9.6	13	14	282	1000	497	680	865	641	44
5	2.0	1.6	9.4	9.7	14	277	926	507	668	861	641	44
6	2.0	1.5	9.2	15	14	275	980	495	659	857	630	44
7	1.9	1.6	9.1	19	14	276	920	472	661	854	625	30
8	1.8	1.5	9.0	16	14	274	709	428	666	1120	625	2.8
9	1.8	1.4	9.2	16	13	273	546	350	676	926	629	2.7
10	1.8	1.3	9.4	16	13	333	440	260	680	540	632	2.7
11	1.8	1.3	8.8	15	13	338	601	398	683	575	632	2.8
12	1.8	1.3	8.2	15	13	429	948	885	681	647	591	2.9
13	1.8	58	8.6	14	13	957	1130	866	671	642	519	2.7
14	1.8	167	8.5	14	35	942	940	852	657	640	519	2.7
15	1.8	255	8.5	14	57	928	710	869	669	638	519	2.7
16	1.3	250	8.3	14	234	913	686	929	676	637	511	2.7
17	1.3	68	7.9	14	206	901	691	961	682	635	518	23
18	1.3	58	7.9	14	137	891	718	958	704	634	517	75
19	1.3	52	11	14	113	882	766	951	691	680	516	75
20	1.3	48	79	14	111	860	805	982	670	678	516	75
21	1.3	47	65	15	113	833	814	1000	664	657	515	75
22	1.3	46	30	15	114	815	820	1040	662	657	516	75
23	1.3	37	26	14	102	795	851	1110	656	656	522	89
24	1.3	16	22	15	90	776	857	1340	651	656	518	454
25	1.3	14	22	15	82	754	864	1490	642	656	517	1310
26	1.3	11	20	15	194	732	872	1490	641	656	517	1490
27	1.3	9.9	20	15	384	712	895	1480	643	656	517	1420
28	3.5	11	17	15	219	692	661	1460	646	655	788	1410
29	2.9	10	16	14	---	794	398	1330	1140	649	919	1410
30	1.9	8.9	18	14	---	871	415	977	1430	594	579	1410
31	1.8	---	18	14	---	1070	---	718	---	540	516	---
TOTAL	53.3	1185.6	522.5	453.7	2368	19706	24483	26489	21327	22396	18129	10907.7
MEAN	1.72	39.5	16.9	14.6	84.6	636	816	854	711	722	585	364
MAX	3.5	255	79	19	384	1070	1240	1490	1430	1150	919	1490
MIN	1.3	1.3	7.9	9.7	13	259	398	260	641	540	511	2.7
AC-FT	106	2350	1040	900	4700	39090	48560	52540	42300	44420	35960	21640
CAL YR 1981	TOTAL	29863.60	MEAN	81.8	MAX	1410	MIN	0	AC-FT	59230		
WTR YR 1982	TOTAL	148020.80	MEAN	406	MAX	1490	MIN	1.3	AC-FT	293600		

## 11239500 SHAVER LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'40", long 119°18'08", in SE $\frac{1}{4}$  sec.13, T.9 S., R.24 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, near center of dam on Stevenson Creek, 6 mi (10 km) southwest of town of Big Creek.

DRAINAGE AREA.--29.1 mi<sup>2</sup> (75.4 km<sup>2</sup>).

PERIOD OF RECORD.--November 1909 to current year. Prior to January 1927, monthly contents only, published in WSP 1315-A, January 1927 to September 1931, published in WSP 721.

REVISED RECORDS.--WSP 1565: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.). Prior to Jan. 11, 1927, gage on rockfilled dam a short distance upstream at different datum.

REMARKS.--Storage began prior to 1905. Original lake formed by rockfilled dam, usable capacity, 5,500 acre-ft (6.78 hm<sup>3</sup>). Water diverted by Fresno flume and Lumber Co.'s flumes Nos. 1 and 2 beginning prior to 1907 and discontinued July 7, 1920. Present lake formed by concrete-arch dam, dam completed Nov. 18, 1927. Usable capacity of present lake, 135,600 acre-ft (167 hm<sup>3</sup>) between elevations 5,225 ft (1,592.6 m), trash-rack foundation and 5,370.13 ft (1,636.816 m), crest of spillway, NGVD. Additional storage of 92 acre-ft (113,000 m<sup>3</sup>) is not available for release. Water is received from Pitman Creek (since Feb. 22, 1928) and Huntington Lake (since Apr. 21, 1928) through Huntington-Shaver conduit and released for power development in Big Creek plants. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 135,900 acre-ft (168 hm<sup>3</sup>) July 5, 1946, Aug. 4, 1978; maximum elevation, 5,370.28 ft (1,636.861 m) Aug. 4, 1978; minimum contents, 652 acre-ft (804,000 m<sup>3</sup>) Mar. 7, 1942, elevation, 5,249.38 ft (1,600.011 m).

NOTE.--Prior to 1960, maximum and minimum daily contents were published. Maximum and minimum daily contents (water years 1928-39) were summarized in WSP 881.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 135,700 acre-ft (167 hm<sup>3</sup>) July 26, elevation, 5,370.19 ft (1,636.834 m); minimum, 45,289 acre-ft (55.8 hm<sup>3</sup>) Mar. 5, elevation, 5,318.85 ft (1,621.185 m).

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

5,225	0	5,250	700	5,280	9,189	5,330	60,942
5,230	42	5,255	1,254	5,290	15,598	5,340	76,741
5,235	97	5,260	2,070	5,300	24,004	5,350	94,568
5,240	191	5,265	3,206	5,310	34,455	5,360	114,220
5,245	379	5,270	4,748	5,320	46,797	5,371	137,476

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70135	69738	72657	74183	65837	46918	66131	98560	122708	130781	135612	134565
2	70135	69738	72706	74298	64842	46653	67372	98791	122939	131362	135612	134435
3	70151	69293	72739	74380	63851	46180	68737	99080	123149	131858	135590	133913
4	70135	68848	72511	75024	62882	45681	69913	99369	123338	132332	135568	132849
5	70119	68673	72543	75357	61858	45445	70666	99677	123506	132785	135568	131750
6	70104	68673	72576	75457	60808	46141	71519	99908	123841	133217	135568	130695
7	70088	68673	72282	75540	59795	46784	72201	100081	123967	133674	135568	129647
8	70088	68673	72250	75607	58728	47484	72494	100120	124114	134652	135546	128494
9	70072	68658	72282	75690	57593	48198	72527	100023	124282	135371	135524	127368
10	70088	68642	72331	75774	56449	49472	73016	99638	124471	135218	135502	126202
11	70135	68642	72348	75857	55464	50819	78869	99446	124639	135305	135480	125041
12	70151	68801	72396	75874	54289	51423	81096	100197	124808	135349	135502	124240
13	70135	69643	72429	75907	53241	52345	83444	100932	124956	135371	135349	123380
14	70135	70698	72462	75790	52457	53577	85246	101611	125041	135393	135218	122373
15	70119	71230	72299	75007	52975	54445	86015	102329	125188	135415	135066	121435
16	70104	71793	72315	74661	54830	55377	86715	103189	125336	135415	134913	120434
17	70088	72119	72021	74314	54930	56246	87417	104128	125505	135415	134761	119605
18	70072	72282	72054	73754	54360	57035	88216	105035	125695	135415	134609	118756
19	70072	72413	72103	73688	53662	57681	89144	105942	125864	135458	134457	118074
20	70056	72543	72494	73985	52933	58255	90155	106875	125991	135546	134304	117354
21	70040	72217	72755	73523	52206	58816	91134	107870	126076	135590	134130	116366
22	70040	72233	72853	72984	51478	59334	92084	109150	126181	135634	133956	115466
23	70024	72331	72918	72429	50710	59825	93152	110314	126266	135634	133804	114445
24	70008	72413	72984	71956	49866	60301	94172	111988	126329	135656	133652	114629
25	69992	72462	73081	71455	48984	60733	95159	113997	126371	135678	133500	117148
26	69976	72543	73147	71052	48225	61152	96206	115977	126413	135700	133369	119564
27	69563	72657	73245	70505	47982	61542	97296	117909	126456	135700	133304	121414
28	69865	72706	73310	69833	47349	62038	98042	119771	126498	135700	133543	123820
29	69976	72739	73572	68848	---	62610	98157	121393	127793	135700	134761	125548
30	69738	72625	73803	68469	---	63276	98291	122206	129583	135634	134826	127241
31	69738	---	73968	66842	---	64659	---	122477	---	135634	134674	---
MAX	70151	72739	73968	75907	65837	64659	98291	122477	129583	135700	135612	134565
MIN	69563	68642	72021	66842	47349	45445	66131	98560	122708	130781	133304	114445
a	5335.72	5337.51	5338.33	5333.88	5320.41	5332.46	5351.95	5364.00	5367.36	5370.16	5369.72	5366.26
b	-379	+2887	+1343	-7126	-19493	+17310	+33632	+24186	+7106	+6051	-960	-7433

CAL YR 1981 b +15314

WTR YR 1982 b +57106

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.



11241950 REDINGER LAKE NEAR AUBERRY, CA

LOCATION.--Lat 37°08'42", long 119°26'58", in SW¼ sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on upstream face of dam No. 7 on San Joaquin River, 4.2 mi (6.8 km) north-east of Auberry.

DRAINAGE AREA.--1,295 mi<sup>2</sup> (3,354 km<sup>2</sup>).

PERIOD OF RECORD.--November 1950 to current year. Prior to October 1965, monthend contents only, published in WSP 1930.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Lake is formed by a concrete dam; storage began Nov. 19, 1950. Usable capacity, 26,120 acre-ft (32.2 hm<sup>3</sup>) between elevations 1,320.00 ft (402.336 m), invert of tunnel and 1,403.00 ft (427.634 m), top of radial gates, NGVD. Additional storage of 8,914 acre-ft (11.0 hm<sup>3</sup>) is not available for release. Water is used for power development in Big Creek powerhouse No. 4. See schematic diagram of San Joaquin River basin. Figures given herein represent usable contents.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 26,590 acre-ft (32.8 hm<sup>3</sup>) Aug. 5, 1978, elevation, 1,404.00 ft (427.939 m); minimum since appreciable storage was attained, 5,985 acre-ft (7.38 hm) Nov. 22, 1981, elevation, 1,346.85 ft (410.520 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,156 acre-ft (32.3 hm<sup>3</sup>) Feb. 16, elevation, 1,403.08 ft (427.659 m); minimum, 5,985 acre-ft (7.38 hm<sup>3</sup>) Nov. 22, elevation, 1,346.85 ft (410.520 m).

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

1,320	0	1,330	2,014	1,355	8,196	1,380	16,455
1,322	384	1,335	3,116	1,360	9,651	1,385	18,396
1,324	778	1,340	4,282	1,365	11,203	1,390	20,427
1,326	1,180	1,345	5,515	1,370	12,858	1,400	24,748
1,328	1,592	1,350	6,809	1,375	14,610	1,405	27,058

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23027	24600	18218	22001	24811	21975	25520	24712	25232	24771	25451	25782
2	21350	25355	18195	21004	24915	23737	25671	24960	24847	24965	25552	25694
3	19981	24363	18472	21076	24600	24793	25524	25323	25101	24825	25819	25588
4	18572	22469	18476	22408	24771	24884	25538	25319	25155	24739	25726	25506
5	17590	21511	17891	26050	24762	25078	25538	24974	24596	24816	25796	25378
6	16600	20406	17508	25566	24884	25305	25442	24762	25369	25492	25800	25415
7	18400	19320	17411	24555	24775	25515	25164	25195	25556	25749	25828	25502
8	20159	17005	15631	24434	24816	25652	24884	24974	25360	25355	25856	25291
9	21873	17025	15720	24703	25282	25680	24979	25137	24974	25456	25786	25223
10	22646	17036	15962	24632	25703	25282	25492	25078	25060	25561	25731	25365
11	22646	17055	15992	24712	24983	25246	25259	25547	25378	25465	25717	25768
12	22940	16806	15880	24888	24811	24897	25101	25584	24960	25374	25666	25291
13	23189	16821	14464	24988	25096	24960	24951	25269	24645	25227	25671	25680
14	23583	17758	16779	25310	24573	25902	24793	25128	24766	25232	25680	25805
15	23781	17353	21774	25447	23989	25837	25287	24412	25749	25374	25657	25579
16	23737	16146	22698	24216	25200	25497	25470	25524	24838	25456	25823	25383
17	23601	14147	23106	23535	24096	25173	25460	25092	25625	25273	25902	25365
18	23500	12486	22901	23517	23329	24983	25351	25087	24542	25786	25740	25397
19	23530	10224	22288	23294	23189	24493	25401	24340	24578	25671	25662	25515
20	23649	8190	22193	24029	21787	23914	25146	24834	25177	25823	25657	25515
21	23918	6315	22879	24609	20324	23294	25323	25073	25200	25625	25666	25552
22	23777	7279	22892	24816	18819	22633	25401	25042	24897	25768	25593	25699
23	23874	9980	22862	24542	17345	21979	25611	25155	25246	25888	25666	25269
24	23816	12335	22788	24676	17368	21236	25342	24748	25191	25828	25722	25200
25	23971	13756	22845	24542	17707	20506	25282	24929	25502	25925	25814	25259
26	24318	14845	22858	24969	18811	20315	25282	25015	25323	25689	25657	25337
27	24784	15884	22533	24888	19817	20527	25648	24884	25141	25736	25566	25146
28	24748	16562	22572	24852	20848	21988	25433	24216	25374	25731	25837	25064
29	24739	17306	22391	24820	---	22931	24929	24390	25611	25740	25593	25515
30	24443	18218	22659	24748	---	23936	24694	24618	25001	25722	25456	25534
31	24537	---	22129	24820	---	25786	---	25433	---	25842	25625	---
MAX	24784	25355	23106	26050	25703	25902	25671	25584	25749	25925	25902	25805
MIN	16600	6315	14464	21004	17345	20315	24694	24216	24542	24739	25451	25064
a	1399.53	1384.55	1394.03	1400.16	1391.01	1402.28	1399.88	1401.51	1400.56	1402.40	1401.93	1401.73
b	-518	-6319	+3911	+2691	-3972	+4938	-1092	+739	-432	+841	-217	-91

CAL YR 1981 b -3026

WTR YR 1982 b +479

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

## 11242000 SAN JOAQUIN RIVER ABOVE WILLOW CREEK, NEAR AUBERRY, CA

LOCATION.--Lat 37°08'40", long 119°27'13", in SW¼SW¼ sec.15, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,000 ft (305 m) downstream from Redinger Lake Dam, 0.4 mi (0.6 km) upstream from Willow Creek, and 4.2 mi (6.8 km) northeast of Auberry.

DRAINAGE AREA.--1,295 mi<sup>2</sup> (3,354 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 1,175.54 ft (358.305 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. Flow regulated by nine powerplants and six reservoirs with combined capacity of about 559,900 acre-ft (690 hm<sup>3</sup>). Conduit to powerhouse No. 4 diverts 1,000 ft (305 m) above station. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 11 discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--31 years, 456 ft<sup>3</sup>/s (12.91 m<sup>3</sup>/s), 330,400 acre-ft/yr (407 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,200 ft<sup>3</sup>/s (2,070 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 54.2 ft (16.52 m) from floodmarks, from rating curve extended above 7,000 ft<sup>3</sup>/s (198 m<sup>3</sup>/s) on basis of computed flow over dam; no flow Sept. 25, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,000 ft<sup>3</sup>/s (538 m<sup>3</sup>/s) Apr. 11, gage height, 26.62 ft (8.114 m); minimum daily, 3.3 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s) Nov. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	19	18	5.3	6.6	22	1180	5720	5110	3100	782	15
2	22	19	18	5.1	6.7	23	749	5920	4680	2030	169	15
3	22	20	18	5.0	6.7	23	772	6370	4120	1690	29	16
4	22	21	19	6.0	6.5	23	814	7200	4030	1360	28	17
5	21	22	20	16	6.6	23	682	7280	3770	1080	25	17
6	21	21	20	13	6.7	23	681	6350	2110	869	15	18
7	21	19	19	5.6	6.7	23	663	6110	2200	1550	16	18
8	21	19	19	5.4	6.7	23	622	6190	2840	2310	16	18
9	22	18	19	5.4	6.6	23	423	5110	4200	1880	15	19
10	22	18	19	5.4	6.6	23	1250	3700	4730	2410	15	20
11	21	18	19	5.1	6.7	13	10500	2270	5410	2870	15	20
12	21	19	19	5.0	6.7	3.7	3120	2040	5780	3120	15	20
13	20	18	19	5.0	6.7	5.9	1390	2640	5220	3200	14	20
14	20	4.7	19	5.0	6.6	170	877	3290	3950	2850	14	20
15	20	4.6	20	5.1	6.6	323	761	3140	4220	2700	14	20
16	20	8.0	20	5.0	1810	268	768	2820	6190	2980	14	20
17	20	10	20	5.0	7.1	30	1650	4790	6160	2930	14	20
18	20	3.3	20	5.3	6.8	255	3270	4840	6880	1460	14	20
19	20	9.6	20	5.7	6.8	25	3710	4990	6190	1050	15	20
20	22	13	15	5.8	6.7	25	4220	4630	5670	762	13	21
21	23	15	5.9	6.0	6.3	24	3590	5230	5630	1360	13	21
22	23	16	5.5	5.8	6.1	24	3320	5630	5580	1350	14	21
23	22	17	5.8	6.5	5.9	14	3510	5980	4960	1480	12	21
24	22	18	11	6.5	5.9	11	4100	7030	5070	1460	12	21
25	22	19	11	6.5	5.9	24	3920	6840	3980	1260	12	20
26	22	19	12	6.6	15	24	3970	7230	3580	1270	13	11
27	22	19	12	6.7	22	24	3580	7770	4290	1820	13	16
28	21	18	12	6.7	22	24	4810	7700	4270	1880	16	16
29	16	17	12	6.7	---	24	6150	6250	5660	1640	13	16
30	19	18	5.3	5.6	---	25	4960	5370	5080	1300	13	13
31	19	---	5.1	6.2	---	25	---	4750	---	1050	14	---
TOTAL	652	480.2	477.6	194.0	2026.2	1590.6	80012	165180	141560	58071	1397	550
MEAN	21.0	16.0	15.4	6.26	72.4	51.3	2667	5328	4719	1873	45.1	18.3
MAX	23	22	20	16	1810	323	10500	7770	6880	3200	782	21
MIN	16	3.3	5.1	5.0	5.9	3.7	423	2040	2110	762	12	11
AC-FT	1290	952	947	385	4020	3150	158700	327600	280800	115200	2770	1090
CAL YR 1981 TOTAL	5433.12		MEAN	14	MAX	27	MIN	.76	AC-FT	10780		
WTR YR 1982 TOTAL	452190.60		MEAN	1239	MAX	10500	MIN	3.3	AC-FT	896900		

LOCATION.--Lat 37°23'52", long 119°33'55", in SW¼NE¼ sec.21, T.6 S., R.22 E., Madera County, Hydrologic Unit 18040006, on right bank at road bridge 0.6 mi (1.0 km) downstream from Sequel Campground, 3.0 mi (4.8 km) upstream from Chilkoote Creek, and 4.7 mi (7.6 km) southeast of Sugar Pine.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft<sup>3</sup>/s (77.9 m<sup>3</sup>/s) Jan. 13, 1980, gage height, 7.41 ft (2.259 m), from rating curve extended above 250 ft<sup>3</sup>/s (7.08 m<sup>3</sup>/s) on basis of a step-backwater survey; minimum daily, 0.29 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Sept. 11, Oct. 3-5, 12-17, 1977.

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2245	229	6.49	Apr. 11	0715	*2,010	56.9
Dec. 20	1800	182	5.15	May 3	1800	259	7.33
Feb. 16	0800	1,100	31.2	May 24	2015	228	6.46
Mar. 11	0430	150	4.25	June 29	1130	224	6.34

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	7.4	12	30	19	66	54	221	162	70	17	11
2	1.2	6.9	12	31	19	81	53	228	156	60	16	10
3	1.8	6.4	12	35	19	65	52	236	152	54	16	10
4	1.7	5.9	12	23	19	61	50	242	149	50	16	10
5	1.5	5.7	11	54	18	54	47	244	134	46	16	9.9
6	1.4	6.4	11	60	18	52	46	239	115	42	15	9.6
7	1.5	6.1	11	46	18	51	44	240	111	39	16	9.5
8	1.6	5.7	11	34	18	50	44	222	104	38	16	9.3
9	1.5	5.4	11	28	17	50	45	213	99	37	14	9.4
10	2.0	5.2	11	24	17	110	105	196	91	34	14	9.8
11	5.9	5.2	10	23	17	127	1110	182	86	31	14	9.2
12	3.9	5.9	10	21	17	90	352	170	83	30	14	9.2
13	2.8	80	11	20	19	79	217	165	78	29	13	9.6
14	2.6	134	10	20	60	82	181	170	72	28	13	10
15	2.6	34	10	19	152	71	161	170	69	27	13	10
16	2.2	20	9.9	19	488	65	148	172	69	26	13	11
17	2.0	49	9.4	19	157	63	151	178	68	24	12	11
18	1.9	25	10	19	107	60	156	183	80	24	12	10
19	1.9	19	15	19	94	56	166	186	74	23	12	10
20	1.8	16	97	17	92	54	175	196	65	23	12	10
21	1.7	14	60	40	94	53	175	200	61	22	12	9.6
22	1.6	14	37	38	89	53	176	202	56	22	11	9.2
23	1.6	13	29	28	83	53	186	208	51	22	12	9.2
24	1.6	20	24	26	76	53	188	214	49	21	12	15
25	1.7	15	23	23	70	51	187	217	47	20	12	44
26	1.6	13	22	23	65	54	187	219	45	20	11	44
27	1.9	13	27	23	63	54	192	210	42	20	11	15
28	28	13	21	22	60	55	212	196	43	19	14	12
29	15	12	26	20	---	50	216	181	147	19	12	13
30	9.0	12	63	20	---	55	215	172	104	18	11	12
31	7.8	---	35	19	---	52	---	166	---	17	11	---
TOTAL	114.5	588.2	673.3	843	1985	1970	5291	6238	2662	955	413	381.5
MEAN	3.69	19.6	21.7	27.2	70.9	63.5	176	201	88.7	30.8	13.3	12.7
MAX	28	134	97	60	488	127	1110	244	162	70	17	44
MIN	1.2	5.2	9.4	17	17	50	44	165	42	17	11	9.2
AC-FT	227	1170	1340	1670	3940	3910	10490	12370	5280	1890	819	75

CAL YR 1981	TOTAL	5295.8	MEAN	14.5	MAX	134	MIN	1.1	AC-FT	10500
WTR YR 1982	TOTAL	22114.5	MEAN	60.6	MAX	1110	MIN	1.2	AC-FT	43860

## 11243400 BASS LAKE NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'36", long 119°31'40", in NE¼ sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, at outlet tower at dam on North Fork Willow Creek, 2.2 mi (3.5 km) south-east of town of Bass Lake, and 5 mi (8 km) north of town of North Fork.

DRAINAGE AREA.--50.4 mi<sup>2</sup> (130.5 km<sup>2</sup>).

PERIOD OF RECORD.--January 1911 to current year. Bass Lake was formerly called Crane Valley Reservoir.

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

REMARKS.--Reservoir formed by earthfill and rockfill dam; completed in 1901 and raised in 1910. Since 1910 usable contents 45,100 acre-ft (55.6 hm<sup>3</sup>) between elevations, 3,280.22 ft (999.811 m), invert of outlet conduit No. 3 and 3,376.40 ft (1,029.127 m), top of spillway gates, NGVD. Additional storage of 300 acre-ft (370,000 m<sup>3</sup>) not available for release. Water is released through Crane Valley powerhouse below dam for use in three small powerhouses before being discharged into Kerckhoff Reservoir at Wishon powerhouse. Water diverted from South Fork Willow Creek via Browns Creek ditch into Bass Lake near left end of dam. Madera Irrigation District has water rights to divert up to 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) from North Fork Willow Creek through Sequel ditch into Nelder Creek (Fresno River basin) during October and March to July each year. Chilkoot ditch can divert up to 7 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) from Chilkoot Creek into North Fork Willow Creek just upstream from diversion dam from Oct. 1 to Aug. 1 each water year if available. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 45,960 acre-ft (56.7 hm<sup>3</sup>) June 17, 1923, elevation, 3,376.8 ft (1,029.25 m); minimum, 35 acre-ft (43,200 m<sup>3</sup>) Nov. 19, 1953, elevation, 3,270.2 ft (996.76 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 45,410 acre-ft (56.0 hm<sup>3</sup>) June 15, elevation, 3,376.40 ft (1,029.127 m); minimum, 21,460 acre-ft (26.5 hm<sup>3</sup>) Dec. 4, elevation, 3,352.33 ft (1,021.790 m).

## MONTHEND CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Date	Contents
Sept. 30.....	26,730
Oct. 31.....	23,500
Nov. 30.....	21,950
Dec. 31.....	23,930
Jan. 31.....	25,370
Feb. 28.....	31,350
Mar. 31.....	37,700
Apr. 30.....	39,960
May 31.....	44,640
June 30.....	45,340
July 31.....	40,900
Aug. 31.....	33,340
Sept. 30.....	25,580

11243500 PACIFIC GAS AND ELECTRIC CO. CONDUIT NO. 3 NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'21", long 119°31'44", in SE¼ sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 1,000 ft (305 m) downstream from Crane Valley powerhouse and dam, and 2.5 mi (4.0 km) southeast of town of Bass Lake.

PERIOD OF RECORD.--October 1940 to current year. Prior to October 1954, published as "near Crane Valley Reservoir."

GAGE.--Water-stage recorder and concrete flume. Altitude of gage is 3,300 ft (1,006 m), from topographic map.

REMARKS.--Conduit diverts from Bass Lake in sec.26, T.7 S., R.22 E. Water passes through Crane Valley powerhouse, then to powerhouse No. 3, and is stored temporarily at Manzanita Lake on North Fork Willow Creek; flow then diverts to powerhouses No. 2 and 1A before it enters San Joaquin River at Kerckhoff Reservoir through Wishon powerhouse No. 1. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--42 years, 70.5 ft³/s (1.997 m³/s), 51,080 acre-ft/yr (63.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 167 ft³/s (4.73 m³/s) June 23, 24, 1965; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	148	124	5.8	156	152	113	152	147	139	153	149
2	.02	148	102	5.9	152	152	125	155	146	144	142	149
3	.03	148	96	6.0	152	152	144	155	145	150	18	149
4	26	148	51	9.9	152	152	144	156	145	151	.07	149
5	.03	148	.03	8.6	152	152	151	156	146	152	86	149
6	.03	66	.03	47	152	153	154	157	146	152	149	149
7	.03	.03	.03	132	152	153	152	157	146	87	149	150
8	.03	.06	.03	157	152	154	152	157	146	146	149	150
9	.03	.09	.07	156	152	154	153	157	147	151	149	151
10	.03	.13	5.2	156	152	154	153	157	127	151	149	151
11	.03	4.1	.03	155	152	153	115	156	153	151	149	151
12	0	.04	3.0	153	152	153	129	157	153	152	148	152
13	0	.05	2.7	148	152	154	153	157	154	153	148	152
14	0	18	.09	148	152	155	151	157	154	152	149	152
15	0	68	.12	147	134	155	151	158	154	150	150	153
16	9.7	100	.15	148	99	156	150	158	155	149	150	152
17	39	134	2.7	148	91	156	151	158	156	147	151	152
18	.03	135	1.4	149	148	149	151	158	157	146	151	152
19	67	149	1.5	143	151	155	151	158	156	150	151	152
20	140	149	83	138	153	156	152	158	157	154	151	152
21	151	149	128	127	151	158	152	158	155	154	151	153
22	151	136	114	128	152	158	153	157	156	154	151	154
23	151	124	124	129	153	155	153	157	157	154	151	154
24	150	124	58	130	153	155	154	157	158	154	150	155
25	150	67	.03	138	153	155	154	156	156	154	149	154
26	150	2.7	.03	151	152	155	155	156	152	154	149	154
27	150	72	.03	138	152	155	155	119	153	153	148	153
28	144	122	72	139	152	155	155	147	136	153	148	153
29	149	124	123	140	---	120	155	147	133	152	150	152
30	149	124	122	144	---	122	155	149	139	154	149	152
31	148	---	47	151	---	161	---	149	---	153	149	---
TOTAL	1924.99	2608.20	1261.17	3676.2	4126	4719	4436	4786	4485	4616	4287.07	4550
MEAN	62.1	86.9	40.7	119	147	152	148	154	150	149	138	152
MAX	151	149	128	157	156	161	155	158	158	154	153	155
MIN	0	.03	.03	5.8	91	120	113	119	127	87	.07	149
AC-FT	3820	5170	2500	7290	8180	9360	8800	9490	8900	9160	8500	9020
CAL YR 1981	TOTAL	16261.05	MEAN	44.6	MAX 151	MIN 0	AC-FT	32250				
WTR YR 1982	TOTAL	45475.63	MEAN	125	MAX 161	MIN 0	AC-FT	90200				

LOCATION.--Lat 37°17'20", long 119°31'45", in SE¼ sec.26, T.7 S., R.22 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on right bank 1,500 ft (457 m) downstream from Bass Lake spillway, and 2.5 mi (4.0 km) southeast of town of Bass Lake.

PERIOD OF RECORD.--May 1940 to current year. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

REMARKS.--Flow regulated by Bass Lake (station 11243400) 1,500 ft (457 m) upstream and by diversion into Pacific Gas and Electric Co. conduit No. 3 near Bass Lake (station 11243500). Sequel ditch diverts up to 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s), from North Fork Willow Creek into Nelder Creek in Fresno River basin. Brown's Creek ditch diverted 23,000 acre-ft (28.4 hm<sup>3</sup>) from South Fork Willow Creek into Bass Lake during the current year. See schematic diagram of San Joaquin River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,950 ft<sup>3</sup>/s (55.2 m<sup>3</sup>/s) Apr. 11, 1982, gage height, 7.78 ft (2.371 m); minimum daily, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Nov. 13-16, 1940.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.28	.29	.32	1.7	.76	.66	33	212	79	1.3	.91	.50
2	.28	.29	.32	.76	.68	1.8	31	214	39	9.8	.88	.48
3	.28	.29	.32	.53	.55	1.7	15	224	33	28	.87	.47
4	.28	.29	.30	3.2	.53	1.6	15	238	24	20	.84	.45
5	.28	.29	.30	8.6	.51	1.2	11	239	12	15	.85	.44
6	.28	.29	.30	1.6	.48	.68	7.9	240	5.2	15	.85	.43
7	.35	.28	.29	1.1	.47	.65	7.5	153	5.2	6.7	.86	.42
8	.34	.28	.29	.87	.46	.63	7.3	118	5.2	1.3	.84	.41
9	.35	.28	.29	.77	.45	.62	7.6	118	5.2	1.3	.82	.38
10	.35	.28	.29	.71	.45	.81	10	57	34	1.3	.81	.32
11	.35	.28	.29	.66	.42	1.4	960	4.4	15	1.3	.80	.32
12	.35	.32	.29	.57	.41	1.0	968	4.4	7.5	1.3	.80	.35
13	.35	1.1	.29	.54	.50	.90	943	4.4	6.9	1.3	.79	.38
14	.35	1.7	.29	.52	.85	2.6	876	4.5	4.6	1.3	.78	.42
15	.35	.51	.29	.50	3.2	1.7	819	4.7	1.5	1.3	.76	.45
16	.32	.40	.29	.48	4.9	1.6	487	4.8	1.4	1.2	.74	.54
17	.29	.77	.29	.47	1.4	1.5	148	4.8	1.4	1.2	.73	.69
18	.29	.45	.29	.46	1.0	1.5	194	5.0	1.4	1.2	.71	.65
19	.29	.39	.29	.48	.84	1.5	254	5.2	1.4	1.2	.70	.65
20	.29	.36	1.2	.53	.73	1.5	253	5.2	1.4	1.2	.68	.62
21	.29	.35	.70	.51	.67	1.5	251	4.9	1.3	1.1	.66	.62
22	.29	.35	.46	.48	.63	1.5	250	4.2	1.3	1.1	.63	.58
23	.29	.34	.41	.49	.93	1.4	199	3.9	1.3	1.1	.60	.58
24	.28	.34	.37	.52	.83	1.4	137	3.9	1.3	1.1	.58	.69
25	.28	.33	.34	.62	.56	1.3	198	3.9	1.3	1.1	.57	1.0
26	.28	.33	.33	.93	.55	1.6	218	16	1.3	1.0	.56	1.9
27	.28	.36	.36	1.1	.54	1.4	216	72	1.3	1.0	.55	.87
28	.41	.37	.32	.99	.54	1.6	216	106	1.3	.99	.55	.58
29	.39	.34	.67	.87	---	1.6	216	131	1.5	.98	.54	.54
30	.30	.33	1.3	.81	---	21	216	128	1.4	.96	.53	.49
31	.29	---	.71	.77	---	38	---	128	---	.93	.51	---
TOTAL	9.68	12.58	12.80	33.14	24.84	97.85	8164.3	2462.2	297.6	123.56	22.30	17.22
MEAN	.31	.42	.41	1.07	.89	3.16	272	79.4	9.92	3.99	.72	.57
MAX	.41	1.7	1.3	8.6	4.9	38	968	240	79	28	.91	1.9
MIN	.28	.28	.29	.46	.41	.62	7.3	3.9	1.3	.93	.51	.32
AC-FT	19	25	25	66	49	194	16190	4880	590	245	44	34
CAL YR 1981	TOTAL	269.15	MEAN	.74	MAX	1.9	MIN	.27	AC-FT	534		
WTR YR 1982	TOTAL	11278.07	MEAN	30.9	MAX	968	MIN	.28	AC-FT	22370		

## 11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA

LOCATION.--Lat 37°09'03", long 119°27'34", in SE¼NE¼ sec.16, T.9 S., R.23 E., Madera County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 40 ft (12 m) upstream from bridge, 0.4 mi (0.6 km) upstream from mouth, 1.3 mi (2.1 km) downstream from Whiskey Creek, and 4.3 mi (6.9 km) northeast of Auberry.

DRAINAGE AREA.--130 mi<sup>2</sup> (337 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 2130: 1956-58(M).

GAGE.--Water-stage recorder. Concrete control since Oct. 22, 1964. Datum of gage is 1,174.69 ft (358.046 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

REMARKS.--Records good. Flow regulated by Bass Lake (station 11243400) 10 mi (16 km) upstream and diversion into Pacific Gas and Electric Co. conduit No. 1. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record and 18 discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--30 years, 61.7 ft<sup>3</sup>/s (1.747 m<sup>3</sup>/s), 44,700 acre-ft/yr (55.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft<sup>3</sup>/s (445 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 28.5 ft (8.69 m), from floodmarks, from rating curve extended above 4,700 ft<sup>3</sup>/s (133 m<sup>3</sup>/s); no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,420 ft<sup>3</sup>/s (210 m<sup>3</sup>/s) Apr. 11, gage height, 19.02 ft (5.797 m); minimum daily, 0.91 ft<sup>3</sup>/s (0.026 m<sup>3</sup>/s) Oct. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.7	5.9	87	25	69	579	805	240	35	6.2	2.8
2	1.2	2.2	5.9	42	24	259	384	805	157	30	6.4	2.6
3	1.0	2.1	5.9	28	24	181	301	810	102	28	17	2.5
4	1.1	1.9	5.8	425	24	99	354	836	67	28	7.9	2.5
5	1.4	2.0	5.8	1580	22	80	241	801	59	25	7.0	2.4
6	1.1	2.3	5.5	152	22	67	203	758	48	22	6.4	2.3
7	.91	2.5	5.4	58	23	64	164	707	44	22	6.4	2.1
8	.91	2.2	5.1	49	21	62	146	583	44	22	6.4	2.1
9	1.0	2.0	5.0	37	19	62	139	550	49	18	5.5	1.7
10	1.0	1.9	5.0	29	19	171	366	509	40	18	5.0	1.9
11	1.1	1.7	5.1	26	18	400	5420	366	51	17	4.9	2.0
12	2.3	1.7	5.0	23	17	252	3170	328	41	16	4.9	1.9
13	2.6	8.7	5.0	20	18	166	2180	314	39	37	4.9	1.9
14	2.0	480	5.0	19	68	569	1860	321	37	16	4.5	2.0
15	1.9	38	4.9	18	529	373	1660	303	35	15	4.4	2.2
16	1.9	14	4.9	17	2730	239	1350	299	31	13	4.3	2.5
17	7.6	40	4.8	16	604	235	775	290	29	13	4.2	3.0
18	8.7	28	4.7	16	315	237	784	212	28	12	4.2	3.2
19	1.1	13	5.0	18	215	264	886	181	27	11	4.1	3.1
20	1.0	10	128	26	212	243	896	172	25	11	4.1	3.1
21	1.0	8.3	183	40	210	226	868	185	25	10	4.1	2.9
22	1.1	7.4	33	23	196	212	836	238	23	10	4.0	2.4
23	1.1	6.7	19	19	160	178	832	229	26	9.5	3.9	2.2
24	1.1	6.4	15	23	133	128	738	218	22	9.3	3.7	3.8
25	1.1	8.0	13	30	111	122	746	198	21	9.0	3.6	17
26	1.2	7.3	12	39	95	153	788	185	20	9.0	3.4	695
27	1.3	7.9	16	55	77	140	775	206	19	9.0	3.2	37
28	2.0	7.3	15	39	72	166	823	238	20	7.9	3.4	15
29	8.1	6.4	17	32	---	175	818	286	47	7.9	3.6	12
30	3.6	6.0	77	28	---	175	779	271	45	7.6	3.3	13
31	2.3	---	41	26	---	377	---	267	---	7.0	3.1	---
TOTAL	64.72	727.6	668.7	3040	6003	6144	29861	12471	1461	505.2	158.0	848.1
MEAN	2.09	24.3	21.6	98.1	214	198	995	402	48.7	16.3	5.10	28.3
MAX	8.7	480	183	1580	2730	569	5420	836	240	37	17	695
MIN	.91	1.7	4.7	16	17	62	139	172	19	7.0	3.1	1.7
AC-FT	128	1440	1330	6030	11910	12190	59230	24740	2900	1000	313	1680
CAL YR 1981 TOTAL	4519.88			MEAN 12.4	MAX 480	MIN 0	AC-FT 8970					
WTR YR 1982 TOTAL	61952.32			MEAN 170	MAX 5420	MIN .91	AC-FT 122900					

## SAN JOAQUIN RIVER BASIN

11249500 MADERA CANAL AT FRIANT, CA

LOCATION.--Lat 37°00'10", long 119°42'21", in NW¼SW¼ sec.5, T.11 S., R.21 E., Madera County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi (1.4 km) northeast of Friant.

PERIOD OF RECORD.--October 1943 to current year. Monthly discharge only for October 1943 to September 1950 published in WSP 1315-A. October 1954 to September 1966 published as Friant-Madera Canal at Friant.

REVISED RECORDS.--WSP 1151: 1944-48.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to Oct. 1, 1948, water-stage recorder at several sites at various datums. Oct. 1, 1948, to Sept. 30, 1949, water-stage recorder at site 8.8 mi (14.2 km) downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at right end of Friant Dam for irrigation between San Joaquin and Chowchilla Rivers.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--39 years, 320 ft<sup>3</sup>/s (9.062 m<sup>3</sup>/s), 231,800 acre-ft/yr (286 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,330 ft<sup>3</sup>/s (37.7 m<sup>3</sup>/s) July 2, 1973; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	283	671	850	1260	1280	1240	1270	899
2				0	283	515	707	1250	1280	1240	1270	898
3				0	282	463	584	1250	1280	1220	1270	913
4				0	281	396	581	1270	1270	1210	1270	921
5				0	281	325	578	1280	1270	1230	1270	921
6				0	280	306	575	1280	1270	1260	1210	920
7				0	280	307	707	1280	1270	1270	1180	878
8				0	279	308	778	1270	1270	1270	1180	851
9				0	313	336	825	1270	1270	1270	1160	869
10				0	362	396	933	1260	1270	1240	1140	831
11				157	419	420	957	1230	1260	1220	1160	800
12				222	482	422	838	1250	1260	1220	1170	799
13				199	503	424	775	1270	1260	1220	1150	797
14				199	502	427	773	1260	1260	1220	1110	795
15				274	503	357	769	1260	1260	1270	1100	794
16				317	349	289	812	1270	1260	1280	1090	764
17				318	256	178	832	1280	1280	1240	1090	705
18				319	481	126	828	1240	1260	1220	1110	653
19				296	603	127	858	1220	1260	1220	1120	620
20				284	666	129	874	1230	1260	1240	1110	609
21				284	708	129	871	1220	1270	1240	1070	573
22				285	725	302	945	1210	1260	1230	1020	531
23				285	758	472	1030	1240	1260	1220	983	520
24				285	770	552	1050	1270	1260	1210	1010	519
25				285	802	607	1120	1280	1260	1210	1040	520
26				285	817	627	1180	1280	1260	1240	1030	493
27				284	792	671	1240	1290	1260	1270	999	459
28				284	778	695	1250	1280	1260	1280	979	430
29				284	---	648	1260	1280	1260	1280	977	408
30				284	---	592	1260	1290	1260	1280	929	402
31		---		284	---	665	---	1280	---	1270	900	---
TOTAL	0	0	0	5714	13838	12882	26640	39100	37960	38530	34367	21092
MEAN	0	0	0	184	494	416	888	1261	1265	1243	1109	703
MAX	0	0	0	319	817	695	1260	1290	1280	1280	1270	921
MIN	0	0	0	0	256	126	575	1210	1260	1210	900	402
AC-FT	0	0	0	11330	27450	25550	52840	77550	75290	76420	68170	41840

CAL YR 1981 TOTAL 84501.00 MEAN 232 MAX 1060 MIN 0 AC-FT 167600  
WTR YR 1982 TOTAL 230123.00 MEAN 630 MAX 1290 MIN 0 AC-FT 456400



## 11250000 FRIANT-KERN CANAL AT FRIANT, CA

LOCATION.--Lat 36°59'53", long 119°42'11", in SE¼SW¼ sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi (1.4 km) northeast of Friant.

PERIOD OF RECORD.--March 1949 to current year.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to July 8, 1949, nonrecording gages at various sites and datums. July 8 to Sept. 30, 1949, water-stage recorder at site 0.2 mi (0.3 km) downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at left end of Friant Dam for irrigation in upper San Joaquin Valley.

COOPERATION.--Records of discharge furnished by Bureau of Reclamation and reviewed by Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--33 years, 1,410 ft<sup>3</sup>/s (39.93 m<sup>3</sup>/s), 1,022,000 acre-ft/yr (1.26 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,330 ft<sup>3</sup>/s (151 m<sup>3</sup>/s) June 25, 1982; no flow for several months in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	735	204	0	0	2680	3350	1840	3010	2920	4220	4500	3030
2	665	206	0	138	2870	2690	1210	3040	3010	3680	4510	3030
3	584	207	0	46	2960	2320	1350	3100	3060	3360	4450	3060
4	544	210	0	73	2880	2240	1760	3150	3060	3430	4400	2740
5	636	212	0	0	2700	2280	2120	3310	2950	3590	4380	2570
6	558	214	0	0	2720	2010	1890	3400	3040	3920	4380	2670
7	563	214	0	73	2910	1900	1540	3390	3490	4560	4370	2750
8	648	216	0	73	3130	1960	1520	3380	3850	4710	4330	2820
9	625	218	0	42	3240	1930	1270	3410	4080	4690	4380	2960
10	525	249	0	38	3180	2000	1200	3470	4180	4220	4410	2750
11	531	270	0	454	2960	1990	965	3440	4210	4130	4390	2490
12	498	269	0	1180	2810	1760	923	3480	4230	4340	4410	2460
13	456	231	0	1300	2790	1330	1000	3590	4390	4610	4410	2500
14	425	186	0	1330	2880	1280	947	4110	4620	4740	4390	2550
15	402	176	0	1350	3080	1010	1070	4140	4710	5040	4430	2660
16	379	211	0	1360	3010	842	1280	4160	4720	5120	4440	2770
17	353	217	0	1420	2960	788	1250	4210	4720	5160	4420	2590
18	381	202	0	1340	3250	743	1290	4180	4700	5080	4450	2340
19	406	204	0	852	3440	750	1380	4050	4700	4880	4440	2410
20	424	206	0	1090	3600	688	1490	3930	4800	4710	4460	2530
21	454	226	126	1230	3830	764	1790	3820	5220	4680	4490	2860
22	456	241	257	1250	4200	1340	2160	3780	5310	4690	4460	2850
23	440	217	134	1250	4520	1440	2300	3880	5320	4610	4390	2820
24	403	88	0	1250	4860	1670	2300	3980	5320	4320	4380	2450
25	423	0	0	2240	5030	1940	2340	3790	5330	4370	4370	1960
26	458	0	0	2520	4970	2520	2590	3420	5320	4530	3710	1730
27	505	105	0	2650	4400	2730	2790	3330	5310	4640	3360	1550
28	410	104	0	2590	4070	3140	2830	3120	5310	4710	3100	1200
29	268	104	0	2550	---	3100	2980	2790	5320	4650	3210	990
30	211	0	158	2550	---	3050	3020	2760	5030	4610	3220	945
31	203	---	89	2540	---	3150	---	2820	---	4440	3110	---
TOTAL	14620	5407	764	34779	95930	58715	52395	109440	132230	138440	130150	73035
MEAN	472	180	24.6	1122	3426	1894	1747	3530	4408	4466	4198	2435
MAX	735	270	257	2650	5030	3350	3020	4210	5330	5160	4510	3060
MIN	203	0	0	0	2680	688	923	2760	2920	3360	3100	945
AC-FT	29000	10720	1520	68980	190300	116500	103900	217100	262300	274600	258200	144900

CAL YR 1981 TOTAL 423103.00 MEAN 1159 MAX 4300 MIN 0 AC-FT 839200  
WTR YR 1982 TOTAL 845905.00 MEAN 2318 MAX 5330 MIN 0 AC-FT 1678000

## SAN JOAQUIN RIVER BASIN

11250100 MILLERTON LAKE AT FRIANT, CA

LOCATION.--Lat 37°00'00", long 119°42'13", in SW¼SW¼ sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, near center of Friant Dam on San Joaquin River just upstream from Cottonwood Creek, 0.9 mi (1.4 km) northeast of Friant.

DRAINAGE AREA.--1,638 mi<sup>2</sup> (4,242 km<sup>2</sup>).

PERIOD OF RECORD.--October 1941 to current year. Monthend contents only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to May 29, 1944, nonrecording gage on left bank at same datum.

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944 and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft (620 hm<sup>3</sup>) between elevations 375.4 ft (114.42 m) invert of river outlet, and 578.0 ft (176.17 m) top of drum-type spillway gates. Not available for release, 17,400 acre-ft (21.5 hm<sup>3</sup>). Millerton Lake is one of the storage units in Central Valley Project. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 528,700 acre-ft (652 hm<sup>3</sup>) June 12, 1973, elevation, 579.66 ft (176.680 m); minimum since lake first filled, 133,600 acre-ft (165 hm<sup>3</sup>) Apr. 11, 1969, elevation, 467.81 ft (142.588 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 526,200 acre-ft (649 hm<sup>3</sup>) June 29, elevation, 579.15 ft (176.525 m); minimum, 166,100 acre-ft (205 hm<sup>3</sup>) Oct. 1, elevation, 481.75 ft (146.837 m).

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

400	36,400	500	215,600
420	57,000	520	279,400
440	83,300	540	353,000
460	117,500	560	436,500
480	161,700	580	530,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166100	184300	224600	341300	404900	375000	493700	397100	461800	524700	495000	370600
2	167800	185600	226800	345800	403100	377000	491000	395800	467000	524100	491000	369300
3	169900	186700	232600	349100	401400	379700	486500	395000	470200	524200	486500	368100
4	171800	188600	235800	353600	399700	382300	481200	395700	472800	523600	481700	367700
5	173700	189900	238800	366400	398000	384500	474400	396600	475200	522500	477100	366800
6	175700	190700	241900	371300	396500	386000	467800	395500	474900	520900	472800	366100
7	176600	191300	245100	374900	394400	387500	461900	393300	473200	519100	468600	364500
8	175300	191300	248100	378600	391900	389000	456600	391600	471900	518700	464400	362400
9	173800	193000	251100	381900	388600	390700	454200	387600	472700	518000	460200	360300
10	172700	194000	254200	385200	385300	393200	454500	380800	473800	518600	456100	359100
11	171800	193800	257400	387600	383100	397100	485800	373300	476600	520700	451800	358100
12	171500	193200	260500	388300	380900	401100	489600	366300	480700	522300	446200	356300
13	171700	192700	260900	388900	378200	405600	486400	360000	483100	523100	441100	354800
14	172100	192400	261400	389500	377500	413500	481100	354900	483100	523000	436000	353400
15	172500	192000	261500	392700	379500	421100	474800	351700	484100	522200	430200	352400
16	173200	192600	264400	396000	393600	428700	467600	348700	489700	521700	425600	351200
17	173400	194000	267400	399200	396700	436700	460600	348500	495200	521700	421000	350200
18	174200	195900	270700	402300	397400	445700	456700	350100	502300	519600	416400	348900
19	174600	197700	273700	406100	396200	453900	453700	354100	508300	516900	411800	347200
20	175200	199500	277100	409400	395800	462000	450900	358500	512800	513400	407100	346200
21	175800	201500	280700	410300	394700	468300	446500	363900	516300	511400	402700	346000
22	176300	203200	285900	411000	392900	474300	440600	371300	519000	509800	397700	346000
23	177000	204400	291100	412200	390500	479000	434700	378600	520000	508200	392800	346100
24	177300	206200	296400	412700	387200	483000	429100	387800	521900	507400	388400	344900
25	177400	208400	301600	411200	383300	486200	423200	397300	522800	506300	383800	346900
26	177400	210800	306700	410200	379500	488500	416900	408500	522900	504500	380900	349700
27	177800	213000	311700	409600	376900	490000	409400	421200	523800	503400	378600	352900
28	178900	216100	317000	409200	375000	490100	404100	433000	524300	502700	377000	355900
29	180100	219000	322800	408700	---	490500	402700	442400	526200	501500	374800	359500
30	182700	221900	328400	408200	---	489800	399300	449600	525800	499800	373100	363500
31	183600	---	334600	407200	---	489500	---	455500	---	497700	371800	---
MAX	183600	221900	334600	412700	404900	490500	493700	455500	526200	524700	495000	370600
MIN	166100	184300	224600	341300	375000	375000	399300	348500	461800	497700	371800	344900
a	488.54	503.00	535.27	553.26	545.52	571.57	551.40	564.23	579.08	573.28	544.74	542.67
b	+19300	+41000	+110000	+72600	-32200	+114500	-90200	+56200	+70300	-28100	-125900	-8300
c	740	360	210	330	440	850	1320	2150	2810	3490	2980	1710

CAL YR 1981 b +78900

WTR YR 1982 b +199200

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

## 11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA

LOCATION.--Lat 36°59'04", long 119°43'24", in SW¼SW¼ sec.7, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040001, on left bank 0.5 mi (0.8 km) west of Friant, 1.5 mi (2.4 km) downstream from Cottonwood Creek, 2 mi (3.2 km) downstream from Friant Dam, and at mile 268.1 (431.4 km).

DRAINAGE AREA.--1,676 mi<sup>2</sup> (4,341 km<sup>2</sup>).

PERIOD OF RECORD.--October 1907 to current year. Published as "near Pollasky" October 1907 to December 1908, and as "near Friant" January 1909 to September 1938. Monthly discharge only for October 1907 to November 1908, published in WSP 1315-A.

REVISED RECORDS.--WSP 843: 1914(M).

GAGE.--Water-stage recorder. Datum of gage is 294.00 ft (89.611 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 mi (7.2 km) upstream at different datum. Nov. 10, 1913, to Sept. 30, 1968, water-stage recorder at site 2.5 mi (4.0 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by reservoirs described in REMARKS for San Joaquin River below Kerckhoff powerhouse. Diversion for irrigation through Madera and Friant-Kern Canals (stations 11249500, 11250000) began in 1944 and 1949, respectively. See schematic diagram of San Joaquin River basin.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern Canals).--75 years, 2,391 ft<sup>3</sup>/s (67.71 m<sup>3</sup>/s), 1,732,000 acre-ft/yr (2.14 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft<sup>3</sup>/s (2,190 m<sup>3</sup>/s) Dec. 11, 1937, gage height, 23.8 ft (7.25 m) site and datum then in use; minimum, 38 ft<sup>3</sup>/s (1.08 m<sup>3</sup>/s) regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 12,400 ft<sup>3</sup>/s (351 m<sup>3</sup>/s) June 6, 1969; minimum, 5.5 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Oct. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,250 ft<sup>3</sup>/s (234 m<sup>3</sup>/s) Apr. 12, gage height 10.23 ft (3.118 m); minimum daily, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	142	59	72	100	50	3890	7040	1600	2390	169	86
2	97	144	59	72	88	74	5660	7030	1680	1220	168	87
3	97	130	57	74	63	69	6200	7020	2010	993	135	83
4	97	86	54	79	42	56	6140	7020	2110	901	95	70
5	97	87	54	126	40	53	6060	7020	2120	684	93	69
6	97	88	54	79	40	50	6000	7020	2120	417	93	69
7	98	88	54	53	40	49	5800	7010	2120	187	93	69
8	95	88	51	48	39	48	5180	7010	2120	172	93	69
9	97	88	53	43	39	47	3900	6990	2120	171	101	69
10	97	90	56	43	44	55	3180	6800	2120	169	111	69
11	97	93	50	42	49	64	6380	6070	2120	179	110	69
12	99	93	44	43	49	63	8230	5280	2130	346	109	60
13	97	93	44	43	49	77	8160	5110	2130	607	109	51
14	97	84	42	47	50	193	8120	4710	1940	715	109	58
15	87	72	39	56	72	195	8090	3660	1280	572	214	71
16	76	72	37	57	163	248	8040	3160	1040	412	249	71
17	74	74	43	57	83	349	8000	3150	1040	406	242	72
18	69	74	45	57	70	370	7960	2660	1040	289	231	72
19	61	73	45	103	66	221	7950	1560	1050	184	214	74
20	58	72	55	145	62	146	8000	1000	1050	174	195	74
21	73	72	69	163	60	122	8040	999	1060	174	162	74
22	95	72	69	141	57	110	8020	999	1340	174	101	74
23	95	73	69	132	56	102	7990	1000	1600	174	89	71
24	95	72	70	127	55	96	8070	1010	1130	174	90	75
25	95	72	71	121	52	93	8040	922	611	174	90	77
26	95	74	72	117	51	105	8080	735	622	172	88	77
27	102	71	71	117	49	91	8070	813	643	172	88	60
28	113	66	72	116	48	224	7880	1200	962	172	88	43
29	115	65	73	114	---	767	7240	1710	1570	170	87	45
30	129	62	77	110	---	1400	7050	1610	3040	169	85	45
31	142	---	76	106	---	1690	---	1590	---	169	86	---
TOTAL	2934	2530	1784	2703	1676	7277	209420	118908	47518	13082	3987	2053
MEAN	94.6	84.3	57.5	87.2	59.9	235	6981	3836	1584	422	129	68.4
MAX	142	144	77	163	163	1690	8230	7040	3040	2390	249	87
MIN	58	62	37	42	39	47	3180	735	611	169	85	43
AC-FT	5820	5020	3540	5360	3320	14430	415400	235900	94250	25950	7910	4070
MEAN a	892	960	1875	2579	3409	4421	8121	9577	8486	5731	3437	3096
AC-FT a	54850	57120	115300	158600	189300	271800	483200	588900	505000	352400	211300	184200

CAL YR 1981 TOTAL 36191 MEAN 99 MAX 217 MIN 35 AC-FT 71780 MEAN a 1621 AC-FT a 1174000  
WTR YR 1982 TOTAL 413872 MEAN 1134 MAX 8230 MIN 37 AC-FT 820900 MEAN a 4381 AC-FT a 3172000

a Adjusted for change in contents and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern canals.

## SAN JOAQUIN RIVER BASIN

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA

LOCATION.--Lat 36°24'08", long 120°25'57", in SE¼SE¼ sec.34, T.17 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 9.2 mi (14.8 km) southwest of town of Cantua Creek, and 19 mi (31 km) north of Coalinga.

DRAINAGE AREA.--46.4 mi<sup>2</sup> (120.2 km<sup>2</sup>).

PERIOD OF RECORD.--Water years 1958-65 (annual maximum), October 1966 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 680 ft (207 m), from topographic map. Prior to October 1966, crest-stage gage at datum 2.00 ft (0.610 m) lower.

REMARKS.--Records good. Some small dams for stock use above station.

AVERAGE DISCHARGE.--16 years, 2.73 ft<sup>3</sup>/s (0.077 m<sup>3</sup>/s), 1,980 acre-ft/yr (2.44 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,920 ft<sup>3</sup>/s (54.3 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 6.60 ft (2.012 m), from rating curve extended above 170 ft<sup>3</sup>/s (4.81 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 4.57 ft (1.393 m), 6.04 ft (1.841 m), and 6.60 ft (2.012 m); no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)		Gage height (ft) (m)	
Mar. 31	2200	136	3.85	3.00	0.914
Apr. 11	0430	*404	11.4	3.87	1.180

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	.14	.25	33	3.5	1.7	1.1		
2				0	.10	.87	14	3.3	1.6	.81		
3				0	.10	.82	11	3.1	1.5	.76		
4				0	.08	.60	9.6	3.1	1.5	.66		
5				14	.08	.53	6.9	2.9	1.5	.60		
6				2.4	.07	.52	6.0	2.7	1.5	.55		
7				.74	.08	.51	5.5	2.7	1.4	.51		
8				.31	.08	.52	4.8	2.7	1.3	.45		
9				.16	.07	.47	4.2	2.8	1.2	.41		
10				.09	.10	.52	4.6	4.7	1.1	.35		
11				.04	.14	.57	133	3.8	1.0	.31		
12				.01	.10	.66	28	3.0	1.0	.27		
13				0	.10	.53	16	2.7	1.0	.21		
14				0	.12	.65	12	2.6	.99	.20		
15				0	.17	.83	10	2.5	.88	.21		
16				0	.14	.77	9.4	2.4	.73	.21		
17				0	.23	1.9	8.2	2.2	.64	.22		
18				0	.19	1.8	7.3	2.2	.65	.21		
19				.02	.17	1.5	6.5	2.2	.67	.19		
20				.38	.16	1.5	6.0	2.1	.68	.16		
21				.72	.13	2.3	5.5	2.0	.61	.14		
22				.19	.11	1.8	5.1	1.9	.57	.12		
23				.08	.11	1.6	4.8	1.9	.53	.09		
24				.04	.16	1.4	4.7	1.7	.49	.08		
25				.04	.19	1.4	4.5	1.5	.50	.06		
26				1.2	.19	1.4	4.3	1.5	.49	.06		
27				2.4	.19	1.5	4.2	1.5	.45	.04		
28				.75	.19	1.4	3.9	1.6	.52	0		
29				.54	---	1.7	3.7	1.6	2.0	0		
30				.33	---	2.6	3.6	1.6	1.5	0		
31		---		.22	---	29	---	1.6	---	0		---
TOTAL	0	0	0	24.66	3.69	62.42	380.3	75.6	30.20	8.98	0	0
MEAN	0	0	0	.80	.13	2.01	12.7	2.44	1.01	.29	0	0
MAX	0	0	0	14	.23	29	133	4.7	2.0	1.1	0	0
MIN	0	0	0	0	.07	.25	3.6	1.5	.45	0	0	0
AC-FT	0	0	0	49	7.3	124	754	150	60	18	0	0

CAL YR 1981 TOTAL 318.93 MEAN .87 MAX 24 MIN 0 AC-FT 633  
WTR YR 1982 TOTAL 585.85 MEAN 1.61 MAX 133 MIN 0 AC-FT 1160

11253500 JAMES BYPASS NEAR SAN JOAQUIN, CA

LOCATION.--Lat 36°39'09", long 120°10'49", in NE¼SW¼ sec.1, T.15 S., R.16 E., Fresno County, Hydrologic Unit 18030012, on right bank 3.2 mi (5.1 km) north of San Joaquin.

PERIOD OF RECORD.--October 1947 to current year. Published as "Fresno Slough bypass" in WSP 1315-A and 1735. Daily discharge for period October 1954 to September 1972 are in files of Bureau of Reclamation. Monthly totals published in WDR CA-72-2.

GAGE.--Water-stage recorder. Altitude of gage is 160 ft (49 m), from topographic map.

REMARKS.--Diversion above station for irrigation. James Bypass carries overflow from Kings River to San Joaquin River.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--35 years, 182 ft<sup>3</sup>/s (5.154 m<sup>3</sup>/s), 131,900 acre-ft/yr (163 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,570 ft<sup>3</sup>/s (158 m<sup>3</sup>/s) June 7, 1969; no flow for all or most of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	4710	2720	328		
2							0	4790	2780	742		
3							433	4870	2820	1650		
4							306	4860	3020	1640		
5							9.0	4800	2880	1360		
6							66	4800	2880	1440		
7							101	4780	3070	1160		
8							7.0	4750	2980	643		
9							117	4660	2600	75		
10							325	4680	1670	72		
11							614	4750	942	66		
12							1100	4850	613	60		
13							1800	4870	629	55		
14							2840	4800	615	49		
15							3620	4210	483	44		
16							3980	3100	312	38		
17							4130	2720	50	32		
18							4420	2380	50	26		
19							4590	2310	50	20		
20							4680	2280	50	15		
21							4770	2160	50	10		
22							4750	2150	50	25		
23							4670	2180	50	20		
24							4600	2140	38	18		
25							4650	2070	25	16		
26							4590	1960	20	14		
27							4560	1830	15	12		
28							4560	1770	15	10		
29					---		4630	2130	15	9.0		
30					---		4680	2520	15	7.0		
31		---			---		---	2660	---	5.0		---
TOTAL	0	0	0	0	0	0	79598.0	107540	31507	9661.0	0	0
MEAN	0	0	0	0	0	0	2653	3469	1050	312	0	0
MAX	0	0	0	0	0	0	4770	4870	3070	1650	0	0
MIN	0	0	0	0	0	0	0	1770	15	5.0	0	0
AC-FT	0	0	0	0	0	0	157900	213300	62490	19160	0	0

CAL YR 1981 TOTAL 0.00 MEAN .00 MAX .00 MIN 0 AC-FT 0  
WTR YR 1982 TOTAL 228306.00 MEAN 625 MAX 4870 MIN 0 AC-FT 452800

## SAN JOAQUIN RIVER BASIN

11257500 FRESNO RIVER NEAR KNOWLES, CA

LOCATION.--Lat 37°14'14", long 119°46'26", in SE¼NW¼ sec.15, T.8 S., R.20 E., Madera County, Hydrologic Unit 18040007, on left bank at Fresno Crossing, 0.1 mi (0.2 km) downstream from Bean Gulch, and 6 mi (10 km) northeast of Knowles.

DRAINAGE AREA.--133 mi<sup>2</sup> (344 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to August 1913, November 1915 to current year.

REVISED RECORDS.--WSP 1515: 1916-19, 1920(M), 1921-23, 1925-26(M), 1932(M), 1935-36(M).

GAGE.--Water-stage recorder. Datum of gage is 1,086.4 ft (331.13 m) National Geodetic Vertical Datum of 1929. Prior to June 13, 1930, nonrecording gage 10 ft (3 m) upstream and June 13, 1930, to Jan. 13, 1931, water-stage recorder at site 40 ft (12 m) upstream at datum 0.34 ft (0.104 m) lower.

REMARKS.--Records good except those for Aug. 25 to Sept. 30, which are fair. Diversions for irrigation of 160 acres (648,000 m<sup>2</sup>) above station. Diversions into Fresno River basin above station of up to 60 ft<sup>3</sup>/s (1.70 m<sup>3</sup>/s) at times since 1888 from the Merced River basin. Diversions are for irrigation downstream from station.

AVERAGE DISCHARGE.--67 years (water years 1912, 1917-82), 81.6 ft<sup>3</sup>/s (2.311 m<sup>3</sup>/s), 59,120 acre-ft/yr (72.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft<sup>3</sup>/s (377 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 11.52 ft (3.511 m), from rating curve extended above 3,900 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 590 ft<sup>3</sup>/s (16.7 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0600	3,580 101	6.98 2.128	Mar. 14	1515	1,950 55.2	5.33 1.625
Feb. 16	1030	4,150 118	7.43 2.265	Mar. 31	2300	2,720 77.0	6.20 1.890
Mar. 2	2245	640 18.1	3.18 0.969	Apr. 11	1215	*6,120 173	8.68 2.646

Minimum daily, 2.6 ft<sup>3</sup>/s (0.074 m<sup>3</sup>/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	8.0	12	294	107	183	1380	264	146	134	18	8.7
2	4.1	6.9	11	170	100	414	776	257	143	114	17	8.2
3	5.5	5.9	12	92	95	350	638	246	139	105	16	7.6
4	7.2	7.5	11	582	92	237	647	239	135	100	16	7.1
5	7.5	6.9	10	2550	84	208	518	231	134	93	15	6.6
6	4.1	7.1	9.8	594	78	186	457	223	135	87	15	6.3
7	3.1	7.6	8.9	263	74	172	405	216	130	82	15	6.1
8	2.6	8.0	8.2	185	72	160	369	209	128	76	15	5.8
9	6.5	7.9	8.0	150	68	154	351	211	128	71	17	5.4
10	13	7.8	7.7	131	68	215	551	229	126	71	15	5.3
11	18	8.0	8.0	114	64	365	4100	225	126	61	15	5.0
12	37	9.3	7.5	98	60	334	1960	214	126	63	14	5.2
13	30	56	7.3	86	60	241	965	196	122	58	13	5.4
14	22	245	8.4	78	165	954	737	185	120	53	14	5.8
15	20	104	7.9	73	835	681	635	178	114	54	15	6.1
16	21	42	7.3	69	2730	612	561	168	108	42	15	6.5
17	19	49	6.8	66	761	770	507	162	107	34	15	8.0
18	19	80	6.2	64	446	736	465	155	103	32	13	11
19	20	37	6.9	71	343	589	442	150	104	32	12	13
20	22	23	62	124	292	461	426	147	100	30	12	15
21	21	17	229	174	267	401	394	142	92	28	12	14
22	19	14	108	127	249	357	371	137	88	26	10	14
23	17	13	58	100	231	327	357	134	84	26	9.9	13
24	16	13	41	102	212	305	336	129	85	25	9.2	12
25	17	30	31	116	197	290	316	122	85	25	8.7	20
26	17	21	26	163	183	379	304	119	80	23	8.2	109
27	17	25	26	252	174	316	294	117	74	22	7.8	72
28	28	21	32	187	164	403	289	156	73	22	8.2	50
29	68	19	30	159	---	490	283	156	133	21	8.3	36
30	27	13	230	129	---	460	270	149	146	20	8.4	30
31	12	---	150	114	---	872	---	148	---	19	9.0	---
TOTAL	543.9	912.9	1187.9	7477	8271	12622	20104	5614	3414	1649	396.7	518.1
MEAN	17.5	30.4	38.3	241	295	407	670	181	114	53.2	12.8	17.3
MAX	68	245	230	2550	2730	954	4100	264	146	134	18	109
MIN	2.6	5.9	6.2	64	60	154	270	117	73	19	7.8	5.0
AC-FT	1080	1810	2360	14830	16410	25040	39880	11140	6770	3270	787	1030

CAL YR 1981 TOTAL 13051.44 MEAN 35.8 MAX 325 MIN 0 AC-FT 25890  
WTR YR 1982 TOTAL 62710.50 MEAN 172 MAX 4100 MIN 2.6 AC-FT 124400

NOTE.--No gage-height record Aug. 25 to Sept. 30.

11257500 FRESNO RIVER NEAR KNOWLES, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1971 to current year.

INSTRUMENTATION.--Temperature recorder since July 1971.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 33.0°C Aug. 11, 1971, Aug. 8, 9, 1978; minimum recorded, 0.0°C Jan. 5, 7, 1973, Dec. 8, 9, 1978.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 31.0°C Aug. 22, 23; minimum recorded, 2.5°C Jan. 23.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	15.5	14.0	8.5	9.0	5.5	9.0	8.0	8.5	6.0		
2	21.5	16.5	14.5	9.0	9.5	7.5	7.5	5.5	8.0	5.5		
3	20.0	17.5	14.5	9.5	10.0	8.5	6.5	3.0	7.5	5.5		
4	21.0	16.0	14.0	10.0	10.0	8.5	7.0	5.0	7.0	5.5		
5	21.0	15.0	13.5	11.0	9.5	7.5	6.5	6.0	8.5	5.5		
6	20.0	14.5	14.0	10.5	9.0	7.0	6.5	5.5	8.0	5.0		
7	18.5	15.5	15.0	10.5	8.5	5.5	6.5	5.0	6.5	4.5		
8	19.5	13.0	14.5	11.0	8.5	5.5	5.0	3.5	8.5	6.0		
9	19.5	13.5	14.5	10.5	8.5	7.0	5.5	3.0	8.0	6.0		
10	17.0	15.5	13.5	11.5	9.0	7.5	6.0	4.0	7.5	6.0		
11	17.5	15.0	13.5	10.5	10.0	7.5	6.5	4.0	8.5	5.5		
12	16.0	11.0	13.0	10.5	9.5	7.5	6.5	5.0	8.5	5.5		
13	15.0	10.0	13.0	10.5	10.0	8.5	6.5	4.5	8.0	6.0		
14	14.5	10.0	13.0	12.0	10.5	8.5	6.5	4.0	10.0	6.0		
15	14.5	10.0	12.5	10.5	10.5	8.0	5.5	4.5	10.5	9.0		
16	15.0	10.0	13.5	10.5	10.0	9.0	6.5	5.0	10.5	9.5		
17	15.5	10.5	13.5	12.5	10.0	8.0	6.5	5.0	11.0	8.0		
18	15.5	10.5	12.0	10.0	9.5	8.0	6.0	5.0	10.5	8.0		
19	16.5	10.5	11.0	9.5	11.0	9.5	6.5	5.0	11.5	9.5		
20	16.5	12.0	11.0	9.5	11.5	11.0	5.0	3.0	12.0	9.0		
21	16.5	10.5	11.5	9.5	11.5	9.5	4.5	3.0	12.0	9.5		
22	16.5	10.5	13.0	11.0	9.0	6.0	4.5	3.0	11.5	9.5		
23	16.5	12.5	13.0	10.5	8.0	6.0	5.5	2.5	11.0	10.0		
24	16.0	12.5	12.0	11.0	7.5	6.0	6.0	3.0	---	---		
25	16.5	12.5	10.5	9.0	7.5	6.0	7.0	4.0	---	---		
26	15.5	12.5	9.0	7.5	7.5	6.5	6.5	5.5	---	---		
27	16.0	14.0	8.0	5.5	9.0	6.0	7.0	5.0	---	---		
28	16.0	14.5	8.0	5.5	8.0	6.0	7.0	5.5	---	---		
29	15.0	11.5	8.5	5.5	8.0	6.0	6.0	4.0	---	---		
30	13.5	9.5	8.0	5.5	9.5	8.0	7.0	4.5	---	---		
31	13.5	7.5	---	---	9.0	8.5	6.5	4.0	---	---		
MONTH	21.5	7.5	15.0	5.5	11.5	5.5	9.0	2.5	12.0	4.5		

11257500 FRESNO RIVER NEAR KNOWLES, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	18.0	14.0	18.5	14.5	20.0	14.5	---	---	26.5	19.0
2	---	---	18.0	14.5	18.0	13.5	---	---	---	---	27.5	20.0
3	---	---	17.5	15.0	18.0	13.5	---	---	---	---	27.0	20.5
4	---	---	18.5	15.0	17.5	14.0	---	---	---	---	28.0	19.0
5	---	---	19.5	15.5	17.5	13.5	---	---	---	---	28.0	19.0
6	---	---	19.5	15.0	17.5	13.5	---	---	---	---	26.0	19.5
7	---	---	19.5	15.0	18.0	14.0	---	---	---	---	28.5	20.0
8	---	---	18.5	15.5	19.0	14.5	---	---	---	---	28.0	19.5
9	---	---	15.5	13.0	20.0	16.0	---	---	---	---	28.0	20.0
10	11.5	10.5	14.5	11.0	21.0	17.0	---	---	---	---	27.0	19.5
11	11.0	9.5	14.5	10.5	20.5	16.0	---	---	---	---	26.5	18.5
12	13.0	9.0	16.0	11.0	21.0	17.5	---	---	---	---	26.0	18.0
13	12.5	9.5	17.5	13.0	20.5	16.0	---	---	---	---	25.5	17.5
14	13.5	10.0	17.5	14.5	21.0	17.5	---	---	---	---	25.5	17.5
15	12.0	9.5	18.5	14.0	22.5	18.5	---	---	---	---	20.0	18.0
16	12.5	8.5	19.5	15.0	24.0	20.0	---	---	---	---	20.5	17.0
17	13.0	10.0	19.5	16.0	24.0	21.5	---	---	---	---	21.0	17.0
18	14.0	11.0	18.0	14.5	23.5	20.5	---	---	---	---	21.0	17.0
19	14.0	11.5	18.5	14.0	24.0	20.5	---	---	29.0	21.0	22.5	16.0
20	15.5	11.5	19.5	15.5	24.5	20.5	---	---	30.0	21.0	24.0	15.5
21	14.0	11.5	20.5	16.0	25.0	21.0	---	---	30.5	22.5	23.0	15.5
22	14.0	11.5	20.5	16.5	25.0	21.0	---	---	31.0	23.5	22.5	17.5
23	15.5	11.5	21.5	16.0	25.0	21.0	---	---	31.0	24.0	20.0	17.5
24	15.0	13.0	22.5	18.0	23.0	21.0	---	---	28.0	23.0	19.5	19.0
25	15.0	11.5	22.5	19.0	24.0	19.5	---	---	29.5	21.5	20.0	19.5
26	16.5	13.5	23.0	19.5	25.0	20.0	---	---	29.0	21.0	19.5	17.0
27	15.5	11.5	21.5	18.5	25.5	21.0	---	---	27.5	20.0	19.5	16.0
28	16.0	13.5	19.0	15.5	23.0	20.0	---	---	28.5	22.0	21.0	15.0
29	15.0	13.5	19.0	15.0	20.0	18.0	---	---	28.5	22.0	19.5	14.5
30	17.5	13.5	18.5	14.5	17.5	15.5	---	---	28.5	20.0	19.0	12.5
31	---	---	18.5	15.0	---	---	---	---	28.5	19.0	---	---
MONTH	---	---	23.0	10.5	25.5	13.5	---	---	---	---	28.5	12.5



11257950 HENSLEY LAKE NEAR DAULTON, CA

LOCATION.--Lat 37°06'34", long 119°53'05", in NE¼NW¼ sec.34, T.9 S., R.19 E., Madera County, Hydrologic Unit 18040007, in control tower at center of Hidden Dam on Fresno River, and 5.3 mi (8.5 km) southeast of Daulton.

DRAINAGE AREA.--236 mi<sup>2</sup> (611 km<sup>2</sup>).

PERIOD OF RECORD.--October 1975 to current year.

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

REMARKS.--Lake is formed by earthfill dam. Storage began Oct. 1, 1975, usable capacity, 85,289 acre-ft (105 hm<sup>3</sup>), between elevations 448.0 ft (136.55 m) lowest outlet, and 540.0 ft (164.59 m) crest of spillway. Dead storage, 4,970 acre-ft (6.13 hm<sup>3</sup>). Records, including extremes, represent total contents at 2400 hours. Reservoir is used for flood control, irrigation, recreation, and wildlife enhancement.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 89,509 acre-ft (110 hm<sup>3</sup>) June 6, 1979, elevation, 539.52 ft (164.446 m); minimum since reservoir first filled, 10,482 acre-ft (12.9 hm<sup>3</sup>) Oct. 9-12, 1981, elevation, 462.91 ft (141.095 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 85,008 acre-ft (105 hm<sup>3</sup>) Apr. 26, elevation, 536.60 ft (163.556 m); minimum, 10,482 acre-ft (12.9 hm<sup>3</sup>) Oct. 9-12, elevation, 462.91 ft (141.095 m).

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

435	2,134	490	28,556
445	4,173	500	38,094
455	7,217	510	49,115
460	9,185	520	61,525
470	14,138	530	75,247
480	20,569	540	90,259

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10519	10763	12623	15669	31906	46055	71457	84811	81394	76385	63235	48483
2	10514	10782	12665	15993	32150	46728	70632	84659	81170	76385	62641	48030
3	10514	10797	12703	16203	32413	47451	68940	84522	81200	76443	62049	47578
4	10510	10811	12745	16964	32687	47763	67199	84416	81215	76530	61472	47129
5	10505	10820	12793	23969	32905	47937	65358	84173	81215	76559	60885	46693
6	10500	10844	12824	25689	33096	48076	64861	83946	81229	76545	60366	46248
7	10491	10863	12851	26353	33277	48204	65654	83644	81319	76443	59875	45794
8	10486	10877	12899	26833	33478	48262	66818	83372	81423	76226	59372	45353
9	10482	10892	12926	27147	33680	48332	67936	83101	81498	75880	58898	44903
10	10482	10906	12963	27437	33844	48553	69617	82876	81513	75419	58450	44445
11	10482	10920	13012	27695	34086	49103	79791	82665	81394	74916	57953	44000
12	10482	10959	13038	27963	34202	49620	82185	82650	81244	74401	57446	43557
13	10500	11031	13082	27816	34387	49868	81826	82755	81081	73873	56941	43138
14	10510	11298	13114	27626	34601	52308	81006	82906	80887	73347	56475	42733
15	10510	11524	13152	27506	36194	53758	81364	83041	80605	72823	56012	42307
16	10519	11629	13190	27369	42765	55164	81961	83161	80294	72286	55562	41873
17	10524	11734	13228	27283	42831	57496	82620	83297	79983	71723	55115	41452
18	10524	11865	13255	27104	42963	59218	83161	83387	79673	71163	54669	41034
19	10542	11961	13293	27011	43535	59385	83659	83463	79422	70618	54212	40628
20	10547	12027	13364	27266	44055	58068	84143	83538	79202	70047	53770	40235
21	10556	12084	13728	27885	44423	56337	84325	83644	78995	69479	53329	39865
22	10566	12130	13940	28215	44791	56062	84613	83705	78731	68912	52891	39486
23	10575	12186	14064	28468	45083	57041	84765	83735	78379	68362	52441	39120
24	10580	12233	14166	28714	45297	58106	84902	83674	77985	67786	51994	38755
25	10594	12284	14246	29014	45534	59115	84963	83538	77649	67226	51561	38496
26	10598	12362	14326	29342	45636	60327	85008	83161	77358	66655	51117	38238
27	10603	12424	14412	30060	45771	61316	84978	82800	77009	66086	50687	37949
28	10636	12487	14487	30550	45839	62561	84932	82455	76661	65532	50259	37642
29	10664	12534	14591	30980	---	64326	84932	82170	76487	64968	49833	37325
30	10711	12576	14906	31321	---	66018	84902	81901	76429	64393	49408	37011
31	10735	---	15225	31617	---	67786	---	81632	---	63820	48951	---
MAX	10735	12576	15225	31617	45839	67786	85008	84811	81513	76559	63235	48483
MIN	10482	10763	12623	15669	31906	46055	64861	81632	76429	63820	48951	37011
a	463.45	467.14	471.87	493.39	507.16	524.68	536.53	534.36	530.82	521.74	509.86	498.94
b	+207	+1841	+2649	+16392	+14222	+21947	+17116	-3270	-5203	-12609	-14869	-11940
c	228	96	43	68	140	217	530	902	984	1296	1091	706

CAL YR 1981 b -10127  
WTR YR 1982 b +26483

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

## 11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA

LOCATION.--Lat 37°06'16", long 119°53'13", in NE¼SW¼ sec.34, T.9 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 350 ft (107 m) upstream from Willow Creek, 2,000 ft (610 m) downstream from Hidden Dam, and 5.2 mi (8.4 km) southeast of Daulton.

DRAINAGE AREA.--237 mi<sup>2</sup> (614 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1975, published as "near Daulton."

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 385 ft (117 m), from topographic map. See WDR CA-75-3 for history of changes prior to Oct. 1, 1975.

REMARKS.--Records good except those for periods of backwater from beaver dams, which are poor. Flow completely regulated by Hensley Lake (station 11257950) since October 1975.

AVERAGE DISCHARGE.--41 years, 111 ft<sup>3</sup>/s (3.144 m<sup>3</sup>/s), 80,420 acre-ft/yr (99.2 hm<sup>3</sup>/yr), adjusted for change in contents and evaporation from Hensley Lake.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s (496 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 17.64 ft (5.377 m) site and datum then in use, from rating curve extended above 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 17.60 ft (5.364 m) site and datum then in use; maximum gage height, 17.69 ft (5.392 m) Feb. 24, 1969, site and datum then in use; no flow at times most years. Maximum discharge since construction of Hidden Dam in 1975, 3,720 ft<sup>3</sup>/s (105 m<sup>3</sup>/s) Feb. 21, 1980, gage height, 8.67 ft (2.643 m); no flow for many days in 1975-78, 1981-82.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 3, 1938, reached a discharge of 15,000 ft<sup>3</sup>/s (425 m<sup>3</sup>/s), furnished by Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,140 ft<sup>3</sup>/s (60.6 m<sup>3</sup>/s) Apr. 2, gage height, 7.86 ft (2.396 m); minimum, no flow for several days during October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	.10	.30	2.9	165	1090	360	233	134	297	238
2	0	.10	.20	.30	3.7	165	1800	360	197	99	297	233
3	0	.10	.10	.20	4.2	164	2000	360	150	52	299	231
4	0	.10	.20	.50	4.4	163	1980	360	116	33	299	230
5	0	.10	.10	1.7	4.8	163	1800	360	107	55	299	224
6	0	.10	.20	.60	5.0	163	1040	360	107	68	277	226
7	0	.10	.10	.40	5.3	163	258	360	77	107	265	228
8	0	.10	.20	.30	5.7	163	2.6	359	64	170	265	228
9	0	.10	.10	.30	5.9	163	2.8	359	67	222	244	228
10	.10	.10	.20	.30	5.9	163	2.2	353	112	277	230	226
11	0	0	.10	.20	6.5	163	564	353	155	307	255	226
12	0	.20	.10	.30	6.7	163	1510	219	166	307	260	225
13	0	.90	.20	156	7.3	164	1510	153	176	307	260	210
14	0	.80	.10	204	73	165	1320	121	198	307	243	199
15	4.9	.70	.20	165	168	416	761	104	230	307	232	212
16	.60	.20	.20	163	702	522	522	103	242	307	232	219
17	.20	.10	.20	163	1050	829	364	102	240	307	231	219
18	.10	.10	.10	162	528	1010	362	101	237	307	230	219
19	.10	.10	.10	162	324	1220	362	101	205	307	230	212
20	.10	.20	.20	92	150	1510	362	101	186	307	230	202
21	.10	.10	.30	22	159	1510	362	101	179	307	229	197
22	.10	.10	.10	21	160	843	362	101	199	307	228	197
23	.10	.10	.20	22	160	64	362	101	235	302	228	196
24	0	.30	.20	24	160	1.4	360	132	248	299	225	195
25	.10	.10	.40	24	160	1.3	360	212	227	299	223	195
26	.10	.40	.30	9.5	160	1.2	360	253	202	299	222	195
27	.10	.70	.30	.90	160	1.2	360	283	224	297	222	193
28	.10	.90	.20	1.8	170	2.6	360	297	224	296	222	181
29	.10	.40	.20	3.1	---	2.8	360	275	209	296	222	174
30	.10	.30	.40	2.4	---	1.4	360	263	173	296	220	173
31	.10	---	.30	1.6	---	462	---	263	---	296	230	---
TOTAL	7.10	7.60	5.90	1404.70	4352.3	10687.9	21218.6	7330	5385	7581	7646	6331
MEAN	.23	.25	.19	45.3	155	345	707	236	180	245	247	211
MAX	4.9	.90	.40	204	1050	1510	2000	360	248	307	299	238
MIN	0	0	.10	.20	2.9	1.2	2.2	101	64	33	220	173
AC-FT	14	15	12	2790	8630	21200	42090	14540	10680	15040	15170	12560

CAL YR 1981 TOTAL 17513.30 MEAN 48.0 MAX 244 MIN 0 AC-FT 34740 MEAN a 40.3 AC-FT a 29180  
WTR YR 1982 TOTAL 71957.10 MEAN 197 MAX 2000 MIN 0 AC-FT 142700 MEAN a 242 AC-FT a 175200

a Adjusted for change in contents and evaporation from Hensley Lake.

NOTE.--Backwater from beaver dams from Oct. 1 to Jan. 13, Jan. 27 to Feb. 14, Mar. 25-31, Apr. 8-11.

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since Oct. 29, 1975.

REMARKS.--Water temperatures are affected by regulation from Hidden Dam.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum recorded, 32.0°C June 15, 1976; minimum recorded, 3.5°C Jan. 1, 1976, Nov. 26, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 20.0°C Oct. 7, 15, 25; minimum recorded, 5.0°C Jan. 9, 10.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1			---	---	13.0	12.5	14.0	13.0	14.5	14.0		
2			---	---	13.0	12.5	14.0	13.0	14.5	14.0		
3			---	---	13.5	12.5	15.0	13.0	14.5	14.0		
4			---	---	13.5	12.5	16.0	13.0	14.5	14.0		
5			---	---	13.5	12.5	14.5	13.0	14.5	14.0		
6			---	---	13.5	12.5	---	---	14.5	14.0		
7			---	---	14.0	12.5	---	---	15.0	14.5		
8			---	---	14.0	12.5	---	---	15.0	14.5		
9			---	---	14.0	12.5	---	---	15.0	14.5		
10			---	---	13.5	12.5	---	---	15.0	14.5		
11			---	---	13.0	12.5	---	---	15.0	14.5		
12			---	---	13.0	12.5	---	---	15.0	14.5		
13			---	---	13.0	12.5	---	---	15.0	14.5		
14			---	---	13.0	12.5	---	---	15.0	14.5		
15			---	---	13.0	12.5	---	---	15.5	14.5		
16			---	---	13.0	12.5	---	---	15.5	14.5		
17			---	---	13.0	12.5	---	---	15.5	15.0		
18			---	---	13.5	12.5	---	---	15.5	15.0		
19			---	---	13.5	12.5	---	---	15.5	15.0		
20			---	---	13.5	12.5	---	---	15.5	15.0		
21			---	---	13.5	12.5	---	---	15.5	15.0		
22			---	---	13.5	12.5	---	---	15.5	15.0		
23			---	---	13.5	12.5	---	---	16.0	15.0		
24			---	---	13.0	13.0	14.0	13.5	16.0	15.0		
25			13.0	12.0	13.5	13.0	14.0	13.5	16.0	15.0		
26			13.0	12.5	13.5	13.0	14.0	14.0	16.0	15.5		
27			13.0	12.5	13.5	13.0	14.5	14.0	---	---		
28			13.0	12.5	13.0	13.0	14.5	14.0	---	---		
29			13.0	12.5	13.0	13.0	14.5	14.0	---	---		
30			13.0	12.5	13.0	13.0	14.5	14.0	---	---		
31			13.0	12.5	---	---	14.5	14.0	---	---		
MONTH			---	---	14.0	12.5	---	---	16.0	14.0		

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA

LOCATION.--Lat 37°16'23", long 119°52'49", in NE¼NW¼ sec.3, T.8 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 0.9 mi (1.4 km) upstream from Willow Creek and 4.7 mi (7.6 km) northeast of Raymond.

DRAINAGE AREA.--173 mi<sup>2</sup> (448 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 680 ft (207 m), from topographic map.

REMARKS.--Records good. No large storage or diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft<sup>3</sup>/s (354 m<sup>3</sup>/s) Jan. 5, 1982, gage height, 13.97 ft (4.258 m); no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 660 ft<sup>3</sup>/s (18.7 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 1	0645	1,890 53.5	8.33 2.539	Mar. 2	2315	708 20.1	6.56 1.999
Jan. 5	0200	*12,500 354	13.97 4.258	Mar. 14	1600	4,060 115	10.19 3.106
Jan. 27	0015	871 24.7	6.89 2.100	Mar. 31	2315	6,570 186	11.63 3.545
Feb. 16	0900	9,720 275	12.99 3.959	Apr. 11	1200	7,950 225	12.27 3.740

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	13	786	150	192	2460	245	69	65	5.7	2.4
2		0	12	243	141	465	1220	233	68	52	5.3	2.2
3		0	11	129	131	423	953	220	66	44	5.2	2.1
4		0	11	3270	124	256	902	207	64	42	4.9	1.9
5		0	10	7920	113	210	757	196	63	38	4.7	1.8
6		0	9.5	874	104	188	670	184	65	32	4.8	1.7
7		0	8.9	371	99	175	594	177	61	30	5.0	1.7
8		0	8.5	245	96	166	557	171	59	29	4.9	1.6
9		0	8.4	185	91	154	507	169	57	27	5.1	1.5
10		0	8.2	167	89	198	774	184	54	26	4.6	1.5
11		0	8.0	148	85	323	4980	183	53	25	4.0	1.4
12		0	7.8	129	79	296	1790	163	52	23	3.7	1.4
13		0	7.8	114	78	215	1100	150	50	22	3.6	1.5
14		0	7.9	104	148	1390	900	143	49	20	3.8	1.6
15		0	7.8	97	1810	834	788	139	47	19	4.1	1.7
16		0	7.6	91	4730	801	707	132	44	18	4.1	1.8
17		0	7.4	86	1000	1340	643	125	43	17	4.0	2.2
18		0	7.4	83	625	1170	587	119	44	16	3.8	3.2
19		0	7.7	89	465	982	555	114	43	16	3.5	3.9
20		0	59	185	378	761	517	108	40	15	3.1	4.1
21		0	165	292	323	682	454	104	38	14	3.1	4.1
22		0	70	192	284	614	418	98	36	12	2.9	4.0
23		0	39	139	257	544	392	95	34	12	2.6	3.7
24		11	29	132	237	471	368	90	33	12	2.5	3.4
25		16	23	150	212	421	342	87	33	11	2.4	6.2
26		15	21	261	195	523	319	81	32	9.9	2.2	48
27		18	22	468	182	430	301	79	31	9.5	2.1	31
28		20	24	277	170	565	288	82	30	9.2	2.3	18
29		21	28	243	---	817	273	80	41	8.1	2.3	14
30		16	521	183	---	855	261	75	62	7.2	2.3	12
31		---	138	161	---	1880	---	72	---	6.2	2.5	---
TOTAL	0	117	1308.9	17814	12396	18341	25377	4305	1461	687.1	115.1	185.6
MEAN	0	3.90	42.2	575	443	592	846	139	48.7	22.2	3.71	6.19
MAX	0	21	521	7920	4730	1880	4980	245	69	65	5.7	48
MIN	0	0	7.4	83	78	154	261	72	30	6.2	2.1	1.4
AC-FT	0	232	2600	35330	24590	36380	50340	8540	2900	1360	228	368
CAL YR 1981	TOTAL	9544.63	MEAN	26.1	MAX	971	MIN	0	AC-FT	18930		
WTR YR 1982	TOTAL	82107.70	MEAN	225	MAX	7920	MIN	0	AC-FT	162900		

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1980 to current year.

INSTRUMENTATION.--Temperature recorder since July 9, 1980.

REMARKS.--Stream dry many days during October.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 36.0°C July 28, 1980; minimum recorded, 1.5°C Dec. 10-14, 1980.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 21, 22; minimum recorded, 4.0°C Jan. 3, 22-24.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	16.0	10.0	10.0	7.0	9.5	8.0	8.5	7.0	12.0	11.5
2	---	---	16.0	10.5	11.5	8.5	7.5	6.0	8.5	6.5	11.5	10.0
3	---	---	16.0	10.5	12.0	9.0	6.0	4.0	8.5	6.5	11.5	8.0
4	---	---	16.0	11.0	11.5	9.5	6.5	5.5	8.0	6.0	12.0	8.5
5	---	---	15.5	12.0	12.0	10.0	8.0	7.0	8.5	6.5	12.0	8.5
6	---	---	16.0	13.0	11.0	9.0	7.5	7.0	8.0	6.0	12.5	9.0
7	---	---	17.0	13.5	10.0	8.5	7.5	6.5	7.5	5.5	11.5	10.0
8	---	---	16.5	12.0	10.5	8.0	6.5	5.0	9.5	7.0	14.0	10.5
9	---	---	16.0	11.5	9.0	7.5	6.5	4.5	9.0	7.0	13.0	10.5
10	---	---	16.0	12.5	11.0	8.0	7.0	5.0	8.5	7.5	15.5	12.0
11	---	---	15.0	11.0	12.0	9.0	7.0	5.0	9.5	6.5	14.5	12.5
12	---	---	15.0	12.0	11.0	9.0	7.5	5.5	9.5	6.5	14.5	11.0
13	---	---	14.0	13.5	12.5	9.5	7.5	6.5	9.0	7.5	15.0	12.0
14	---	---	14.0	13.5	12.5	9.0	7.0	5.0	12.0	9.0	14.5	10.5
15	---	---	14.5	12.5	12.5	9.0	7.0	6.5	12.5	11.0	12.0	10.0
16	---	---	16.5	13.0	11.5	9.5	7.5	6.0	13.0	11.5	10.5	8.5
17	---	---	16.0	13.0	12.0	8.0	8.0	6.5	13.0	10.5	9.0	8.0
18	---	---	13.0	10.5	10.5	9.0	7.5	6.5	12.5	10.0	10.5	7.5
19	---	---	13.0	10.0	13.0	10.5	7.5	6.5	13.0	11.0	11.5	8.5
20	---	---	13.0	10.0	13.5	12.5	7.0	5.0	14.0	11.0	12.5	9.0
21	---	---	14.0	10.5	12.5	10.5	6.0	5.0	14.5	11.5	13.0	9.0
22	---	---	16.0	12.5	10.0	8.0	5.5	4.0	13.5	12.0	13.5	9.5
23	---	---	16.0	11.5	9.0	8.5	5.5	4.0	13.0	12.0	13.5	11.5
24	---	---	14.0	11.0	9.5	7.0	6.5	4.0	13.5	11.0	12.5	11.0
25	---	---	12.0	9.0	9.0	7.5	7.5	5.0	14.0	11.5	13.5	11.0
26	---	---	9.5	7.5	9.5	8.5	7.5	6.0	12.5	10.0	14.5	11.5
27	---	---	9.5	8.0	10.5	8.5	7.5	5.5	13.0	9.5	12.0	8.5
28	---	---	9.5	8.0	10.0	7.5	8.0	6.5	12.5	10.5	9.5	8.0
29	16.0	10.0	9.5	6.5	9.5	8.0	7.5	5.5	---	---	11.5	9.0
30	15.5	10.5	9.0	6.0	10.5	9.5	7.5	5.5	---	---	9.5	7.0
31	15.5	10.0	---	---	10.0	9.5	8.0	5.0	---	---	12.0	8.0
MONTH	---	---	17.0	6.0	13.5	7.0	9.5	4.0	14.5	5.5	15.5	7.0

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	9.0	22.5	17.5	23.0	18.0	24.5	18.0	---	---	---	---
2	12.5	10.5	23.0	18.0	23.0	17.5	---	---	---	---	---	---
3	12.5	9.5	22.5	17.5	23.0	17.5	---	---	---	---	---	---
4	12.0	10.0	20.5	16.0	23.0	17.5	---	---	---	---	---	---
5	12.0	7.5	18.0	13.0	22.5	17.5	---	---	---	---	---	---
6	---	---	18.0	13.5	22.5	17.0	---	---	---	---	---	---
7	---	---	19.5	15.0	23.5	17.5	---	---	---	---	---	---
8	---	---	20.5	16.0	24.0	18.0	---	---	---	---	---	---
9	---	---	20.0	15.5	25.0	19.5	---	---	---	---	---	---
10	---	---	21.0	17.0	26.5	20.5	---	---	---	---	---	---
11	---	---	22.5	17.5	25.5	21.0	---	---	---	---	---	---
12	---	---	22.5	16.5	26.0	20.5	---	---	---	---	---	---
13	15.0	11.5	---	---	26.0	20.0	---	---	---	---	---	---
14	15.5	11.5	---	---	27.5	20.5	---	---	---	---	---	---
15	14.5	11.0	---	---	29.0	22.0	---	---	---	---	---	---
16	14.0	10.5	---	---	30.0	23.0	---	---	---	---	---	---
17	16.0	11.0	---	---	29.0	24.5	---	---	---	---	---	---
18	17.5	12.5	---	---	28.5	23.5	---	---	---	---	---	---
19	18.0	13.5	21.5	16.0	29.0	23.0	---	---	30.0	22.5	---	---
20	18.5	14.0	23.0	17.5	30.0	23.0	---	---	30.5	23.0	---	---
21	18.0	14.0	23.5	18.5	30.0	24.0	---	---	31.5	24.5	---	---
22	18.5	14.0	23.5	18.0	30.5	23.0	---	---	31.5	25.5	---	---
23	19.5	15.0	25.5	19.5	30.0	23.0	---	---	31.0	25.5	---	---
24	18.5	14.5	26.5	20.5	27.0	24.0	---	---	29.5	24.0	---	---
25	19.0	14.0	26.5	21.5	29.0	21.5	---	---	---	---	---	---
26	19.5	15.5	26.5	21.5	29.5	22.0	---	---	---	---	---	---
27	20.0	14.5	24.0	21.0	30.5	23.0	---	---	---	---	---	---
28	20.0	15.5	23.5	18.5	26.0	23.5	---	---	---	---	---	---
29	22.0	16.5	23.0	18.0	24.0	21.0	---	---	---	---	---	---
30	22.5	18.0	23.5	18.0	21.5	19.5	---	---	---	---	---	---
31	---	---	23.5	18.5	---	---	---	---	---	---	---	---
MONTH	---	---	26.5	13.0	30.5	17.0	---	---	---	---	---	---

11258990 H. V. EASTMAN LAKE NEAR RAYMOND, CA

LOCATION.--Lat 37°13'00", long 119°59'04", in SW¼SE¼ sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, in intake structure at center of dam on Chowchilla River, 4.4 mi (7.1 km) west of Raymond.

DRAINAGE AREA.--235 mi<sup>2</sup> (609 km<sup>2</sup>).

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

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

REMARKS.--Reservoir is formed by earth and rockfill dam. Dam was completed in December 1975, capacity, 150,604 acre-ft (186 hm<sup>3</sup>), between elevations, 410.0 ft (124.96 m) invert elevation to outlet tunnel, and 587.0 ft (178.92 m) crest of ungated spillway. Inactive pool, 10,150 acre-ft (12.5 hm<sup>3</sup>). Reservoir is used for flood control, irrigation, recreation, and fish and wildlife enhancement. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 145,687 acre-ft (180 hm<sup>3</sup>) June 4, 5, 1979, elevation, 584.22 ft (178.070 m); minimum since initial season of normal operation, 1,978 acre-ft (2.44 hm<sup>3</sup>) Nov. 20, 1977, elevation, 440.81 ft (134.359 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 143,175 acre-ft (177 hm<sup>3</sup>) May 24, elevation, 582.78 ft (177.631 m); minimum, 10,880 acre-ft (13.4 hm<sup>3</sup>) Oct. 27; elevation, 467.48 ft (142.488 m).

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

438	1,519	480	18,313
442	2,197	490	25,520
446	3,043	500	34,039
450	4,069	520	54,354
455	5,620	540	78,560
460	7,485	560	106,476
465	9,673	580	138,394
470	12,190	600	174,809
475	15,038		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10966	10890	12303	16655	48732	77754	127013	140774	142101	136019	122366	107373
2	10961	10890	12336	17129	49031	78716	127078	141152	142067	135985	121601	107133
3	10966	10890	12363	17291	49320	79670	125373	141480	142188	135917	120806	106879
4	10961	10885	12390	21194	49588	80221	123745	141791	142205	135866	120061	106715
5	10956	10885	12411	36094	49835	80681	121983	142171	142291	135799	119429	106640
6	10951	10885	12439	38157	50062	81077	121314	142378	142343	135732	118861	106580
7	10956	10890	12460	39062	50277	81473	122063	142534	142413	135428	118248	106535
8	10956	10895	12476	39626	50494	81526	123520	142482	142361	135008	117746	106535
9	10951	10895	12504	40085	50678	82202	125470	142413	142257	134520	117136	106490
10	10951	10900	12520	40477	50884	82627	129140	142326	142084	134067	116605	106535
11	10946	10900	12547	40803	51069	83334	135361	142343	141877	133532	116091	106520
12	10941	10941	12564	41089	51232	83976	137068	142378	141739	133114	115624	106431
13	10936	11001	12586	41337	51407	84446	135816	142413	141652	132580	115082	106386
14	10926	11297	12613	41556	51789	87506	135159	142465	141600	132098	114617	106327
15	10920	11499	12629	41775	55318	89563	135159	142482	141549	131517	114200	106282
16	10915	11577	12635	41955	67575	91529	135597	142534	141325	130771	113814	106237
17	10910	11639	12651	42135	69989	95463	136120	142569	140842	130309	113445	106192
18	10905	11786	12662	42315	71347	98419	136475	142551	140464	129896	113045	106162
19	10905	11828	12673	42506	72351	101023	136762	142569	140052	129501	112600	106148
20	10900	11871	12728	42929	73145	102821	137017	142655	139743	129024	112171	106118
21	10900	11897	13116	43679	73867	104382	137424	142742	139367	128499	111744	106133
22	10895	11929	13290	44189	74477	105716	137900	142811	139088	128074	111347	106118
23	10890	11955	13386	44516	75038	106864	138291	142950	138615	127632	110951	106103
24	10890	11987	13448	44814	75563	107883	138632	143175	138206	127192	110495	106148
25	10885	12019	13499	45144	76011	108830	138905	143106	137798	126671	110009	106282
26	10885	12062	13544	45588	76449	109964	139128	142915	137441	126167	109495	106312
27	10880	12121	13596	46567	76861	110905	139333	142603	137000	125665	108996	106341
28	10910	12169	13641	47154	77223	112080	139607	142343	136560	125099	108559	106341
29	10905	12206	13739	47671	---	114154	140001	142223	136255	124485	108183	106327
30	10900	12249	14720	48062	---	116168	140430	142223	136069	123793	107883	106297
31	10890	---	15171	48402	---	120346	---	142171	---	123119	107553	---
MAX	10966	12249	15171	48402	77223	120346	140430	143175	142413	136019	122366	107373
MIN	10880	10885	12303	16655	48732	77754	121314	140774	136069	123119	107553	106103
a	467.50	470.11	475.22	514.54	538.97	569.02	581.19	582.20	578.63	570.76	560.72	559.88
b	-86	+1359	+2922	+33231	+28821	+43123	+20084	+1741	-6102	-12950	-15566	-1256
c	184	82	34	66	124	239	474	919	1031	1322	1176	803

CAL YR 1981 b -83636  
WTR YR 1982 b +95321

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



## 11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA

LOCATION.--Lat 37°12'56", long 119°59'25", in SE¼SW¼ sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on left bank 1,800 ft (550 m) downstream from Buchanan Dam, and 4.6 mi (7.4 km) west of Raymond.

DRAINAGE AREA.--236 mi<sup>2</sup> (611 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to September 1923, October 1930 to September 1972, October 1975 to current year. Prior to Oct. 1, 1962, published as "at Buchanan damsite."

REMARKS.--Records good. Flow completely regulated by H. V. Eastman Lake (station 11258985) 1,800 ft (550 m) upstream beginning Jan. 1, 1976.

GAGE.--Water-stage recorder and concrete control since October 1975. Altitude of gage is 420 ft (128 m), from topographic map. October 1921 to September 1923, at site 2.4 mi (3.9 km) upstream at different datum. October 1930 to May 17, 1972, at site 0.3 mi (0.5 km) upstream at datum 407.32 ft (124.151 m) National Geodetic Vertical Datum of 1929. May 18, 1972, to Sept. 30, 1972, at site 500 ft (150 m) downstream at different datum. Oct. 1, 1975, to Mar. 2, 1982 at datum 1.00 ft (0.30 m) higher.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from H. V. Eastman Lake since 1976).--51 years (water years 1922-23, 1931-72, 1976-82), 101 ft<sup>3</sup>/s (2.860 m<sup>3</sup>/s), 73,170 acre-ft/yr (90.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft<sup>3</sup>/s (850 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 16.50 ft (5.029 m) site and datum then in use, from rating curve extended above 6,000 ft<sup>3</sup>/s (170 m<sup>3</sup>/s) on basis of slope-area measurement at gage height, 15.06 ft (4.590 m); no flow for part of each year except 1937-38, 1940-43. Maximum discharge since construction of Buchanan Dam in 1975, 3,230 ft<sup>3</sup>/s (91.5 m<sup>3</sup>/s) Apr. 25, 1978, gage height, 9.69 ft (2.954 m), present datum; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,160 ft<sup>3</sup>/s (61.2 m<sup>3</sup>/s) Apr. 2, gage height, 8.72 ft (2.658 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	0	.10	.10	.30	341	52	60	77	282	124
2		0	0	.10	.10	.30	1570	52	50	52	318	124
3		0	0	.10	.10	.20	2100	54	17	52	338	107
4		0	0	.30	.10	.20	2020	51	9.6	51	338	68
5		0	0	.50	0	.10	1660	48	9.7	50	303	30
6		0	0	.20	.10	.20	970	76	10	83	282	21
7		0	0	.20	.10	.10	163	126	25	167	281	16
8		0	0	.20	.10	.20	.70	144	95	229	279	.30
9		0	0	.10	.10	.10	1.2	174	121	248	260	.20
10		0	.10	.10	0	.20	1.4	189	121	250	218	.20
11		0	0	.10	.10	.20	833	159	122	250	215	.10
12		0	0	0	.10	.10	1990	143	90	250	222	.10
13		0	0	.10	.10	.20	1860	120	76	247	222	.10
14		0	0	.10	.20	.50	1300	107	76	271	211	0
15		0	0	.10	.80	.40	817	107	108	286	187	.10
16		.10	0	0	1.4	.90	516	107	160	247	178	.10
17		0	0	.10	.50	1.9	402	107	187	212	178	.10
18		0	0	.10	.40	1.4	396	107	201	182	178	.10
19		0	0	0	.40	1.0	396	107	201	210	199	0
20		0	.10	.40	.40	.90	396	90	201	228	209	0
21		0	0	.20	.30	.70	249	64	201	249	209	0
22		0	.10	.20	.30	.50	188	32	201	219	198	0
23		.10	0	.20	.20	.50	199	19	201	200	193	0
24		0	0	.10	.30	.40	199	56	200	219	191	.10
25		0	0	.20	.10	.40	200	125	200	228	202	.30
26		0	0	.10	.20	.40	200	143	200	228	207	.20
27		0	.10	.20	.20	.40	200	143	200	228	207	.10
28		.10	0	.10	.30	.40	140	126	200	266	193	.10
29		0	.10	.10	---	.50	97	69	164	297	142	.10
30		.10	.20	.10	---	.50	71	60	118	330	122	.10
31		---	.10	.20	---	1.1	---	60	---	313	124	---
TOTAL	0	.40	.80	4.60	7.10	15.20	19476.30	3017	3825.3	6419	6886	492.40
MEAN	0	.013	.026	.15	.25	.49	649	97.3	128	207	222	16.4
MAX	0	.10	.20	.50	1.4	1.9	2100	189	201	330	338	124
MIN	0	0	0	0	0	.10	.70	19	9.6	50	122	0
AC-FT	0	.8	1.6	9.1	14	30	38630	5980	7590	12730	13660	977

CAL YR 1981 TOTAL 51522.70 MEAN 141 MAX 708 MIN 0 AC-FT 102200 MEAN a 33.6 AC-FT a 24330  
WTR YR 1982 TOTAL 40144.10 MEAN 110 MAX 2100 MIN 0 AC-FT 79630 MEAN a 251 AC-FT a 181700

a Adjusted for change in contents and evaporation from H. V. Eastman Lake.

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-65, 1976 to current year.

CHEMICAL ANALYSES: Water years 1958-65. Published as "at Buchanan Damsite."

WATER TEMPERATURES: Water years 1976 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 1975.

REMARKS.--No flow Oct. 1 to Nov. 12.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum recorded, 33.5°C June 7, 1977; minimum recorded, 0.0°C Jan. 2, 4, 1976.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C Sept. 13; minimum recorded, 4.0°C Jan. 10.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1			---	---	11.0	7.0	11.0	7.5	---	---	---	---
2			---	---	11.5	8.5	9.5	6.0	---	---	---	---
3			---	---	12.5	9.5	8.0	4.5			14.5	9.5
4			---	---	11.0	10.0	8.0	6.0			14.5	9.5
5			---	---	12.0	10.0	10.5	8.0			15.0	10.0
6			---	---	10.5	9.5	8.5	7.5			15.5	10.0
7			---	---	10.0	8.5	10.0	6.0			14.0	11.5
8			---	---	9.5	8.0	9.0	5.0			16.5	11.5
9			---	---	10.0	8.0	9.0	4.5			15.5	12.0
10			---	---	12.5	9.0	9.0	4.0			19.0	13.5
11			---	---	12.0	9.5	9.5	4.5			16.0	14.5
12			---	---	11.0	8.5	6.5	4.5			16.0	13.0
13			---	---	13.0	10.0	7.5	5.5			18.0	12.5
14			---	---	14.0	10.0	7.0	5.0			15.0	12.5
15			---	---	14.5	10.5	7.0	5.5			15.5	11.5
16			---	---	12.0	10.5	8.0	5.5			13.0	10.0
17			---	---	13.0	10.0	9.0	6.0			12.0	9.5
18			---	---	11.5	10.0	9.0	6.5			13.5	9.5
19			---	---	14.0	11.5	9.5	6.5			15.5	10.5
20			---	---	14.5	11.5	---	---			16.0	10.5
21			---	---	12.5	9.5	---	---			16.0	11.0
22			---	---	11.0	8.0	---	---			16.5	11.5
23			---	---	10.0	7.5	---	---			17.0	12.5
24			---	---	10.5	6.0	---	---			17.5	13.0
25			---	---	8.5	7.0	---	---			15.5	14.0
26				10.5	8.5	10.5	8.0	---	---		17.5	13.0
27				10.0	8.0	11.5	8.0	---	---		18.0	14.0
28				10.0	8.0	11.0	6.5	---	---		16.0	13.5
29				12.0	7.0	9.0	8.0	---	---		13.5	11.0
30				10.5	7.0	12.5	9.0	---	---		15.5	10.5
31				---	---	10.0	8.5	---	---		13.5	10.5
MONTH			---	---	14.5	6.0	---	---			19.0	9.5

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	9.0	11.0	9.5	11.0	10.0	12.5	11.0	12.0	11.5	12.0	11.5
2	9.0	8.5	11.0	9.5	11.5	10.0	12.5	11.0	12.0	11.5	12.5	11.5
3	9.0	9.0	11.0	10.0	14.0	10.0	12.0	11.0	12.0	11.5	12.0	11.5
4	9.0	9.0	11.0	9.5	14.5	10.0	12.5	11.0	12.0	11.5	12.5	11.5
5	9.0	9.0	11.0	10.0	14.0	10.0	12.5	11.0	12.0	11.5	14.0	11.5
6	9.0	9.0	10.5	9.5	14.0	10.0	12.0	11.0	12.0	11.5	13.0	11.5
7	15.5	9.0	10.5	10.0	12.5	10.0	11.5	11.0	12.0	11.5	14.5	11.5
8	16.5	11.0	10.5	10.0	11.0	10.0	---	---	12.0	11.5	21.0	14.0
9	16.5	12.0	10.0	10.0	11.0	10.5	---	---	12.0	11.5	22.5	16.5
10	15.5	14.0	10.5	10.0	11.0	10.5	---	---	12.0	11.5	23.0	16.0
11	18.5	9.0	10.5	10.0	11.0	10.5	---	---	12.0	11.5	23.0	16.0
12	9.5	9.5	10.5	10.0	11.5	10.5	---	---	12.0	11.5	23.0	16.0
13	9.5	9.5	10.5	10.0	11.5	10.5	---	---	12.0	11.5	24.0	16.0
14	9.5	9.5	10.5	10.0	11.5	10.5	---	---	12.0	11.5	23.0	16.0
15	9.5	9.5	10.5	10.0	11.5	10.5	---	---	12.5	11.5	19.0	17.0
16	10.0	9.5	10.5	10.0	11.0	10.5	---	---	12.5	11.5	21.5	16.5
17	10.0	9.5	10.5	10.0	11.0	10.5	---	---	12.0	12.0	20.5	17.0
18	10.0	9.5	10.5	10.0	11.0	10.5	---	---	12.5	12.0	21.0	17.0
19	10.0	9.5	10.5	10.0	11.0	10.5	---	---	12.0	12.0	22.0	16.5
20	10.0	9.5	11.0	10.0	11.0	10.5	---	---	12.0	12.0	22.5	15.0
21	10.0	9.5	11.0	10.0	11.0	10.5	---	---	12.0	11.5	23.0	15.0
22	10.0	9.5	12.5	10.0	11.0	10.5	---	---	12.0	11.5	23.5	15.5
23	10.0	9.5	12.5	10.0	11.0	11.0	---	---	12.0	12.0	21.0	16.0
24	10.0	9.5	11.0	10.0	11.0	11.0	12.0	11.5	12.0	12.0	19.5	17.5
25	10.0	9.5	10.5	10.0	11.5	11.0	12.0	11.5	12.0	12.0	20.0	18.0
26	10.0	9.5	10.5	10.0	11.5	11.0	12.0	11.5	12.0	12.0	20.5	17.0
27	10.0	9.5	10.5	10.0	11.5	11.0	12.0	11.5	12.0	11.5	20.5	16.0
28	10.5	9.5	11.0	10.0	11.5	11.0	12.0	11.5	12.0	12.0	21.0	14.5
29	10.5	9.5	11.0	10.0	11.5	11.0	12.0	11.5	12.0	11.5	19.0	14.0
30	11.0	9.5	11.0	10.0	11.5	11.0	12.0	11.5	12.0	11.5	19.5	12.5
31	---	---	11.0	10.0	---	---	12.0	11.5	12.5	11.5	---	---
MONTH	18.5	8.5	12.5	9.5	14.5	10.0	---	---	12.5	11.5	24.0	11.5

## SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA  
(Hydrologic bench-mark station)

LOCATION.--Lat 37°43'54", long 119°33'28", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on right bank 10 ft (3 m) downstream from footbridge at Happy Isles, 0.4 mi (0.6 km) downstream from Illilouette Creek, and 2.0 mi (3.2 km) southeast of Yosemite National Park Headquarters.

DRAINAGE AREA.--181 mi<sup>2</sup> (469 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1915 to current year.

REVISED RECORDS.--WSP 1215: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 4,016.58 ft (1,224.254 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft (0.168 m) lower.

REMARKS.--Records good. Up to 5 ft<sup>3</sup>/s (0.142 m<sup>3</sup>/s) can be diverted above station for Yosemite Valley water supply.

AVERAGE DISCHARGE.--67 years, 347 ft<sup>3</sup>/s (9.827 m<sup>3</sup>/s), 251,400 acre-ft/yr (310 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft<sup>3</sup>/s (279 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 12.73 ft (3.880 m), from rating curve extended above 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) on basis of contracted-opening measurements at gage heights 10.4 ft (3.170 m) and 11.55 ft (3.520 m); minimum, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Sept. 30, 1926, Sept. 26, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,900 ft<sup>3</sup>/s (53.8 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Feb. 16	0745	1,980 56.1	6.14 1.871	May 27	0230	3,520 99.7	7.47 2.277
Apr. 11	1500	*4,880 138	8.35 2.545	June 29	1045	2,750 77.9	6.88 2.097
May 3	2315	2,470 70.0	6.62 2.018	Sep. 26	0445	4,080 116	7.83 2.387

Minimum daily, 8.5 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	92	98	150	140	301	221	1760	1750	1210	592	164
2	8.5	98	100	148	140	300	235	1870	1740	1160	505	138
3	9.4	98	99	144	141	277	226	2090	1650	1120	432	126
4	10	94	99	133	140	263	220	2270	1540	994	400	125
5	9.4	86	97	135	132	250	209	2290	1380	938	381	124
6	8.9	85	92	146	128	240	203	2160	1180	1060	349	115
7	9.2	83	90	207	126	240	195	2170	1180	1210	364	106
8	11	76	90	193	126	232	193	2000	1390	1190	441	97
9	10	68	89	180	119	225	196	1700	1750	1230	388	93
10	13	62	90	169	116	301	333	1220	1980	1350	363	96
11	36	57	84	162	113	350	3500	958	2140	1420	317	103
12	34	56	85	153	110	303	2500	898	2080	1460	283	94
13	32	230	90	147	122	300	1490	1080	1840	1460	268	87
14	30	713	91	148	326	316	1160	1280	1550	1340	256	81
15	28	520	90	150	603	297	990	1160	1920	1300	238	76
16	26	400	88	152	1590	270	857	1520	2290	1270	220	71
17	26	258	85	148	895	255	831	1880	2460	1170	206	66
18	27	192	86	145	613	247	868	1890	2480	977	210	61
19	27	171	252	138	527	238	962	1790	2190	957	231	56
20	28	150	768	138	538	225	1080	2020	2160	985	246	49
21	29	136	517	153	566	220	1110	2240	2080	929	290	43
22	30	143	282	143	557	217	1150	2340	2360	978	462	43
23	30	157	230	147	475	220	1250	2480	2050	944	629	45
24	29	180	194	150	415	224	1230	2690	2030	904	731	386
25	26	145	180	163	374	222	1190	2800	1630	934	438	1410
26	25	121	164	179	339	222	1220	2980	1710	963	325	2840
27	24	115	167	162	311	216	1250	3020	2010	1130	263	800
28	68	112	147	157	299	227	1480	2580	2040	874	246	405
29	71	103	144	148	---	219	1590	2190	2470	766	260	284
30	67	98	169	143	---	225	1520	1920	1620	744	237	227
31	79	---	162	141	---	221	---	1910	---	694	203	---
TOTAL	870.0	4899	5019	4772	10081	7863	29459	61156	56650	33661	10774	8411
MEAN	28.1	163	162	154	360	254	982	1973	1888	1086	348	280
MAX	79	713	768	207	1590	350	3500	3020	2480	1460	731	2840
MIN	8.5	56	84	133	110	216	193	898	1180	694	203	43
AC-FT	1730	9720	9960	9470	20000	15600	58430	121300	112400	66770	21370	16680
CAL YR 1981 TOTAL	92130.0	MEAN 252	MAX 1830	MIN 8.5	AC-FT 182700							
WTR YR 1982 TOTAL	233615.0	MEAN 640	MAX 3500	MIN 8.5	AC-FT 463400							

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

CHEMICAL ANALYSES: Water years 1968 to current year.

BIOLOGICAL DATA: Water years 1973-81.

WATER TEMPERATURES: Water years 1966-77, 1979 to current year.

SEDIMENT RECORDS: Water years 1970-71, 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to September 1977, October 1978 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1977 and since October 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 20.0°C July 15, 1979; minimum recorded, 0.0°C on many days during winter period most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 17.5°C Aug. 18-20, 23; minimum recorded, 0.0°C many days during November to April.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV												
09...	1330	65	29	5.8	7.0	11.2	K1	K2	7	3	2.3	.3
DEC												
29...	1500	156	21	5.6	2.5	11.5	K1	K10	6	1	2.3	.1
JAN												
19...	1415	136	24	5.9	.5	13.2	<1	<1	7	1	2.2	.3
FEB												
25...	1130	390	22	6.2	2.5	11.6	K2	K1	6	0	1.9	.3
MAR												
23...	1230	206	24	6.6	3.0	11.8	<1	<1	7	0	2.1	.3
APR												
29...	1200	1580	14	5.7	5.5	10.6	<1	K3	4	0	1.2	.2
MAY												
13...	1330	981	17	6.1	6.0	10.0	<1	K5	4	0	1.4	.2
JUN												
23...	1400	2020	6	6.0	13.0	9.2	K7	K3	2	0	.7	.0
JUL												
23...	1730	1060	8	6.0	14.5	9.1	--	--	2	0	.8	.1
SEP												
08...	1030	90	15	5.9	14.0	12.0	K1	--	4	0	1.4	.1
21...	1530	38	20	6.9	10.5	8.0	--	K7	6	3	2.0	.2

See footnotes at end of table.

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
NOV 09...	2.1	37	.4	.5	4.0	<5.0	3.9	.1	5.1	20	.03	.09
DEC 29...	2.0	40	.4	.4	5.0	<5.0	2.9	.1	7.5	18	.02	<.09
JAN 19...	2.1	39	.4	.4	6.0	<5.0	1.5	.1	8.7	19	.03	<.09
FEB 25...	1.7	35	.3	.5	8.0	<5.0	1.6	.0	8.9	23	.03	<.10
MAR 23...	1.9	36	.3	.6	9.0	<5.0	1.9	.1	10	22	.03	<.10
APR 29...	1.0	34	.2	.4	4.0	<5.0	.8	<.1	6.1	23	.03	<.10
MAY 13...	1.2	36	.3	.4	4.0	<5.0	.7	<.1	6.6	--	.04	<.10
JUN 23...	.6	34	.2	.4	2.0	<5.0	.4	.4	3.3	--	--	<.10
JUL 23...	.5	30	.2	.3	2.0	<5.0	.3	<.1	2.8	<5	--	<.10
SEP 08...	1.0	33	.2	.3	4.0	<5.0	1.3	<.1	4.1	8	.01	<.10
21...	1.5	34	.3	.4	3.0	<5.0	1.9	<.1	5.8	14	.02	<.10

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 09...	.10	.06	<.06	.24	--	.30	<.20	.52	.02	<.01	1.6
DEC 29...	<.09	<.07	<.07	--	--	.37	.39	--	.02	.01	--
JAN 19...	<.09	.08	.07	.29	.26	.37	.33	--	<.01	<.01	2.1
FEB 25...	<.10	<.06	<.06	--	--	.19	.17	--	.02	.01	3.5
MAR 23...	<.10	.08	<.06	.46	--	.54	.54	--	.01	.01	1.8
APR 29...	<.10	<.06	.06	--	.21	.45	.27	--	.01	.01	3.7
MAY 13...	<.10	.06	.06	.54	.44	.60	.50	--	<.01	<.01	--
JUN 23...	<.10	.12	.07	.49	.63	.61	.70	--	.05	.01	2.3
JUL 23...	.14	.08	.06	.92	.54	1.00	.60	.74	.02	.02	--
SEP 08...	<.10	.13	<.06	.43	--	.56	.41	--	<.01	.01	.7
21...	<.10	.07	<.06	.53	--	.60	.40	--	.01	.02	--

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

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CYANIDE TOTAL (MG/L AS CN)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
MAY 13...	1330	--	<1	<.01	<100	<6	<3	1	<3	10	<1
SEP 21...	1530	1	1	<.01	<100	7	<1	1	<1	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
MAY 13...	<9	16	<30	200	18	7	<30	<12	10	<3	--
SEP 21...	<3	<1	<10	90	68	<1	<10	5	10	2	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)
MAY 13...	<.1	<30	--	<1	<1	<2	15	<10	30	29	--
SEP 21...	.1	<10	<1	<1	1	1	28	<6.0	20	17	<.6

DATE	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	PCB, TOTAL (UG/L)	PCB, IN BOT- TOM MA- TERIAL (UG/KG)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)	PCN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)
MAY 13...	--	--	--	2.7	.1	--	--	--	--	--	--
SEP 21...	.5	1.3	<.4	--	.2	<.10	<1	<.10	<1.0	<.01	<.1

DATE	CHLOR- DANE, TOTAL (UG/L)	CHLOR- DANE, IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)	DDD, IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL (UG/L)	DDE, IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL (UG/L)	DDT, IN BOT- TOM MA- TERIAL (UG/KG)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 21...	<.10	<1.0	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01

&lt; Actual value is known to be less than the value shown.

## SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	ENDO-SULFAN, TOTAL IN BOTTOM MATERIAL (UG/KG)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/L)	ENDRIN, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/L)	HEPTA-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)	HEPTA-CHLOR EPOXIDE, TOTAL IN BOTTOM MATERIAL (UG/L)	HEPTA-CHLOR EPOXIDE, TOTAL IN BOTTOM MATERIAL (UG/KG)	LINDANE, TOTAL IN BOTTOM MATERIAL (UG/L)	LINDANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	METH-OXY-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/L)	METH-OXY-CHLOR, TOTAL IN BOTTOM MATERIAL (UG/KG)
MAY 13...	--	--	--	--	--	--	--	--	--	--	--
SEP 21...	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1	<.01	<.1

DATE	PER-THANE, TOTAL IN BOTTOM MATERIAL (UG/L)	PER-THANE, TOTAL IN BOTTOM MATERIAL (UG/KG)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/L)	TOXAPHENE, TOTAL IN BOTTOM MATERIAL (UG/KG)	2,4-D, TOTAL (UG/L)	2,4-DP, TOTAL (UG/L)	2,4,5-T, TOTAL (UG/L)	MIREX, TOTAL (UG/L)	MIREX, TOTAL IN BOTTOM MATERIAL (UG/KG)	SILVEX, TOTAL (UG/L)
MAY 13...	--	--	--	--	--	--	--	--	--	--
SEP 21...	<.10	<1.00	<1	<10	<.01	<.01	<.01	<.01	<.1	<.01

&lt; Actual value is known to be less than the value shown.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.0	10.5	7.5	5.5	2.5	1.0	1.0	0.0	2.5	1.5	---	---
2	12.5	10.5	7.5	5.5	2.5	2.0	0.0	0.0	3.0	2.0	---	---
3	12.0	11.0	7.0	5.0	3.0	1.5	0.0	0.0	3.0	2.0	---	---
4	11.5	10.0	7.5	5.0	4.0	2.0	0.0	0.0	2.5	1.5	---	---
5	11.0	9.0	7.5	5.5	3.5	2.0	0.0	0.0	2.0	1.0	---	---
6	11.0	9.0	7.5	6.5	3.0	2.0	0.0	0.0	1.0	1.0	---	---
7	10.5	9.5	7.0	5.0	3.5	2.0	0.0	0.0	1.0	1.0	---	---
8	10.0	8.5	6.5	5.0	4.0	2.0	0.5	0.0	2.0	1.0	---	---
9	10.0	8.5	6.5	5.0	4.5	3.0	1.5	0.5	2.0	1.5	---	---
10	9.5	9.0	7.0	5.5	4.0	3.5	1.5	1.0	1.5	1.5	---	---
11	8.5	6.5	7.0	5.0	3.0	1.0	1.5	0.5	1.5	1.5	---	---
12	6.0	5.0	7.0	5.5	2.5	1.0	1.5	0.5	1.5	1.5	---	---
13	5.0	4.0	6.5	5.5	4.0	2.0	2.5	1.0	2.5	1.5	---	---
14	5.5	4.5	6.0	5.0	4.5	3.0	2.0	1.0	3.5	2.5	---	---
15	5.5	4.5	7.5	5.5	5.0	3.5	2.0	0.5	---	---	---	---
16	6.0	5.0	6.5	4.5	3.5	2.0	2.5	1.0	---	---	---	---
17	7.0	5.5	6.5	3.0	4.0	2.0	2.0	1.0	---	---	---	---
18	8.0	6.5	4.5	2.0	4.5	3.0	1.5	1.0	---	---	---	---
19	8.0	7.0	5.0	3.5	6.0	4.5	1.0	0.0	---	---	---	---
20	8.0	7.0	5.0	3.5	5.5	3.0	0.0	0.0	---	---	---	---
21	8.0	7.5	5.5	4.0	3.0	1.5	0.0	0.0	---	---	---	---
22	8.0	7.0	7.5	5.0	1.5	0.0	0.0	0.0	---	---	---	---
23	8.0	7.5	7.5	6.0	1.5	0.5	0.0	0.0	---	---	4.0	1.0
24	8.0	7.5	6.0	3.0	1.5	0.5	1.5	0.5	---	---	4.5	1.0
25	8.5	7.5	2.5	1.5	3.0	1.5	2.5	1.5	5.0	2.0	3.5	2.5
26	8.5	7.5	1.5	0.5	3.5	2.0	2.0	1.5	4.0	2.0	4.0	2.5
27	8.0	7.0	1.0	0.0	3.5	2.0	2.0	1.0	---	---	5.5	2.5
28	8.0	6.0	1.5	0.5	2.5	1.5	2.0	1.5	---	---	4.5	0.5
29	6.0	4.0	1.0	0.5	3.0	1.0	1.5	1.0	---	---	0.5	0.0
30	5.0	2.5	1.0	0.5	3.0	2.0	1.5	1.0	---	---	1.0	0.0
31	7.0	4.5	---	---	2.0	1.0	2.0	1.5	---	---	1.5	0.0
MONTH	12.5	2.5	7.5	0.0	6.0	0.0	2.5	0.0	---	---	---	---



11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	0.5	0.0	---	---			---	---	14.5	10.5	15.5	14.0
2	1.5	0.0	---	---			---	---	15.5	11.0	15.5	12.5
3	3.0	1.0	---	---			---	---	16.0	11.0	15.5	12.0
4	2.5	1.0	---	---			---	---	16.0	11.5	15.5	12.5
5	3.0	1.0	---	---			---	---	15.5	14.0	15.5	13.0
6	2.5	0.0	---	---			---	---	16.0	12.0	16.5	13.0
7	0.5	0.0	---	---			---	---	16.0	13.0	16.0	13.0
8	2.5	0.0	---	---			---	---	15.5	10.5	15.0	11.5
9	5.0	1.0	---	---			---	---	15.5	10.5	14.5	11.5
10	5.0	3.5	---	---			---	---	16.0	11.0	14.0	11.0
11	3.5	2.5	---	---			---	---	16.5	12.0	14.0	12.5
12	4.5	2.5	---	---			---	---	16.0	11.5	13.0	12.0
13	5.5	3.0	---	---			---	---	16.0	11.0	12.0	11.0
14	6.0	3.5	7.5	5.5			---	---	15.5	11.0	13.0	12.0
15	5.5	2.5	10.0	5.0			---	---	16.0	12.0	13.0	9.0
16	6.5	2.0	10.5	5.5			---	---	16.0	13.0	12.0	9.5
17	7.0	3.0	9.5	6.0			---	---	16.5	13.0	---	---
18	7.5	2.5	8.5	5.5			---	---	17.5	14.0	---	---
19	8.0	3.0	10.0	5.0			---	---	17.5	14.0	---	---
20	7.5	4.0	10.0	6.0			---	---	17.5	15.5	---	---
21	7.5	2.5	10.5	6.0			---	---	16.5	15.0	---	---
22	8.0	2.5	10.5	6.5			---	---	16.5	14.5	12.5	10.5
23	7.5	4.5	11.5	7.0			---	---	17.5	14.0	12.5	---
24	7.5	4.0	11.0	7.0			15.0	12.5	17.0	13.0	15.0	12.5
25	7.5	3.5	11.5	7.0			15.5	12.5	16.0	13.0	14.5	14.5
26	7.5	5.0	11.5	7.5			15.5	13.0	16.5	15.0	14.5	11.5
27	9.0	4.0	10.5	7.0			16.0	13.0	16.5	14.5	11.5	10.0
28	8.5	5.0	10.0	5.0			17.0	13.0	15.5	12.0	11.0	8.5
29	8.0	4.0	9.5	6.5			16.5	13.0	15.0	10.5	10.5	7.5
30	---	---	10.5	5.5			16.0	12.0	15.5	12.0	9.0	6.0
31	---	---	10.0	6.0			15.0	12.0	16.5	13.5	---	---
MONTH	9.0	0.0	---	---			---	---	17.5	10.5	16.5	6.0

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
DEC						
29...	1500	156	2.5	1	.42	63
FEB						
25...	1040	369	2.5	1	1.0	43
MAR						
23...	1300	213	1.5	1	.58	50
APR						
29...	1200	1580	5.5	--	--	8
MAY						
13...	1310	988	6.0	5	13	14
JUN						
23...	1400	2020	13.0	7	38	14
JUL						
23...	1730	1060	14.5	2	5.7	61
SEP						
08...	1030	90	14.0	--	--	33
21...	1445	43	10.5	1	.12	44

## SAN JOAQUIN RIVER BASIN

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA

LOCATION.--Lat 37°43'01", long 119°39'55", Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on left bank 150 ft (46 m) upstream from Pohono bridge, 0.4 mi (0.6 km) upstream from Artist Creek, and 4.8 mi (7.7 km) southwest of Yosemite National Park headquarters.

DRAINAGE AREA.--321 mi<sup>2</sup> (831 km<sup>2</sup>).

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3,861.66 ft (1,177.034 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 5, 1918, at datum 1.8 ft (0.549 m) higher. Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft (0.305 m) higher.

REMARKS.--Records good. No diversions between stations at Happy Isles bridge and Pohono bridge. One ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) sewage effluent returns between stations (see REMARKS for station 11264500).

AVERAGE DISCHARGE.--66 years, 609 ft<sup>3</sup>/s (17.25 m<sup>3</sup>/s), 441,200 acre-ft/yr (544 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,400 ft<sup>3</sup>/s (663 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 21.52 ft (6.559 m) from floodmarks in well, from rating curve extended above 17,000 ft<sup>3</sup>/s (481 m<sup>3</sup>/s) on basis of computation of flow over diversion dam for Yosemite powerhouse, 1 mi (2 km) downstream at gage heights 20.1 ft (6.13 m) and 21.98 ft (6.700 m), present datum; minimum, 3.3 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s) Sept. 29, Oct. 1, 1924.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,900 ft<sup>3</sup>/s (82.1 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0700	3,320	94.0	May 27	0300	6,050	171
Feb. 16	1115	6,280	178	June 12	0500	3,720	105
Apr. 11	1615	*11,200	317	June 29	1200	4,460	126
May 5	0145	5,190	147	Sep. 26	0845	4,560	129

Minimum daily, 18 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s) several days in October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	184	187	369	293	789	496	3690	3230	2180	761	212
2	18	199	190	323	297	805	556	3870	3160	1950	655	183
3	18	196	189	284	299	708	550	4220	3030	1800	569	167
4	18	181	188	255	297	668	545	4550	2830	1620	522	163
5	18	164	181	281	279	628	505	4620	2550	1490	495	161
6	18	166	173	281	273	602	483	4380	2180	1560	460	152
7	18	165	172	371	270	617	445	4400	2170	1720	454	140
8	18	152	171	400	280	599	459	4110	2380	1680	546	148
9	18	137	170	416	261	574	471	3570	2910	1700	489	122
10	21	118	168	418	252	800	858	2640	3240	1800	455	121
11	41	110	158	375	245	970	8410	2130	3450	1880	410	127
12	50	108	165	351	240	834	6200	1980	3400	1900	368	123
13	47	814	172	333	264	810	3500	2240	3070	1900	347	114
14	47	2140	170	323	881	857	2400	2680	2530	1740	332	105
15	47	814	168	321	1440	786	1980	2500	3050	1670	311	99
16	47	432	163	324	4920	695	1740	3100	3450	1620	286	94
17	47	369	159	315	2550	639	1690	3670	3920	1520	266	89
18	53	326	170	313	1590	612	1780	3780	3800	1310	262	83
19	55	298	450	297	1350	574	1970	3560	3560	1250	281	80
20	54	276	1000	272	1340	533	2180	3910	3290	1270	298	76
21	54	258	795	290	1380	537	2260	4260	3060	1200	321	72
22	53	277	590	278	1370	531	2370	4470	3300	1220	484	67
23	52	308	460	298	1190	547	2560	4650	2980	1190	650	63
24	52	332	390	326	1070	562	2520	5010	2950	1120	807	210
25	52	260	335	356	990	564	2480	5170	2480	1150	528	1410
26	51	226	330	395	914	557	2520	5350	2450	1160	395	3660
27	50	213	360	354	830	537	2600	5410	2800	1320	327	1260
28	126	205	355	339	789	554	2960	4750	2860	1090	297	635
29	157	192	390	309	---	509	3360	3950	3950	965	315	449
30	136	186	439	295	---	522	3220	3490	2910	923	290	360
31	157	---	418	290	---	551	---	3480	---	865	253	---
TOTAL	1611	9806	9426	10152	26154	20071	64068	119590	90940	45763	13234	10725
MEAN	52.0	327	304	327	934	647	2136	3858	3031	1476	427	358
MAX	157	2140	1000	418	4920	970	8410	5410	3950	2180	807	3660
MIN	18	108	158	255	240	509	445	1980	2170	865	253	63
AC-FT	3200	19450	18700	20140	51880	39810	127100	237200	180400	90770	26250	21270
CAL YR 1981	TOTAL	149369	MEAN	409	MAX	3020	MIN	18	AC-FT	296300		
WTR YR 1982	TOTAL	421540	MEAN	1155	MAX	8410	MIN	18	AC-FT	836100		

## 11269500 LAKE McCLURE AT EXCHEQUER, CA

LOCATION.--Lat 37°35'02", long 120°16'09", in NW¼SE¼ sec.13, T.4 S., R.15 E., Mariposa County, Hydrologic Unit 18040008, on left end of New Exchequer Dam on Merced River, 0.9 mi (1.4 km) east of Exchequer, and 5.5 mi (8.8 km) northeast of Merced Falls.

DRAINAGE AREA.--1,037 mi<sup>2</sup> (2,686 km<sup>2</sup>).

PERIOD OF RECORD.--April 1926 to September 1930 (daily gage heights; also summary of yearly contents in WSP 881), October 1930 to current year.

REVISED RECORDS.--WSP 881: 1926-32 (yearly summaries only). WSP 1345: 1951(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Merced Irrigation District). Prior to Oct. 1, 1964, indicator in powerhouse at same datum. Oct. 1, 1964, to July 31, 1966, nonrecording gage at center of upstream face of dam at same datum.

REMARKS.--Reservoir is formed by a rockfill dam with a reinforced concrete face completed in March 1967. Dam is downstream from and connected to the original concrete arch and gravity-type dam which was completed in April 1926. Usable capacity, 1,024,000 acre-ft (1,260 hm<sup>3</sup>) between elevations 440.0 ft (134.11 m) invert entrance to outlet tunnel, and 867.0 ft (264.26 m) top of spillway gates. Dead storage, 300 acre-ft (370,000 m<sup>3</sup>). Water is released through a series of powerplants down the Merced River to a diversion dam for Merced Irrigation District's main canal. Records, including extremes, represent total contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,026,000 acre-ft (1,270 hm<sup>3</sup>) July 14, 15, 1969, elevation, 867.2 ft (264.32 m); practically no storage at times in 1926, 1930-31, 1964-65 when reservoir was drained for inspection or construction. Minimum since construction of New Exchequer Dam in 1966, and since lake first filled, 72,200 acre-ft (89.0 hm<sup>3</sup>) Dec. 14, 1977, elevation, 593.6 ft (180.93 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,023,000 acre-ft (1,260 hm<sup>3</sup>) June 29, elevation, 866.8 ft (264.20 m); minimum, 342,300 acre-ft (422 hm<sup>3</sup>) Oct. 12, elevation, 728.1 ft (221.92 m).

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

590	67,900	720	317,800
600	79,900	750	415,900
610	92,800	780	534,500
620	106,700	820	729,600
640	137,800	840	845,800
660	173,500	860	975,700
680	215,200	870	1,046,000
700	263,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346100	345800	380300	437200	553800	681600	773400	880800	943300	1020000	975100	865600
2	346100	345800	380700	440900	555600	682600	778600	881400	944600	1020000	972300	861900
3	346100	345800	381000	443200	557400	683600	779100	883300	945900	1019000	968200	857500
4	346100	346100	381300	457200	558700	683600	779700	886500	947300	1018000	964800	853800
5	345800	346100	382000	491300	560000	683600	778600	890900	949300	1017000	962100	849500
6	344800	346100	382700	499900	561400	682600	776300	894800	950000	1016000	958700	845800
7	343900	346100	383400	504000	563200	681600	774000	898000	951300	1015000	955400	841500
8	343900	346100	383700	507300	564100	681600	772200	900600	953300	1014000	952000	837900
9	343300	346100	384400	509800	565000	681600	769900	901900	958100	1013000	948600	833600
10	343300	345800	384400	512400	565900	683100	769900	899900	963500	1012000	945300	829300
11	342600	345500	384700	514500	566300	686800	832400	896100	969600	1012000	941300	825100
12	342300	344200	385100	516600	567700	689400	865600	892200	975100	1012000	937900	820900
13	342600	344500	385100	518300	568600	691000	878900	889700	980500	1011000	934600	816700
14	342600	355600	385700	519500	572700	700500	884600	889000	983300	1010000	930600	812500
15	342600	359500	385700	520800	596700	706900	887800	887100	986800	1010000	927300	808400
16	343000	360800	385700	522500	653500	711100	888400	887800	991600	1009000	923400	804800
17	343000	363400	385400	523300	667700	716500	888400	889000	996500	1008000	919400	800700
18	343000	365700	385700	524600	672800	720900	887800	891600	1001000	1006000	915500	796600
19	343300	367300	386800	525500	675900	724700	887100	893500	1007000	1005000	911000	792500
20	343300	368300	395400	527600	678500	728000	887800	896100	1010000	1002000	907100	788400
21	343600	369600	404800	529300	681000	731300	887800	899300	1012000	1001000	903800	783800
22	343600	371000	408700	531100	683100	733500	887100	903800	1015000	998600	900600	779700
23	343600	371600	410900	532400	683600	735700	887100	908400	1017000	998600	897400	776300
24	343900	373300	412700	534100	684200	737300	887100	914200	1018000	995800	894800	772200
25	343900	374600	414500	535800	684700	737900	886500	920100	1019000	993700	891600	769900
26	343900	376300	416300	539300	684200	739500	884600	926700	1019000	990900	887800	775100
27	344200	377300	418100	542800	683100	740600	882700	934000	1020000	989500	884600	775100
28	344800	378300	419500	546300	682600	742300	882000	938600	1020000	987400	880800	772800
29	345100	379300	423500	548500	---	745700	882000	940600	1023000	984700	877000	769400
30	345500	379600	428300	550300	---	747900	880800	941900	1022000	981200	873200	765400
31	345500	---	432300	552000	---	761400	---	942600	---	978500	869400	---
MAX	346100	379600	432300	552000	684700	761400	888400	942600	1023000	1020000	975100	865600
MIN	342300	344200	380300	437200	553800	681600	769900	880800	943300	978500	869400	765400
a	729.1	739.6	754.5	784.0	811.2	825.7	845.6	855.1	866.7	860.4	843.8	826.4
b	-900	+34100	+52700	+119700	+130600	+78800	+119400	+61800	+79400	-43500	-109100	-104000
CAL YR 1981	b	-142200										
WTR YR 1982	b	+419000										

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

## 11270900 MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CA

LOCATION.--Lat 37°31'18", long 120°19'53", in SE¼SW¼ sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on right bank 0.1 mi (0.2 km) south of Merced Falls, 0.2 mi (0.3 km) downstream from Merced Falls Dam, and 5.8 mi (9.3 km) east of Snelling.

DRAINAGE AREA.--1,061 mi<sup>2</sup> (2,748 km<sup>2</sup>).

PERIOD OF RECORD.--April 1901 to current year. Records for water years 1914-16 incomplete, yearly estimates published in WSP 1315-A. Published as "near Merced Falls" 1901-13; as "at Exchequer" 1916-64. Records at present site are about equivalent when adjusted for diversion to North Side Canal and change in contents in Lake McClure and McSwain Reservoir.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 310.55 ft (94.656 m) National Geodetic Vertical Datum of 1929. See WSP 1930 for history of changes prior to Oct. 1, 1964.

REMARKS.--Records excellent. Merced Falls Dam diverts water to North Side Canal to irrigate 4,100 acres (16.6 km<sup>2</sup>) below station. Flow regulated by Exchequer, McSwain, and Merced Falls powerplants, Lake McClure (station 11269500) since 1926, and McSwain Reservoir since 1966, capacity, 9,200 acre-ft (11.3 km<sup>3</sup>).

AVERAGE DISCHARGE (adjusted for diversion to North Side Canal and change in contents in Lake McClure since 1965 and change in contents in McSwain Reservoir since 1969).--81 years, 1,346 ft<sup>3</sup>/s (38.12 m<sup>3</sup>/s), 975,200 acre-ft/yr (1.20 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-82): Maximum discharge observed, 47,700 ft<sup>3</sup>/s (1,350 m<sup>3</sup>/s) Jan. 31, 1911, gage height, 23.3 ft (7.10 m) site and datum then in use; no flow for part of Nov. 21, 1901. Maximum discharge since construction of Exchequer Dam in 1926, 46,200 ft<sup>3</sup>/s (1,310 m<sup>3</sup>/s) Dec. 4, 1950, gage height, 22.6 ft (6.89 m) from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft<sup>3</sup>/s (453 m<sup>3</sup>/s) on basis of computation of peak flow over dam; minimum daily, 3.4 ft<sup>3</sup>/s (0.096 m<sup>3</sup>/s) Mar. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,160 ft<sup>3</sup>/s (203 m<sup>3</sup>/s) May 1, gage height, 11.22 ft (3.420 m); minimum daily, 24 ft<sup>3</sup>/s (0.680 m<sup>3</sup>/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	138	193	232	200	2390	2530	7100	4830	4820	2360	2200
2	143	157	194	246	197	2190	2890	7100	4190	3550	2350	2200
3	148	187	195	213	197	2040	4250	7060	4170	2990	2270	2200
4	141	185	197	262	193	2030	4360	6620	3600	2850	2220	2200
5	145	189	197	296	194	2030	4360	6200	3140	2750	2220	2200
6	142	187	196	219	191	2040	4360	6230	3150	2740	2230	2210
7	145	190	193	207	189	2030	3880	6220	2910	2730	2230	2210
8	133	186	188	205	189	1700	3230	6220	2320	2740	2230	2210
9	131	189	195	197	186	1490	3220	6220	2040	2600	2240	2210
10	136	194	198	195	189	1490	3290	6210	2040	2550	2230	2210
11	130	196	197	194	189	1500	4300	6200	2050	2560	2240	2210
12	132	206	197	188	191	1490	5500	5790	2060	2550	2230	2210
13	135	212	200	188	191	1490	5650	5300	2040	2550	2220	2210
14	133	203	200	187	200	1550	5670	5230	2040	2550	2230	2210
15	131	195	200	196	428	1500	5760	5220	2270	2480	2230	2210
16	133	196	200	200	1550	1500	5800	5230	2520	2410	2230	2220
17	136	199	201	200	2820	1540	5810	5240	2680	2430	2200	2210
18	131	195	200	196	2810	1500	5800	5290	2670	2430	2190	2220
19	129	193	202	195	2520	1500	5800	5270	2700	2430	2200	2220
20	130	191	201	225	2360	1500	5800	5260	2790	2420	2190	2220
21	131	188	197	211	2360	1500	5960	5270	2960	2410	2190	2230
22	136	190	195	202	2370	1490	6110	5290	2980	2430	2190	2230
23	135	186	195	195	2390	1490	6090	5270	3080	2410	2190	2230
24	135	195	197	197	2390	1480	6090	5210	3180	2410	2190	2210
25	131	187	196	194	2370	1480	6320	5160	3150	2420	2190	2100
26	134	183	194	201	2380	1500	6670	5240	3150	2430	2190	2220
27	132	208	191	198	2380	1500	6760	5240	3120	2440	2190	2230
28	136	203	189	200	2380	1500	6740	5230	3080	2440	2200	2340
29	130	194	205	198	---	1820	6840	5210	3820	2390	2200	2370
30	135	189	216	199	---	1940	7040	5200	5630	2350	2200	2410
31	131	---	206	196	---	2100	---	5210	---	2360	2200	---
TOTAL	4193	5711	6125	6432	34204	52300	156880	176740	90360	81620	68870	66760
MEAN	135	190	198	207	1222	1687	5229	5701	3012	2633	2222	2225
MAX	148	212	216	296	2820	2390	7040	7100	5630	4820	2360	2410
MIN	129	138	188	187	186	1480	2530	5160	2040	2350	2190	2100
AC-FT	8320	11330	12150	12760	67840	103700	311200	350600	179200	161900	136600	132400
a	520	230	0	0	0	0	570	4210	4150	4420	4470	3060
CAL YR 1981 TOTAL	349861	MEAN	959	MAX	2150	MIN	129	AC-FT	693900	MEAN	b	794
WTR YR 1982 TOTAL	750195	MEAN	2055	MAX	7100	MIN	129	AC-FT	1488000	MEAN	b	2665
											AC-FT	b
												574800
												1929000

a Diversion, in acre-feet, to Northside Canal furnished by Merced Irrigation District.

b Adjusted for diversion to Northside Canal and change in contents in Lake McClure and McSwain Reservoirs.

## 11271290 MERCED RIVER AT SHAFFER BRIDGE, NEAR CRESSEY, CA

LOCATION.--Lat 37°27'15", long 120°36'28", in NW¼SW¼ sec.36, T.5 S., R.12 E., Merced County, Hydrologic Unit 18040002, near center of span on downstream side of county road bridge, 0.6 mi (1.0 km) upstream from Dry Creek, and 4.0 mi (6.4 km) northeast of Cressey.

DRAINAGE AREA.--1,117 mi<sup>2</sup> (2,893 km<sup>2</sup>).

PERIOD OF RECORD.--October 1965 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 116.79 ft (35.598 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Most water released from Lake McClure (station 11269500) is diverted upstream into the Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	143			---							
2	44	151			---							
3	62	---			---							
4	93	---			---							
5	91	---			199							
6	69	---			---							
7	83	---			---							
8	102	---			---							
9	99	---			---							
10	99	---			---							
11	123	---			---							
12	139	---			---							
13	139	---			---							
14	130	---			---							
15	123	---			---							
16	123	---			---							
17	119	---			---							
18	119	---			---							
19	119	---			---							
20	112	---			---							
21	115	---			---							
22	119	---			---							
23	123	---			---							
24	119	---			---							
25	123	---			---							
26	123	---			---							
27	143	---			---							
28	174	---			---							
29	---	---			---							
30	169	---			---							
31	151	---			---							
TOTAL	---	---			---							
MEAN	---	---			---							
MAX	---	---			---							
MIN	---	---			---							
AC-FT	---	---			---							
a	194	0	65	48	1470	2250	25510	102900	101900	111800	111700	90430

a Diversion, in acre-feet, to Main Canal near diversion dam, near Merced Falls, furnished by Merced Irrigation District.

## SAN JOAQUIN RIVER BASIN

11271320 DRY CREEK NEAR SNELLING, CA

LOCATION.--Lat 37°33'18", long 120°27'44", in NE¼SE¼ sec.30, T.4 S., R.14 E., Merced County, Hydrologic Unit 18040002, on left bank 650 ft (198 m) downstream from Fields Road, and 2.8 mi (4.5 km) northwest of Snelling.

DRAINAGE AREA.--67.6 mi<sup>2</sup> (175 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 230 ft (70 m), from topographic map.

REMARKS.--Records good. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

AVERAGE DISCHARGE.--16 years, 20.7 ft<sup>3</sup>/s (0.586 m<sup>3</sup>/s), 15,000 acre-ft/yr (18.5 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,710 ft<sup>3</sup>/s (190 m<sup>3</sup>/s) Jan. 21, 1969, gage height, 17.01 ft (5.185 m); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s (28.3 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0330	1,310 37.1	8.75 2.667	Mar. 31	1815	3,840 109	13.31 4.057
Feb. 15	2300	*4,850 137	14.72 4.487	Apr. 11	0245	1,170 33.1	8.56 2.609
Mar. 14	1330	2,360 66.8	10.86 3.310				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	7.6	115	13	9.7	683					
2		0	5.6	340	11	139	259					
3		0	4.5	60	9.0	99	94					
4		0	3.7	403	7.7	25	57					
5		0	3.1	654	6.4	16	29					
6		0	2.7	186	5.5	12	17					
7		0	2.4	89	4.7	9.3	10					
8		0	2.3	63	4.3	8.0	6.4					
9		0	2.2	49	3.9	6.5	4.3					
10		0	2.0	42	3.5	7.4	218					
11		0	1.8	36	3.2	144	668					
12		0	1.7	22	2.8	46	182					
13		21	1.7	16	2.6	19	51					
14		31	1.6	13	21	693	18					
15		10	1.5	12	1730	215	8.4					
16		4.4	1.4	11	1490	163	4.6					
17		29	1.4	9.7	223	512	2.8					
18		18	1.4	8.9	114	154	1.6					
19		6.6	1.4	8.3	70	275	.99					
20		3.6	40	112	46	88	.65					
21		2.5	50	162	33	44	.33					
22		9.4	36	54	25	27	.15					
23		15	15	26	20	19	.07					
24		38	9.5	18	17	14	0					
25		26	6.7	15	14	11	0					
26		10	5.0	23	11	44	0					
27		93	4.0	65	9.6	21	0					
28		85	5.5	45	8.5	108	0					
29		23	154	50	---	705	0					
30		12	163	24	---	399	0					
31		---	38	16	---	1330	---					
TOTAL	0	437.5	576.7	2747.9	3909.7	5362.9	2316.29	0	0	0	0	0
MEAN	0	14.6	18.6	88.6	140	173	77.2	0	0	0	0	0
MAX	0	93	163	654	1730	1330	683	0	0	0	0	0
MIN	0	0	1.4	8.3	2.6	6.5	0	0	0	0	0	0
AC-FT	0	868	1140	5450	7750	10640	4590	0	0	0	0	0
CAL YR 1981	TOTAL	5105.32	MEAN 14.0	MAX 619	MIN 0	AC-FT 10130						
WTR YR 1982	TOTAL	15350.99	MEAN 42.1	MAX 1730	MIN 0	AC-FT 30450						

## 11272500 MERCED RIVER NEAR STEVINSON, CA

LOCATION.--Lat 37°22'15", long 120°55'46", in SW¼NE¼ sec.36, T.6 S., R.9 E., Merced County, Hydrologic Unit 18040002, on right bank 4.4 mi (7.1 km) upstream from mouth, and 5.3 mi (8.5 km) northwest of Stevinson.

DRAINAGE AREA.--1,273 mi<sup>2</sup> (3,297 km<sup>2</sup>).

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1930; Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. October 1940 to Aug. 15, 1955, at datum 55.74 ft (16.990 m) higher, Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft (16.685 m) higher.

REMARKS.--Records good except those for April and May, which are fair. Practically entire flow is diverted above station for irrigation of 120,000 acres (486 km<sup>2</sup>) during low runoff years. Some return flow enters above station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft (1.28 km<sup>3</sup>), the largest of which is Lake McClure (station 11269500).

AVERAGE DISCHARGE.--42 years, 676 ft<sup>3</sup>/s (19.14 m<sup>3</sup>/s), 489,800 acre-ft/yr (604 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s (385 m<sup>3</sup>/s) Dec. 5, 1950, elevation, 73.79 ft (22.491 m) present datum; no flow July 19 to Aug. 21, 1961, result of temporary dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,500 ft<sup>3</sup>/s (156 m<sup>3</sup>/s) Apr. 18, elevation, 70.00 ft (21.336 m); minimum daily, 144 ft<sup>3</sup>/s (4.08 m<sup>3</sup>/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	150	185	299	344	272	2390	3140	5280	3120	2770	563	576
2	149	176	283	318	268	2420	3930	5360	2990	2850	592	612
3	151	165	264	436	264	2400	3220	5350	2570	2120	574	606
4	144	185	257	432	262	2270	3540	5180	2510	1590	513	593
5	159	209	253	435	259	2150	3980	4950	2300	1470	464	665
6	155	214	251	885	256	2110	4170	4610	1890	1280	475	683
7	166	219	248	650	254	2090	4170	4510	1810	1200	457	655
8	167	223	247	461	248	2080	3990	4470	1610	1140	519	611
9	163	223	247	384	241	1960	3540	4430	1200	1100	561	600
10	159	219	242	343	241	1680	3340	4440	877	1040	491	599
11	173	217	239	319	240	1630	3310	4420	736	948	493	589
12	171	224	240	302	239	1670	3970	4370	701	973	464	625
13	172	244	235	291	237	1660	4880	4200	696	909	462	639
14	180	277	233	283	246	1620	5020	3910	703	830	472	668
15	179	328	237	277	256	2030	5030	3800	653	790	503	652
16	208	309	238	273	1290	2060	5230	3790	649	755	501	706
17	222	284	236	272	2760	1910	5420	3770	805	725	462	729
18	210	279	233	270	2740	2260	5480	3720	997	745	454	781
19	169	275	233	268	2830	1900	5460	3670	1030	705	492	821
20	160	267	232	273	2750	2020	5430	3620	1100	675	478	803
21	158	255	232	277	2530	1860	5400	3510	1150	655	497	745
22	154	248	244	371	2440	1790	5390	3410	1220	668	509	789
23	153	243	257	348	2400	1720	5420	3440	1220	649	525	821
24	152	242	252	305	2390	1720	5390	3400	1260	658	483	966
25	154	240	243	289	2390	1710	5340	3290	1360	689	514	1120
26	161	248	239	280	2370	1670	5270	3140	1400	696	502	1190
27	154	261	236	275	2370	1680	5240	3170	1430	673	509	1150
28	157	266	233	281	2370	1680	5240	3180	1460	638	475	1240
29	175	354	235	287	---	1690	5220	3140	1400	609	514	1300
30	182	339	239	282	---	2230	5220	3170	1640	607	556	1410
31	183	---	361	282	---	2670	---	3220	---	596	576	---
TOTAL	5190	7418	7718	10793	35413	60730	139380	123920	42487	31753	15650	23944
MEAN	167	247	249	348	1265	1959	4646	3997	1416	1024	505	798
MAX	222	354	361	885	2830	2670	5480	5360	3120	2850	592	1410
MIN	144	165	232	268	237	1620	3140	3140	649	596	454	576
AC-FT	10290	14710	15310	21410	70240	120500	276500	245800	84270	62980	31040	47490
CAL YR 1981 TOTAL	88199			242	935	130	AC-FT	174900				
WTR YR 1982 TOTAL	504396			1382	5480	144	AC-FT	1000000				

NOTE.--Stage-discharge relationship affected by variable backwater in April and May.

## 11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.--Lat 37°21'02", long 120°58'34", in NW¼SW¼ sec.3, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft (180 m) downstream from bridge on Hills Ferry Road, 650 ft (198 m) downstream from Merced River, and 3.5 mi (5.6 km) northeast of Newman.

DRAINAGE AREA.--9,520 mi<sup>2</sup> (24,657 km<sup>2</sup>).

PERIOD OF RECORD.--April 1912 to current year. Prior to Oct. 1, 1937, and subsequent to Oct. 1, 1943, flow that bypassed station at discharges above 9,000 ft<sup>3</sup>/s (255 m<sup>3</sup>/s) not included in records.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. See WSP 1930 for history of changes prior to Aug. 9, 1960.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, ground-water withdrawals, diversions for irrigation, and imported water; low flows consist mainly of return water from irrigated areas.

AVERAGE DISCHARGE.--70 years, 2,000 ft<sup>3</sup>/s (56.64 m<sup>3</sup>/s), 1,449,000 acre-ft/yr (1.79 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river only), 28,000 ft<sup>3</sup>/s (793 m<sup>3</sup>/s) Feb. 26, 1969, elevation, 65.90 ft (20.086 m) from high-water mark in well; river and Merced River Slough, 34,400 ft<sup>3</sup>/s (974 m<sup>3</sup>/s) Feb. 26, 1969, elevation, 65.90 ft (20.086 m) present datum; minimum, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Aug. 9, 10, 1924.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 2, 1868, reached a stage of 21.7 ft (6.61 m) from floodmarks; flood of February 1886, reached a stage of 19.8 ft (6.04 m) from floodmarks; and flood of 1911 reached a stage of 19 ft (5.8 m) from floodmarks. All stages referred to datum in use from 1931 to 1959. Discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,300 ft<sup>3</sup>/s (575 m<sup>3</sup>/s) Apr. 17, elevation, 64.96 ft (19.800 m); minimum daily, 289 ft<sup>3</sup>/s (8.18 m<sup>3</sup>/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	413	385	962	999	1070	3420	5060	14200	4040	2940	1030	1180
2	459	364	834	1020	1030	3420	6710	14100	4080	3470	1030	1160
3	459	343	718	1180	991	3510	7460	13900	3970	3060	1030	1160
4	395	339	667	1370	949	3520	8750	13600	4020	2980	986	1130
5	378	362	672	1390	909	3410	11400	13500	4100	2930	917	1190
6	350	375	878	1920	855	3250	14100	13200	3820	2670	948	1290
7	333	372	844	2200	836	3090	14800	12900	3660	2510	945	1320
8	334	367	776	2200	825	2950	14400	12700	3550	2160	982	1300
9	328	368	762	2200	786	2810	13200	12300	3290	1880	1050	1290
10	324	365	738	2180	787	2490	11700	12300	3030	1700	1000	1280
11	344	360	707	1940	812	2390	11000	12300	2900	1530	986	1230
12	334	367	675	1720	786	2460	10900	12300	2720	1520	964	1210
13	326	434	630	1540	737	2600	11800	12100	2280	1460	939	1240
14	386	605	608	1350	733	2590	13900	11600	1880	1380	933	1350
15	457	875	598	1170	762	2800	17500	11100	1690	1360	949	1430
16	468	890	558	1050	1460	3400	20200	10800	1590	1330	996	1510
17	481	801	530	982	3890	3730	20200	10500	1640	1230	1000	1560
18	444	756	510	980	5350	4310	19300	10100	1740	1240	1030	1670
19	394	702	514	1030	6240	4560	18700	9420	1700	1280	1030	1740
20	351	633	512	1050	6570	5000	18200	8510	1690	1250	976	1790
21	328	585	510	1040	6270	5160	17700	7480	1730	1240	967	1760
22	315	551	525	1190	5580	5160	17200	6740	1780	1190	973	1760
23	307	534	605	1380	4930	5040	16800	6090	1800	1150	1000	1750
24	317	526	595	1370	4500	4860	16100	5390	1820	1120	1040	1830
25	322	517	546	1310	4250	4460	15500	4880	1930	1150	1080	2020
26	318	541	510	1250	4010	3760	15200	4480	1950	1170	1090	2210
27	289	602	494	1160	3720	3280	14800	4320	1940	1170	1060	2250
28	297	688	490	1110	3520	3060	14400	4280	1970	1150	1030	2320
29	346	940	493	1160	---	2920	14300	4250	1940	1120	1040	2380
30	392	1030	519	1180	---	3200	14300	4140	2050	1100	1120	2410
31	404	---	699	1140	---	4280	---	4060	---	1080	1170	---
TOTAL	11393	16577	19679	42761	73158	110890	425580	297540	76300	52520	31291	47720
MEAN	368	553	635	1379	2613	3577	14190	9598	2543	1694	1009	1591
MAX	481	1030	962	2200	6570	5160	20200	14200	4100	3470	1170	2410
MIN	289	339	490	980	733	2390	5060	4060	1590	1080	917	1130
AC-FT	22600	32880	39030	84820	145100	220000	844100	590200	151300	104200	62070	94650
CAL YR 1981	TOTAL	227552	MEAN	623	MAX	2180	MIN	289	AC-FT	451300		
WTR YR 1982	TOTAL	1205409	MEAN	3302	MAX	20200	MIN	289	AC-FT	2391000		



## 11274500 ORESTIMBA CREEK NEAR NEWMAN, CA

LOCATION.--Lat 37°18'48", long 121°07'32", in SE¼NE¼ sec.19, T.7 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 220 ft (67 m) upstream from California aqueduct siphon, 3 mi (5 km) downstream from Oso Creek, and 5 mi (8 km) west of Newman.

DRAINAGE AREA.--134 mi<sup>2</sup> (347 km<sup>2</sup>).

PERIOD OF RECORD.--January 1932 to current year.

REVISED RECORDS.--WSP 1445: 1932(M), 1938(P), 1940-41(M), 1945, 1951(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 216.01 ft (65.837 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1958, at site 1,320 ft (402 m) downstream at datum 24.14 ft (7.358 m) lower. Oct. 1, 1958, to Aug. 13, 1969, at site 1,200 ft (366 m) downstream at datum 27.14 ft (8.272 m) lower.

REMARKS.--Records good. No storage or diversion above station except for minor stock ponds.

AVERAGE DISCHARGE.--50 years, 15.9 ft<sup>3</sup>/s (0.450 m<sup>3</sup>/s), 11,520 acre-ft/yr (14.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s (289 m<sup>3</sup>/s) Apr. 2, 1958, gage height, 6.57 ft (2.003 m) site and datum then in use, from rating curve extended above 5,000 ft<sup>3</sup>/s (142 m<sup>3</sup>/s); no flow for all or parts of each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0230	*5,550 157	8.54 2.603	Mar. 17	2400	245 6.94	4.97 1.515
Jan. 20	2000	235 6.66	5.22 1.591	Mar. 31	1945	2,250 63.7	7.08 2.158
Feb. 16	0330	979 27.7	6.26 1.908	Apr. 11	0230	2,650 75.0	7.28 2.219
Mar. 2	2045	150 4.25	4.64 1.414				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0		0	6.7	21	781	39	4.1			
2		0		7.3	5.4	66	332	36	4.1			
3		0		18	4.7	96	377	33	4.1			
4		0		983	3.9	63	359	30	4.1			
5		0		1930	3.0	50	253	27	4.0			
6		0		138	2.4	41	198	25	3.7			
7		0		64	2.3	36	154	23	3.7			
8		0		39	2.2	34	127	21	3.6			
9		0		24	1.8	31	107	19	3.6			
10		0		16	1.4	35	151	19	3.4			
11		0		11	1.1	46	1400	18	3.4			
12		.04		7.9	.85	70	451	17	3.3			
13		.79		5.3	.90	58	277	15	2.9			
14		0		4.2	2.8	53	212	14	2.5			
15		0		3.2	75	52	171	12	2.0			
16		0		2.4	562	47	141	10	1.3			
17		0		1.7	190	105	120	10	.63			
18		0		1.2	105	173	104	8.7	.20			
19		0		1.1	74	119	92	7.2	.04			
20		0		69	58	94	84	6.4	0			
21		0		105	47	78	76	5.8	0			
22		0		52	38	67	70	5.3	0			
23		0		32	31	59	65	5.0	0			
24		0		23	27	52	60	4.8	0			
25		0		21	24	46	57	5.1	0			
26		0		16	21	48	53	4.4	0			
27		0		14	19	45	51	4.1	0			
28		0		12	17	42	48	4.1	0			
29		0		13	---	88	44	4.5	.21			
30		0		10	---	163	42	4.2	.04			
31		---		8.0	---	904	---	4.1	---			---
TOTAL	0	.83	0	3632.3	1327.45	2882	6457	441.7	54.92	0	0	0
MEAN	0	.028	0	117	47.4	93.0	215	14.2	1.83	0	0	0
MAX	0	.79	0	1930	562	904	1400	39	4.1	0	0	0
MIN	0	0	0	0	.85	21	42	4.1	0	0	0	0
AC-FT	0	1.6	0	7200	2630	5720	12810	876	109	0	0	0
CAL YR 1981 TOTAL		499.53	MEAN 1.37	MAX 71	MIN 0	AC-FT 991						
WTR YR 1982 TOTAL		14796.20	MEAN 40.5	MAX 1930	MIN 0	AC-FT 29350						

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA

LOCATION.--Lat 37°29'12", long 121°12'29", in SE¼NW¼ sec.21, T.5 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 1.0 mi (1.6 km) upstream from Delta-Mendota Canal crossing, and 4.4 mi (7.1 km) west of Patterson.

DRAINAGE AREA.--72.6 mi<sup>2</sup> (188.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1958 to May 1965 (maximums only), June 1965 to current year.

REVISED RECORDS.--WSP 1930: 1959-60(M), drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 200 ft (61 m), from topographic map. Prior to June 1965, crest-stage gage at site 1.0 mi (1.6 km) downstream at different datum.

REMARKS.--Records fair. Some stock ponds and small diversions above station.

AVERAGE DISCHARGE.--17 years, 5.59 ft<sup>3</sup>/s (0.158 m<sup>3</sup>/s), 4,050 acre-ft/yr (4.99 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft<sup>3</sup>/s (51.0 m<sup>3</sup>/s) Feb. 16, 1959, gage height, 14.68 ft (4.474 m) site and datum then in use, from rating curve extended above 690 ft<sup>3</sup>/s (19.5 m<sup>3</sup>/s); no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0345	*1,290 36.5	7.04 2.146	Mar. 31	1530	882 25.0	5.83 1.777
Feb. 16	1000	58 1.64	2.39 0.728	Apr. 11	0345	451 12.8	4.38 1.335

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	4.4	8.0	11	202	17	7.3	5.5		
2			0	5.9	7.5	17	86	16	7.4	4.4		
3			0	5.7	7.2	20	76	15	7.3	3.7		
4			0	275	7.0	15	72	14	7.1	2.7		
5			0	494	6.5	13	56	14	6.9	2.2		
6			0	64	6.2	12	46	14	6.6	1.2		
7			0	32	6.3	12	39	13	6.4	.61		
8			0	23	5.9	12	35	13	6.2	.27		
9			0	18	5.1	11	31	13	5.8	.42		
10			0	15	4.5	12	39	12	4.8	.21		
11			0	13	2.0	15	263	13	4.4	.06		
12			0	12	1.2	16	104	12	3.8	.02		
13			0	10	1.3	14	65	12	3.5	.01		
14			0	9.5	7.2	14	52	12	3.1	0		
15			0	8.9	13	14	44	11	2.9	0		
16			0	8.2	44	14	39	11	2.6	0		
17			0	7.9	29	22	35	10	2.4	0		
18			0	7.5	20	37	32	10	2.0	0		
19			.03	7.6	16	28	30	9.7	1.9	0		
20			.15	14	14	24	29	9.2	1.9	.08		
21			.38	18	13	20	27	9.2	1.8	0		
22			.92	13	12	18	25	8.9	1.7	0		
23			.87	11	11	16	24	8.2	1.4	0		
24			.83	10	10	15	23	7.7	1.1	0		
25			.82	10	9.8	15	22	7.4	.98	0		
26			.75	9.9	9.7	16	21	7.4	.85	0		
27			.76	9.5	9.4	17	20	7.4	.76	0		
28			.71	9.6	9.1	16	19	7.5	.62	0		
29			.95	9.8	---	25	18	7.3	5.5	0		
30			13	8.3	---	49	17	7.3	6.9	0		
31		---	6.8	8.5	---	355	---	7.3	---	0		---
TOTAL	0	0	26.97	1153.2	295.9	895	1591	336.5	115.91	21.38	0	0
MEAN	0	0	.87	37.2	10.6	28.9	53.0	10.9	3.86	.69	0	0
MAX	0	0	13	494	44	355	263	17	7.4	5.5	0	0
MIN	0	0	0	4.4	1.2	11	17	7.3	.62	0	0	0
AC-FT	0	0	53	2290	587	1780	3160	667	230	42	0	0

CAL YR 1981	TOTAL	488.81	MEAN	1.34	MAX	38	MIN	0	AC-FT	970
WTR YR 1982	TOTAL	4435.86	MEAN	12.2	MAX	494	MIN	0	AC-FT	8800



## SAN JOAQUIN RIVER BASIN

11275000 FALLS CREEK NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'15", long 119°45'48", in NW¼SE¼ sec.3, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on right bank 0.2 mi (0.3 km) upstream from Wampana Falls, 0.6 mi (1.0 km) upstream from mouth, and 2 mi (3 km) northeast of Hetch Hetchy.

DRAINAGE AREA.--46.0 mi<sup>2</sup> (119.1 km<sup>2</sup>).

PERIOD OF RECORD.--October 1915 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1918, published as "near Sequoia."

REVISED RECORDS.--WSP 531: 1917(M). WSP 931: 1938. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,350 ft (1,631 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--67 years, 143 ft<sup>3</sup>/s (4.050 m<sup>3</sup>/s), 103,600 acre-ft/yr (128 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,660 ft<sup>3</sup>/s (189 m<sup>3</sup>/s) Nov. 19, 1950, Dec. 23, 1955, gage height, 9.0 ft (2.74 m) from floodmarks, from rating curve extended above 2,500 ft<sup>3</sup>/s (70.8 m<sup>3</sup>/s) on basis of velocity-area studies; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft<sup>3</sup>/s (25.5 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0745	1,720 48.7	6.53 1.990	May 27	0900	1,190 33.7	6.06 1.847
Dec. 20	1345	2,810 79.6	7.34 2.237	June 17	1030	1,500 42.5	6.40 1.951
Feb. 16	0330	2,250 63.7	7.01 2.137	June 29	1230	1,460 41.3	6.36 1.939
Apr. 11	1945	2,790 79.0	7.38 2.249	Sep. 26	0530	*3,120 88.4	7.60 2.316

Minimum, no flow Oct. 1-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	86	64	89	55	101	67	589	595	503	161	44
2	0	91	68	88	55	108	69	651	589	430	136	38
3	0	91	65	84	59	94	70	737	586	488	117	33
4	0	86	62	79	58	87	72	804	536	444	108	31
5	0	79	57	69	54	79	69	748	454	456	105	29
6	0	90	53	75	52	73	65	632	367	450	101	27
7	0	87	50	73	51	71	63	645	394	530	99	25
8	1.5	71	49	75	48	70	64	662	476	570	112	23
9	5.3	61	50	73	47	72	75	532	626	574	104	21
10	21	55	52	73	45	194	256	333	745	551	98	21
11	55	54	49	75	44	214	1900	234	868	586	88	22
12	37	71	48	82	44	126	1460	221	814	599	81	28
13	30	432	60	78	73	119	829	305	736	587	75	25
14	24	1180	68	74	455	128	587	445	650	522	74	21
15	22	378	66	72	841	109	458	424	817	489	72	19
16	21	243	59	71	1750	89	361	568	985	490	66	20
17	20	343	52	70	750	78	323	663	1270	504	61	20
18	31	191	52	68	319	72	314	705	1220	400	60	21
19	39	127	608	66	246	67	323	627	947	366	60	19
20	38	98	2130	65	238	64	327	658	904	359	64	21
21	35	88	940	67	240	64	316	775	770	342	66	21
22	32	199	321	66	224	67	326	871	667	339	64	19
23	28	183	179	68	175	76	385	957	729	323	74	18
24	24	255	124	69	145	84	407	1010	841	321	67	84
25	22	170	105	78	128	87	393	989	753	324	59	723
26	20	113	96	81	111	91	398	1020	760	304	55	2130
27	19	92	152	70	95	89	391	1050	837	274	50	553
28	54	82	95	65	93	94	452	974	862	244	55	211
29	80	73	99	60	---	81	496	711	1190	230	74	121
30	78	65	145	57	---	72	481	624	755	231	63	95
31	81	---	106	55	---	69	---	637	---	196	54	---
TOTAL	817.8	5234	6124	2235	6495	2889	11797	20801	22743	13026	2523	4483
MEAN	26.4	174	198	72.1	232	93.2	393	671	758	420	81.4	149
MAX	81	1180	2130	89	1750	214	1900	1050	1270	599	161	2130
MIN	0	54	48	55	44	64	63	221	367	196	50	18
AC=FT	1620	10380	12150	4430	12880	5730	23400	41260	45110	25840	5000	8890

CAL YR 1981 TOTAL 41720.12 MEAN 114 MAX 2130 MIN 0 AC-FT 82750  
WTR YR 1982 TOTAL 99167.80 MEAN 272 MAX 2130 MIN 0 AC-FT 196700

## 11275500 HETCH HETCHY RESERVOIR AT HETCH HETCHY, CA

LOCATION.--Lat 37°56'52", long 119°47'13", in NW¼NW¼ sec.16, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, near center of O'Shaughnessy Dam on Tuolumne River at Hetch Hetchy, 1.5 mi (2.4 km) downstream from Falls Creek.

DRAINAGE AREA.--455 mi<sup>2</sup> (1,178 km<sup>2</sup>).

PERIOD OF RECORD.--May 1923 to current year. Prior to October 1930 monthend contents, published in WSP 1315-A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Nonrecording gage. Datum of gage is 1.84 ft (0.561 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1927, nonrecording gage at same site and datum. Oct. 1, 1927, to July 9, 1972, water-stage recorder at same site and datum. Prior to October 1974, datum published as at mean sea level.

REMARKS.--Reservoir is formed by concrete gravity-type dam, completed to crest gage height 3,726.5 ft (1,135.84 m) in 1923 and raised to 3,812.0 ft (1,161.90 m) in 1937. Storage began Apr. 6, 1923. Ten-foot (3-m) drum gates were installed on spillway in 1949. Capacity, 360,400 acre-ft (444 hm<sup>3</sup>) between gage heights 3,512.0 ft (1,070.46 m) bottom outlet, and 3,806.0 ft (1,160.07 m) top of drum-type spillway gates. Water is diverted from reservoir through tunnel to Robert C. Kirkwood powerplant 15 mi (24 km) downstream. Flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flows in excess of aqueduct capacity being spilled to the river. At Moccasin Creek diversion dam, water re-enters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir (station 11287500) at Red Mountain Bar. Flow down river is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 0800 hours.

COOPERATION.--Record of gage heights furnished by city and county of San Francisco.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 369,100 acre-ft (455 hm<sup>3</sup>) Dec. 3, 1950, gage height, 3,810.4 ft (1,161.41 m); no contents at times in 1929-31.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 362,500 acre-ft (447 hm<sup>3</sup>) June 29, gage height, 3,807.1 ft (1,160.40 m); minimum, 171,700 acre-ft (212 hm<sup>3</sup>) Feb. 13, gage height, 3,697.8 ft (1,127.09 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

3,512	0	3,540	8,700	3,640	97,000	3,740	238,900
3,513	51	3,560	22,900	3,660	119,900	3,760	273,700
3,515	154	3,580	39,500	3,680	146,200	3,780	310,400
3,520	410	3,600	57,400	3,700	175,000	3,800	348,600
3,530	3,300	3,620	76,500	3,720	206,000	3,810.4	369,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	212700	182100	191100	201200	183800	207400	186100	230000	318500	357800	360800	348600
2	211500	181500	190400	201100	182900	207400	185500	233200	317700	358400	360800	347400
3	210300	181400	189700	200600	182000	207400	184900	237200	316800	359600	360600	346100
4	209000	180900	189000	200200	181100	207000	184600	242600	314700	361000	360800	344700
5	207800	180500	188400	200200	180200	206500	184300	248300	312800	361400	361000	343400
6	206600	179900	187500	200200	179300	206800	183800	252800	311700	361200	361000	341600
7	205400	179400	186400	199800	178300	205100	183200	256800	310800	361700	361000	339700
8	204300	178800	185800	199400	177300	204400	182100	261200	313000	361700	361200	338900
9	203000	178000	185000	198900	176500	203600	181200	263400	315300	361700	361200	337400
10	201900	177400	184100	198600	175200	203200	180600	263800	323600	361700	361000	336000
11	201100	176500	183200	198100	174000	203300	188200	261900	331000	361900	360800	334500
12	200300	175800	182300	197500	172900	202800	208200	259100	337700	361900	360400	332900
13	199400	176200	181700	196800	171700	201600	216500	256400	342600	361500	360000	331600
14	198300	183200	180900	196200	172800	199500	221200	255400	345100	361000	359200	329900
15	197200	186400	180200	195600	181800	197900	224800	254700	347000	361700	358600	328200
16	196200	188200	179400	194900	190800	195900	226500	255000	351500	361700	357800	326600
17	194900	189100	178600	194300	199000	195600	227500	257300	357200	361000	356800	324900
18	194000	190200	177700	193500	201600	194600	227200	261000	362100	361200	356000	323200
19	193000	190800	177400	192700	203000	194300	226300	264100	362100	361500	354900	321700
20	191900	191000	184000	192100	204300	193000	225000	266400	360800	361500	354100	320200
21	191100	190200	195900	191300	205500	191800	224800	269400	359200	361400	353100	318500
22	190000	190500	198900	190500	207100	191600	224000	273900	356800	361400	352500	316800
23	189100	191100	200000	189600	208200	190800	223500	279500	357000	361400	352300	315100
24	188100	191600	200500	188800	208600	190000	223800	286200	359800	361200	352100	313600
25	187200	192400	200600	188400	208600	189600	224200	291800	361200	361500	353100	316600
26	186100	192600	200600	187900	208600	189000	224300	301100	360800	361700	352700	331400
27	185000	192700	200600	187600	208200	188500	224300	306300	361900	361700	352100	340800
28	184100	192400	200900	187000	207800	187900	224800	314100	362300	361500	351300	342800
29	183800	192100	200600	186200	---	187500	226700	316600	362500	361200	350900	343200
30	183100	191600	201100	185500	---	187000	227800	316800	361500	361400	350700	342800
31	182600	---	201300	184700	---	186400	---	317600	---	361200	349800	---
MAX	212700	192700	201300	201200	208600	207400	227800	317600	362500	361900	361200	348600
MIN	182600	175800	177400	184700	171700	186400	230000	---	310800	357800	349800	313600
a	3705.0	3710.9	3717.0	3706.4	3721.1	3707.5	3733.4	---	3806.6	3806.4	3800.6	3797.0
b	-31800	+9000	+9700	-16600	+23100	-21400	+41400	+89800	+43900	-300	-11400	-7000
CAL YR 1981	b	+46600										
WTR YR 1982	b	+128400										

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

## 11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°56'15", long 119°47'50", in SW¼SE¼ sec.17, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on left bank 0.9 mi (1.4 km) downstream from O'Shaughnessy Dam at Hetch Hetchy, and 2.5 mi (4.0 km) downstream from Falls Creek.

DRAINAGE AREA.--457 mi<sup>2</sup> (1,184 km<sup>2</sup>).

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Hetch Hetchy damsite, near Sequoia" 1910-14 and as "below Hetch Hetchy damsite, near Sequoia" 1915-18.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder with concrete control since May 5, 1970. Altitude of gage is 3,480 ft (1,061 m), from topographic map. Prior to Jan. 1, 1915, water-stage recorder at site 1 mi (2 km) upstream, at damsite, at different datum. Jan. 1, 1915, to Sept. 30, 1968, water-stage recorder, at same site and datum. Oct. 1, 1968, to May 4, 1970, nonrecording gage at site 0.5 mi (0.8 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 1 mi (2 km) upstream beginning in April 1923. Flow diverted above station through tunnel to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct beginning Apr. 26, 1967. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (prior to diversion to Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct).--57 years (water years 1911-67), 999 ft<sup>3</sup>/s (28.29 m<sup>3</sup>/s), 723,800 acre-ft/yr (892 hm<sup>3</sup>/yr); 15 years (water years 1968-82), 375 ft<sup>3</sup>/s (10.62 m<sup>3</sup>/s), 271,700 acre-ft/yr (335 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft<sup>3</sup>/s (365 m<sup>3</sup>/s) June 1, 1943, gage height, 13.90 ft (4.237 m); no flow at times in 1968-70.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,210 ft<sup>3</sup>/s (233 m<sup>3</sup>/s) June 19, gage height, 12.10 ft (3.688 m); minimum daily, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Oct. 1, Dec. 3, Mar. 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	38	40	51	40	38	56	1930	4660	3330	800	99
2	36	38	37	45	40	42	40	1960	4650	2230	580	99
3	36	38	35	43	39	40	45	2000	4650	2250	380	112
4	38	37	36	55	39	39	51	2040	4280	2350	129	113
5	38	37	38	82	38	38	42	2090	3600	2570	150	112
6	38	37	38	54	38	38	40	2130	3000	2630	157	110
7	38	37	38	48	38	38	38	2180	1990	3000	140	109
8	39	37	38	46	38	38	38	2540	1560	3250	170	108
9	39	36	38	46	37	37	38	2720	1580	3390	198	105
10	39	36	37	46	37	158	52	2750	1610	3480	172	105
11	38	36	37	45	37	386	126	2730	2160	3730	140	103
12	38	37	38	44	36	370	66	2700	2760	4060	93	103
13	38	43	38	43	37	424	51	2680	3080	3950	91	102
14	38	45	37	42	53	356	46	2550	3580	3200	127	102
15	38	40	36	42	106	254	359	2550	3770	2910	128	101
16	37	40	36	42	112	139	578	2550	4290	3060	130	93
17	37	44	36	41	56	52	727	2570	5390	3020	132	89
18	37	41	36	41	49	39	1070	2600	7290	2370	130	89
19	37	41	39	41	46	38	1340	2890	7590	1990	129	88
20	37	40	55	41	45	38	1820	3190	6860	2090	128	88
21	36	40	48	41	44	36	1890	3330	6740	2060	128	86
22	36	41	42	41	43	36	1860	3450	5750	2050	128	86
23	36	41	41	40	41	36	1870	3520	4470	2020	127	88
24	36	45	40	41	39	36	1870	3630	4070	1770	127	93
25	36	43	39	41	39	35	1870	3700	4690	1800	127	101
26	36	42	39	43	39	35	1870	4250	4680	1830	127	110
27	36	42	39	43	38	35	1870	4820	5250	1850	128	95
28	40	41	39	42	38	36	1870	4870	5850	1760	128	98
29	40	41	48	41	---	40	1890	4890	7020	1400	127	98
30	39	41	51	41	---	42	1910	4720	5980	1300	126	93
31	39	---	45	40	---	48	---	4670	---	960	121	---
TOTAL	1161	1195	1234	1392	1282	3017	25393	95200	132850	77660	5498	2978
MEAN	37.5	39.8	39.8	44.9	45.8	97.3	846	3071	4428	2505	177	99.3
MAX	40	45	55	82	112	424	1910	4890	7590	4060	800	113
MIN	35	36	35	40	36	35	38	1930	1560	960	91	86
AC-FT	2300	2370	2450	2760	2540	5980	50370	188800	263500	154000	10910	5910

CAL YR 1981 TOTAL 25829 MEAN 70.8 MAX 1640 MIN 30 AC-FT 51230  
WTR YR 1982 TOTAL 348860 MEAN 956 MAX 7590 MIN 35 AC-FT 692000

## 11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'46", long 119°56'46", in SE¼SW¼ sec.1, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.5 mi (0.8 km) upstream from Early Intake, 2.4 mi (3.9 km) upstream from Cherry Creek, and 5.0 mi (8.0 km) west of Mather.

DRAINAGE AREA.--484 mi<sup>2</sup> (1,254 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,420 ft (738 m), from topographic map.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 12 mi (19 km) upstream.

AVERAGE DISCHARGE.--12 years, 387 ft<sup>3</sup>/s (10.96 m<sup>3</sup>/s), 280,400 acre-ft/yr (346 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,520 ft<sup>3</sup>/s (270 m<sup>3</sup>/s) June 12, 1974, gage height, 20.94 ft (6.383 m); minimum daily, 33 ft<sup>3</sup>/s (0.93 m<sup>3</sup>/s) Aug. 17, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943, reached a stage of 22.1 ft (6.74 m), discharge, 12,900 ft<sup>3</sup>/s (365 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,270 ft<sup>3</sup>/s (234 m<sup>3</sup>/s) June 18, gage height, 20.45 ft (6.233 m); minimum daily, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	46	60	226	103	97	254	2100	4850	3790	770	102
2	37	45	57	161	102	164	203	2140	4800	2300	592	100
3	39	44	53	128	100	158	201	2180	4800	2310	401	116
4	39	44	50	162	98	126	309	2230	4200	2400	130	117
5	38	44	51	527	95	110	218	2280	3700	2630	154	116
6	38	46	52	299	90	101	191	2320	3000	2730	161	114
7	40	45	51	194	88	96	163	2370	2100	3070	141	113
8	40	45	50	160	86	93	157	2730	1510	3360	173	111
9	39	45	49	150	84	89	163	3020	1540	3510	212	108
10	41	45	49	153	83	149	261	3020	1590	3570	176	108
11	48	45	49	147	81	473	1510	3000	2070	3810	134	107
12	42	49	50	136	79	712	609	2960	2920	4130	96	107
13	39	90	58	124	81	829	355	2920	3200	4130	93	107
14	39	170	53	119	303	1120	281	2910	3710	3400	130	106
15	39	70	51	116	869	1070	391	2900	3970	3000	130	105
16	39	53	50	113	1220	779	770	2900	4370	3170	135	95
17	38	75	49	111	319	183	1180	2930	5410	3160	135	91
18	38	75	48	108	219	155	1850	2960	7240	2560	134	92
19	38	58	83	108	179	145	2140	3240	7790	2010	134	90
20	38	53	175	111	163	137	2130	3630	6990	2110	133	90
21	38	51	227	110	150	127	2100	3780	6840	2090	132	89
22	38	81	131	101	138	121	2080	3820	6080	2070	132	89
23	39	69	99	99	128	119	2070	3890	4760	2050	132	90
24	39	93	86	106	116	116	2070	3950	4080	1820	131	96
25	39	94	80	120	107	112	2060	3990	4790	1790	132	103
26	40	74	76	140	102	117	2060	4420	4770	1840	131	114
27	41	71	90	154	97	122	2050	4980	5310	1860	131	97
28	65	69	87	134	93	143	2050	5030	5930	1780	132	98
29	70	66	118	124	---	158	2070	5020	7080	1460	131	99
30	53	63	262	114	---	149	2080	5000	6800	1280	130	97
31	47	---	156	107	---	226	---	4900	---	1180	125	---
TOTAL	1295	1918	2600	4662	5373	8296	34026	103520	136200	80370	5603	3067
MEAN	41.8	63.9	83.9	150	192	268	1134	3339	4540	2593	181	102
MAX	70	170	262	527	1220	1120	2140	5030	7790	4130	770	117
MIN	37	44	48	99	79	89	157	2100	1510	1180	93	89
AC-FT	2570	3800	5160	9250	10660	16460	67490	205300	270200	159400	11110	6080
CAL YR 1981 TOTAL	31559			86	MAX 1610	MIN 37	AC-FT 62600					
WTR YR 1982 TOTAL	386930			MEAN 1060	MAX 7790	MIN 37	AC-FT 767500					

## 11276900 TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'54", long 119°58'09", in NW¼SW¼ sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.6 mi (1.0 km) upstream from Cherry Creek, 0.7 mi (1.1 km) downstream from Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct, and 6.3 mi (10.1 km) west of Mather.

DRAINAGE AREA.--487 mi<sup>2</sup> (1,261 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,200 ft (671 m), from topographic map.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 13 mi (21 km) upstream and Robert C. Kirkwood powerplant beginning Apr. 26, 1967. Water is diverted to Hetch Hetchy aqueduct from the tailrace of the powerplant through a closed conduit. Flow in excess of aqueduct capacity is diverted to river. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--16 years, 507 ft<sup>3</sup>/s (14.36 m<sup>3</sup>/s), 367,300 acre-ft/yr (453 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft<sup>3</sup>/s (320 m<sup>3</sup>/s) June 4, 1969, gage height, 9.82 ft (2.993 m); minimum daily, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) Nov. 28-30, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,940 ft<sup>3</sup>/s (225 m<sup>3</sup>/s) June 19, gage height, 8.97 ft (2.734 m); minimum daily, 36 ft<sup>3</sup>/s (1.02 m<sup>3</sup>/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	70	44	101	397	270	365	527	2030	4900	3770	867	285
2	40	41	105	352	266	441	483	2010	4850	2210	692	280
3	40	41	99	323	261	432	482	2100	4800	2220	551	295
4	43	41	95	354	255	405	516	2130	4250	2350	330	295
5	42	41	95	637	247	392	505	2180	3750	2630	351	270
6	39	41	91	461	245	378	483	2200	3100	2790	354	330
7	36	41	105	370	262	277	464	2250	2150	3090	323	334
8	39	41	102	324	266	388	455	2590	1660	3320	309	321
9	40	41	98	294	261	370	455	2860	1690	3420	413	312
10	40	41	93	257	256	419	529	2870	1710	3460	385	305
11	46	41	90	324	256	684	1670	2820	2100	3700	331	296
12	43	43	87	301	251	943	887	2810	2910	4040	274	312
13	40	70	90	283	249	1060	610	2800	3040	4080	266	324
14	40	150	109	273	387	1320	549	2800	3540	3360	304	315
15	40	64	103	266	990	1290	638	2800	3820	3130	321	310
16	40	50	100	261	1350	1040	990	2800	4230	3030	352	286
17	39	64	96	272	521	457	1350	2850	5250	3160	338	281
18	40	67	91	276	434	434	1800	2900	6950	2570	329	282
19	38	53	114	271	408	418	2110	3200	7320	2000	322	241
20	38	49	206	270	397	414	2110	3600	6980	2040	317	316
21	38	59	284	264	310	414	2070	3800	6930	2010	309	305
22	38	102	174	250	390	415	2040	3800	6200	1990	277	304
23	38	79	134	246	396	418	2020	3900	4740	1980	347	301
24	38	76	118	223	394	415	2020	3950	4020	1790	343	306
25	38	82	105	304	389	403	2030	4000	4660	1730	341	308
26	38	64	113	308	382	406	2020	4450	4650	1820	333	333
27	38	62	126	318	371	413	2030	5000	5260	1820	331	303
28	56	59	145	288	383	438	2020	5000	6040	1750	320	292
29	59	57	234	276	---	460	2010	5000	6960	1490	330	284
30	47	54	433	266	---	448	2030	5000	6910	1330	338	272
31	42	---	329	269	---	505	---	5000	---	1230	323	---
TOTAL	1303	1758	4265	9578	10847	16662	37903	101500	135370	79310	11321	8998
MEAN	42.0	58.6	138	309	387	537	1263	3274	4512	2558	365	300
MAX	70	150	433	637	1350	1320	2110	5000	7320	4080	867	334
MIN	36	41	87	223	245	277	455	2010	1660	1230	266	241
AC-FT	2580	3490	8460	19000	21520	33050	75180	201300	268500	157300	22460	17850

CAL YR 1981	TOTAL	49903	MEAN	137	MAX	1670	MIN	36	AC-FT	98980
WTR YR 1982	TOTAL	418815	MEAN	1147	MAX	7320	MIN	36	AC-FT	830700



## 11277200 CHERRY LAKE NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'33", long 119°54'47", in SE¼NW¼ sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on upstream face of Cherry Valley Dam on Cherry Creek, 4.2 mi (6.8 km) upstream from Eleanor Creek, 7 mi (11 km) north of Early Intake, and 7.3 mi (11.7 km) northwest of Hetch Hetchy.

DRAINAGE AREA.--117 mi<sup>2</sup> (303 km<sup>2</sup>).

PERIOD OF RECORD.--August 1956 to current year. Prior to October 1959, published as Lake Lloyd near Hetch Hetchy.

GAGE.--Water-stage recorder. Datum of gage is 2.42 ft (0.738 m) National Geodetic Vertical Datum of 1929. Prior to October 1974, datum published as at mean sea level.

REMARKS.--Reservoir is formed by a rockfill dam completed in 1956. Storage began in December 1955. Capacity, 268,800 acre-ft (331 hm<sup>3</sup>) between gage heights 4,430 ft (1,350.3 m) bottom of sluice gates, and 4,700 ft (1,432.6 m) top of spillway gates. No dead storage. Water is released down Cherry Creek for power development and domestic supply as part of Hetch Hetchy system of city and county of San Francisco. Unmeasured diversion from Lake Eleanor into Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake through tunnel to Cherry powerhouse near mouth of Cherry Creek began Aug. 1, 1960. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 2400 hours.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 273,500 acre-ft (337 hm<sup>3</sup>) July 9, 11-15, 1980, June 28, 1982, gage height, 4,702.6 ft (1,433.35 m); normal minimum since reservoir first filled, 7,660 acre-ft (9.44 hm<sup>3</sup>) Jan. 24, 1960, gage height, 4,502.1 ft (1,372.24 m). Reservoir drained for inspection in 1961 and 1964.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 273,500 acre-ft (337 hm<sup>3</sup>) June 28, gage height, 4,702.6 ft (1,433.35 m); minimum, 140,200 acre-ft (173 hm<sup>3</sup>) Oct. 27, gage height, 4,620.2 ft (1,408.24 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4,440	0	4,490	3,020	4,560	60,800	4,660	201,100
4,450	75	4,500	6,030	4,580	85,100	4,680	234,100
4,460	250	4,510	11,700	4,600	111,800	4,700	268,800
4,470	675	4,520	19,700	4,620	139,900	4,705	277,900
4,480	1,530	4,540	38,900	4,640	169,700		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156400	142600	174300	190100	173900	192500	184400	221500	259300	268800	263000	232400
2	155600	142700	174000	190000	173600	192400	183800	223600	259300	268800	262500	231400
3	155000	142600	173700	190100	173300	192000	183000	225700	259100	268800	261400	230100
4	154900	142400	173300	190100	172800	191400	182400	228400	258800	269000	260400	229100
5	154300	142100	172900	189800	172200	190800	181600	230400	258600	269200	259300	228200
6	153400	142000	173400	189300	171900	190400	180900	232200	258800	269400	259300	227600
7	152700	141800	172900	189600	171900	190300	180100	234200	259100	269500	257400	227100
8	152100	142000	172500	188400	171600	189600	179300	236100	260000	269700	257000	225700
9	151400	141700	172000	187100	170900	189000	178700	237500	261400	269900	256300	224100
10	151200	141200	171600	186600	170300	190000	180900	237500	263200	270300	255300	222700
11	151200	141100	170900	186000	169700	190900	197900	237000	265100	270400	254000	221700
12	151100	141500	170600	185000	168800	190800	204500	236600	266900	270800	253000	220900
13	150900	152400	171200	184600	169200	190900	207600	237000	268100	270800	251800	219900
14	149900	157900	170900	183800	172600	191600	209100	237800	269500	271400	250900	218500
15	149500	160900	170500	183000	179300	191200	209900	238900	271900	271000	250400	217200
16	148400	163200	170000	182400	188900	190800	210200	240600	272800	270300	249500	216100
17	147500	164900	169400	182100	191100	190300	210500	242700	272800	270100	248300	215100
18	147300	165600	169100	181500	191900	189800	210900	244500	272800	269500	247300	214400
19	146800	165900	175900	180900	192200	189200	211300	246600	272400	269000	245900	213800
20	145800	166200	188100	180200	193000	188700	211800	248700	271700	268300	244500	212700
21	144900	167100	190100	179600	193600	188700	212000	250900	271400	267400	243700	211500
22	143900	169100	190800	179000	194100	188700	212500	253700	271700	267100	243200	210200
23	143000	170900	190600	178400	194100	188100	213300	257000	273000	266700	242300	209200
24	142400	172300	190300	177900	193900	187400	214100	260200	273200	266400	241300	209600
25	142300	173300	189600	177400	193500	186900	215100	262000	273000	266700	240100	216200
26	141200	173900	189600	176800	193000	186600	215700	262700	273000	266700	238500	221900
27	140200	174000	190100	176400	192500	186300	216400	263000	273000	266200	237300	222000
28	141500	174200	190300	175700	192500	186600	217400	262300	273500	265500	236300	221500
29	141700	174800	190300	175100	---	186200	218500	261400	272400	264800	236100	220500
30	141700	174800	190000	174500	---	185700	219700	260500	269900	264100	234800	219700
31	142000	---	190000	174200	---	185200	---	259500	---	263400	233600	---
MAX	156400	174800	190800	190100	194100	192500	219700	263000	273500	271400	263000	232400
MIN	140200	141100	169100	174200	168800	185200	178700	221500	258600	263400	233600	209200
a	4621.4	4643.3	4653.0	4642.9	4654.6	4650.0	4671.4	4694.7	4700.6	4696.9	4679.7	4671.4
b	-15200	+32800	+15200	-15800	+18300	-7300	+34500	+39800	+10400	-6500	-29800	-13900

CAL YR 1981 b +23200  
WTR YR 1982 b +62500

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

## 11277300 CHERRY CREEK BELOW CHERRY VALLEY DAM, NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'04", long 119°54'59", in SE¼SW¼ sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.7 mi (1.1 km) downstream from Cherry Valley Dam, 3.5 mi (5.6 km) upstream from Eleanor Creek, 6.7 mi (10.8 km) north of Early Intake, and 7.2 mi (11.6 km) west of Hetch Hetchy.

DRAINAGE AREA.--118 mi<sup>2</sup> (306 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 4,337.08 ft (1,321.942 m) National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 0.7 mi (1.1 km) upstream. Diversion between Lake Eleanor (station 11277500) and Cherry Lake began Mar. 6, 1960. Diversion from Cherry Lake to Dion R. Holm powerplant began Aug. 1, 1960. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (since diversion to Dion R. Holm powerplant).--22 years (water years 1961-82), 29.5 ft<sup>3</sup>/s (0.835 m<sup>3</sup>/s), 21,370 acre-ft/yr (26.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,210 ft<sup>3</sup>/s (119 m<sup>3</sup>/s) July 10, 1974, gage height, 10.53 ft (3.210 m); minimum daily, 1.6 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s) Apr. 10, 1957, Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft<sup>3</sup>/s (100 m<sup>3</sup>/s) June 29, gage height, 10.07 ft (3.069 m); minimum daily, 4.0 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.6	5.2	5.2	12	7.2	12	10	7.8	732	547	13	13
2	4.0	5.2	5.2	9.4	7.2	16	9.5	7.6	515	15	13	13
3	4.1	5.2	5.2	8.4	7.2	12	10	7.5	501	12	13	13
4	4.2	5.2	5.2	9.1	7.2	11	11	7.3	515	9.9	13	13
5	4.2	5.2	5.2	15	7.2	10	10	7.2	234	9.9	13	13
6	4.2	5.2	5.1	11	7.2	9.8	10	7.6	12	9.9	13	13
7	4.3	5.2	5.0	9.3	7.2	9.4	9.7	8.0	12	9.9	13	13
8	4.2	5.4	5.0	8.7	6.9	9.3	9.8	7.7	12	9.9	13	13
9	4.3	5.4	5.0	8.3	6.9	9.0	10	7.7	12	10	13	13
10	4.6	5.4	5.0	8.1	6.9	12	20	7.8	12	11	13	13
11	4.6	5.4	5.0	7.9	6.9	15	70	7.7	12	11	13	13
12	4.3	5.4	5.2	7.7	6.9	12	32	7.5	12	11	13	13
13	4.3	6.1	5.2	7.5	7.8	11	23	7.5	12	11	13	13
14	4.3	11	5.2	7.5	16	12	19	7.4	12	11	13	13
15	4.5	6.4	5.0	7.4	44	11	17	7.2	12	11	13	13
16	4.6	6.1	4.9	7.2	59	11	16	7.1	544	11	13	14
17	4.4	6.4	4.8	7.2	22	10	14	7.2	1740	10	13	13
18	4.3	6.4	4.8	7.2	17	10	13	7.1	1360	11	13	13
19	4.4	6.1	5.7	7.2	15	9.8	13	6.9	1280	11	13	13
20	4.4	6.1	15	7.2	14	9.7	12	6.9	1250	9.8	13	13
21	4.6	5.9	9.2	7.0	14	9.6	11	6.9	923	8.9	13	13
22	4.6	6.9	7.4	6.9	13	9.5	10	6.8	337	12	13	13
23	4.6	5.2	6.7	6.9	12	9.3	9.9	6.6	12	13	13	13
24	4.7	6.6	6.4	6.9	11	9.3	9.5	266	638	13	13	14
25	9.0	5.2	6.4	6.9	11	9.3	9.2	820	563	13	13	16
26	8.4	5.2	6.2	7.7	10	9.9	8.9	1300	563	13	13	15
27	4.7	5.6	6.6	7.5	9.7	9.4	8.7	1540	563	13	13	14
28	5.9	5.2	6.2	7.4	9.4	10	8.5	1540	760	13	13	14
29	6.1	5.2	9.4	7.2	---	9.9	8.2	1240	1920	13	13	14
30	5.4	5.2	13	7.2	---	9.5	8.0	1010	2030	13	13	14
31	5.2	---	10	7.2	---	11	---	1010	---	13	13	---
TOTAL	153.0	174.2	199.4	252.1	369.8	328.7	430.9	8895.0	17100	890.2	403	401
MEAN	4.94	5.81	6.43	8.13	13.2	10.6	14.4	287	570	28.7	13.0	13.4
MAX	9.0	11	15	15	59	16	70	1540	2030	547	13	16
MIN	4.0	5.2	4.8	6.9	6.9	9.0	8.0	6.6	12	8.9	13	13
AC-FT	303	346	396	500	733	652	855	17640	33920	1770	799	795

CAL YR 1981 TOTAL 3006.6 MEAN 8.24 MAX 31 MIN 4.0 AC-FT 5960  
WTR YR 1982 TOTAL 29597.3 MEAN 81.1 MAX 2030 MIN 4.0 AC-FT 58710

## 11277500 LAKE ELEANOR NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'27", long 119°52'48", in SE¼NW¼ sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, 720 ft (219 m) from left bank on downstream side of dam on Eleanor Creek, 1.7 mi (2.7 km) upstream from Miguel Creek, and 5.5 mi (8.8 km) northwest of Hetch Hetchy.

DRAINAGE AREA.--78.1 mi<sup>2</sup> (202.3 km<sup>2</sup>).

PERIOD OF RECORD.--June 1918 to current year. Prior to October 1930, published in WSP 1315-A. Published as "near Sequoia" 1919-20.

REVISED RECORDS.--WSP 1445: 1938(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.46 ft (0.750 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1927, nonrecording gage on upstream side of dam at same site and datum.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,110 acre-ft (32.2 hm<sup>3</sup>) between gage heights, 4,620.9 ft (1,408.45 m), natural outlet of old lake and 4,660.0 ft (1,420.37 m), top of 5-ft (1.5-m) flashboards. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Tuolumne River basin.

COOPERATION.--Periodic observations of gage height furnished by city and county of San Francisco.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 31,000 acre-ft (38.2 hm<sup>3</sup>) Dec. 11, 1937, from capacity table then in use, gage height, 4,663.4 ft (1,421.40 m); no usable contents at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,300 acre-ft (34.9 hm<sup>3</sup>) Apr. 11, gage height, 4,662.2 ft (1,421.04 m); minimum 1,090 acre-ft (1.34 hm<sup>3</sup>) Oct. 26, 27, gage height, 4,627.2 ft (1,410.37 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4,608	0	4,620	36	4,628	1,480	4,646	13,500
4,610	6	4,622	49	4,630	2,450	4,650	17,000
4,612	12	4,624	92	4,632	3,580	4,655	21,500
4,614	18	4,625	211	4,635	5,270	4,660	26,100
4,616	24	4,626	550	4,638	7,330	4,663	29,100
4,618	27	4,627	996	4,642	10,300		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3580	2510	16000	26300	20600	25800	25300	24900	24300	26700	27000	26600
2	3300	2560	15800	25900	20200	25900	25200	25000	24200	26500	27000	26600
3	3010	2560	15500	25500	19900	25700	25200	25100	24200	26500	26900	26600
4	2840	2510	15300	25500	19600	25500	25200	25100	24300	26500	26900	26500
5	2620	2400	15100	25300	19300	25500	25100	25000	24400	26600	26900	26500
6	2400	2400	14700	25000	19000	25500	24900	24900	24300	26700	26900	26500
7	2210	2400	14600	24800	18700	25500	24800	24900	24300	26900	26800	26500
8	2010	2350	14200	24800	18300	25600	24600	24800	24700	27000	26800	26400
9	1870	2260	14000	24800	18000	25600	24500	24600	25400	27000	26800	26300
10	1770	2110	13700	24800	17700	26400	25800	24200	25800	27000	26800	26300
11	1870	2060	13500	24800	17300	27300	28300	24000	26100	26900	26900	26200
12	1870	2160	13300	24700	17000	27100	27800	23900	26300	27000	26900	26200
13	1770	6640	13100	24600	16900	27000	27600	23900	26500	26900	26900	26100
14	1670	12700	13000	24400	19100	26900	27400	24300	26600	26900	26900	26100
15	1620	13400	12900	24300	24200	26800	26900	24500	26900	26900	26900	26100
16	1530	13600	12700	24100	28200	26100	26100	24700	27200	26900	26900	26100
17	1480	14900	12500	24000	27600	25800	26100	24800	27000	27000	26900	26100
18	1430	15200	12400	23800	27300	25400	26100	24700	26700	26900	26800	26100
19	1380	15000	15800	23600	27300	25000	26100	24700	26400	26900	26800	26000
20	1380	14700	24100	23400	27300	24800	26100	24700	26300	26900	26800	26000
21	1290	14500	26000	23300	27400	24700	26000	24800	26200	26900	26800	26000
22	1290	15300	25700	23000	27300	24500	25700	24800	26100	27000	26800	26000
23	1240	15500	25700	22800	27000	24300	25700	25000	26300	27000	26700	26000
24	1190	16600	25900	22500	26800	24200	25700	25000	26500	26800	26800	26100
25	1140	16900	26000	22300	26500	24300	25500	25000	26500	26900	26700	28000
26	1090	16900	26100	22200	26200	24500	25000	24900	26500	26900	26700	27400
27	1090	16700	26300	22000	26000	24600	24800	24800	26600	26700	26700	27100
28	1620	16600	26400	21800	25800	24800	24800	24600	26500	26700	26700	27100
29	2060	16400	26700	21500	---	24900	24800	24500	27200	26800	26700	27000
30	2260	16100	27000	21100	---	25000	24800	24400	26900	26900	26600	26800
31	2400	---	26800	20900	---	25300	---	24300	---	27000	26600	---
MAX	3580	16900	27000	26300	28200	27300	28300	25100	27200	27000	27000	28000
MIN	1090	2060	12400	20900	16900	24200	24500	23900	24200	26500	26600	26000
a	4629.9	4649.0	4660.7	4654.3	4659.6	4659.1	4662.2	4658.0	4660.8	4660.8	4660.5	4660.7
b	-1460	+13700	+10700	-5900	+4900	-500	-500	-500	+2600	+100	-400	+200

CAL YR 1981 b +19330

WTR YR 1982 b +22940

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

## SAN JOAQUIN RIVER BASIN

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'09", long 119°52'52", in NW¼SW¼ sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on right bank 0.5 mi (0.8 km) downstream from Lake Eleanor Dam, 1.1 mi (1.8 km) upstream from Miguel Creek, and 5.5 mi (8.8 km) northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 mi<sup>2</sup> (203.1 km<sup>2</sup>).

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Sequoia" 1910-18.

REVISED RECORDS.--WSP 1315-A: 1923(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,500 ft (1,370 m), from topographic map. November 1909 to November 1915, nonrecording gage and water-stage recorder at site 1 mi (2 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by Lake Eleanor (station 11277500) 0.5 mi (0.8 km) upstream beginning in 1918. Diversion from Lake Eleanor to Cherry Lake began in March 1960. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (prior to diversion to Cherry Lake).--50 years (water years 1910-59), 223 ft<sup>3</sup>/s (6.315 m<sup>3</sup>/s), 161,400 acre-ft/yr (199 hm<sup>3</sup>/yr); 23 years (water years 1960-82), 76.9 ft<sup>3</sup>/s (2.178 m<sup>3</sup>/s), 55,710 acre-ft/yr (68.7 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft<sup>3</sup>/s (331 m<sup>3</sup>/s) Nov. 19, 1950, gage height, 14.95 ft (4.557 m), from rating curve extended above 1,500 ft<sup>3</sup>/s (42.5 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 9.94 ft (3.030 m) and 12.24 ft (3.731 m); no flow at times in 1910, 1930-31, 1933, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,680 ft<sup>3</sup>/s (246 m<sup>3</sup>/s) Apr. 11, gage height, 11.24 ft (3.426 m); minimum daily, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) on several days in October through December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	4.6	3.9	335	4.6	230	15	1090	629	810	70	25
2	4.6	4.6	3.9	307	4.6	271	15	1160	597	550	71	23
3	4.6	4.6	3.9	277	4.5	261	14	1210	577	400	71	23
4	4.6	4.6	3.9	264	4.3	191	15	1290	447	300	71	23
5	4.4	4.6	3.9	263	4.3	88	10	1290	429	265	71	23
6	4.3	4.6	3.9	254	4.3	28	7.0	1150	416	260	70	23
7	4.3	4.4	3.9	33	4.3	16	5.7	1140	397	225	68	22
8	4.4	4.3	3.9	5.6	4.3	16	6.0	1160	244	337	51	22
9	4.6	4.3	3.9	5.6	4.3	16	6.7	1030	167	307	38	22
10	4.6	4.3	3.9	5.6	4.1	36	17	810	350	331	35	22
11	4.4	4.3	3.9	5.1	4.1	474	5610	626	456	332	33	22
12	4.3	4.4	4.0	4.9	4.1	477	3830	545	442	318	31	22
13	4.3	7.5	4.3	4.9	4.1	290	1580	575	479	333	31	21
14	4.3	9.3	4.3	4.9	10	364	1060	703	421	329	31	21
15	4.3	6.6	4.3	4.9	249	400	1110	773	431	244	31	21
16	4.3	6.5	4.3	4.9	3350	349	1060	870	545	224	30	21
17	4.3	8.2	4.0	4.9	1700	308	788	946	871	246	30	21
18	4.3	6.6	3.9	4.9	771	270	753	967	923	246	32	21
19	4.3	6.5	5.8	4.9	506	241	790	914	809	213	33	21
20	4.3	6.3	15	4.9	522	161	830	916	647	194	33	21
21	4.3	6.5	231	4.9	506	120	907	979	583	194	33	21
22	4.3	7.5	418	4.9	551	120	953	1030	461	138	31	21
23	4.3	5.9	174	4.9	486	119	964	1080	362	179	31	21
24	4.0	7.0	11	6.0	394	118	989	1180	383	227	29	21
25	3.9	6.7	9.9	5.1	360	49	964	1180	434	149	27	364
26	3.9	6.5	8.8	4.9	334	4.9	1130	1150	443	170	26	2010
27	3.9	6.5	8.7	4.6	309	5.0	1040	1110	445	213	26	578
28	4.8	6.5	19	4.6	246	6.0	992	1000	493	140	26	225
29	5.2	4.6	59	4.6	---	5.8	1040	792	630	97	26	200
30	4.6	3.9	137	4.6	---	6.2	968	680	850	80	26	195
31	4.6	---	262	4.6	---	9.8	---	653	---	69	26	---
TOTAL	140.2	172.7	1431.2	1852.7	10349.9	5050.7	27469.4	29999	15361	8120	1238	4096
MEAN	4.52	5.76	46.2	59.8	370	163	916	968	512	262	39.9	137
MAX	8.9	9.3	418	335	3350	477	5610	1290	923	810	71	2010
MIN	3.9	3.9	3.9	4.6	4.1	4.9	5.7	545	167	69	26	21
AC-FT	278	343	2840	3670	20530	10020	54490	59500	30470	16110	2460	8120

CAL YR 1981 TOTAL 23745.0 MEAN 65.1 MAX 924 MIN 3.9 AC-FT 47100  
WTR YR 1982 TOTAL 105280.8 MEAN 288 MAX 5610 MIN 3.9 AC-FT 208800

## 11278300 CHERRY CREEK NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'40", long 119°57'42", in NW¼SE¼ sec.35, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 1.2 mi (1.9 km) upstream from mouth, 1.3 mi (2.1 km) north of Early Intake, and 10.3 mi (16.6 km) southwest of Hetch Hetchy.

DRAINAGE AREA.--226 mi<sup>2</sup> (585 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 2,272.00 ft (692.506 m) National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 10 mi (16 km) upstream and Lake Eleanor (station 11277500) 9.8 mi (15.8 km) upstream. Diversion from Cherry Lake to Dion R. Holm powerplant began Aug. 1, 1960. Water is returned to creek 1.2 mi (1.9 km) below station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (since diversion to Dion R. Holm powerplant).--22 years (water years 1961-82), 125 ft<sup>3</sup>/s (3,540 m<sup>3</sup>/s), 90,560 acre-ft/yr (112 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft<sup>3</sup>/s (467 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 14.50 ft (4.420 m), from rating curve extended above 4,600 ft<sup>3</sup>/s (130 m<sup>3</sup>/s); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Apr. 5, 6, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,900 ft<sup>3</sup>/s (450 m<sup>3</sup>/s) Apr. 11, gage height, 14.34 ft (4.371 m); minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	13	20	474	71	382	188	1240	1460	1410	96	40
2	14	12	20	410	73	533	168	1310	1180	574	97	37
3	12	12	19	366	74	441	166	1360	1150	407	97	37
4	12	12	18	381	73	361	219	1440	1030	324	95	37
5	11	12	18	457	68	251	186	1440	762	290	93	36
6	11	13	18	403	65	166	170	1300	---	---	---	6
7	13	13	17	327	64	120	---	---	---	---	---	6
8	14	13	17	---	---	---	---	---	---	---	---	5
9	11	---	---	---	---	---	---	---	---	---	---	5
10	12	---	---	---	---	---	---	---	---	---	---	5
11	18	---	---	---	---	---	---	---	---	---	---	---
12	13	---	---	---	---	---	---	---	---	---	---	---
13	12	---	---	---	---	---	---	---	---	---	---	---
14	11	---	---	---	---	---	---	---	---	---	---	---
15	11	---	---	---	---	---	---	---	---	---	---	---
16	11	---	---	---	---	---	---	---	---	---	---	---
17	11	---	---	---	---	---	---	---	---	---	---	---
18	11	---	---	---	---	---	---	---	---	---	---	---
19	11	---	---	---	---	---	---	---	---	---	---	---
20	11	2	---	---	---	---	---	---	---	---	---	---
21	11	1	---	---	---	---	---	---	---	---	---	---
22	11	4	---	---	---	---	---	---	---	---	---	---
23	11	2	---	---	---	---	---	---	---	---	---	---
24	11	3	---	---	---	---	---	---	---	---	---	---
25	11	3	---	---	---	---	---	---	---	---	---	---
26	11	29	---	---	---	---	---	---	---	---	---	---
27	11	27	---	---	---	---	---	---	---	---	---	---
28	21	25	---	---	---	---	---	---	---	---	---	---
29	24	24	---	---	---	---	---	---	---	---	---	---
30	16	20	---	---	---	---	---	---	---	---	---	---
31	13	---	---	---	---	---	---	---	---	---	---	---

TOTAL 410 692  
MEAN 13.2 23.1  
MAX 29 72  
MIN 11 12  
AC-FT 813 1370

52310 19870 77240 82510 66140 18850 3540 9450

CAL YR 1981 TOTAL 32375 MEAN 88.7 MAX 914 MIN 11 AC-FT 64220  
WTR YR 1982 TOTAL 165248 MEAN 453 MAX 9350 MIN 11 AC-FT 327800

*Cherry Creek*

*4400 — 16000*

*Sta 1/2 mile U.S. Good Rating  
added powerplant*

## 11278400 CHERRY CREEK BELOW DION R. HOLM POWERHOUSE, NEAR MATHER, CA

LOCATION.--Lat 37°53'24", long 119°58'08", in NE¼NW¼ sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 600 ft (183 m) upstream from mouth, 0.5 mi (0.8 km) downstream from powerhouse, 0.8 mi (1.3 km) northwest of Early Intake, and 6.2 mi (10.0 km) west of Mather.

DRAINAGE AREA.--234 mi<sup>2</sup> (606 km<sup>2</sup>).

PERIOD OF RECORD.--March 1963 to current year. Prior to October 1965, published as "below Cherry powerhouse, near Mather."

GAGE.--Water-stage recorder. Altitude of gage is 2,150 ft (655 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Cherry Lake (station 11277200) 11 mi (18 km) upstream and Lake Eleanor (station 11277500) 10 mi (16 km) upstream. Prior to May 1971, Cherry Creek Canal diverted 2 mi (3 km) upstream from station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--19 years, 663 ft<sup>3</sup>/s (18.78 m<sup>3</sup>/s), 480,300 acre-ft/yr (592 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft<sup>3</sup>/s (462 m<sup>3</sup>/s) Apr. 11, 1982, gage height, 15.36 ft (4.682 m), from rating curve extended above 3,300 ft<sup>3</sup>/s (93.5 m<sup>3</sup>/s); minimum daily, 1.6 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s) June 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,300 ft<sup>3</sup>/s (462 m<sup>3</sup>/s) Apr. 11, gage height, 15.36 ft (4.682 m); minimum daily, 131 ft<sup>3</sup>/s (3.71 m<sup>3</sup>/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	557	134	639	792	754	1190	1150	2100	2340	2290	278	636
2	515	568	639	1020	751	1360	1130	2180	2060	1460	759	615
3	347	569	631	652	756	1250	1130	2230	2030	1300	758	644
4	131	568	636	1070	756	1170	1190	2310	1910	1210	753	442
5	510	573	591	1280	749	1050	1150	2310	1650	1040	748	417
6	523	573	199	1190	705	863	1130	2170	1210	1170	754	413
7	529	472	639	1100	411	755	1120	2140	1330	1130	632	661
8	530	136	638	877	744	947	1130	2160	1220	1160	269	642
9	518	569	636	847	740	946	1150	1990	1090	1250	722	590
10	345	570	641	749	740	1050	1390	1820	1250	1230	712	647
11	142	133	635	862	747	1530	9790	1600	1380	1120	706	453
12	510	568	592	847	738	1530	5670	1500	1370	1230	705	401
13	510	598	200	856	715	1170	3210	1510	1400	1250	712	652
14	513	541	644	860	669	1090	2510	1650	1360	1250	585	604
15	514	160	641	860	1340	1420	2420	1730	1350	1190	226	632
16	515	573	641	866	5940	1330	2400	1840	1850	1140	705	644
17	345	593	640	662	2980	1270	2050	1920	3420	1170	713	573
18	133	575	640	854	1870	1230	1980	1940	3200	1170	719	453
19	516	575	620	856	1590	1200	1990	1880	3000	1140	719	415
20	527	564	432	863	1550	1020	1940	1880	2670	1110	719	667
21	523	473	1060	858	1470	771	1990	1950	2480	1110	603	660
22	520	170	1390	851	1610	765	2040	2000	1810	1030	226	674
23	516	584	1100	841	1520	1090	2040	2020	1300	864	712	659
24	343	594	846	739	1410	1090	2060	2370	1850	923	717	667
25	132	583	782	863	1350	1070	1850	2910	1920	392	707	569
26	511	154	772	886	1310	1010	2160	3300	1940	860	697	2710
27	518	570	253	892	1230	883	2110	3510	1940	909	602	1370
28	529	475	682	875	988	757	2030	3400	2130	869	521	909
29	538	144	813	866	---	998	2080	2970	3420	805	217	832
30	520	562	1240	844	---	992	1990	2610	3820	799	699	842
31	346	---	1210	636	---	1060	---	2590	---	782	687	---
TOTAL	13726	13921	21722	27114	36133	33857	65980	68490	59700	34353	19282	21093
MEAN	443	464	701	875	1290	1092	2199	2209	1990	1108	622	703
MAX	557	598	1390	1280	5940	1530	9790	3510	3820	2290	759	2710
MIN	131	133	199	636	411	755	1120	1500	1090	392	217	401
AC-FT	27230	27610	43090	53780	71670	67160	130900	135800	118400	68140	38250	41840
CAL YR 1981 TOTAL	197072			540	1670	79	AC-FT	390900				
WTR YR 1982 TOTAL	415371			1138	9790	131	AC-FT	823900				

## 11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'18", long 120°00'43", in SE¼SE¼ sec.29, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 75 ft (23 m) downstream from highway bridge on Big Oak Flat Road, 0.5 mi (0.8 km) southwest of Oakland Recreation Camp, and 0.6 mi (1.0 km) upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 mi<sup>2</sup> (225.3 km<sup>2</sup>).

PERIOD OF RECORD.--March 1923 to current year.

REVISED RECORDS.--WSP 1445: 1923, 1925(M), 1926-28, 1929-30(M), 1932(M), 1935-36(M), 1937-38, 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (853 m), from topographic map. Prior to Nov. 22, 1931, at site 50 ft (15 m) upstream and Nov. 22, 1931, to July 19, 1977, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good. No diversion above station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi (5.6 km) upstream. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--59 years, 94.9 ft<sup>3</sup>/s (2.688 m<sup>3</sup>/s), 68,760 acre-ft/yr (84.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft<sup>3</sup>/s (337 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 11.9 ft (3.63 m) from floodmarks, present datum, from rating curve extended above 3,300 ft<sup>3</sup>/s (93.5 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 9.08 ft (2.768 m) and 11.9 ft (3.63 m); minimum, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Aug. 23, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft<sup>3</sup>/s (25.5 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0645	1,250 35.4	6.73 2.051	Feb. 16	0600	4,600 130	9.62 2.932
Dec. 20	2000	1,070 30.3	6.48 1.975	Apr. 11	1000	*8,070 229	11.29 3.441
Jan. 5	0830	1,640 46.4	7.23 2.204	Apr. 14	0030	1,110 31.4	6.53 1.990

Minimum daily, 3.8 ft<sup>3</sup>/s (0.108 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	14	42	270	80	235	309	583	262	156	29	17
2	3.8	14	42	146	79	375	267	592	248	125	28	16
3	4.7	15	40	104	78	282	280	603	246	105	27	16
4	6.2	15	39	255	77	238	343	606	229	97	27	16
5	6.0	14	38	1040	73	214	287	598	213	87	27	15
6	5.4	15	36	303	71	197	260	579	192	81	26	15
7	6.6	16	35	177	69	188	232	573	193	76	26	15
8	8.2	15	33	136	68	179	227	538	192	73	30	15
9	7.1	13	33	121	67	172	238	517	204	69	26	15
10	7.5	12	35	111	66	259	580	431	202	66	24	15
11	16	12	33	103	63	436	4980	384	201	63	23	15
12	14	14	32	95	61	309	2370	361	189	59	23	14
13	11	154	38	87	67	267	1270	360	172	57	23	16
14	9.2	625	35	83	281	380	937	390	154	55	22	15
15	8.5	120	35	81	1250	347	752	382	163	52	22	15
16	8.0	72	34	78	2990	291	628	407	160	50	21	19
17	7.8	154	32	76	938	264	580	425	156	49	21	20
18	7.6	99	32	75	527	246	567	420	151	47	21	20
19	7.4	68	80	76	406	228	581	399	173	45	20	20
20	7.4	52	519	75	382	219	604	422	146	44	20	19
21	7.2	45	345	73	372	215	585	430	130	43	19	18
22	7.0	66	163	67	361	212	575	435	122	41	19	16
23	6.9	67	117	67	312	212	585	445	112	40	18	16
24	6.8	123	93	73	275	211	577	447	107	39	18	23
25	6.7	97	81	78	250	211	542	440	98	37	18	44
26	6.7	68	74	121	231	227	532	429	94	36	17	90
27	6.6	58	96	129	213	221	526	404	90	35	17	40
28	38	53	83	111	202	243	564	353	89	34	17	28
29	38	46	137	95	---	224	563	310	203	33	20	25
30	20	43	245	87	---	217	547	280	185	32	18	23
31	15	---	163	82	---	337	---	284	---	30	17	---
TOTAL	315.3	2179	2840	4475	9909	7856	21888	13827	5076	1856	684	651
MEAN	10.2	72.6	91.6	144	354	253	730	446	169	59.9	22.1	21.7
MAX	38	625	519	1040	2990	436	4980	606	262	156	30	90
MIN	3.8	12	32	67	61	172	227	280	89	30	17	14
AC-FT	625	4320	5630	8880	19650	15580	43410	27430	10070	3680	1360	1290

CAL YR 1981	TOTAL	18396.8	MEAN	50.4	MAX	625	MIN	2.6	AC-FT	36490
WTR YR 1982	TOTAL	71556.3	MEAN	196	MAX	4980	MIN	3.8	AC-FT	141900

## 11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'42", long 120°00'38", in SW¼NW¼ sec.28, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1,000 ft (305 m) downstream from Oakland Recreation Camp, 0.8 mi (1.3 km) upstream from South Fork Tuolumne River, and 2.7 mi (4.3 km) east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 mi<sup>2</sup> (190.4 km<sup>2</sup>).

PERIOD OF RECORD.--October 1916 to current year. Monthly discharge only for October and November 1916, published in WSP 1315-A. Published as Middle Fork of Tuolumne River near Buck Meadows 1917-32 and as "near Buck Meadows" 1933-40.

REVISED RECORDS.--WSP 1395: 1919(M), 1938(M), 1951(P). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (853 m), from topographic map.

REMARKS.--Records good. No regulation but small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--66 years, 76.3 ft<sup>3</sup>/s (2.161 m<sup>3</sup>/s), 55,280 acre-ft/yr (68.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft<sup>3</sup>/s (139 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 11.75 ft (3.581 m) from flood profile, 11.05 ft (3.368 m) from floodmarks inside gage well, from rating curve extended above 2,300 ft<sup>3</sup>/s (65.1 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; no flow at times in 1924, 1931, 1934, 1961, and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 380 ft<sup>3</sup>/s (10.8 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	1045	448 12.7	4.32 1.317	Mar. 31	1515	485 13.7	4.47 1.362
Dec. 20	2215	557 15.8	4.74 1.445	Apr. 11	1015	*2,910 82.4	9.44 2.877
Jan. 5	0045	724 20.5	5.30 1.615	May 5	0230	804 22.8	5.54 1.689
Feb. 16	0630	1,970 55.8	8.04 2.451	May 26	0130	866 24.5	5.72 1.743
Mar. 14	1115	402 11.4	4.14 1.262				

Minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	6.8	28	139	49	179	196	594	425	208	22	9.3
2	1.1	6.7	27	76	50	248	192	620	410	184	21	8.9
3	1.3	6.3	26	58	49	193	202	657	394	160	21	8.5
4	1.6	6.1	27	245	50	167	235	689	367	139	20	8.1
5	1.7	6.1	26	438	47	155	195	699	340	121	19	7.8
6	1.8	6.4	25	133	44	147	177	676	304	114	18	7.6
7	2.1	7.0	25	88	43	143	157	686	310	113	18	7.3
8	2.3	7.7	22	74	46	137	160	659	320	98	20	7.2
9	2.0	7.0	22	69	43	133	165	612	337	93	19	7.1
10	2.1	6.2	22	65	41	184	272	486	335	87	17	7.1
11	4.6	5.9	22	61	41	286	2070	424	346	86	16	7.1
12	6.3	6.9	21	58	40	223	1300	400	331	79	15	7.0
13	4.6	65	27	54	46	192	854	405	311	70	14	7.1
14	3.5	311	24	52	175	287	614	453	272	65	14	7.1
15	2.9	89	24	50	658	234	494	452	314	62	13	7.3
16	2.6	51	24	49	1500	199	439	504	313	58	13	8.8
17	2.5	73	23	48	685	184	413	561	294	57	12	9.7
18	2.4	55	23	48	428	173	407	578	257	54	11	9.2
19	2.4	39	58	48	315	164	422	532	249	52	11	9.7
20	2.4	32	290	49	286	155	449	574	231	49	10	9.5
21	2.4	28	261	46	281	154	454	609	219	46	10	8.9
22	2.5	40	109	45	267	152	459	628	197	43	9.8	8.3
23	2.5	42	85	47	243	152	482	658	192	40	9.3	7.8
24	2.5	73	69	51	221	152	496	683	190	38	9.6	11
25	2.4	55	63	54	202	151	478	691	165	36	10	24
26	2.4	40	57	76	187	154	472	696	150	34	10	86
27	2.4	35	68	66	173	151	467	673	144	32	9.2	40
28	11	33	60	60	164	173	510	591	141	30	9.1	24
29	20	29	98	53	---	156	542	515	259	28	11	19
30	11	28	110	49	---	162	518	475	259	25	11	17
31	7.2	---	97	49	---	289	---	468	---	23	10	---
TOTAL	117.7	1197.1	1863	2498	6374	5629	14291	17948	8376	2324	433.0	407.4
MEAN	3.80	39.9	60.1	80.6	228	182	476	579	279	75.0	14.0	13.6
MAX	20	311	290	438	1500	289	2070	699	425	208	22	86
MIN	1.1	5.9	21	45	40	133	157	400	141	23	9.1	7.0
AC-FT	233	2370	3700	4950	12640	11170	28350	35600	16610	4610	859	808

CAL YR 1981	TOTAL	14607.09	MEAN	40.0	MAX	311	MIN	.12	AC-FT	28970
WTR YR 1982	TOTAL	61458.20	MEAN	168	MAX	2070	MIN	1.1	AC-FT	121900



11283500 CLAVEY RIVER NEAR BUCK MEADOWS, CA

LOCATION.--Lat 37°54'02", long 120°04'15", in SE¼NE¼ sec.35, T.1 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 300 ft (91 m) upstream from Forest Service road bridge, 1.7 mi (2.7 km) downstream from Quilty Creek, and 6 mi (10 km) north of Buck Meadows Post Office.

DRAINAGE AREA.--144 mi<sup>2</sup> (373 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Datum of gage is 2,374.08 ft (723.620 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage height record, which are fair. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--23 years, 266 ft<sup>3</sup>/s (7.533 m<sup>3</sup>/s), 192,700 acre-ft/yr (238 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft<sup>3</sup>/s (549 m<sup>3</sup>/s) Jan. 13, 1980 gage height, 21.47 ft (6.544 m), from rating curve extended above 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 21.40 ft (6.523 m); minimum daily, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Sept. 11, 12, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,400 ft<sup>3</sup>/s (39.6 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	Unknown	4,970 141	13.91 4.240	Apr. 11	1015	14,100 399	19.40 5.913
Dec. 20	1900	5,550 157	14.41 4.392	May 5	0015	2,430 68.8	11.17 3.405
Feb. 16	Unknown	*15,200 430	19.85 6.050	May 24	0100	1,610 45.6	9.85 3.002
Mar. 11	0630	1,940 54.9	10.43 3.179				

Minimum daily, 7.7 ft<sup>3</sup>/s (0.218 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	63	167	743	298	708	596	1880	557	357	87	30
2	7.7	64	164	548	297	1040	547	1870	532	288	84	29
3	9.8	70	158	449	301	738	538	1920	518	264	80	28
4	13	68	150	443	303	629	604	1960	479	260	80	27
5	12	65	147	755	286	580	548	1880	445	238	79	26
6	10	69	141	590	274	546	510	1750	400	221	77	25
7	12	75	134	467	267	527	471	1750	400	221	76	25
8	17	67	131	416	261	500	456	1620	406	216	87	24
9	13	60	133	405	250	499	459	1380	438	206	79	23
10	14	57	140	395	238	953	1190	1030	457	192	71	22
11	37	56	132	387	227	1660	10300	871	465	189	67	23
12	30	65	128	372	220	1170	8140	821	441	184	65	23
13	21	300	149	349	274	1020	5050	927	403	176	62	22
14	19	2900	140	339	1540	1200	3180	1060	372	165	60	22
15	17	470	139	336	5150	1000	2560	1010	407	156	57	24
16	16	290	133	332	12000	822	2110	1110	426	150	55	49
17	16	660	121	328	5000	688	1830	1160	436	144	53	45
18	16	350	117	324	2100	635	1720	1070	434	137	51	44
19	18	265	1410	321	1500	584	1770	1030	479	133	49	51
20	21	210	4110	316	1390	546	1810	1120	437	128	47	54
21	21	180	1840	302	1330	527	1750	1150	374	126	46	43
22	19	255	837	276	1310	511	1720	1150	332	121	44	37
23	18	270	603	271	1160	510	1850	1220	327	117	42	34
24	16	535	494	291	1000	518	1810	1240	323	113	40	63
25	16	350	442	303	890	539	1690	1170	308	111	38	264
26	15	260	406	403	760	580	1620	1140	304	106	37	615
27	15	225	520	408	663	556	1600	1080	298	103	36	164
28	160	200	460	382	629	617	1810	916	292	101	34	100
29	130	183	481	339	---	566	1760	677	350	98	37	79
30	77	168	961	316	---	533	1710	600	438	94	34	67
31	69	---	717	302	---	630	---	600	---	90	32	---
TOTAL	883.5	8850	15805	12208	39918	22132	61709	38162	12278	5205	1786	2082
MEAN	28.5	295	510	394	1426	714	2057	1231	409	168	57.6	69.4
MAX	160	2900	4110	755	12000	1660	10300	1960	557	357	87	615
MIN	7.7	56	117	271	220	499	456	600	292	90	32	22
AC-FT	1750	17550	31350	24210	79180	43900	122400	75690	24350	10320	3540	4130

CAL YR 1981 TOTAL 65564.9 MEAN 180 MAX 4110 MIN 6.0 AC-FT 130000  
WTR YR 1982 TOTAL 221018.5 MEAN 606 MAX 12000 MIN 7.7 AC-FT 438400

NOTE.--No gage-height record Oct. 26-29, Nov. 2-17, and July 18 to Sept. 1.

## 11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA

LOCATION.--Lat 37°50'31", long 120°11'02", in SW¼NE¼ sec.23, T.1 S., R.16 E., Tuolumne County, Hydrologic Unit 18040009, on right bank 500 ft (152 m) upstream from Whites Gulch, and 2.5 mi (4.0 km) east of Groveland.

DRAINAGE AREA.--16.4 mi<sup>2</sup> (42.5 km<sup>2</sup>).

PERIOD OF RECORD.--May 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,561.79 ft (780.834 m) National Geodetic Vertical Datum of 1929 (levels by Boise-Cascade Corp.).

REMARKS.--Records good except those for period of no gage height record, which are fair. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--13 years, 8.14 ft<sup>3</sup>/s (0.231 m<sup>3</sup>/s), 5,900 acre-ft/yr (7.27 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft<sup>3</sup>/s (43.9 m<sup>3</sup>/s) Jan. 5, 1982, gage height, 6.69 ft (2.039 m) from rating curve extended above 700 ft<sup>3</sup>/s (19.8 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 6.51 ft; no flow many days in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1964 reached a stage of 6.4 ft (1.95 m) from floodmarks, discharge, 1,390 ft<sup>3</sup>/s (39.4 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s (7.65 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	2015	233 6.60	3.84 1.170	Feb. 16	0515	1,070 30.3	5.80 1.768
Jan. 5	0130	*1,550 43.9	6.69 2.039	Mar. 31	Unknown	516 14.6	4.65 1.417
Jan. 26	1830	177 5.01	3.63 1.106	Apr. 11	Unknown	943 26.7	5.56 1.695

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.0	192	16	11	43	8.7	3.1	1.9	.04	0
2	0	0	1.6	41	14	17	45	8.3	3.1	1.7	.03	0
3	0	0	1.3	20	12	13	48	7.8	3.1	1.5	.03	0
4	0	0	1.2	273	11	11	118	7.4	3.1	1.5	.03	0
5	0	0	1.1	819	9.9	9.1	80	7.0	3.0	1.3	.02	0
6	0	0	.96	135	8.7	8.2	54	6.7	3.0	1.2	.02	0
7	0	0	.86	50	8.1	7.5	39	6.5	2.7	1.0	.02	0
8	0	0	.80	29	7.5	7.0	34	6.2	2.7	.94	.02	0
9	0	0	.76	21	7.0	6.7	35	6.0	2.6	.85	.02	0
10	0	0	.73	17	6.8	18	150	5.9	2.5	.79	.02	0
11	0	0	.69	15	6.2	32	620	6.0	2.4	.74	.02	0
12	0	.18	.73	13	5.7	15	350	5.9	2.4	.69	.02	0
13	0	11	1.2	11	6.7	8.0	154	5.8	2.4	.64	.02	0
14	0	31	1.0	10	27	32	96	5.7	2.3	.58	.01	0
15	0	2.4	.86	9.5	356	18	65	5.6	2.2	.52	.01	0
16	0	.84	.78	8.5	579	15	47	5.5	2.0	.45	.01	0
17	0	16	.73	8.2	104	13	37	5.4	1.8	.40	.01	0
18	0	5.1	.71	7.9	49	12	30	5.3	1.9	.37	.01	0
19	0	1.6	3.6	8.9	32	11	26	4.8	1.8	.33	.01	0
20	0	.89	124	11	23	11	22	4.7	1.7	.25	.01	0
21	0	.68	69	12	18	10	19	4.5	1.7	.22	0	0
22	0	3.2	24	10	15	9.8	17	4.3	1.7	.19	0	0
23	0	1.9	12	8.9	13	9.5	15	4.1	1.7	.16	0	0
24	0	11	7.0	9.8	12	9.3	14	3.8	1.9	.14	0	0
25	0	6.6	5.0	13	11	9.2	13	3.5	1.8	.12	0	.13
26	0	3.7	4.1	68	10	10	12	3.3	1.2	.10	0	.87
27	0	6.6	7.3	64	9.3	23	11	3.3	1.2	.09	0	.20
28	0	14	4.5	49	8.7	47	10	3.5	1.2	.07	0	.11
29	.39	5.0	71	35	---	34	9.6	3.3	2.0	.06	0	.09
30	.01	2.6	143	24	---	37	9.0	3.4	2.1	.05	0	.08
31	0	---	44	19	---	200	---	3.2	---	.05	0	---
TOTAL	.40	124.29	536.51	2012.7	1386.6	674.3	2222.6	165.4	66.3	18.90	.38	1.48
MEAN	.013	4.14	17.3	64.9	49.5	21.8	74.1	5.34	2.21	.61	.012	.049
MAX	.39	31	143	819	579	200	620	8.7	3.1	1.9	.04	.87
MIN	0	0	.69	7.9	5.7	6.7	9.0	3.2	1.2	.05	0	0
AC-FT	.8	247	1060	3990	2750	1340	4410	328	132	37	.8	2.9

CAL YR 1981 TOTAL 1521.77 MEAN 4.17 MAX 143 MIN 0 AC-FT 3020  
WTR YR 1982 TOTAL 7209.86 MEAN 19.8 MAX 819 MIN 0 AC-FT 14300

NOTE.--No gage-height record Feb. 26 to May 16.

11284700 NORTH FORK TUOLUMNE RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'56", long 120°05'55", in NW¼SW¼ sec.22, T.3 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.6 mi (1.0 km) upstream from small tributary, 1.5 mi (2.4 km) east of Long Barn, and 3.8 mi (6.1 km) upstream from Wrights Creek.

DRAINAGE AREA.--23.1 mi<sup>2</sup> (59.8 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-81-3: 1963, 1980 (M).

GAGE.--Water-stage recorder. Altitude of gage is 4,650 ft (1,417 m), from topographic map.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--20 years, 29.0 ft<sup>3</sup>/s (0.821 m<sup>3</sup>/s), 21,010 acre-ft/yr (25.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,190 ft<sup>3</sup>/s (62.0 m<sup>3</sup>/s) Jan. 13, 1980, gage height, 8.80 ft (2.682 m) from floodmarks, from rating curve extended above 1,000 ft<sup>3</sup>/s (28.3 m<sup>3</sup>/s); minimum daily, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) July 29, 1976, and many days during 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 9.52 ft (2.902 m) from floodmarks, discharge, 2,560 ft<sup>3</sup>/s (72.5 m<sup>3</sup>/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s (4.25 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	0800	361 10.2	4.86 1.481	Mar. 9	1045	237 6.71	4.46 1.359
Feb. 16	Unknown	*2,070 58.6	8.57 2.612	Apr. 11	1000	1,580 44.7	7.61 2.320

Minimum daily, 0.23 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.23	3.5	19	64	33	146	120	166	47	19	3.2	1.8
2	.23	3.0	18	58	35	136	105	164	44	17	3.2	1.8
3	.32	2.9	17	53	35	113	110	163	41	15	3.2	1.7
4	.37	2.5	16	63	35	106	130	165	39	14	3.2	1.4
5	.35	2.5	15	107	34	104	77	162	38	13	3.3	1.3
6	.29	3.1	15	71	35	104	74	154	36	12	3.2	1.3
7	.91	2.9	13	51	34	98	68	148	34	11	3.3	1.3
8	.65	2.4	13	47	33	100	65	143	32	10	3.5	1.2
9	.54	2.0	13	46	33	205	67	136	31	9.7	3.4	1.1
10	2.1	1.9	13	41	32	166	162	122	30	9.7	3.1	1.1
11	3.3	1.7	12	40	32	142	1210	108	29	9.6	3.0	1.2
12	3.0	8.5	13	40	33	159	601	99	28	9.3	3.0	1.3
13	2.6	105	15	39	44	138	343	86	27	9.0	2.9	1.3
14	2.9	117	15	38	182	123	293	90	26	8.3	2.7	1.3
15	2.3	34	14	38	714	110	260	95	24	7.7	2.7	1.7
16	1.9	23	13	39	1160	101	234	98	22	7.5	2.7	3.4
17	1.5	66	12	40	337	95	216	99	21	7.4	2.6	3.3
18	1.3	37	22	35	242	90	207	100	20	7.1	2.6	3.1
19	1.3	26	121	36	195	89	205	99	20	7.0	2.2	3.1
20	1.0	20	252	38	184	89	209	96	20	6.8	2.1	3.0
21	.91	20	124	37	177	88	206	92	19	6.4	2.0	2.7
22	.77	54	81	36	171	84	201	87	18	6.1	2.6	2.4
23	.73	36	63	36	153	84	199	84	17	6.0	2.0	2.4
24	.64	60	53	37	134	82	199	81	16	5.7	1.9	3.0
25	.64	45	47	38	119	82	176	77	16	5.6	1.8	7.2
26	.64	35	51	38	107	90	167	73	16	5.1	1.8	5.8
27	.65	30	57	36	99	86	164	68	15	5.1	1.8	2.8
28	18	26	49	36	92	96	168	64	15	5.0	1.8	2.5
29	12	23	131	35	---	88	168	59	18	4.5	1.8	2.2
30	6.0	20	90	34	---	110	165	54	22	3.1	1.8	2.1
31	4.1	---	70	34	---	130	---	50	---	3.2	1.8	---
TOTAL	72.17	813.9	1457	1381	4514	3434	6569	3282	781	265.9	80.2	69.8
MEAN	2.33	27.1	47.0	44.5	161	111	219	106	26.0	8.58	2.59	2.33
MAX	18	117	252	107	1160	205	1210	166	47	19	3.5	7.2
MIN	.23	1.7	12	34	32	82	65	50	15	3.1	1.8	1.1
AC-FT	143	1610	2890	2740	8950	6810	13030	6510	1550	527	159	138

CAL YR 1981	TOTAL	6286.30	MEAN 17.2	MAX 252	MIN .17	AC-FT 12470
WTR YR 1982	TOTAL	22719.97	MEAN 62.2	MAX 1210	MIN .23	AC-FT 45070

## 11287500 DON PEDRO RESERVOIR NEAR LA GRANGE, CA

LOCATION.--Lat 37°42'06", long 120°25'16", in NE 1/4 SW 1/4 sec.3, T.3 S., R.14 E., Tuolumne County, Hydrologic Unit 18040009, on left end of New Don Pedro Dam on Tuolumne River, 500 ft (152 m) downstream from Mexican Gulch, and 3.4 mi (5.5 km) northeast of La Grange.

DRAINAGE AREA.--1,533 mi<sup>2</sup> (3,970 km<sup>2</sup>).

PERIOD OF RECORD.--September 1923 to current year. Year-end contents only 1923-24 and October 1924 to September 1930 monthend contents, published in WSP 1315A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, nonrecording gage at site 1.5 mi (2.4 km) upstream at same datum. Feb. 2, 1941, to Nov. 3, 1970, water-stage recorder at site 1.5 mi (2.4 km) upstream at same datum. Nov. 4, 1970, to Apr. 26, 1972, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by earthfill dam completed June 23, 1971. Storage began Nov. 3, 1970. Total capacity, 2,030,000 acre-ft (2.50 km<sup>3</sup>) at elevation 830.0 ft (252.98 m) top of uncontrolled spillway, of which 309,000 acre-ft (381 hm<sup>3</sup>) below elevation 600.0 ft (182.88 m), mutually agreed-upon minimum, is not available for release. Water passes through powerplant at dam and down Tuolumne River to La Grange Dam, 2.5 mi (4.0 km) downstream, where it is diverted into Turlock and Modesto Canals (stations 11289500 and 11289000) for irrigation. This reservoir is operated jointly by Turlock and Modesto Irrigation Districts. Prior to June 1971, reservoir was formed by a concrete gravity-type dam completed Jan. 1, 1923, capacity, 290,400 acre-ft (358 hm<sup>3</sup>). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,021,000 acre-ft (2.49 km<sup>3</sup>) July 18-21, 1981, elevation, 829.3 ft (252.77 m); minimum, 29,200 acre-ft (36.0 hm<sup>3</sup>) Sept. 1-3, 5, 1934; minimum elevation, 475.0 ft (144.78 m) Sept. 1, 2, 1934. Minimum since construction of New Don Pedro Dam in 1970 under normal operations, 302,600 acre-ft (373 hm<sup>3</sup>) Oct. 14, 15, 1977, elevation, 598.2 ft (182.33 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,021,000 acre-ft (2.49 km<sup>3</sup>) July 18-21, elevation, 829.3 ft (252.77 m); minimum, 1,111,000 acre-ft (1.37 km<sup>3</sup>) Oct. 6-8, elevation, 742.0 ft (226.16 m).

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

550	158,700	650	517,400	770	1,359,000
570	212,900	680	679,000	800	1,669,000
590	274,800	710	869,700	830	2,030,000
620	384,100	740	1,095,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1118000	1126000	1184000	1310000	1484000	1656000	1730000	1777000	1812000	2002000	2004000	1877000
2	1115000	1126000	1185000	1320000	1484000	1661000	1736000	1773000	1821000	1999000	2000000	1873000
3	1115000	1127000	1186000	1325000	1484000	1662000	1735000	1768000	1828000	1993000	1997000	1869000
4	1115000	1127000	1187000	1338000	1483000	1662000	1732000	1765000	1835000	1990000	1991000	1864000
5	1113000	1128000	1188000	1379000	1483000	1662000	1728000	1760000	1841000	1988000	1986000	1863000
6	1111000	1128000	1190000	1393000	1483000	1661000	1725000	1755000	1845000	1988000	1983000	1862000
7	1111000	1129000	1190000	1400000	1486000	1658000	1720000	1751000	1848000	1990000	1977000	1858000
8	1111000	1129000	1190000	1405000	1487000	1656000	1713000	1746000	1848000	1991000	1974000	1854000
9	1112000	1130000	1190000	1409000	1486000	1653000	1706000	1742000	1848000	1995000	1970000	1850000
10	1112000	1130000	1191000	1415000	1485000	1653000	1707000	1738000	1849000	1999000	1966000	1845000
11	1113000	1131000	1193000	1420000	1485000	1659000	1772000	1735000	1850000	2006000	1962000	1840000
12	1113000	1132000	1193000	1422000	1484000	1662000	1801000	1731000	1852000	2009000	1957000	1837000
13	1113000	1134000	1195000	1425000	1485000	1665000	1812000	1727000	1856000	2015000	1953000	1832000
14	1114000	1145000	1196000	1427000	1495000	1678000	1814000	1724000	1860000	2017000	1948000	1828000
15	1114000	1148000	1197000	1430000	1532000	1682000	1814000	1721000	1864000	2018000	1945000	1824000
16	1115000	1150000	1198000	1434000	1602000	1690000	1813000	1720000	1871000	2020000	1941000	1819000
17	1115000	1154000	1199000	1438000	1624000	1694000	1813000	1719000	1881000	2020000	1936000	1814000
18	1115000	1156000	1200000	1441000	1636000	1697000	1813000	1717000	1895000	2021000	1932000	1808000
19	1115000	1158000	1201000	1445000	1642000	1699000	1814000	1716000	1911000	2021000	1928000	1802000
20	1115000	1159000	1218000	1448000	1646000	1699000	1814000	1716000	1923000	2021000	1923000	1796000
21	1115000	1161000	1232000	1451000	1649000	1698000	1816000	1717000	1936000	2021000	1920000	1790000
22	1116000	1164000	1241000	1453000	1652000	1698000	1816000	1721000	1945000	2020000	1917000	1785000
23	1117000	1166000	1247000	1457000	1655000	1698000	1813000	1724000	1951000	2020000	1912000	1779000
24	1118000	1171000	1251000	1461000	1656000	1696000	1810000	1730000	1956000	2017000	1909000	1773000
25	1118000	1173000	1256000	1464000	1657000	1695000	1806000	1737000	1962000	2015000	1905000	1768000
26	1118000	1176000	1259000	1470000	1657000	1694000	1803000	1746000	1967000	2013000	1901000	1766000
27	1119000	1178000	1264000	1473000	1657000	1693000	1797000	1758000	1976000	2012000	1897000	1764000
28	1121000	1182000	1266000	1477000	1657000	1706000	1792000	1772000	1985000	2009000	1893000	1759000
29	1123000	1184000	1272000	1480000	---	1699000	1787000	1782000	1997000	2008000	1890000	1754000
30	1124000	1184000	1285000	1482000	---	1702000	1782000	1794000	2004000	2006000	1886000	1750000
31	1125000	---	1298000	1484000	---	1720000	---	1803000	---	2002000	1881000	---
MAX	1125000	1184000	1298000	1484000	1657000	1720000	1816000	1803000	2004000	2021000	2004000	1877000
MIN	1111000	1126000	1184000	1310000	1483000	1653000	1706000	1716000	1812000	1988000	1881000	1750000
a	743.7	750.7	763.5	782.7	798.7	804.5	809.9	811.7	828.0	827.8	818.2	807.1
b	+5000	+59000	+114000	+186000	+173000	+63000	+62000	+21000	+201000	-2000	-121000	-131000

CAL YR 1981 b -248000  
WTR YR 1982 b +630000

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

## 11289000 MODESTO CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°40'04", long 120°27'26", in SE¼SW¼ sec.17, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi (0.8 km) northeast of La Grange, and 1.4 mi (2.2 km) downstream from intake at La Grange Dam.

PERIOD OF RECORD.--April 1903 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1904-9 (monthly figures only).

GAGE.--Water-stage recorder. V-notch sharp-crested weir since Mar. 19, 1963. Datum of gage is 272.4 ft (83.03 m) National Geodetic Vertical Datum of 1929 (levels by Modesto Irrigation District). See WSP 1930 for history of changes prior to March 1932. March 1932 to Aug. 14, 1975, on right bank at same datum.

REMARKS.--Records good. Canal diverts from right bank of Tuolumne River at La Grange Dam for irrigation in Modesto and Waterford Irrigation Districts. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--79 years, 411 ft<sup>3</sup>/s (11.64 m<sup>3</sup>/s), 297,800 acre-ft/yr (367 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,820 ft<sup>3</sup>/s (51.5 m<sup>3</sup>/s) July 1, 1935; no flow at times most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	18	589	.06		0	46	760	979	677	136	1130
2	957	20	689	0		0	45	761	981	675	1080	1130
3	463	20	593	0		0	45	762	982	562	1070	746
4	175	20	595	0		0	45	765	979	521	1070	622
5	731	393	208	0		0	45	777	972	552	1000	360
6	457	275	25	0		0	102	767	973	722	1000	360
7	251	49	703	0		0	164	771	972	697	1010	614
8	222	19	703	0		0	165	770	970	515	355	625
9	251	316	710	0		0	228	537	962	717	982	621
10	156	319	601	0		21	222	.30	949	1130	993	801
11	90	23	601	0		27	147	.25	951	573	979	592
12	224	429	208	0		.10	148	29	954	1140	968	589
13	230	338	21	0		.08	195	788	953	1170	976	595
14	207	26	601	0		.14	249	1210	950	1410	996	597
15	145	22	575	0		.08	249	1350	941	1400	358	595
16	78	312	563	0		.13	248	1430	943	1410	976	596
17	57	376	686	0		.16	275	1430	941	1420	959	594
18	24	289	670	0		.08	352	1430	953	1410	976	597
19	151	376	175	0		14	352	1430	983	1420	978	597
20	155	289	27	0		41	350	1430	1070	1140	1050	493
21	95	41	11	0		41	350	1440	1070	982	1050	318
22	144	22	.18	0		41	345	1040	1070	982	354	318
23	96	332	.08	0		41	386	877	1080	982	1040	318
24	25	308	.08	0		41	433	1040	1070	971	1070	318
25	19	295	.07	0		560	481	1210	971	976	976	319
26	59	22	.07	0		961	510	1140	920	1050	939	318
27	54	108	.06	0		1000	574	1030	860	1080	938	284
28	38	48	.06	0		1000	696	978	859	1090	916	207
29	38	22	.06	0	---	534	757	978	849	1370	344	210
30	42	547	.06	0	---	263	760	978	1230	1620	953	209
31	19	---	.06	0	---	210	---	981	---	1500	921	---
TOTAL	6803	5674	9554.78	.06	0	4795.77	8964	28889.55	29337	31864	27413	15673
MEAN	219	189	308	.002	0	155	299	932	978	1028	884	522
MAX	1150	547	710	.06	0	1000	760	1440	1230	1620	1080	1130
MIN	19	18	.06	0	0	0	45	.25	849	515	136	207
AC-FT	13490	11250	18950	.1	0	9510	17780	57300	58190	63200	54370	31090
CAL YR 1981	TOTAL	183314.75	MEAN	502	MAX	1300	MIN	0	AC-FT	363600		
WTR YR 1982	TOTAL	168968.16	MEAN	463	MAX	1620	MIN	0	AC-FT	335100		

## 11289500 TURLOCK CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'57", long 120°26'24", in NW¼NW¼ sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 2,400 ft (730 m) downstream from intake at La Grange Dam, and 1.2 mi (1.9 km) east of La Grange.

PERIOD OF RECORD.--October 1898 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1899-1908 (monthly figures only). WSP 1445: 1917-20, 1922.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 277.70 ft (84.643 m) National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). See WSP 1930 for history of changes prior to Apr. 17, 1924.

REMARKS.--Records good. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. Capacity of canal increased in March 1980. During fall and winter some unmeasured flow is diverted from canal at tunnel 0.3 mi (0.5 km) upstream from gage, passed through La Grange powerplant and returned to river. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--84 years, 631 ft<sup>3</sup>/s (17.87 m<sup>3</sup>/s), 457,200 acre-ft/yr (564 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,110 ft<sup>3</sup>/s (88.1 m<sup>3</sup>/s) July 15, 1980; no diversion for irrigation during some periods in some years. Prior to 1939, unmeasured small discharge during winter called zero.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	786	22	317	20	15	14	306	2080	2140	2850	286	1710
2	665	126	401	21	14	12	344	2080	1750	1290	1650	1290
3	394	94	330	20	13	12	1560	2080	1500	329	1660	1020
4	33	164	322	21	14	12	2870	2080	1410	392	1660	894
5	753	192	91	22	15	14	2230	2070	1410	370	1670	816
6	573	109	21	22	15	14	1160	2070	1410	188	1830	703
7	345	22	400	22	14	14	582	2080	1410	546	1960	835
8	281	21	227	22	14	14	830	2070	1410	1380	1320	866
9	291	112	172	21	15	14	842	2030	1480	2210	1780	867
10	114	117	71	20	15	30	849	1340	1520	2440	1970	665
11	36	22	62	20	14	319	846	987	1720	1670	1980	885
12	196	238	30	22	14	53	851	999	1850	2630	1980	873
13	284	208	19	20	14	53	856	1000	1770	2570	1970	891
14	222	39	86	16	13	52	862	1030	1830	2330	1960	891
15	257	20	49	16	15	52	925	954	1840	2320	1940	891
16	269	109	50	15	14	53	862	902	1830	2320	1960	892
17	94	131	164	14	14	53	673	895	1910	2310	1990	940
18	39	186	153	14	14	53	618	896	1980	2310	1980	973
19	333	172	18	15	15	53	499	1130	1990	2310	2000	974
20	394	130	19	15	15	53	310	1250	1990	2530	1990	938
21	205	25	107	15	16	53	311	1170	1850	2710	2000	889
22	231	19	129	15	15	53	1110	1460	1630	2710	1260	891
23	173	141	138	16	14	53	1910	1930	1550	2520	2010	891
24	37	192	50	15	14	836	1880	1740	1550	2330	2010	890
25	36	125	17	15	14	51	1810	1790	1310	2320	2080	893
26	36	19	29	16	14	48	2140	2050	958	2160	2100	892
27	30	183	21	16	14	47	2290	2030	804	1830	2130	1260
28	28	18	58	15	14	47	2160	2290	894	1650	2140	1290
29	27	18	22	15	---	138	2090	2460	1030	1650	1190	438
30	38	363	21	15	---	201	2090	2460	2760	1630	2140	603
31	23	---	21	14	---	204	---	2440	---	1670	2140	---
TOTAL	7223	3337	3615	545	401	2675	36666	51843	48486	58475	56736	27751
MEAN	233	111	117	17.6	14.3	86.3	1222	1672	1616	1886	1830	925
MAX	786	363	401	22	16	836	2870	2460	2760	2850	2140	1710
MIN	23	18	17	14	13	12	306	895	804	188	286	438
AC-FT	14330	6620	7170	1080	795	5310	72730	102800	96170	116000	112500	55040
CAL YR 1981	TOTAL	325753.3	MEAN 892	MAX 2760	MIN	2.7	AC-FT 646100					
WTR YR 1982	TOTAL	297753.0	MEAN 816	MAX 2870	MIN	12	AC-FT 590600					

## 11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'59", long 120°26'28", in NW¼NW¼ sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi (0.8 km) downstream from La Grange Dam, and 1.1 mi (1.8 km) east of La Grange.

DRAINAGE AREA.--1,538 mi<sup>2</sup> (3,983 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 170.19 ft (51.874 m) National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District).

REMARKS.--Records good. Flow diverted into Modesto Canal (station 11289000) and Turlock Canal (station 11289500) at La Grange Dam. Flow regulated by Don Pedro powerplant, Don Pedro Reservoir (station 11287500), 4.5 mi (7.2 km) upstream, Hetch Hetchy Reservoir (station 11275500), Cherry Lake (station 11277200), and Lake Eleanor (station 11277500). Tuolumne Canal (station 11297500) diverts water from the Stanislaus River basin into the Tuolumne River basin for power, irrigation, and domestic supply in the vicinity of Sonora upstream from station. Diversion through Hetch Hetchy aqueduct to San Francisco began Oct. 19, 1934; an average of 276 ft<sup>3</sup>/s (7.82 m<sup>3</sup>/s) was diverted during the current year. See schematic diagram of Tuolumne River basin. For records of combined discharge of river and Modesto and Turlock canals, see following page.

AVERAGE DISCHARGE (River only).--12 years, 766 ft<sup>3</sup>/s (21.69 m<sup>3</sup>/s), 555,000 acre-ft/yr (684 hm<sup>3</sup>/yr).

(Combined river and canals).--12 years, 2,068 ft<sup>3</sup>/s (58.57 m<sup>3</sup>/s), 1,498,000 acre-ft/yr (1.85 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 8,290 ft<sup>3</sup>/s (235 m<sup>3</sup>/s) Apr. 14, 1982, gage height, 13.96 ft (4.255 m); no flow for several days during September and October 1977.

Combined flow: Maximum daily discharge, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) several days during April and May 1982; minimum daily, 0.45 ft<sup>3</sup>/s (0.01 m<sup>3</sup>/s) Nov. 2, 1970.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 8,290 ft<sup>3</sup>/s (235 m<sup>3</sup>/s) Apr. 14, gage height, 13.96 ft (4.255 m); minimum daily, 45 ft<sup>3</sup>/s (1.27 m<sup>3</sup>/s) July 11.

Combined flow: Maximum daily discharge, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) several days during April and May; minimum daily, 167 ft<sup>3</sup>/s (4.73 m<sup>3</sup>/s) Jan. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	227	223	152	2850	4390	4350	8120	1270	6040	188	822
2	329	552	223	485	2680	4550	4180	8110	1610	6030	1140	1190
3	101	556	223	151	2690	4550	5170	8110	1850	6010	1150	1850
4	96	503	224	1840	2890	4560	5730	8120	1940	5850	1150	2010
5	95	231	224	1400	2740	4560	5420	8130	1930	4610	1160	585
6	156	226	225	1680	2030	4570	5790	8130	1900	3830	1010	573
7	126	226	224	1530	158	4580	6310	8120	1940	3200	588	1960
8	140	226	224	1370	2430	4590	6850	8110	1940	2240	583	2030
9	119	224	224	716	2700	4600	6760	8080	1780	1150	583	2040
10	67	227	224	154	2710	4570	6240	8100	1850	387	583	2100
11	66	227	224	1250	2690	4270	6020	8120	1690	45	583	2360
12	138	224	225	1420	2470	4540	6860	7780	1560	258	583	1180
13	133	225	225	1530	1980	4520	7290	7340	1530	332	583	2340
14	130	226	222	1590	159	4550	7910	6870	1570	567	583	2360
15	134	226	222	1470	163	4540	8150	6320	1590	573	583	2380
16	112	224	224	830	2420	4560	7600	6150	1610	573	583	2370
17	113	227	194	153	2450	4570	7400	6180	1540	573	575	2360
18	113	231	155	1220	2500	4550	7390	6170	1430	573	569	2830
19	113	229	154	1460	2930	4530	7530	5860	1360	573	569	2830
20	117	225	154	1580	4130	4450	7710	5390	1230	571	569	3010
21	234	226	529	1410	4120	4460	7830	4970	1400	569	569	3320
22	229	227	676	1370	4200	4480	7920	4470	1590	569	569	3320
23	229	224	640	608	4230	4490	8040	4060	1680	796	576	3320
24	226	223	380	155	4220	3640	8140	3910	1750	1040	575	3270
25	227	226	151	1120	4210	3890	8150	3190	2030	1050	573	3290
26	341	228	166	1370	4220	3590	8130	2430	2480	1120	573	3320
27	390	228	153	1750	4140	3560	8110	1770	2570	1350	573	2990
28	392	227	582	1950	4140	3580	8120	1170	2550	1510	573	2980
29	346	229	895	1860	---	4020	8120	1040	3010	1270	573	3920
30	267	222	641	1690	---	4120	8120	1040	4620	1100	573	3840
31	222	---	278	1660	---	4280	---	1040	---	751	573	---
TOTAL	5753	7722	9328	36924	79250	134710	211340	176400	56800	55110	20215	72750
MEAN	186	257	301	1191	2830	4345	7045	5690	1893	1778	652	2425
MAX	392	556	895	1950	4230	4600	8150	8130	4620	6040	1160	3920
MIN	66	222	151	151	158	3560	4180	1040	1230	45	188	573
AC-FT	11410	15320	18500	73240	157200	267200	419200	349900	112700	109300	40100	144300
CAL YR 1981 TOTAL	145757.6		MEAN	399	MAX	2980	MIN	6.2	AC-FT	289100		
WTR YR 1982 TOTAL	866302.0		MEAN	2373	MAX	8150	MIN	45	AC-FT	1718000		

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF TUOLUMNE RIVER, MODESTO CANAL NEAR LA GRANGE, AND TURLOCK CANAL NEAR LA GRANGE, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2190	267	1130	172	2870	4400	4700	11000	4390	9570	610	3660
2	1950	698	1310	506	2690	4560	4570	11000	4340	8000	3870	3610
3	958	670	1150	171	2700	4560	6780	11000	4330	6900	3880	3620
4	304	687	1140	1860	2900	4570	8650	11000	4330	6760	3880	3530
5	1580	816	523	1420	2760	4570	7700	11000	4310	5530	3830	1770
6	1190	610	271	1700	2050	4580	7050	11000	4280	4740	3840	1630
7	722	297	1320	1550	172	4590	7060	11000	4320	4440	3560	3610
8	643	266	1150	1390	2440	4600	7850	11000	4320	4140	2260	3520
9	661	652	1110	737	2720	4610	7830	10700	4220	4080	3340	3530
10	337	663	896	174	2730	4620	7310	9440	4320	3960	3540	3570
11	192	272	887	1270	2700	4620	7010	9110	4360	2290	3540	3840
12	558	891	463	1440	2480	4590	7860	8810	4360	4030	3530	2640
13	647	771	265	1550	1990	4570	8340	9130	4250	4070	3530	3830
14	559	291	909	1610	172	4600	9020	9110	4350	4310	3540	3850
15	536	268	846	1490	178	4590	9320	8620	4370	4290	2880	3870
16	459	645	837	845	2430	4610	8710	8480	4380	4300	3520	3860
17	264	734	1040	167	2460	4620	8350	8510	4390	4300	3530	3890
18	176	706	978	1230	2510	4600	8360	8500	4360	4290	3530	4400
19	597	777	347	1480	2950	4600	8380	8420	4330	4300	3550	4400
20	666	644	200	1600	4150	4540	8370	8070	4290	4240	3610	4440
21	534	292	647	1430	4140	4550	8490	7580	4320	4260	3620	4530
22	604	268	805	1390	4220	4570	9380	6970	4290	4260	2180	4530
23	498	697	778	624	4240	4580	10300	6870	4310	4300	3630	4530
24	288	723	430	170	4230	4520	10500	6690	4370	4340	3660	4480
25	282	646	168	1140	4220	4500	10400	6190	4310	4350	3630	4500
26	436	269	195	1390	4230	4600	10800	5620	4360	4330	3610	4530
27	474	519	174	1770	4150	4610	11000	4830	4230	4260	3640	4530
28	458	293	640	1970	4150	4630	11000	4440	4300	4250	3630	4480
29	411	269	917	1880	---	4690	11000	4480	4890	4290	2100	4570
30	347	1130	662	1710	---	4580	11000	4480	8610	4350	3660	4650
31	264	---	299	1670	---	4690	---	4460	---	3920	3630	---
TOTAL	19785	16731	22487	37506	79632	142120	257090	257510	134590	145450	104360	116200
MEAN	638	558	725	1210	2844	4585	8570	8307	4486	4692	3366	3873
MAX	2190	1130	1320	1970	4240	4690	11000	11000	8610	9570	3880	4650
MIN	176	266	168	167	172	4400	4570	4440	4220	2290	610	1630
AC-FT	39240	33190	44600	74390	158000	281900	509900	510800	267000	288500	207000	230500
CAL YR 1981 TOTAL	655018	MEAN	1795	MAX	4010	MIN	150	AC-FT	1299000			
WTR YR 1982 TOTAL	1333461	MEAN	3653	MAX	11000	MIN	167	AC-FT	2645000			



11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.0°C Sept. 27, Oct. 15, 1977; minimum recorded, 6.0°C Feb. 6-8, 10, 1971.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 17.0°C July 11; minimum recorded, 9.0°C on many days February through May.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	12.5	13.0	12.0	12.5	12.5	11.5	11.0	10.0	9.5	9.5	9.0
2	14.0	12.5	14.5	12.5	13.0	12.5	11.0	11.0	10.0	9.5	9.5	9.0
3	13.5	13.0	13.0	12.5	13.0	12.5	11.0	10.5	10.0	9.5	9.5	9.0
4	13.5	12.5	13.0	12.5	13.0	12.5	11.0	10.5	10.0	9.5	9.5	9.0
5	13.5	13.0	13.0	12.5	12.5	12.5	11.0	11.0	10.0	9.0	9.5	9.0
6	14.0	12.5	13.0	12.5	12.5	12.5	11.0	10.5	10.0	9.5	9.5	9.0
7	13.5	13.0	13.0	13.0	12.5	12.5	11.0	10.5	9.5	9.0	9.5	9.0
8	13.5	12.5	13.5	12.5	12.5	12.5	11.0	10.5	10.0	9.5	9.5	9.0
9	14.0	12.5	13.0	12.5	12.5	12.5	10.5	10.5	9.5	9.0	9.5	9.0
10	13.5	12.5	13.0	12.5	12.5	12.5	10.5	10.0	10.0	9.0	9.5	9.5
11	13.5	13.0	13.0	12.5	12.5	12.0	11.0	10.0	10.0	9.0	9.5	9.0
12	13.5	13.0	13.0	12.5	12.5	12.0	10.5	10.5	10.0	9.0	9.5	9.0
13	13.0	12.5	13.0	12.5	12.5	12.0	10.5	10.0	10.0	9.0	9.5	9.0
14	13.0	12.5	13.5	12.5	12.5	12.0	10.5	10.0	10.0	9.5	9.5	9.0
15	13.0	12.5	13.5	13.0	12.5	12.0	10.5	10.0	10.5	10.0	9.5	9.0
16	13.0	12.5	13.5	13.0	12.5	12.0	10.5	10.0	11.5	9.5	9.5	9.0
17	13.5	12.5	13.0	12.5	12.5	12.0	10.5	10.0	10.0	9.5	9.5	9.0
18	13.5	12.5	13.0	12.5	12.5	12.0	10.5	10.0	10.0	9.0	9.5	9.0
19	13.5	13.0	13.0	12.5	12.5	12.0	10.5	10.0	10.0	9.5	9.5	9.0
20	13.0	12.5	13.0	12.5	12.5	12.5	10.5	10.0	10.0	9.5	9.5	9.0
21	13.5	12.5	13.0	12.5	12.5	12.0	10.5	10.0	10.0	9.5	9.5	9.0
22	13.5	12.0	13.5	12.5	12.0	11.5	10.5	10.0	9.5	9.0	9.5	9.0
23	14.0	12.5	13.0	12.5	12.0	11.5	10.5	10.0	9.5	9.0	9.5	9.0
24	13.0	12.5	13.0	12.5	12.0	11.5	10.5	10.0	9.5	9.0	9.5	9.0
25	13.0	12.5	12.5	12.0	12.0	11.5	10.5	10.0	9.5	9.0	9.5	9.0
26	13.5	12.0	12.5	12.0	11.5	11.5	10.5	10.0	9.5	9.0	9.5	9.0
27	13.5	12.5	12.5	12.0	12.0	11.5	10.5	10.0	9.5	9.0	9.5	9.0
28	13.5	12.5	12.5	12.0	11.5	11.5	10.0	10.0	9.5	9.0	9.5	9.0
29	13.5	12.5	12.5	12.0	11.5	11.5	10.0	10.0	---	---	9.0	9.0
30	13.0	12.0	12.5	12.0	12.0	11.5	10.0	9.5	---	---	9.5	9.0
31	13.5	12.5	---	---	11.5	11.5	10.0	9.5	---	---	9.0	9.0
MONTH	14.0	12.0	14.5	12.0	13.0	11.5	11.5	9.5	11.5	9.0	9.5	9.0

## SAN JOAQUIN RIVER BASIN

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.0	9.0	10.0	9.5	11.5	10.0	12.0	11.5	16.5	12.0	14.5	12.0
2	9.5	9.0	10.0	9.5	11.5	10.5	12.0	11.5	12.5	12.0	12.5	12.0
3	9.5	9.0	10.0	9.5	11.5	10.5	12.0	11.5	12.5	12.0	12.5	12.0
4	9.5	9.5	10.5	9.5	11.5	10.5	12.5	11.5	12.5	12.0	12.5	12.0
5	9.5	9.0	10.5	9.5	11.5	10.5	12.5	12.0	12.5	11.5	13.0	12.0
6	9.5	9.0	10.5	9.5	11.5	10.5	12.5	12.0	12.5	12.0	12.5	12.0
7	9.5	9.0	10.5	9.5	11.5	10.5	12.5	11.5	12.5	12.0	12.5	12.0
8	9.5	9.0	11.0	9.5	11.5	11.0	12.0	11.5	12.5	12.0	13.0	12.0
9	9.5	9.0	10.5	9.5	11.5	11.0	12.5	11.5	12.5	12.0	12.5	12.0
10	9.5	9.0	11.0	9.5	11.5	11.0	15.0	11.5	12.5	11.5	13.0	12.0
11	9.5	9.0	10.5	9.0	11.5	11.0	17.0	12.0	12.5	12.0	12.5	12.0
12	9.5	9.0	11.0	9.0	11.5	11.0	13.5	11.5	12.5	11.5	13.0	12.0
13	9.5	9.5	10.5	9.5	11.5	11.0	12.5	11.5	12.5	12.0	12.5	12.0
14	9.5	9.0	11.0	10.0	12.0	11.0	12.5	11.5	12.5	12.0	12.5	12.0
15	9.5	9.0	11.0	9.5	12.0	11.0	12.5	11.5	12.5	11.5	12.5	12.0
16	9.5	9.0	11.0	10.0	12.0	11.0	12.5	11.5	12.5	11.5	12.5	12.0
17	9.5	9.0	11.5	10.0	12.0	11.0	12.0	11.5	12.5	11.5	12.5	12.0
18	9.5	9.0	11.0	10.0	12.0	11.0	12.5	11.5	12.5	12.0	12.5	12.5
19	9.5	9.0	11.0	10.5	12.0	11.0	12.5	11.5	12.5	12.0	13.0	12.5
20	9.5	9.5	11.0	10.5	12.0	11.0	12.5	11.5	12.5	12.0	13.0	12.5
21	9.5	9.0	11.0	10.5	12.0	11.0	12.5	11.5	12.5	12.0	13.0	12.5
22	9.5	9.0	11.0	10.5	12.0	11.0	12.5	11.5	13.0	12.0	13.0	12.5
23	9.5	9.5	11.0	10.5	12.0	11.5	14.0	12.0	12.5	12.0	13.0	12.5
24	10.0	9.5	11.5	10.5	11.5	11.5	12.5	12.0	12.5	12.0	13.0	12.5
25	10.0	9.5	11.5	11.0	12.0	11.5	12.5	12.0	12.5	12.0	13.0	12.5
26	10.0	9.5	11.5	10.5	12.0	11.5	12.5	12.0	12.5	12.0	13.0	12.5
27	10.0	9.5	11.5	10.5	12.0	11.5	12.5	12.0	12.5	11.5	13.0	12.5
28	10.0	9.5	11.5	10.0	12.0	11.5	12.5	12.0	12.5	12.0	13.0	12.5
29	10.0	9.5	11.5	10.0	12.0	11.5	12.5	12.0	12.5	12.0	13.0	12.5
30	10.0	9.5	11.5	10.5	11.5	11.0	12.5	12.0	12.5	12.0	13.0	12.5
31	---	---	11.5	10.0	---	---	12.5	12.0	12.5	11.5	---	---
MONTH	10.0	9.0	11.5	9.0	12.0	10.0	17.0	11.5	16.5	11.5	14.5	12.0

## 11290000 TUOLUMNE RIVER AT MODESTO, CA

LOCATION.--Lat 37°37'38", long 120°59'11", in SE¼SW¼ sec.33, T.3 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank at bridge on Ninth Street in Modesto, and 0.2 mi (0.3 km) downstream from Dry Creek.

DRAINAGE AREA.--1,884 mi<sup>2</sup> (4,880 km<sup>2</sup>).

PERIOD OF RECORD.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 1,700 ft (518 m) downstream at same datum, July 11, 1947, to Nov. 16, 1953, at site 1,000 ft (305 m) downstream at same datum.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (stations 11289000, 11289500), there are diversions for irrigation of about 1,300 acres (526 hm<sup>2</sup>) between station above La Grange Dam and at Modesto. See REMARKS for station 11289650 for Tuolumne River below La Grange Dam. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--43 years (water years 1896, 1941-82), 1,368 ft<sup>3</sup>/s (38.74 m<sup>3</sup>/s), 991,100 acre-ft/yr (1.22 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1895-96, 1941-82).--Maximum discharge observed, 57,000 ft<sup>3</sup>/s (1,610 m<sup>3</sup>/s) Dec. 9, 1950, elevation, 69.19 ft (21.089 m); minimum, 56 ft<sup>3</sup>/s (1.59 m<sup>3</sup>/s) Aug. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft<sup>3</sup>/s (300 m<sup>3</sup>/s) Apr. 1, elevation, 56.17 ft (17.121 m); minimum daily, 207 ft<sup>3</sup>/s (5.86 m<sup>3</sup>/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	372	776	938	1730	4420	8580	8620	1700	4410	1110	820
2	245	342	747	1130	2580	4970	7670	8600	1900	5550	663	980
3	488	497	743	1110	2730	4850	5470	8580	2210	5880	1220	1330
4	431	668	737	806	2740	4650	5610	8560	2420	5930	1390	1930
5	340	659	724	3410	2880	4620	6010	8570	2530	5740	1400	2250
6	312	482	726	3690	2830	4600	6090	8560	2520	4820	1460	1160
7	339	365	721	2260	2270	4610	6140	8570	2460	3980	1260	865
8	487	351	714	1890	905	4620	6670	8590	2500	3490	941	1880
9	375	344	714	1650	2150	4630	7150	8600	2530	2780	927	2270
10	554	342	728	1110	2680	4600	7320	8560	2400	1800	861	2310
11	562	340	729	661	2760	4690	7690	8560	2420	1050	858	2430
12	521	383	732	1130	2740	4690	8020	8550	2240	702	902	2650
13	475	462	737	1470	2620	4580	7690	8250	2130	653	819	1850
14	481	479	729	1580	2240	6620	7990	7710	2090	726	814	2480
15	381	475	732	1640	1080	5200	8560	7190	2100	857	850	2670
16	373	412	736	1610	3890	5040	9130	6610	2110	874	865	2730
17	255	409	757	1180	5240	6100	8770	6370	2100	904	849	2770
18	221	400	510	668	3220	5000	8330	6330	2010	895	884	2870
19	214	409	339	1140	2920	5370	8210	6310	1920	935	844	3210
20	209	383	304	1590	3290	4720	8220	6150	1880	884	840	3300
21	207	363	399	1780	4020	4580	8240	5790	1750	846	816	3350
22	261	375	886	1720	4290	4570	8260	5370	1890	879	840	3520
23	317	366	970	1610	4290	4550	8430	4960	2080	825	824	3540
24	351	371	905	1080	4280	3670	8520	4500	2160	1000	807	3880
25	351	524	718	624	4240	3920	8650	4220	2190	1250	827	4040
26	347	737	418	1080	4250	3710	8670	3670	2420	1360	821	3990
27	398	796	340	1480	4170	3620	8660	3140	2760	1410	831	3970
28	576	877	317	1960	4170	3910	8630	2610	2830	1780	855	3750
29	539	1030	614	2110	---	6150	8630	2060	2870	1970	853	3700
30	505	857	1430	2120	---	5320	8630	1810	3260	1660	838	4270
31	400	---	1670	1890	---	8270	---	1760	---	1470	828	---
TOTAL	11747	14870	22302	48117	87205	150850	234640	197730	68380	67310	28897	80765
MEAN	379	496	719	1552	3114	4866	7821	6378	2279	2171	932	2692
MAX	576	1030	1670	3690	5240	8270	9130	8620	3260	5930	1460	4270
MIN	207	340	304	624	905	3620	5470	1760	1700	653	663	820
AC-FT	23300	29490	44240	95440	173000	299200	465400	392200	135600	133500	57320	160200
CAL YR 1981 TOTAL	243440	MEAN	667	MAX	3940	MIN	192	AC-FT	482900			
WTR YR 1982 TOTAL	1012813	MEAN	2775	MAX	9130	MIN	207	AC-FT	2009000			

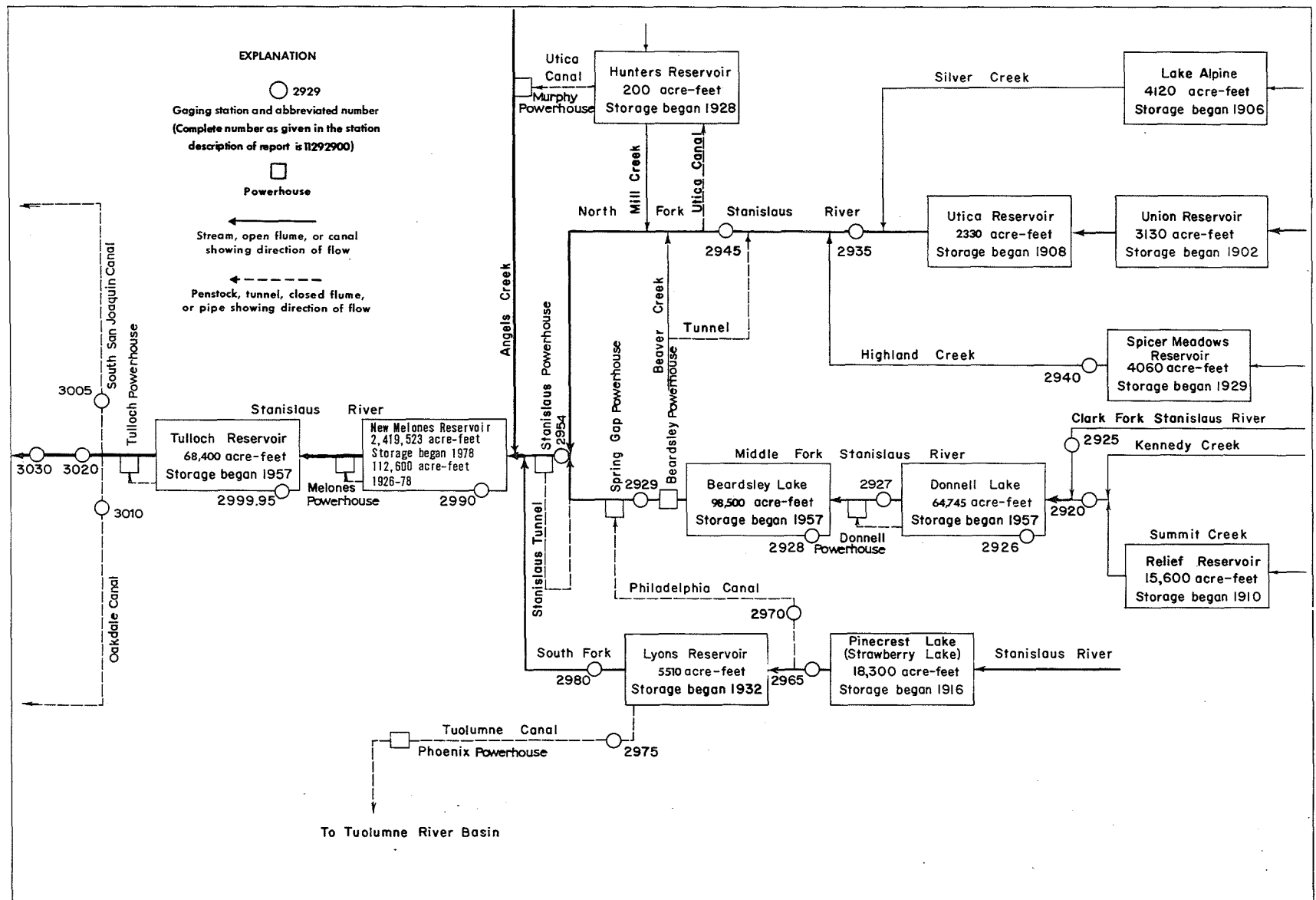


FIGURE 10.—Schematic diagram showing diversions and storage in Stanislaus River basin.

LOCATION.--Lat 38°17'51", long 119°44'25", in SW¼NE¼ sec.11, T.5 N., R.20 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank at upper end of Kennedy Meadows, 1.3 mi (2.1 km) upstream from Deadman Creek, 1.6 mi (2.6 km) downstream from Relief Reservoir, and 5.8 mi (9.3 km) southwest of Dardanelle.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,060 ft<sup>3</sup>/s (30.0 m<sup>3</sup>/s) May 27, gage height, 5.76 ft (1.756 m); minimum daily, 9.6 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Oct. 2.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	24	129	86	101	57	35	518	529	421	286	225
2	9.6	25	126	85	99	56	40	546	518	390	230	220
3	10	24	124	82	100	55	38	567	539	442	189	220
4	11	24	123	77	99	50	35	553	483	472	176	220
5	10	24	120	76	98	46	34	564	440	457	189	214
6	9.9	24	119	75	96	43	32	542	385	461	204	211
7	14	23	118	74	96	43	32	553	410	537	249	242
8	13	22	100	100	94	41	31	546	450	565	256	262
9	12	21	76	90	92	40	31	498	485	549	234	261
10	15	31	76	82	94	44	53	450	500	515	217	259
11	15	57	74	64	91	50	358	429	510	549	199	255
12	14	71	73	26	61	45	359	420	495	567	191	248
13	14	163	72	24	29	44	207	429	515	564	191	243
14	14	192	72	24	51	47	163	450	555	529	172	239
15	13	113	71	24	112	44	152	463	585	508	148	240
16	13	99	69	24	212	41	139	492	600	497	138	240
17	13	107	68	24	122	41	136	532	650	492	205	233
18	13	88	67	23	96	39	142	553	695	435	269	231
19	14	82	160	24	86	37	150	525	812	395	275	230
20	15	107	291	23	85	37	155	539	766	397	278	226
21	15	140	187	24	89	34	155	567	710	406	281	221
22	14	154	143	23	88	34	159	594	670	426	287	216
23	14	159	125	21	79	35	320	630	732	420	289	217
24	14	166	116	21	73	35	457	654	743	441	270	338
25	14	150	112	23	68	36	453	654	671	414	262	551
26	13	143	106	24	65	37	450	833	689	414	258	555
27	13	139	100	23	60	37	453	975	745	438	248	347
28	30	135	94	22	57	38	479	904	837	425	250	293
29	21	132	91	62	---	37	482	691	819	391	252	273
30	19	130	91	104	---	38	485	573	544	376	247	259
31	22	---	90	102	---	31	---	575	---	321	235	---
TOTAL	441.5	2769	3383	1556	2493	1292	6215	17819	18082	14214	7175	7989
MEAN	14.2	92.3	109	50.2	89.0	41.7	207	575	603	459	231	266
MAX	30	192	291	104	212	57	485	975	837	567	289	555
MIN	9.6	21	67	21	29	31	31	420	385	321	138	211
AC-FT	876	5490	6710	3090	4940	2560	12330	35340	35870	28190	14230	15850
CAL YR 1981	TOTAL	36871.4	MEAN 101	MAX 555	MIN 9.6	AC-FT 73130						
WTR YR 1982	TOTAL	83428.5	MEAN 229	MAX 975	MIN 9.6	AC-FT 165500						

## 11292500 CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CA

LOCATION.--Lat 38°21'50", long 119°52'13", in NE¼NE¼ sec.22, T.6 N., R.19 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi (0.8 km) upstream from mouth, and 2.6 mi (4.2 km) northwest of Dardanelle.

DRAINAGE AREA.--67.5 mi<sup>2</sup> (175 km<sup>2</sup>).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,507.3 ft (1,678.62 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--32 years, 152 ft<sup>3</sup>/s (4.305 m<sup>3</sup>/s), 110,100 acre-ft/yr (136 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft<sup>3</sup>/s (123 m<sup>3</sup>/s) Nov. 20, 1950, gage height, 11.88 ft (3.621 m), from rating curve extended above 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) on basis of slope-area measurement of maximum flow; minimum daily, 9.8 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Sept. 11-15, 26-30, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 600 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	1530	1,060 30.0	6.36 1.939	May 26	2215	*1,480 41.9	7.39 2.252
Feb. 16	0500	1,200 34.0	6.74 2.054	June 16	2115	1,150 32.6	6.61 2.015
Apr. 11	1245	1,150 32.6	6.61 2.015	Sep. 25	2100	823 23.3	5.70 1.737
May 4	2100	961 27.2	6.09 1.856				

Minimum daily, 18 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s) Oct. 1, 2, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	39	63	101	67	192	107	680	863	583	219	73
2	18	41	63	94	67	186	105	747	841	577	196	71
3	21	40	61	89	67	167	102	828	811	593	179	70
4	20	38	60	84	68	156	100	867	760	577	170	69
5	19	37	58	80	69	148	97	823	694	560	161	67
6	18	37	57	79	68	143	96	790	637	580	151	66
7	25	35	56	72	67	140	94	829	635	607	163	65
8	25	34	56	75	66	135	93	812	678	595	155	64
9	23	33	57	80	65	133	95	717	754	578	141	63
10	36	32	57	85	65	150	164	597	824	589	132	63
11	33	31	55	81	64	161	922	532	867	609	122	65
12	26	42	54	78	64	150	552	527	873	611	117	62
13	25	110	55	76	78	151	427	575	825	583	113	61
14	24	208	56	75	190	155	382	614	824	555	110	60
15	25	83	57	75	363	140	353	633	941	545	106	64
16	24	80	55	74	820	134	338	721	1020	534	101	78
17	27	85	54	74	403	129	349	785	1050	476	98	72
18	30	69	55	74	313	124	371	805	1070	445	98	71
19	29	65	404	73	287	119	386	789	1020	432	98	69
20	27	62	802	73	294	116	386	842	968	412	96	65
21	26	63	411	73	300	114	383	915	929	403	93	62
22	24	84	261	70	293	112	408	981	902	389	102	60
23	24	103	205	69	266	112	460	1060	922	366	98	60
24	24	108	173	70	245	114	490	1120	889	365	95	168
25	23	85	152	72	229	115	481	1150	817	352	90	317
26	23	77	139	74	212	116	469	1230	852	370	85	273
27	23	74	135	71	199	113	480	1260	887	364	82	125
28	46	69	119	71	192	116	564	1130	894	318	82	102
29	35	66	115	69	---	111	578	1000	850	307	82	96
30	31	64	115	68	---	109	591	931	658	278	80	90
31	35	---	106	67	---	106	---	915	---	245	76	---
TOTAL	807	1994	4166	2366	5481	4167	10423	26205	25555	14798	3691	2691
MEAN	26.0	66.5	134	76.3	196	134	347	845	852	477	119	89.7
MAX	46	208	802	101	820	192	922	1260	1070	611	219	317
MIN	18	31	54	67	64	106	93	527	635	245	76	60
AC-FT	1600	3960	8260	4690	10870	8270	20670	51980	50690	29350	7320	5340

CAL YR 1981	TOTAL	36454	MEAN	99.9	MAX	802	MIN	17	AC-FT	72310
WTR YR 1982	TOTAL	102344	MEAN	280	MAX	1260	MIN	18	AC-FT	203000

## 11292600 DONNELL LAKE NEAR DARDANELLE, CA

LOCATION.--Lat 38°19'46", long 119°57'37" unsurveyed, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank in hoist house of Donnell Dam on Middle Fork Stanislaus River, 1.2 mi (1.9 km) downstream from Niagara Creek, and 6.9 mi (11.1 km) west of Dardanelle.

DRAINAGE AREA.--230 mi<sup>2</sup> (596 km<sup>2</sup>).

PERIOD OF RECORD.--October 1957 to current year. Prior to October 1960, published as Donnell's Reservoir near Dardanelle.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4.84 ft (1.475 m) National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Lake is formed by concrete arch-type dam completed in 1957. Usable capacity, 64,745 acre-ft (79.8 hm<sup>3</sup>), between gage heights 4,720.0 ft (1,438.66 m), minimum operating head and 4,917.0 ft (1,498.70 m), top of spillway gates. Lake is for power and conservation storage. Water passes through a 7.2 mi (11.6 km) tunnel to a powerplant and down the Middle Fork Stanislaus River to Beardsley Lake (station 11292800). Records, including extremes, represent total contents at 2400 hours of which 2,150 acre-ft (2.65 hm<sup>3</sup>) is below minimum operating head. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,900 acre-ft (80.0 hm<sup>3</sup>) May 8, 1963, gage height, 4,917.3 ft (1,498.79 m); minimum since reservoir first filled, 2,380 acre-ft (2.93 hm<sup>3</sup>) June 30, 1977, gage height, 4,721.8 ft (1,439.20 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 64,300 acre-ft (79.3 hm<sup>3</sup>) July 23, 26, gage height, 4,916.0 ft (1,498.40 m); minimum, 6,240 acre-ft (7.69 hm<sup>3</sup>) Feb. 13, gage height, 4,741.8 ft (1,445.30 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4,720	2,150	4,780	16,200
4,725	2,850	4,790	19,100
4,730	3,730	4,800	22,100
4,735	4,730	4,820	28,400
4,740	5,830	4,850	38,700
4,750	8,220	4,880	49,800
4,760	10,800	4,917.3	64,900
4,770	13,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18000	8370	13400	24100	7850	28200	13900	57100	63900	64100	64100	60700
2	17000	8520	12800	23500	7720	28100	13300	58000	63900	64200	63800	60400
3	17000	8700	12400	22800	7580	28200	12600	58000	64100	64200	63400	60100
4	17100	8850	12000	22200	7430	27500	11800	58000	64000	64200	63100	59900
5	16000	8970	12100	21400	7310	27100	11000	57900	64000	64200	62900	59700
6	15100	9130	12200	20700	7870	26600	10200	57900	64000	64200	62600	59300
7	14300	9280	12000	19900	8390	26100	9410	57900	64100	64200	62600	59200
8	13400	9410	11800	19300	8220	25600	8600	57800	64100	64200	62500	58800
9	12900	9430	11500	18600	7900	25100	7820	57600	64200	64200	62400	58300
10	13000	9560	11300	17800	7580	25100	7770	57500	64200	64200	62400	57800
11	13100	9720	11000	17000	7140	25200	16800	57500	64200	64200	62400	57300
12	12500	9280	11300	16100	6590	25100	20800	57500	64100	64200	62400	56700
13	11900	11300	11700	15100	6240	24800	22900	57600	64000	64200	62300	56200
14	11200	14100	11500	14200	7680	24700	24700	57600	64200	64200	62100	55700
15	10500	15000	11300	13200	12100	24300	25600	57700	64200	64200	62000	55200
16	9820	15200	11000	12200	20900	23900	26500	57800	64200	64200	61800	55600
17	9870	15600	10800	11200	23100	23400	27300	57900	64100	64200	61500	56200
18	9950	15600	11000	10200	24100	22900	28300	58100	64100	64200	61500	56700
19	9130	15400	14200	9200	24900	22300	29600	59200	64100	64200	61600	56000
20	8490	15200	21800	8170	25700	21600	30900	61100	64100	64200	61600	55500
21	7770	15900	23900	7410	26600	21000	32100	62900	64100	64200	61600	54900
22	7630	17500	24800	7140	27500	20300	33500	63900	64100	64200	61700	54400
23	7360	17800	27800	7580	28000	19700	35500	63900	64200	64300	61800	53600
24	7410	18000	25500	8000	28300	19100	37900	63100	64100	64300	61800	53600
25	7460	17600	25700	7870	28500	18400	40500	63600	64100	64300	61700	54900
26	7500	17100	25700	7700	28600	17900	42700	63900	64200	64300	61600	56000
27	7550	16500	25800	7240	28500	17200	44600	63500	64200	64200	61400	56000
28	7820	15700	25700	7020	28300	16700	47600	63400	64100	64200	61300	55600
29	8000	15000	25300	6780	---	16000	50500	63700	64000	64200	61200	55200
30	8100	14300	25100	7380	---	15300	53500	63500	64100	64200	61100	54700
31	8220	---	24600	7900	---	15500	---	63700	---	64200	60900	---
MAX	18000	18000	27800	24100	28600	28200	53500	63900	64200	64300	64100	60700
MIN	7360	8370	10800	6780	6240	15300	7770	57100	63900	64100	60900	53600
a	4750.0	4773.0	4808.2	4748.7	4819.5	4777.6	4889.4	4914.4	4915.4	4915.7	4907.7	4892.4
b	-10680	+6080	+10300	-16700	+20400	-12800	+38000	+10200	+400	+100	-3300	-6200

CAL YR 1981 b +10200

WTR YR 1982 b +35800

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

## 11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA

LOCATION.--Lat 38°14'50", long 120°02'01", in NW¼NE¼ sec.31, T.5 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 200 ft (61 m) upstream from Donnell powerhouse, 800 ft (244 m) downstream from Hells Half Acre bridge, 1.1 mi (1.8 km) upstream from Cow Creek, and 4.7 mi (7.6 km) northwest of Pinecrest.

DRAINAGE AREA.--287 mi<sup>2</sup> (743 km<sup>2</sup>).

PERIOD OF RECORD.--February 1956 to current year. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre bridge.

GAGE.--Water-stage recorder. Datum of gage is 3,418.31 ft (1,041.901 m) National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft (488 m) upstream at different datum.

REMARKS.--Records good except those for Nov. 26 to Feb. 17, which are fair. Flow regulated by Relief Reservoir since 1909, capacity, 15,600 acre-ft (19.2 hm<sup>3</sup>), by Donnell Lake (station 11292600), and by diversion around station through Donnell powerplant. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--26 years, 257 ft<sup>3</sup>/s (7.278 m<sup>3</sup>/s), 186,200 acre-ft/yr (230 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s (289 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 13.64 ft (4.158 m) in gage well, 14.2 ft (4.33 m) outside, from floodmarks, from rating curve extended above 5,200 ft<sup>3</sup>/s (147 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 12.20 ft (3.719 m); minimum daily, 3.3 ft<sup>3</sup>/s (0.094 m<sup>3</sup>/s) Nov. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, 23 ft (7.0 m) Dec. 23, 1955, from floodmarks, at present site, discharge, 26,600 ft<sup>3</sup>/s (753 m<sup>3</sup>/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,880 ft<sup>3</sup>/s (223 m<sup>3</sup>/s) Feb. 16, gage height, 12.52 ft (3.816 m); minimum daily, 28 ft<sup>3</sup>/s (0.79 m<sup>3</sup>/s) several days during October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	39	102	350	143	418	263	818	1760	917	100	68
2	29	39	97	304	141	456	246	2230	1810	702	94	68
3	29	34	92	284	140	380	245	3010	1630	813	89	68
4	29	33	88	229	139	351	252	3230	1530	817	85	68
5	29	33	88	237	140	329	236	3040	1340	768	83	67
6	28	34	88	233	140	313	231	2750	1130	767	81	67
7	31	35	81	222	141	303	220	2890	1080	979	80	67
8	28	34	78	210	140	295	217	2840	1110	978	80	67
9	28	33	77	203	136	292	222	2400	1310	932	78	66
10	35	28	77	200	131	528	476	1820	1750	1160	77	66
11	37	28	71	193	127	796	3300	1480	1920	1680	77	66
12	31	34	74	186	148	567	1510	1420	1930	1700	77	66
13	29	380	85	177	281	488	985	1640	1730	1650	77	65
14	29	470	91	174	1210	489	831	1880	1330	1320	76	65
15	29	139	87	169	3520	414	745	1860	1840	848	75	67
16	28	116	83	167	5220	375	684	2170	2250	812	74	75
17	28	231	82	166	1430	350	672	2390	2390	719	72	69
18	28	143	80	161	867	329	687	2290	2520	572	71	70
19	29	111	79	158	773	307	700	1870	2260	517	71	71
20	34	93	229	157	766	292	684	1520	2050	400	71	69
21	34	93	684	157	739	283	664	1830	1870	437	71	68
22	33	410	468	157	692	277	690	2320	1690	460	70	67
23	32	211	488	156	607	276	731	3120	1790	399	71	67
24	32	308	350	155	531	278	728	3620	1810	395	71	80
25	32	211	281	157	483	284	681	3110	1510	400	70	103
26	32	143	296	157	442	293	675	3340	1550	364	70	134
27	33	111	325	153	405	286	691	3860	1730	458	69	85
28	54	91	265	152	385	312	773	3260	1860	364	70	75
29	53	94	239	157	---	280	734	2420	2010	273	70	72
30	42	106	265	153	---	269	754	2220	1190	265	69	70
31	39	---	330	149	---	268	---	1980	---	164	69	---
TOTAL	1013	3865	5820	5883	20017	11178	20527	74628	51680	23030	2358	2176
MEAN	32.7	129	188	190	715	361	684	2407	1723	743	76.1	72.5
MAX	54	470	684	350	5220	796	3300	3860	2520	1700	100	134
MIN	28	28	71	149	127	268	217	818	1080	164	69	65
AC-FT	2010	7670	11540	11670	39700	22170	40720	148000	102500	45680	4680	4320

CAL YR 1981 TOTAL 36598 MEAN 100 MAX 771 MIN 16 AC-FT 72590  
WTR YR 1982 TOTAL 222175 MEAN 609 MAX 5220 MIN 28 AC-FT 440700



## 11292800 BEARDSLEY LAKE NEAR STRAWBERRY, CA

LOCATION.--Lat 38°12'17", long 120°04'31", in SE¼NW¼ sec.14, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, in hoist house of Beardsley Dam on Middle Fork Stanislaus River, 2.4 mi (3.9 km) upstream from Spring Gap powerhouse, 3.9 mi (6.3 km) west of Strawberry, and 4.7 mi (7.6 km) west of Pinecrest.

DRAINAGE AREA.--309 mi<sup>2</sup> (800 km<sup>2</sup>).

PERIOD OF RECORD.--June 1957 to current year. Prior to October 1960, published as Lake Hartley near Strawberry.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.84 ft (2.390 m) National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Reservoir is formed by rockfill, earth-core dam completed in 1957. Capacity, 98,500 acre-ft (121 hm<sup>3</sup>) between gage heights 3,145.0 ft (958.60 m), tunnel invert and 3,398.0 ft (1,035.71 m), top of spillway gates. No dead storage. Reservoir is used for power and conservation storage. Water passes through Beardsley powerplant and down Middle Fork Stanislaus River to Melones Reservoir (station 11299000). Records, including extremes, represent contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,700 acre-ft (122 hm<sup>3</sup>) June 27, 1957, gage height, 3,398.2 ft (1,035.77 m); minimum since reservoir first filled, 3 acre-ft (3,700 m<sup>3</sup>) Sept. 23, 1976, gage height, 3,154.4 ft (961.46 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 97,900 acre-ft (121 hm<sup>3</sup>) June 28, Aug. 2-6, gage height, 3,397.1 ft (1,035.44 m); minimum, 29,200 acre-ft (36.0 hm<sup>3</sup>) Nov. 16, gage height, 3,281.7 ft (1,000.26 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

3,154	2	3,240	11,600
3,160	41	3,260	19,500
3,170	267	3,290	33,100
3,180	693	3,320	48,800
3,190	1,370	3,350	66,400
3,200	2,373	3,370	79,200
3,210	3,790	3,398	98,500
3,220	5,720		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41800	34100	37100	54700	64600	78600	78400	89900	97400	97700	97800	90700
2	41900	34100	37500	55900	64500	78600	78700	90200	97600	97700	97900	90400
3	40900	34100	37700	57000	64300	78600	79600	90200	97700	97700	97900	90200
4	40000	34300	38000	58200	64200	78500	80300	90600	97700	97700	97900	89700
5	39900	34300	37800	59200	64000	78500	81100	90200	97700	97600	97900	89300
6	39900	33900	37500	59900	63100	78500	81800	90200	97700	97700	97900	89000
7	39900	33000	37500	60600	62200	78500	82600	90400	97700	97700	97800	88300
8	39900	32100	37400	61200	62000	78400	83200	90400	97700	97700	97800	88200
9	39600	31400	37400	61800	62000	78400	83800	90100	97600	97700	97800	88100
10	38800	30500	37300	62600	61900	78800	85200	89800	97600	97500	97500	88000
11	37900	29600	37100	63200	61900	78900	89700	89700	97700	97500	97200	87900
12	37600	29600	36400	63900	62000	78800	89300	89900	97600	97700	96900	87700
13	37400	29600	36000	64500	62200	78700	89500	90800	97700	97700	96700	87600
14	37200	29900	35900	65100	63800	78700	89500	91100	97700	97700	96400	87500
15	37000	29300	35600	65700	71300	78600	89500	91300	97700	97500	95900	87400
16	36800	29200	35600	66400	79800	78600	89500	91600	97300	97700	95700	86600
17	36000	29700	35500	67000	79200	78500	89500	92500	97500	97700	95500	85400
18	35100	29900	35500	67500	79000	78500	89500	93000	97700	97700	95200	84300
19	35200	30100	36500	68200	78900	78500	89600	94400	97600	97800	94900	84400
20	35500	30100	41100	68700	78900	78400	89500	96600	97400	97800	94500	84300
21	35800	29500	43100	69100	78900	78400	89500	97400	97700	97800	94200	84200
22	35100	29600	44300	68900	78800	78400	89500	97400	97700	97700	93900	84100
23	34500	30100	45100	68000	78800	78400	89700	97500	97600	97700	93600	84200
24	34000	31300	45900	67200	78700	78400	89800	97400	97600	97700	93300	84300
25	33900	32300	46600	66900	78600	78400	89700	97200	97600	97700	93000	84600
26	33900	33200	47300	66700	78600	78500	89700	97300	97700	97800	92600	84900
27	34000	34100	48300	66900	78600	78500	89900	97500	97700	97800	92300	85100
28	34100	34900	49000	66700	78600	78500	90000	97200	97900	97700	92000	85200
29	34100	35600	50300	66600	---	78500	89800	97400	97700	97800	91700	85300
30	34100	36300	51900	65600	---	78400	89800	97600	97700	97800	91300	85400
31	34100	---	53400	64800	---	78600	---	97600	---	97800	91100	---
MAX	41900	36300	53400	69100	79800	78900	90000	97600	97900	97800	97900	90700
MIN	33900	29200	35500	54700	61900	78400	78400	89700	97300	97500	91100	84100
a	3292.0	3296.4	3328.2	3347.5	3369.1	3368.9	3385.7	3396.8	3396.9	3397.0	3387.5	3379.3
b	-7700	+2200	+17100	+11400	+13800	-200	+11400	+7800	+100	+100	-6700	-5700

CAL YR 1981 b +6700  
WTR YR 1982 b +43600

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

## 11292900 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA

LOCATION.--Lat 38°11'36", long 120°05'53", in NW¼NW¼ sec.22, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi (0.8 km) downstream from Beardsley afterbay dam, 1.5 mi (2.4 km) downstream from Beardsley Dam, and 5.7 mi (9.2 km) west of Pinecrest.

DRAINAGE AREA.--316 mi<sup>2</sup> (818 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3,044.7 ft (928.02 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. No diversion above station. Flow regulated by Relief Reservoir, capacity, 15,600 acre-ft (19.2 hm<sup>3</sup>), Donnell Lake since April 1957 (station 11292600), and by Beardsley Lake since January 1957 (station 11292800). See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--25 years (water years 1958-82), 633 ft<sup>3</sup>/s (17.93 m<sup>3</sup>/s), 458,600 acre-ft/yr (565 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,630 ft<sup>3</sup>/s (188 m<sup>3</sup>/s) May 24, 1969, gage height, 11.07 ft (3.374 m); minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Oct. 10, 11, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,650 ft<sup>3</sup>/s (160 m<sup>3</sup>/s) May 27, gage height, 10.53 ft (3.210 m); minimum daily, 30 ft<sup>3</sup>/s (0.85 m<sup>3</sup>/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	44	457	447	614	1120	1050	1600	2620	1690	765	652
2	512	31	457	445	610	1250	786	3030	2490	1490	724	650
3	507	30	456	446	614	1150	600	4060	2370	1540	767	649
4	505	32	457	462	611	1080	605	3970	2310	1640	694	672
5	503	31	460	621	614	1040	605	4350	2080	1580	623	690
6	506	142	458	615	614	1010	605	3720	1890	1430	623	690
7	511	444	460	609	612	1000	605	3740	1850	1760	623	683
8	512	453	460	608	610	980	604	3760	1900	1670	623	680
9	505	459	459	610	610	975	605	3500	2090	1670	623	682
10	505	465	492	610	610	1110	627	2790	2520	1630	621	686
11	503	464	504	611	609	1610	2530	2350	2630	1630	618	690
12	504	467	488	614	606	1480	2990	2160	2740	1650	621	690
13	502	465	320	614	613	1320	1900	1960	2490	1660	627	690
14	495	452	490	614	645	1340	1630	2550	2070	1660	627	690
15	493	448	491	614	790	1250	1750	2560	2570	1560	622	690
16	494	448	485	614	2180	1170	1690	2780	3190	1380	630	637
17	487	447	480	614	2720	1120	1630	2680	3030	1420	627	685
18	486	447	477	619	2450	1080	1620	3000	3220	1290	634	683
19	431	447	479	623	2030	1050	1620	1900	3090	1190	636	677
20	227	448	484	624	1640	1010	1610	1050	2920	1120	635	676
21	319	448	476	623	1540	999	1600	2070	2500	1140	639	676
22	488	448	478	623	1490	983	1570	3150	2420	1180	636	676
23	483	447	472	622	1450	981	1530	3860	2570	1110	647	677
24	269	447	454	618	1340	992	1550	4560	2560	1110	635	681
25	90	447	447	620	1260	995	1590	4130	2260	1110	644	682
26	60	448	446	623	1200	1020	1540	4140	2220	1070	659	681
27	59	446	446	623	1150	1020	1490	4680	2420	1150	618	681
28	59	450	445	623	1110	1090	1530	4340	2490	1100	658	681
29	60	457	445	622	---	1060	1690	3090	2840	953	658	682
30	60	458	445	619	---	1010	1600	2890	1950	958	665	681
31	58	---	445	616	---	1070	---	2710	---	828	653	---
TOTAL	11704	11160	14313	18466	30942	34365	41352	97130	74300	42369	20075	20340
MEAN	378	372	462	596	1105	1109	1378	3133	2477	1367	648	678
MAX	512	467	504	624	2720	1610	2990	4680	3220	1760	767	690
MIN	58	30	320	445	606	975	600	1050	1850	828	618	637
AC-FT	23210	22140	28390	36630	61370	68160	82020	192700	147400	84040	39820	40340
CAL YR 1981	TOTAL	151616	MEAN	415	MAX	538	MIN	30	AC-FT	300700		
WTR YR 1982	TOTAL	416516	MEAN	1141	MAX	4680	MIN	30	AC-FT	826200		

## 11293500 NORTH FORK STANISLAUS RIVER BELOW SILVER CREEK, CA

LOCATION.--Lat 38°26'22", long 120°00'53", in SE¼ sec.20, T.7 N., R.18 E., Alpine County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 100 ft (30 m) downstream from Silver Creek, and 5.6 mi (9.0 km) northeast of Big Meadows.

DRAINAGE AREA.--27.8 mi<sup>2</sup> (72.0 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1930; 1954(M), drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,677.3 ft (2,035.24 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Flow regulated by Lake Alpine, Union, and Utica Reservoirs, combined capacity, 9,580 acre-ft (11.8 hm<sup>3</sup>). No diversion above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--30 years, 79.5 ft<sup>3</sup>/s (2.251 m<sup>3</sup>/s), 57,600 acre-ft/yr (71.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,780 ft<sup>3</sup>/s (78.7 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 11.16 ft (3.402 m), from floodmarks, from rating curve extended above 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s); minimum daily, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Oct. 10, 1958.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.17 ft (3.405 m), from Pacific Gas and Electric Co. recorder chart, discharge, 2,790 ft<sup>3</sup>/s (79.0 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 300 ft<sup>3</sup>/s (8.50 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2145	945 26.8	7.29 2.222	Apr. 11	1445	2,050 58.1	8.98 2.737
Dec. 20	1445	*2,450 69.4	9.76 2.975	May 23	2045	1,100 31.2	7.49 2.283
Feb. 16	1900	1,900 53.8	8.70 2.652	June 18	2300	605 17.1	6.74 2.054

Minimum daily, 1.7 ft<sup>3</sup>/s (0.048 m<sup>3</sup>/s) Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	36	14	83	36	108	83	568	323	158	4.4	2.0
2	31	34	18	68	36	118	65	604	319	129	3.4	24
3	35	32	15	58	37	106	67	674	307	120	2.7	61
4	34	31	14	62	38	90	68	671	269	109	8.5	70
5	34	30	12	82	34	80	51	557	229	88	18	37
6	33	31	12	66	34	73	50	525	204	76	22	3.7
7	32	31	11	55	34	70	45	605	220	79	26	3.4
8	27	29	13	50	34	68	42	550	257	72	26	3.2
9	17	29	15	51	32	68	44	413	312	64	25	26
10	13	29	20	51	30	147	126	251	337	58	22	59
11	12	28	21	51	30	196	1580	229	331	56	22	66
12	6.2	36	21	47	29	128	920	308	286	54	22	66
13	4.3	307	34	44	37	126	430	429	253	48	16	69
14	3.3	201	52	46	160	144	281	447	250	42	2.0	74
15	3.2	90	61	45	620	100	217	500	318	37	1.8	74
16	3.1	89	57	44	1550	90	200	586	331	33	1.8	76
17	3.1	131	50	43	570	82	209	563	373	29	1.7	74
18	3.1	57	50	43	220	73	238	501	373	27	12	75
19	6.8	46	1510	43	172	60	259	493	388	25	48	74
20	15	32	1690	43	178	56	251	576	265	22	48	73
21	16	38	209	43	182	54	242	613	231	20	47	72
22	16	145	143	39	171	55	293	657	204	19	47	72
23	21	83	111	36	155	60	362	730	200	17	50	72
24	29	113	100	38	132	69	381	739	190	16	52	87
25	29	34	87	40	120	78	340	704	174	16	52	115
26	29	22	74	48	112	86	311	741	172	15	52	92
27	29	19	108	46	103	73	340	693	166	14	51	74
28	51	17	82	43	97	93	467	491	167	12	28	71
29	37	15	83	41	---	93	440	381	234	8.5	3.1	70
30	34	13	111	37	---	89	465	361	185	6.3	2.3	70
31	37	---	94	36	---	140	---	361	---	5.4	2.1	---
TOTAL	673.1	1828	4892	1522	4983	2873	8867	16521	7868	1475.2	719.8	1805.3
MEAN	21.7	60.9	158	49.1	178	92.7	296	533	262	47.6	23.2	60.2
MAX	51	307	1690	83	1550	196	1580	741	388	158	52	115
MIN	3.1	13	11	36	29	54	42	229	166	5.4	1.7	2.0
AC-FT	1340	3630	9700	3020	9880	5700	17590	32770	15610	2930	1430	3580
CAL YR 1981	TOTAL	23155.3	MEAN	63.4	MAX	1690	MIN	3.1	AC-FT	45930		
WTR YR 1982	TOTAL	54027.4	MEAN	148	MAX	1690	MIN	1.7	AC-FT	107200		

## 11294000 HIGHLAND CREEK BELOW SPICER MEADOWS RESERVOIR, CA

LOCATION.--Lat 38°23'34", long 119°59'50", in SW¼ sec.3, T.6 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 500 ft (152 m) downstream from Spicer Meadows Reservoir dam, 5.8 mi (9.3 km) upstream from mouth, and 7 mi (11 km) east of Big Meadow.

DRAINAGE AREA.--42.4 mi<sup>2</sup> (109.8 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1930: 1953.

GAGE.--Water-stage recorder. Datum of gage is 6,382.2 ft (1,945.29 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Spicer Meadows Reservoir 500 ft (152 m) upstream, capacity, 4,060 acre-ft (5.01 hm<sup>3</sup>). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--30 years, 123 ft<sup>3</sup>/s (3.483 m<sup>3</sup>/s), 89,110 acre-ft/yr (110 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft<sup>3</sup>/s (279 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 11.88 ft (3.621 m), from rating curve extended above 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s); no flow some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 20, 1950, reached a stage of 11.50 ft (3.505 m), from Pacific Gas and Electric Co. recorder chart, discharge, 8,800 ft<sup>3</sup>/s (249 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0445	1,170 33.1	6.15 1.875	Apr. 11	1245	*4,050 115	8.96 2.731
Nov. 24	0745	680 19.3	5.26 1.603	May 26	2200	1,390 39.4	6.47 1.972
Dec. 20	1400	3,210 90.9	8.34 2.542	Sept. 25	2130	554 15.7	4.99 1.521
Feb. 16	0500	3,080 87.2	8.23 2.509				

Minimum daily, 4.3 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	7.0	84	115	57	163	75	752	491	331	40	5.8
2	7.5	15	90	103	57	147	87	812	485	290	36	5.3
3	7.5	22	82	87	59	137	86	886	467	297	34	5.6
4	7.5	22	77	103	58	118	76	891	429	279	19	5.5
5	13	22	73	83	53	110	75	772	380	250	23	5.1
6	25	22	69	91	57	107	74	728	345	242	25	4.9
7	24	22	64	91	57	109	67	797	358	260	26	4.9
8	24	22	62	89	55	104	67	743	386	244	29	4.7
9	24	21	63	90	48	106	73	594	447	227	25	4.3
10	24	21	66	87	45	191	218	432	484	218	23	5.0
11	24	21	66	84	45	250	2980	375	498	217	20	7.0
12	23	22	61	77	44	189	1130	418	480	209	19	5.2
13	23	26	64	77	62	179	512	541	447	194	17	5.2
14	23	484	80	77	462	184	384	576	445	175	16	5.1
15	23	230	89	73	993	138	332	621	518	157	15	5.1
16	27	234	79	74	1930	121	315	709	550	156	13	5.2
17	32	385	70	72	474	109	335	728	560	139	12	5.1
18	31	174	70	76	311	99	375	695	575	116	11	6.8
19	26	127	1400	71	282	89	401	655	697	106	12	11
20	22	100	2450	72	310	83	394	757	509	100	11	9.6
21	21	133	611	67	325	84	381	822	449	94	10	7.3
22	20	430	331	56	308	85	432	859	425	90	13	6.0
23	10	307	254	60	259	91	516	946	435	82	29	5.8
24	4.9	451	205	67	222	100	528	981	415	79	23	66
25	4.9	231	180	71	201	111	488	969	390	76	15	199
26	4.9	169	162	81	179	115	458	1000	394	73	11	239
27	5.0	137	169	68	160	106	500	942	394	72	9.0	64
28	6.3	113	141	69	155	118	636	740	407	82	8.7	39
29	6.6	97	136	58	---	95	603	584	470	62	7.9	34
30	6.8	87	138	54	---	85	640	524	363	56	7.2	26
31	6.9	---	130	56	---	92	---	531	---	47	6.6	---
TOTAL	515.3	4154.0	7616	2399	7268	3815	13238	22380	13693	5020	566.4	802.5
MEAN	16.6	138	246	77.4	260	123	441	722	456	162	18.3	26.8
MAX	32	484	2450	115	1930	250	2980	1000	697	331	40	239
MIN	4.9	7.0	61	54	44	83	67	375	345	47	6.6	4.3
AC-FT	1020	8240	15110	4760	14420	7570	26260	44390	27160	9960	1120	1590
CAL YR 1981	TOTAL	38657.8	MEAN 106	MAX 2450	MIN 3.2	AC-FT 76680						
WTR YR 1982	TOTAL	81467.2	MEAN 223	MAX 2980	MIN 4.3	AC-FT 161600						

## 11294500 NORTH FORK STANISLAUS RIVER NEAR AVERY, CA

LOCATION.--Lat 38°14'45", long 120°17'20", in SW¼NE¼ sec.35, T.5 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 700 ft (213 m) upstream from intake of Utica Canal, 3.3 mi (5.3 km) upstream from Beaver Creek, and 5.1 mi (8.2 km) northeast of Avery.

DRAINAGE AREA.--163 mi<sup>2</sup> (422 km<sup>2</sup>).

PERIOD OF RECORD.--July 1914 to September 1925, November 1928 to current year. Yearly discharge only for some years, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M). WSP 1515: 1915(M), 1932(M), 1936(M), 1938, 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 3,388.3 ft (1,032.75 m) National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to September 1922, nonrecording gage at same site at datum 0.05 ft (0.015 m) lower.

REMARKS.--Flow regulated at low and medium stages of Lake Alpine, Spicer Meadows, Union and Utica Reservoirs, combined capacity, 13,600 acre-ft (16.8 hm<sup>3</sup>). Diversion of a maximum of 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) during summer from Beaver Creek into river above station. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--65 years, 422 ft<sup>3</sup>/s (11.95 m<sup>3</sup>/s), 305,700 acre-ft/yr (377 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,000 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 15.00 ft (4.572 m), from floodmarks, from rating curve extended above 14,000 ft<sup>3</sup>/s (396 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 13.8 ft (4.21 m); minimum daily, 5.5 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Dec. 6, 7, 1929.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2300	5,140 146	8.18 2.493	Mar. 11	0145	2,590 73.3	6.55 1.996
Nov. 22	0515	2,490 70.5	6.47 1.972	Apr. 11	1545	17,600 498	12.04 3.670
Dec. 20	1500	16,200 459	11.75 3.581	May 3	2300	4,390 124	7.57 2.307
Feb. 16	0430	*22,600 640	13.01 3.965	June 18	1945	2,750 77.9	6.50 1.981

Minimum daily, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	70	256	745	319	954	633	2860	1510	857	95	27
2	33	65	272	618	314	1070	574	2980	1450	668	88	26
3	39	66	253	503	326	885	593	3220	1400	616	90	31
4	43	71	237	540	334	762	610	3340	1290	584	78	80
5	40	67	221	748	301	704	546	2950	1160	506	62	86
6	40	72	207	559	299	655	524	2670	1020	446	70	58
7	66	78	192	476	298	662	479	2940	1030	451	84	29
8	64	70	185	442	298	631	469	2820	1070	431	92	24
9	54	66	185	450	287	642	492	2300	1190	396	91	22
10	56	63	205	451	269	1120	893	1660	1310	357	83	27
11	78	62	210	450	264	2020	12800	1390	1320	346	76	72
12	60	74	194	421	260	1300	5960	1520	1270	332	73	81
13	47	1430	217	392	323	1110	2670	1900	1180	309	69	80
14	40	2160	263	407	2480	1230	1990	2090	1050	283	64	85
15	37	675	324	395	6910	1000	1750	2080	1220	260	45	93
16	35	747	303	392	14000	886	1610	2440	1290	244	40	124
17	36	1240	260	383	3170	807	1620	2520	1390	234	38	105
18	44	657	239	384	1800	727	1760	2270	1570	207	36	100
19	42	440	5130	384	1520	663	1850	2130	1790	188	39	111
20	39	347	12300	378	1590	614	1820	2370	1360	175	78	108
21	40	288	2930	382	1620	611	1720	2630	1120	166	77	100
22	43	1620	1380	339	1560	601	1860	2710	984	157	75	96
23	42	951	1050	323	1350	613	2120	2950	956	148	77	94
24	42	1400	868	346	1160	640	2210	3100	926	139	97	141
25	42	823	764	354	1070	683	2040	2970	826	134	91	265
26	42	546	686	420	991	727	1930	3040	824	126	82	655
27	42	441	948	401	904	677	1980	2930	801	120	78	234
28	156	360	720	384	878	760	2470	2410	801	129	77	165
29	129	302	736	355	---	662	2440	1850	1030	124	59	144
30	80	271	997	323	---	616	2380	1630	975	110	33	139
31	67	---	801	314	---	663	---	1660	---	103	29	---
TOTAL	1651	15522	33533	13459	44895	25695	60793	76330	35113	9346	2166	3402
MEAN	53.3	517	1082	434	1603	829	2026	2462	1170	301	69.9	113
MAX	156	2160	12300	748	14000	2020	12800	3340	1790	857	97	655
MIN	33	62	185	314	260	601	469	1390	801	103	29	22
AC-FT	3270	30790	66510	26700	89050	50970	120600	151400	69650	18540	4300	6750
CAL YR 1981	TOTAL	129804	MEAN 356	MAX 12300	MIN 22	AC-FT 257500						
WTR YR 1982	TOTAL	321905	MEAN 882	MAX 14000	MIN 22	AC-FT 638500						

## 11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°08'29", long 120°22'19", in NW¼SW¼ sec.6, T.3 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, on right bank 1,000 ft (300 m) upstream from Stanislaus powerplant, and 3.6 mi (5.8 km) south of Hathaway Pines.

DRAINAGE AREA.--629 mi<sup>2</sup> (1,629 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-80-3: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1,030.00 ft (313.944 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Records good except those for Feb. 16, 17, which are fair. Many diversions above station for hydro-electric powerplants. Small diversions for domestic water supply. Stanislaus tunnel diverts from left bank of Middle Fork Stanislaus River 13.7 mi (22.0 km) upstream from station in SE¼ sec.24, T.4 N., R.16 E., to Stanislaus powerplant 1,000 ft (300 m) downstream from station. See schematic diagram of Stanislaus River basin. For records of combined discharge of river and tunnel, see following page.

COOPERATION.--Records of diversion to Stanislaus powerplant furnished by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--River only: 15 years, 852 ft<sup>3</sup>/s (24.13 m<sup>3</sup>/s), 617,300 acre-ft/yr (761 hm<sup>3</sup>/yr).

Combined river and powerplant: 15 years, 1,317 ft<sup>3</sup>/s (37.30 m<sup>3</sup>/s), 954,200 acre-ft/yr (1.18 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 37,000 ft<sup>3</sup>/s (1,050 m<sup>3</sup>/s) Feb. 16, 1982, gage height, 22.5 ft (6.86 m) from outside highwater mark, from rating curve extended above 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s) on basis of computation of peak flow over a weir; minimum daily, 9.4 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Aug. 7, 1977.

Combined flow: Maximum discharge, 37,500 ft<sup>3</sup>/s (1,060 m<sup>3</sup>/s) Feb. 16, 1982; minimum daily, 27 ft<sup>3</sup>/s (0.76 m<sup>3</sup>/s) July 20, 1977.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 37,000 ft<sup>3</sup>/s (1,050 m<sup>3</sup>/s) Feb. 16, gage height, 22.5 ft (6.86 m) from outside highwater mark; minimum daily, 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) Nov. 9.

Combined flow: Maximum discharge, 37,500 ft<sup>3</sup>/s (1,060 m<sup>3</sup>/s) Feb. 16; minimum daily, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) Nov. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	31	284	1610	669	1990	2230	4670	4000	2020	371	206
2	24	30	289	1170	643	2750	1840	5700	3650	1630	284	190
3	27	27	269	886	654	2500	1600	7130	3600	1590	306	194
4	29	24	245	1290	655	2120	1860	7270	3400	1680	287	195
5	24	24	228	2600	596	1890	1590	7370	3170	1590	169	225
6	30	25	209	1520	600	1720	1470	6410	2850	1350	166	227
7	48	27	208	1110	601	1630	1330	6610	2820	1650	166	232
8	55	23	176	934	593	1550	1270	6620	2800	1580	166	234
9	53	20	167	898	569	1480	1290	5970	2790	1560	168	235
10	52	21	189	845	551	2650	2050	4480	3300	1500	171	239
11	60	22	232	825	533	4160	16300	3710	3400	1480	164	233
12	63	27	207	813	499	3500	10900	3600	3510	1490	162	225
13	50	970	235	746	587	2940	6180	3710	3170	1480	163	230
14	52	1920	244	738	3770	3600	4890	4480	2590	1450	164	236
15	40	761	342	722	13000	3040	4460	4410	3190	1360	162	231
16	39	807	333	713	21700	2630	4170	4990	3900	1150	163	243
17	34	1060	283	698	9250	2400	3970	5010	3820	1130	166	281
18	30	759	249	710	4710	2230	4080	5050	4120	1020	167	259
19	30	481	6090	715	3500	2040	4130	4090	4440	856	175	259
20	27	349	12300	718	3270	1880	4070	3330	3800	794	177	262
21	20	281	3930	720	3180	1820	3860	4270	3130	791	172	263
22	25	1240	2090	649	3100	1750	3950	5350	2890	786	167	246
23	27	1100	1470	627	2750	1720	4000	6340	2960	809	156	241
24	28	1140	1130	648	2430	1740	3970	6970	2880	685	120	272
25	24	912	955	664	2200	1780	3800	6740	2610	703	124	417
26	37	684	850	850	2030	1900	3710	6490	2440	656	128	924
27	53	547	1230	839	1890	1830	3730	6880	2630	730	113	483
28	159	449	956	809	1740	2050	4370	6510	2710	697	156	360
29	184	370	1180	739	---	1940	4540	4690	3270	561	179	318
30	97	318	2080	687	---	1850	4260	4250	2530	537	207	294
31	38	---	1500	664	---	2300	---	4300	---	442	211	---
TOTAL	1481	14449	40150	28157	86270	69380	119870	167400	96370	35757	5650	8454
MEAN	47.8	482	1295	908	3081	2238	3996	5400	3212	1153	182	282
MAX	184	1920	12300	2600	21700	4160	16300	7370	4440	2020	371	924
MIN	20	20	167	627	499	1480	1270	3330	2440	442	113	190
AC-FT	2940	28660	79640	55850	171100	137600	237800	332000	191100	70920	11210	16770

CAL YR 1981 TOTAL 150947 MEAN 414 MAX 12300 MIN 13 AC-FT 299400  
WTR YR 1982 TOTAL 673388 MEAN 1845 MAX 21700 MIN 20 AC-FT 1336000

NOTE.--No gage-height record Feb. 15, 16.

## 11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF STANISLAUS RIVER AND STANISLAUS  
POWERPLANT AT STANISLAUS, NEAR HATHAWAY PINES, CA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	56	483	2130	1190	2510	2750	5200	4530	2550	900	739
2	545	49	488	1690	1170	3270	2360	6230	4180	2160	813	723
3	549	39	451	1410	1180	3020	2120	7660	4130	2120	835	726
4	548	37	411	1810	1180	2640	2390	7800	3930	2210	816	720
5	543	37	392	3130	1120	2410	2110	7900	3700	2120	698	750
6	559	41	373	2040	1120	2240	1990	6940	3380	1880	695	752
7	578	512	372	1630	1120	2150	1850	7140	3350	2180	695	757
8	584	538	339	1460	1120	2070	1790	7150	3330	2110	695	758
9	581	543	491	1420	1090	2000	1810	6500	3320	2090	697	757
10	579	546	710	1370	1070	3170	2580	5010	3830	2030	700	762
11	586	546	759	1350	1060	4680	16800	4240	3930	2010	693	757
12	589	549	732	1330	1020	4020	11400	4130	4040	2020	691	752
13	575	1490	627	1270	1110	3460	6700	4240	3700	2010	692	757
14	576	2440	774	1260	4300	4130	5410	5010	3120	1980	693	763
15	564	1280	871	1240	13500	3560	4980	4940	3720	1890	691	756
16	562	1310	860	1230	22200	3150	4690	5520	4430	1680	692	768
17	556	1570	809	1220	9770	2920	4490	5540	4350	1660	695	806
18	553	1270	774	1230	5230	2750	4600	5580	4650	1550	696	784
19	552	988	6610	1240	4020	2560	4650	4620	4970	1390	704	784
20	336	855	12800	1240	3790	2400	4590	3860	4330	1320	706	787
21	319	620	4450	1240	3700	2340	4380	4800	3660	1320	701	788
22	543	1450	2610	1170	3620	2270	4470	5880	3420	1320	696	770
23	548	1310	1990	1150	3270	2240	4520	6870	3490	1340	685	765
24	417	1350	1650	1170	2950	2260	4490	7500	3410	1210	649	795
25	119	1120	1480	1190	2720	2300	4320	7270	3140	1230	653	941
26	77	888	1370	1370	2550	2420	4230	7020	2970	1190	657	1450
27	88	749	1750	1360	2410	2350	4250	7410	3160	1260	643	1010
28	194	646	1480	1330	2260	2570	4900	7040	3240	1230	695	883
29	219	570	1700	1260	---	2460	5070	5220	3800	1090	716	842
30	127	517	2600	1210	---	2370	4790	4780	3060	1070	742	499
31	68	---	2020	1190	---	2830	---	4830	---	971	745	---
TOTAL	13778	23916	53226	44340	100840	85520	135480	183830	112270	52191	22079	23901
MEAN	444	797	1717	1430	3601	2759	4516	5930	3742	1684	712	797
MAX	589	2440	12800	3130	22200	4680	16800	7900	4970	2550	900	1450
MIN	68	37	339	1150	1020	2000	1790	3860	2970	971	643	499
AC-FT	27330	47440	105600	87950	200000	169600	268700	364600	222700	103500	43790	47410
CAL YR 1981 TOTAL	311558		MEAN	854	MAX	12800	MIN	37	AC-FT	618000		
WTR YR 1982 TOTAL	851371		MEAN	2333	MAX	22200	MIN	37	AC-FT	1689000		

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

## WATER-QUALITY RECORDS

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1970 to March 1978, October 1978 to current year.

INSTRUMENTATION.--Temperature recorder February 1970 to March 1978 and since October 1978.

REMARKS.--Water temperatures are affected by the powerplant operation.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C July 19, 20, 1977; minimum recorded, 1.5°C Jan. 3, 1975, Dec. 22, 27-29, 1976.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 18.5°C Oct. 4; minimum recorded, 3.0°C Jan. 22.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	17.5	13.0	10.0	8.0	6.5	7.5	5.5	6.0	4.5	7.5	6.5
2	18.0	17.5	13.0	11.5	7.5	6.0	5.5	4.5	6.0	5.0	7.0	5.0
3	17.5	17.5	12.5	10.5	7.5	6.5	4.5	3.5	6.0	5.0	7.0	5.5
4	18.5	17.0	13.0	11.0	8.0	6.0	5.0	4.0	6.0	5.0	7.0	5.5
5	18.0	16.5	12.5	11.5	8.0	6.5	6.0	5.0	5.5	4.0	7.5	5.5
6	17.5	17.0	14.0	12.0	8.0	7.0	6.0	5.0	5.5	4.5	7.0	5.5
7	17.0	16.5	14.0	13.0	8.0	6.5	4.5	4.0	5.5	4.5	7.0	6.0
8	17.0	16.0	14.5	14.0	8.0	7.0	5.0	4.0	6.5	5.0	8.5	6.5
9	17.0	16.0	14.5	14.0	8.0	7.0	5.5	5.0	6.0	5.5	8.0	6.5
10	16.5	16.5	14.5	14.0	8.0	7.5	6.0	5.0	6.0	4.5	8.5	7.0
11	16.5	15.5	14.5	13.5	8.0	7.5	6.0	5.0	5.5	4.5	8.0	7.0
12	16.0	15.0	14.0	14.0	7.5	7.0	6.0	5.0	6.0	4.5	8.5	6.5
13	15.5	14.0	14.0	10.5	8.0	7.0	6.0	4.5	6.5	5.5	8.5	7.0
14	15.5	14.5	10.5	9.0	8.0	7.5	6.0	5.0	7.0	5.0	8.5	6.5
15	15.5	14.5	11.5	9.5	8.5	8.0	5.5	4.0	6.5	5.5	7.0	6.0
16	15.5	14.5	12.0	10.0	8.0	7.5	6.5	5.0	7.5	5.5	6.5	5.0
17	15.5	14.5	12.0	9.5	7.5	7.0	6.0	4.5	7.5	6.0	6.5	5.0
18	15.5	14.5	10.0	8.0	8.0	7.5	6.0	5.5	7.5	5.5	6.5	5.5
19	16.0	15.0	10.0	8.5	8.5	7.5	5.5	5.0	8.0	6.5	7.0	6.0
20	16.0	14.5	11.0	8.5	8.5	7.5	5.0	4.0	8.0	6.5	7.0	5.0
21	16.0	14.5	11.0	10.0	7.5	6.5	4.5	3.5	8.0	6.5	7.5	5.5
22	15.5	14.5	11.0	9.5	6.5	5.5	4.5	3.0	8.0	7.0	8.0	5.5
23	15.5	15.0	11.0	10.0	6.0	5.5	5.5	3.5	7.5	6.0	8.5	6.0
24	15.5	14.5	11.0	9.0	6.5	5.5	5.5	4.0	7.0	5.5	9.0	6.5
25	16.0	14.0	8.5	7.5	6.5	5.5	6.0	4.0	7.5	6.0	9.5	7.0
26	15.0	13.5	8.0	6.5	7.0	6.0	6.0	5.5	7.0	6.0	8.5	7.0
27	15.5	14.0	8.0	6.0	7.5	7.0	6.5	5.0	7.5	6.0	8.5	7.0
28	15.0	13.5	8.0	6.5	7.0	6.0	6.0	4.5	7.5	6.5	8.5	5.0
29	13.0	11.5	8.0	5.5	7.5	7.0	5.5	4.0	---	---	5.0	3.5
30	13.0	11.0	7.5	5.5	8.0	7.0	5.5	4.0	---	---	5.5	4.0
31	13.5	10.5	---	---	7.5	7.0	5.5	4.0	---	---	5.5	3.5
MONTH	18.5	10.5	14.5	5.5	8.5	5.5	7.5	3.0	8.0	4.0	9.5	3.5



11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

LOCATION.--Lat 38°11'51", long 120°00'27", in SW¼ sec.16, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.3 mi (0.5 km) downstream from bridge on State Highway 108 at Strawberry, 0.6 mi (1.0 km) downstream from Herring Creek, and 1.2 mi (1.9 km) downstream from Pinecrest Lake.

PERIOD OF RECORD.--October 1911 to January 1917, August 1938 to current year. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence" 1911-13.

GAGE.--Water-stage recorder. Datum of gage is 5,235.1 ft (1,595.66 m) National Geodetic Vertical Datum of 1929 (river-profile survey). October 1911 to January 1917, nonrecording gage at site 1 mi (2 km) downstream at different datum.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,900 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) Nov. 21, 1950, gage height, 9.25 ft (2.819 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of contracted-opening measurement of maximum flow at bridge 0.3 mi (0.5 km) below station; minimum, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Nov. 22, 23, 1946.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	29	67	106	67	130	85	679	568	300	63	66
2	41	28	68	99	68	138	88	710	578	255	63	66
3	41	29	65	88	69	130	88	771	570	292	64	65
4	40	23	65	87	69	119	84	737	496	285	65	65
5	40	19	64	95	69	111	84	773	433	240	64	66
6	74	44	63	90	70	107	84	738	394	221	65	66
7	94	82	62	86	71	105	85	672	404	270	67	66
8	93	82	62	84	71	101	83	693	482	266	67	66
9	93	85	62	83	70	99	81	552	597	233	65	66
10	94	78	62	82	70	124	100	374	673	217	65	65
11	93	71	61	80	70	183	1560	246	704	217	65	65
12	91	75	61	79	64	152	1080	249	646	206	65	66
13	83	82	62	76	65	139	651	409	574	206	64	65
14	75	97	64	76	146	145	470	512	514	189	65	66
15	73	72	70	76	223	135	376	511	674	184	65	66
16	73	63	76	74	1760	118	328	636	758	163	65	67
17	74	80	75	72	811	112	327	603	759	165	66	67
18	75	55	76	74	411	104	345	645	742	142	66	68
19	75	57	215	72	285	96	367	655	675	123	66	70
20	75	61	587	71	285	92	390	740	619	111	66	68
21	74	70	274	69	289	90	395	788	584	107	66	66
22	74	144	208	68	285	90	428	833	516	106	66	67
23	74	96	182	69	219	90	483	888	546	97	28	67
24	45	108	157	70	191	91	500	915	531	91	15	81
25	26	71	138	71	175	92	476	937	466	75	14	115
26	25	57	123	74	160	91	458	983	495	70	13	133
27	26	54	155	74	144	92	423	988	466	67	42	90
28	30	57	131	74	137	87	506	844	477	67	65	80
29	28	62	121	68	---	85	580	671	584	63	66	77
30	28	64	130	67	---	86	582	618	388	65	66	74
31	28	---	117	67	---	85	---	617	---	66	66	---
TOTAL	1896	1995	3723	2421	6414	3419	11587	20987	16913	5159	1808	2175
MEAN	61.2	66.5	120	78.1	229	110	386	677	564	166	58.3	72.5
MAX	94	144	587	106	1760	183	1560	988	759	300	67	133
MIN	25	19	61	67	64	85	81	246	388	63	13	65
AC-FT	3760	3960	7380	4800	12720	6780	22980	41630	33550	10230	3590	4310
CAL YR 1981	TOTAL	30071	MEAN	82.4	MAX	587	MIN 12	AC-FT	59650			
WTR YR 1982	TOTAL	78497	MEAN	215	MAX	1760	MIN 13	AC-FT	155700			

## 11297000 PHILADELPHIA CANAL NEAR STRAWBERRY, CA

LOCATION.--Lat 38°10'39", long 120°02'46", in NW¼NW¼ sec.30, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 250 ft (76 m) downstream from diversion dam on South Fork Stanislaus River, and 2.8 mi (4.5 km) southwest of Strawberry.

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,960 ft (1,511.8 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Canal diverts from right bank of South Fork Stanislaus River for power development in Spring Gap powerplant of Pacific Gas and Electric Co.; tailrace empties into Middle Fork Stanislaus River at powerplant above Sand Bar Flat. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--43 years, 42.4 ft<sup>3</sup>/s (1.201 m<sup>3</sup>/s), 30,720 acre-ft/yr (37.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 64 ft<sup>3</sup>/s (1.81 m<sup>3</sup>/s) in 1941, 1961-63, 1965, 1971-72, 1974-75, 1982; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	1.2	60	56	60	60	59	61	60	61	61	61
2	.75	1.2	60	57	60	60	60	61	61	61	61	61
3	1.0	1.1	60	57	60	60	61	61	61	61	61	61
4	2.4	1.1	60	57	60	60	61	61	60	61	61	61
5	10	1.1	60	58	60	60	60	62	60	60	61	61
6	47	15	60	57	60	60	60	61	60	60	61	61
7	60	60	60	57	60	60	60	60	61	62	61	61
8	59	60	60	57	60	60	61	61	62	61	62	61
9	58	60	60	60	60	60	61	60	63	61	61	60
10	57	59	60	60	60	62	55	58	62	61	61	60
11	57	59	59	60	60	62	37	58	61	62	61	60
12	56	59	59	60	60	59	21	60	61	62	61	61
13	56	61	60	59	60	60	35	62	61	62	61	61
14	57	60	61	59	57	60	35	62	61	61	61	61
15	57	56	61	60	54	60	18	60	63	61	61	61
16	57	58	61	60	49	60	57	61	62	61	61	61
17	57	57	60	60	49	60	58	59	62	61	61	61
18	57	55	61	60	55	60	58	61	62	61	62	61
19	57	58	62	59	58	60	59	62	61	61	62	61
20	57	57	57	59	59	60	59	62	61	62	62	60
21	57	60	54	59	60	61	59	62	61	62	62	60
22	57	64	59	59	59	61	60	61	62	62	62	60
23	57	59	59	59	59	61	60	61	62	61	18	60
24	28	61	60	59	60	61	60	62	61	61	.12	60
25	1.2	59	59	59	60	61	60	62	61	61	0	60
26	1.1	57	59	60	60	61	60	62	61	61	.01	60
27	.65	55	60	59	60	60	60	61	61	61	27	60
28	.68	55	59	59	60	61	62	61	62	62	61	60
29	.68	59	60	59	---	60	61	60	62	61	61	60
30	.97	58	59	59	---	60	61	60	60	61	61	60
31	1.1	---	57	59	---	60	---	61	---	61	61	---
TOTAL	1069.28	1426.7	1846	1822	1639	1870	1638	1886	1838	1897	1637.13	1816
MEAN	34.5	47.6	59.5	58.8	58.5	60.3	54.6	60.8	61.3	61.2	52.8	60.5
MAX	60	64	62	60	60	62	62	62	63	62	62	61
MIN	.65	1.1	54	56	49	59	18	58	60	60	0	60
AC-FT	2120	2830	3660	3610	3250	3710	3250	3740	3650	3760	3250	3600
CAL YR 1981	TOTAL	12784.98	MEAN	35.0	MAX	64	MIN	0	AC-FT	25360		
WTR YR 1982	TOTAL	20385.11	MEAN	55.8	MAX	64	MIN	0	AC-FT	40430		

## 11297500 TUOLUMNE CANAL NEAR LONG BARN, CA

LOCATION.--Lat 38°05'35", long 120°10'03", in SW¼ sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 300 ft (91 m) downstream from intake, 350 ft (107 m) downstream from Lyons Reservoir on South Fork Stanislaus River, 2 mi (3 km) west of Long Barn, and 15 mi (24 km) northeast of Sonora.

PERIOD OF RECORD.--October 1937 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 4,110.0 ft (1,252.73 m) National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to June 1938, at site 200 ft (61 m) downstream at different datum.

REMARKS.--Canal diverts from left bank of South Fork Stanislaus River into Tuolumne River basin for power and domestic supply in vicinity of Sonora. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--45 years, 28.1 ft<sup>3</sup>/s (0.796 m<sup>3</sup>/s), 20,360 acre-ft/yr (25.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 59 ft<sup>3</sup>/s (1.67 m<sup>3</sup>/s) May 11, 1975; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	22	27	41	41	35	38	40	47	46	38	41
2	32	22	37	52	38	32	38	42	49	48	39	36
3	32	22	36	52	43	37	38	42	50	50	40	36
4	32	22	36	46	42	40	38	45	49	50	41	36
5	32	22	36	43	41	42	38	45	48	50	41	36
6	30	22	35	46	39	42	38	45	47	50	40	36
7	27	22	35	42	37	42	38	44	47	48	40	36
8	26	22	36	40	38	42	38	44	48	47	40	36
9	26	22	36	38	40	41	38	44	48	49	45	36
10	26	21	37	38	41	41	39	43	49	49	49	36
11	26	21	38	37	43	40	34	44	49	49	48	36
12	26	21	39	39	44	37	30	46	48	47	48	36
13	25	21	39	41	46	37	31	47	48	47	47	37
14	24	23	39	41	58	37	29	48	47	47	47	36
15	23	23	40	41	56	35	29	48	49	48	47	36
16	22	23	41	41	42	38	29	49	47	48	47	36
17	21	21	41	41	37	37	29	49	48	48	46	35
18	20	21	41	41	38	38	29	48	48	49	46	34
19	20	20	41	44	40	39	29	48	50	47	46	33
20	20	19	39	43	41	39	32	48	52	42	47	33
21	21	19	41	41	40	38	34	48	51	40	47	32
22	22	19	56	41	40	38	36	49	52	41	47	32
23	22	19	42	41	40	38	37	49	49	41	47	32
24	22	19	41	41	39	38	38	50	50	39	47	32
25	22	20	40	40	40	38	39	49	50	37	47	32
26	22	20	40	42	41	38	39	49	49	38	47	32
27	22	20	41	41	40	38	39	47	49	39	47	32
28	22	20	40	41	40	38	39	47	49	40	47	32
29	22	20	41	41	---	38	39	46	47	40	47	31
30	22	20	41	41	---	38	38	46	47	39	46	30
31	22	---	41	41	---	38	---	47	---	40	47	---
TOTAL	763	628	1213	1298	1165	1189	1060	1436	1461	1393	1398	1034
MEAN	24.6	20.9	39.1	41.9	41.6	38.4	35.3	46.3	48.7	44.9	45.1	34.5
MAX	32	23	56	52	58	42	39	50	52	50	49	41
MIN	20	19	27	37	37	32	29	40	47	37	38	30
AC-FT	1510	1250	2410	2570	2310	2360	2100	2850	2900	2760	2770	2050

CAL YR 1981 TOTAL 11415 MEAN 31.3 MAX 56 MIN 14 AC-FT 22640  
 WTH YR 1982 TOTAL 14038 MEAN 38.5 MAX 58 MIN 19 AC-FT 27840

## 11298000 SOUTH FORK STANISLAUS RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'33", long 120°10'02", in SW¼ sec.24, T.3 N., R.16 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on left bank 600 ft (183 m) downstream from Lyons Dam, 2 mi (3 km) west of Long Barn, and 15 mi (24 km) northeast of Sonora.

DRAINAGE AREA.--66.9 mi<sup>2</sup> (173.3 km<sup>2</sup>).

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1215: 1938(M).

GAGE.--Water-stage recorder and masonry control. Datum of gage is 4,073.4 ft (1,241.57 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Flow regulated by Lyons Reservoir 600 ft (183 m) upstream, capacity, 5,510 acre-ft (6.79 hm<sup>3</sup>) and Pinecrest Lake, capacity, 18,300 acre-ft (22.6 hm<sup>3</sup>). Tuolumne Canal (station 11297500) diverts at Lyons Dam; other diversions, see schematic diagram of Stanislaus River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--45 years, 84.3 ft<sup>3</sup>/s (2.387 m<sup>3</sup>/s), 61,080 acre-ft/yr (75.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,900 ft<sup>3</sup>/s (139 m<sup>3</sup>/s) Nov. 21, 1950, gage height, 9.3 ft (2.83 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) on basis of computation of maximum flow over Lyons Dam; no flow at times in 1937-39, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,050 ft<sup>3</sup>/s (115 m<sup>3</sup>/s) Feb. 16, gage height, 8.66 ft (2.640 m); minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Oct. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.8	1.8	175	17	135	106	646	465	307	2.0	2.2
2	2.0	1.8	1.5	100	17	224	89	673	462	186	2.0	2.2
3	2.0	1.9	56	15	169	96	736	467	174	2.0	2.2	2.2
4	1.9	2.0	2.1	77	13	134	129	732	401	194	2.0	2.2
5	1.8	2.0	2.2	253	11	110	101	749	339	182	2.2	2.2
6	2.0	2.2	2.2	147	9.5	90	98	705	294	157	2.4	2.2
7	2.3	2.4	2.2	88	9.5	83	83	652	289	99	2.4	2.2
8	2.5	2.4	2.2	66	6.7	73	79	653	335	59	2.3	2.2
9	2.5	2.3	2.2	55	4.0	68	87	537	446	105	2.2	2.2
10	2.4	2.3	2.2	49	2.9	100	209	345	550	133	2.0	2.2
11	2.4	2.4	2.2	44	1.9	270	2470	234	624	135	2.0	2.2
12	2.2	2.5	2.2	37	2.5	224	1830	188	566	87	2.2	2.2
13	2.0	2.7	2.2	28	2.6	178	1050	267	496	47	2.4	2.2
14	2.0	2.5	2.2	25	143	245	760	406	377	47	2.4	2.2
15	2.0	2.4	2.2	22	761	218	665	393	522	80	2.3	2.2
16	2.0	2.4	2.2	20	3040	178	485	511	662	83	2.2	2.2
17	2.4	2.5	2.2	18	1210	146	475	551	719	77	2.2	2.3
18	3.0	2.3	2.2	18	627	126	465	535	706	71	2.2	2.4
19	3.0	2.2	2.4	18	429	104	460	551	674	30	2.2	2.4
20	3.0	2.2	2.8	19	387	89	475	637	576	3.6	2.2	2.4
21	2.1	2.2	32	19	370	87	451	723	545	4.6	2.2	2.4
22	1.4	2.2	172	10	347	83	462	779	443	3.2	2.2	2.4
23	1.7	2.2	175	7.0	293	81	497	834	396	2.4	2.2	2.3
24	2.0	2.5	123	7.2	239	81	527	887	416	2.4	2.2	2.1
25	2.0	2.2	87	11	201	84	491	899	394	2.3	2.2	2.1
26	1.8	2.2	67	28	166	94	451	959	387	2.2	2.2	2.1
27	1.8	2.2	104	35	134	93	412	987	404	2.2	2.2	2.1
28	2.1	2.0	94	34	113	123	445	883	389	2.2	2.2	2.2
29	2.0	2.0	119	25	---	113	560	623	427	2.2	2.2	2.2
30	1.8	2.0	200	21	---	100	521	523	449	1.9	2.2	2.1
31	1.8	---	148	18	---	119	---	528	---	1.5	2.2	---
TOTAL	65.9	66.9	1364.3	1530.2	8572.6	4022	15029	19326	14220	2283.7	68.0	66.7
MEAN	2.13	2.23	44.0	49.4	306	130	501	623	474	73.7	2.19	2.22
MAX	3.0	2.7	200	253	3040	270	2470	987	719	307	2.4	2.4
MIN	1.4	1.8	1.5	7.0	1.9	68	79	188	289	1.5	2.0	2.1
AC-FT	131	133	2710	3040	17000	7980	29810	38330	28210	4530	135	132
CAL YR 1981 TOTAL	8974.2			MEAN 24.6	MAX 356	MIN 1.4	AC-FT 17800					
WTR YR 1982 TOTAL	66615.3			MEAN 183	MAX 3040	MIN 1.4	AC-FT 132100					

## 11299000 NEW MELONES RESERVOIR NEAR SONORA, CA

LOCATION.--Lat 37°57'02", long 120°30'49", in NW¼SE¼ sec.11, T.1 N., R.13 E., Tuolumne County, Hydrologic Unit 18040010, at left abutment of New Melones Dam on Stanislaus River, 0.1 mi (0.2 km) downstream from the old Melones Dam, and 7.6 mi (12.2 km) southwest of Sonora.

DRAINAGE AREA.--904 mi<sup>2</sup> (2,341 km<sup>2</sup>).

PERIOD OF RECORD.--1926 (year-end content only, published in WSP 1315-A), June 1927 to current year. Prior to October 1970, published as Melones Reservoir at Melones Dam. October 1970 to September 1978, published as Melones Lake near Sonora.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 28, 1961, nonrecording gage and Mar. 1, 1961, to Nov. 26, 1978, water-stage recorder at site on left side of old Melones Dam, at same datum.

REMARKS.--Reservoir is formed by earth and rockfill dam completed in November 1978. Dam is downstream from the original concrete dam which was completed in December 1926. Usable capacity 2,419,523 acre-ft (2,983 hm<sup>3</sup>) between elevations 543.0 ft (165.51 m) invert entrance to outlet tunnel, and 1,088.0 ft (331.62 m) gross pool elevation. No dead storage. When elevation is above 808.0 ft (246.28 m) water is released through a powerplant to Tullock Reservoir where it is used for irrigation. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,636,000 acre-ft (2.02 km<sup>3</sup>) June 30, July 1, 1982, elevation, 1,017.40 ft (310.104 m); minimum, 2,995 acre-ft (3.69 hm<sup>3</sup>) Aug. 8 to Dec. 29, 1977, elevation, 612.2 ft (186.60 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,636,000 acre-ft (2.02 km<sup>3</sup>) June 30, July 1, elevation, 1,017.40 ft (310.104 m); minimum, 124,400 acre-ft (153 hm<sup>3</sup>) Oct. 1, 2, elevation 743.60 ft (226.649 m).

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

700	53,904	760	160,548	880	611,454	1,000	1,471,168
710	66,950	780	212,276	900	723,006	1,020	1,661,930
720	81,803	800	272,772	920	846,524	1,040	1,867,012
730	98,530	820	342,450	940	982,608	1,060	2,086,649
740	117,193	840	421,769	960	1,131,797	1,088	2,419,523
750	137,848	860	511,246	980	1,294,537		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124400	141400	206600	352800	496100	731600	915100	1238000	1548000	1636000	1564000	1428000
2	124400	142000	208300	357900	500000	738900	921800	1254000	1549000	1636000	1559000	1424000
3	124600	142200	209700	362900	500100	743900	928700	1270000	1553000	1635000	1553000	1420000
4	124700	141300	211100	387300	501800	749000	936200	1285000	1558000	1635000	1549000	1416000
5	125200	140600	212800	400300	501600	753100	940600	1300000	1560000	1634000	1545000	1413000
6	125400	140200	214800	407000	502600	756700	944500	1310000	1563000	1632000	1540000	1409000
7	125500	141100	215500	411700	504600	760000	947400	1319000	1567000	1631000	1536000	1404000
8	126000	141000	217300	415800	505600	762400	950900	1329000	1570000	1630000	1532000	1401000
9	126400	142200	218900	419900	506400	764800	953700	1340000	1574000	1628000	1530000	1397000
10	126700	143500	220100	423800	507000	772300	972700	1346000	1578000	1627000	1526000	1393000
11	127200	144400	221100	427300	507500	782700	1028000	1350000	1581000	1625000	1523000	1389000
12	127500	145800	222900	430400	507500	789300	1052000	1354000	1585000	1623000	1518000	1386000
13	127700	153200	224400	433200	509400	795800	1069000	1362000	1589000	1624000	1513000	1383000
14	127900	158800	226600	436900	525100	807500	1080000	1367000	1592000	1626000	1509000	1380000
15	129200	161500	228100	439700	591000	814600	1092000	1377000	1595000	1623000	1504000	1377000
16	130300	164900	229400	442700	630700	822700	1102000	1390000	1600000	1620000	1500000	1374000
17	131000	169700	231100	445800	650400	831600	1111000	1399000	1604000	1615000	1496000	1372000
18	132500	172100	233100	448400	664400	837500	1122000	1408000	1608000	1612000	1491000	1369000
19	133600	173400	253200	451300	671400	841600	1133000	1415000	1615000	1609000	1486000	1368000
20	134400	174400	280600	445400	681000	846100	1143000	1442000	1620000	1605000	1482000	1366000
21	134900	177000	290700	459000	688900	850500	1152000	1432000	1622000	1602000	1477000	1364000
22	136200	182800	297400	461600	697600	854900	1161000	1445000	1623000	1599000	1473000	1362000
23	137200	186400	301200	464400	704000	858300	1169000	1458000	1624000	1596000	1468000	1359000
24	138800	192400	305100	467500	709200	860900	1178000	1474000	1626000	1593000	1463000	1358000
25	138400	194300	308600	470800	714300	864800	1189000	1487000	1627000	1590000	1458000	1358000
26	138600	197300	312100	475300	718300	867200	1195000	1498000	1628000	1586000	1454000	1358000
27	139000	198800	316900	479100	722400	870200	1205000	1510000	1628000	1582000	1449000	1358000
28	139700	200400	320400	483300	726400	875200	1213000	1521000	1631000	1579000	1446000	1358000
29	140300	202900	330100	486600	---	880700	1221000	1532000	1634000	1575000	1441000	1358000
30	140700	204500	338000	489900	---	886700	1229000	1539000	1636000	1572000	1436000	1358000
31	141100	---	345700	493100	---	903100	---	1546000	---	1568000	1432000	---
MAX	141100	204500	345700	493100	726400	903100	1229000	1546000	1636000	1636000	1564000	1428000
MIN	124400	140200	206600	352800	496100	731600	915100	1238000	1548000	1568000	1432000	1358000
a	751.49	777.19	820.87	856.13	900.58	928.55	972.15	1008.02	1017.37	1010.34	995.70	987.37
b	+16800	+63400	+141200	+147400	+233300	+176700	+326300	+316800	+90100	-68800	-135800	-73800
c	690	440	260	400	740	1330	2370	5930	6900	7820	7120	4350

CAL YR 1981 b +29700  
WTR YR 1982 b +1233700

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

## 11299995 TULLOCH RESERVOIR NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'12", in Rancheria Del Rio Estanislao Grant, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, in center of dam on Stanislaus River, 1.9 mi (3.1 km) upstream from Goodwin Dam, and 5.3 mi (8.5 km) northeast of Knights Ferry.

DRAINAGE AREA.--980 mi<sup>2</sup> (2,538 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Oakdale and South San Joaquin Irrigation Districts).

REMARKS.--Reservoir is formed by gravity-type concrete dam completed in October 1957. Usable capacity, 56,840 acre-ft (70.1 hm<sup>3</sup>) between elevations 431.0 ft (131.37 m) normal minimum water surface, and 511.0 ft (155.75 m) top of radial gates. Dead storage, 11,560 acre-ft (14.3 hm<sup>3</sup>). Reservoir is used for irrigation and power. Water passes down Stanislaus River, some first passing through Tulloch powerplant at dam. Part of flow is diverted at Goodwin Dam to Oakdale Canal (station 11301000) and South San Joaquin Canal (station 11300500). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 69,500 acre-ft (85.7 hm<sup>3</sup>) Jan. 7, 1965, elevation, 512.0 ft (156.06 m); minimum, 4,580 acre-ft (5.65 hm<sup>3</sup>) Oct. 3, 1960, elevation, 404.0 ft (123.14 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 66,000 acre-ft (81.4 hm<sup>3</sup>) May 27, Sept. 11, elevation, 509.2 ft (155.20 m); minimum, 50,800 acre-ft (62.6 hm<sup>3</sup>) Mar. 7, elevation, 495.7 ft (151.09 m).

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

404	4,580	460	23,600
411	6,020	475	33,100
420	8,200	490	45,300
430	11,100	512	69,500
445	16,400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62800	57300	57600	61300	55200	52800	60400	57900	60700	64100	65600	63800
2	62600	56800	57300	61400	54900	53100	57400	58300	64100	63800	65400	64000
3	62400	56300	57300	61300	55800	53100	57200	57300	62800	63800	65500	64400
4	62200	56400	57500	62200	55800	52500	57300	57200	64900	63800	65500	64200
5	62100	56900	57300	60600	56200	51300	57500	56200	64500	63800	65500	64200
6	62000	57400	57000	58000	54800	50900	57600	56900	65200	63600	65600	64600
7	61800	57600	57200	57300	55000	50800	57500	58500	65400	63900	65100	65100
8	61700	57800	57300	57400	55100	51100	56900	60100	64900	64200	65400	65200
9	61600	57700	57000	57300	55100	51100	57000	62000	64100	64500	65200	65400
10	61500	57300	57200	57300	53900	51800	58000	62400	63600	64900	64500	65600
11	61500	56800	57400	57200	53600	52400	59400	62600	63600	65400	64400	66000
12	61400	56700	57200	57200	53500	52900	57300	64600	63900	65700	64900	65200
13	61400	57300	56900	57000	53000	52700	57400	63500	64100	62600	64600	64700
14	61400	56700	56700	56800	52800	53100	58000	64600	64100	59800	64500	64900
15	61700	56400	56800	56600	55100	53300	58300	64100	64100	59800	64600	65100
16	61700	56000	57500	56500	56200	56100	58000	64000	63900	62100	64400	65100
17	61500	55800	57600	56200	54200	55200	57700	63800	64200	64200	64200	65100
18	61500	55600	57500	56600	52300	55500	57500	63400	64700	64200	64100	65200
19	61300	56000	57300	56800	52600	56300	57500	64100	63400	64700	64200	64600
20	60900	56300	56800	57200	52400	56300	57300	64500	63600	64900	64400	63800
21	60700	56500	56900	57300	52700	55800	56900	64700	63800	65400	64600	63600
22	60300	56300	56800	57200	52800	55300	57200	63600	64200	65400	64600	63800
23	60000	55800	56800	56900	52800	55200	57600	64900	64500	64900	65000	63800
24	59600	55600	56700	56600	53000	55600	57500	64200	64500	64700	65600	63900
25	59400	55700	57600	56400	52900	56000	57200	64400	65000	64500	65100	63900
26	59100	56300	57300	56400	52700	56500	57000	64600	65200	64400	65000	63800
27	58700	57000	57200	56200	52500	57300	57200	66000	65700	64700	64700	64200
28	58600	57600	56900	56200	52500	58000	57500	65200	64500	65200	64700	63800
29	58400	57900	58600	56100	---	60000	59000	60800	65100	65500	64700	63500
30	58000	57900	59900	55800	---	60200	57900	57300	64500	65500	64500	62900
31	57700	---	60200	55600	---	62200	---	58400	---	65500	64500	---
MAX	62800	57900	60200	62200	56200	62200	60400	66000	65700	65700	65600	66000
MIN	57700	55600	56700	55600	52300	50800	56900	56200	60700	59800	64100	62900
a	502.2	502.4	504.4	500.3	497.3	506.1	502.4	502.8	508.0	508.8	508.8	506.7
b	-5300	+200	+2300	-4600	-3100	+9700	-4300	+500	+6100	+1000	-1000	-1600

CAL YR 1981 b +14100

WTR YR 1982 b -100

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

## 11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°52'34", long 120°36'15", in Rancheria del Rio Estanislao Grant, T.1 S., R.12 E., on Calaveras-Tuolumne County line, Hydrologic Unit 18040010, temperature recorder in south corner of Tulloch powerplant at downstream side of Tulloch Dam, 5.2 mi (8.4 km) northeast of Knights Ferry.

DRAINAGE AREA.--980 mi<sup>2</sup> (2,538 km<sup>2</sup>).

## PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: June 1972 to current year.

INSTRUMENTATION.--Temperature recorder since June 1972.

## EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 27.5°C Aug. 30, 1977; minimum recorded, 5.0°C Jan. 13, 1973.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 18.5°C Oct. 1-5; minimum recorded, 9.0°C on many days February through June.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.5	18.5	17.5	17.0	14.0	13.5	12.5	12.0	10.0	10.0	9.0	9.0
2	18.5	18.5	18.0	17.0	13.5	13.5	12.5	12.0	11.0	10.0	9.0	9.0
3	18.5	18.5	18.0	17.0	13.5	13.5	12.0	12.0	10.0	10.0	9.0	9.0
4	18.5	18.5	17.5	17.0	13.5	13.5	12.0	12.0	10.0	10.0	9.0	9.0
5	18.5	18.0	17.0	17.0	13.5	13.5	12.0	11.5	10.0	10.0	9.0	9.0
6	18.0	18.0	17.0	16.5	13.5	13.5	11.5	11.0	10.0	10.0	9.0	9.0
7	18.0	18.0	17.0	16.0	13.5	13.0	11.0	10.5	10.0	10.0	9.0	9.0
8	18.0	18.0	17.0	15.5	13.5	13.0	11.0	10.5	10.0	10.0	9.0	9.0
9	18.0	17.5	16.5	15.5	13.5	13.0	11.0	10.5	10.0	9.5	9.0	9.0
10	18.0	17.5	16.0	15.5	13.5	13.0	11.0	10.5	9.5	9.5	9.0	9.0
11	17.5	17.5	15.5	15.0	13.5	13.0	11.0	10.5	9.5	9.5	9.0	9.0
12	17.5	17.5	15.5	15.5	13.0	13.0	10.5	10.5	9.5	9.5	9.0	9.0
13	17.5	17.5	15.5	15.0	13.5	13.0	10.5	10.5	9.5	9.0	9.0	9.0
14	17.5	17.0	15.5	15.5	13.0	13.0	10.5	10.5	9.0	9.0	9.0	9.0
15	17.5	17.0	15.5	15.5	13.0	13.0	10.5	10.5	9.5	9.0	9.0	9.0
16	17.5	17.0	15.5	15.5	13.0	13.0	10.5	10.5	9.0	9.0	9.0	9.0
17	17.5	16.5	15.5	15.0	13.0	13.0	10.5	10.5	9.0	9.0	9.0	9.0
18	17.5	16.5	15.5	15.0	13.0	13.0	10.5	10.5	9.5	9.0	9.0	9.0
19	17.5	17.0	15.5	15.0	13.0	13.0	10.5	10.5	9.5	9.0	9.0	9.0
20	17.5	16.5	15.5	15.0	13.0	13.0	10.5	10.5	9.5	9.0	9.0	9.0
21	18.0	17.0	15.0	15.0	13.0	13.0	10.5	10.5	9.5	9.5	9.0	9.0
22	17.0	17.0	15.5	14.5	13.0	12.5	10.5	10.0	9.5	9.5	9.0	9.0
23	17.0	16.5	15.0	14.5	13.0	12.5	10.5	10.0	9.5	9.0	9.0	9.0
24	17.5	17.0	15.0	14.5	12.5	12.5	10.5	10.0	9.5	9.5	9.0	9.0
25	17.5	17.0	15.0	14.5	12.5	12.5	11.0	10.0	9.5	9.0	9.0	9.0
26	17.5	17.0	14.5	14.5	12.5	12.5	10.5	10.0	9.0	9.0	9.0	9.0
27	17.0	17.0	14.5	14.0	13.0	12.5	10.5	10.0	9.0	9.0	9.0	9.0
28	17.5	17.0	14.5	14.0	12.5	12.5	10.0	10.0	9.0	9.0	9.0	9.0
29	17.5	17.0	14.0	13.5	12.5	12.5	10.0	10.0	---	---	9.5	9.0
30	17.5	17.0	14.0	13.5	13.0	12.5	11.0	10.0	---	---	9.5	9.0
31	17.5	17.0	---	---	12.5	12.0	10.5	10.0	---	---	9.5	9.0
MONTH	18.5	16.5	18.0	13.5	14.0	12.0	12.5	10.0	11.0	9.0	9.5	9.0



11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	9.0	9.5	9.5	9.0	9.0	9.5	9.5	---	---	10.0	10.0
2	9.0	9.0	9.5	9.5	9.0	9.0	9.5	9.5	---	---	10.0	10.0
3	9.0	9.0	9.5	9.5	9.0	9.0	9.5	9.5	---	---	10.0	10.0
4	9.0	9.0	9.5	9.5	9.0	9.0	9.5	9.5	---	---	10.0	10.0
5	9.0	9.0	9.5	9.5	9.0	9.0	9.5	9.5	10.0	9.5	10.0	10.0
6	9.5	9.0	10.0	9.5	9.5	9.0	9.5	9.5	10.0	9.5	10.0	10.0
7	9.5	9.0	10.0	9.5	9.5	9.0	9.5	9.5	9.5	9.5	10.0	9.5
8	9.5	9.0	10.0	9.5	9.5	9.0	9.5	9.5	10.0	9.5	9.5	9.5
9	9.5	9.5	10.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.0	9.5
10	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
11	10.0	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
12	9.5	9.5	9.5	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
13	9.5	9.0	9.0	9.0	9.5	9.5	9.5	9.5	10.0	9.5	10.0	10.0
14	9.5	9.0	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
15	9.5	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
16	9.5	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
17	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
18	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
19	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
20	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
21	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	9.5	9.5	10.0	10.0
22	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	10.0	9.5	10.0	10.0
23	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	10.0	9.5	10.0	10.0
24	10.0	10.0	9.0	9.0	9.5	9.5	9.5	9.5	10.0	9.5	10.0	10.0
25	10.0	10.0	9.0	9.0	9.5	9.5	9.5	9.5	10.0	10.0	10.0	10.0
26	10.0	10.0	9.5	9.0	9.5	9.5	9.5	9.5	10.0	10.0	10.0	10.0
27	10.0	9.5	9.0	9.0	9.5	9.5	9.5	9.5	10.0	10.0	10.0	10.0
28	10.0	10.0	9.5	9.0	9.5	9.5	---	---	10.0	10.0	10.0	10.0
29	10.0	9.5	9.5	9.0	9.5	9.5	---	---	10.0	10.0	10.0	10.0
30	9.5	9.5	9.0	9.0	9.5	9.5	---	---	10.0	10.0	10.0	10.0
31	---	---	9.0	9.0	---	---	---	---	10.0	10.0	---	---
MONTH	10.0	9.0	10.0	9.0	9.5	9.0	9.5	9.5	10.0	9.5	10.0	9.5

## 11300500 SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'16", long 120°38'14", in Rancheria Del Rio Estanislao Grant, Calaveras County Hydrologic Unit 18040010, on left bank 0.8 mi (1.3 km) downstream from headgate at Goodwin Dam, and 3.0 mi (4.8 km) northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 334.18 ft (101.858 m) National Geodetic Vertical Datum of 1929 (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, nonrecording gage 100 ft (30 m) downstream. Mar. 12, 1915, to July 1, 1921, nonrecording gage at present site and datum.

REMARKS.--Records good. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--68 years, 433 ft<sup>3</sup>/s (12.26 m<sup>3</sup>/s), 313,700 acre-ft/yr (387 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,320 ft<sup>3</sup>/s (37.4 m<sup>3</sup>/s) Aug. 10-17, 1978; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	1.2	.54	.97	.20	.20	634	920	1080	1100	1200	1090
2	231	1.2	.36	.80	.20	.33	633	925	1080	1100	1200	1080
3	211	1.2	.30	.80	.20	.28	287	925	1080	1100	1200	1070
4	196	1.2	.30	1.8	.20	.30	40	996	1080	1100	1210	1060
5	205	1.1	.30	2.3	.20	.18	34	1090	1060	1110	1210	1060
6	207	1.1	.30	.96	.20	.10	31	1100	957	1150	1210	1040
7	207	1.1	.30	.81	.20	.12	30	1120	959	1240	1210	1050
8	201	1.1	.30	.80	.20	.20	29	1150	984	1250	1080	1050
9	195	1.1	.30	.80	.20	.20	29	1170	1130	1250	402	1050
10	196	1.1	.30	.80	.20	.23	35	1170	1200	1250	1230	1050
11	196	1.1	.30	.80	.20	.21	35	1170	1200	1240	1240	1050
12	190	1.1	.30	.81	.20	.20	508	1180	1200	1240	1240	1050
13	173	1.1	.30	.80	.20	.20	763	1180	1200	1170	1230	1010
14	173	1.1	.30	.71	.20	.26	767	1180	1170	1140	1220	996
15	1.7	1.1	.26	.70	.84	.25	763	1170	1150	1140	1220	989
16	4.3	1.1	.20	.70	.72	.51	762	1180	1150	1190	1220	975
17	6.0	1.2	.20	.65	.21	.65	763	1200	1110	1240	1210	962
18	7.5	1.1	.14	.60	.20	.43	671	1190	833	1250	1210	944
19	4.5	1.1	.20	.60	.20	.33	622	1110	1230	1250	1210	919
20	2.1	1.0	.84	.65	.20	.30	658	1070	1230	1210	1210	869
21	2.0	1.0	.93	.54	.20	.30	619	1080	1230	1160	1210	843
22	1.9	1.1	.80	.50	.20	.30	619	1080	1240	1160	1200	814
23	2.5	1.0	.80	.50	.20	.29	620	1090	1240	1160	1160	813
24	3.7	1.0	.80	.42	.20	.14	665	1090	1240	1160	1140	647
25	3.6	1.0	.80	.40	.20	.93	671	1090	1240	1160	1140	534
26	3.7	1.0	.80	.40	.20	1.0	828	1130	1210	1220	1140	534
27	2.9	1.1	.80	.35	.20	.08	916	1160	1140	1210	1100	299
28	1.3	1.0	.80	.30	.20	.03	919	1090	1090	1200	1090	29
29	1.2	.80	1.0	.30	---	540	920	1070	1100	1200	1090	49
30	1.2	.70	1.2	.29	---	752	917	1070	1100	1200	1090	90
31	1.2	---	.84	.20	---	714	---	1070	---	1200	1090	---
TOTAL	2863.3	32.10	15.91	22.06	6.77	2014.55	15788	34216	33913	36750	35812	25016
MEAN	92.4	1.07	.51	.71	.24	65.0	526	1104	1130	1185	1155	834
MAX	231	1.2	1.2	2.3	.84	752	920	1200	1240	1250	1240	1090
MIN	1.2	.70	.14	.20	.20	.03	29	920	833	1100	402	29
AC-FT	5680	64	32	44	13	4000	31320	67870	67270	72890	71030	49620

CAL YR 1981 TOTAL 195750.61 MEAN 536 MAX 1250 MIN 0 AC-FT 388300  
WTR YR 1982 TOTAL 186449.69 MEAN 511 MAX 1250 MIN .03 AC-FT 369800

## 11301000 OAKDALE CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'32", long 120°37'56", in SW¼SE¼ sec.10, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 0.3 mi (0.5 km) downstream from headgate at Goodwin Dam, and 3.4 mi (5.5 km) northeast of Knights Ferry.

PERIOD OF RECORD.--May 1914 to current year. Records for water years 1933-36 incomplete, monthly and yearly estimates published in WSP 1315-A.

GAGE.--Water-stage recorder. Altitude of gage is 350 ft (107 m), from topographic map. Prior to Apr. 29, 1916, nonrecording gage at site 1,000 ft (300 m) upstream at different datum. Apr. 29, 1916, to July 3, 1925, nonrecording gage and July 4, 1925, to Apr. 3, 1949, water-stage recorder at present site at datum 0.18 ft (0.055 m) higher.

REMARKS.--Records good. Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mi (0.5 km) upstream for irrigation in Oakdale Irrigation District. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--68 years, 167 ft<sup>3</sup>/s (4.729 m<sup>3</sup>/s), 121,000 acre-ft/yr (149 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 556 ft<sup>3</sup>/s (15.7 m<sup>3</sup>/s) July 8-11, 1967; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	.28	.15	.35	.05	.02	.57	405	0	524	525	502
2	349	.31	.12	.28	.05	.12	.33	406	0	524	525	491
3	336	.29	.12	.11	.05	.06	.16	398	0	525	525	489
4	327	.25	.12	.77	.04	.05	.12	369	0	526	526	487
5	327	.24	.12	.55	.02	.05	.12	407	0	526	526	487
6	327	.31	.15	.14	.02	.03	.17	458	0	526	526	487
7	310	.23	.13	.05	.02	.02	.05	455	0	524	526	487
8	299	.30	0	.03	.02	.02	.07	473	0	523	525	480
9	300	.30	0	.02	.02	.02	.05	498	0	521	521	476
10	299	.36	0	.02	.02	.01	.14	498	0	519	508	475
11	300	.43	0	.02	.02	.03	.36	499	90	522	508	476
12	294	.39	0	.01	.02	.02	.13	501	233	526	508	475
13	279	.39	0	0	.03	.02	51	501	418	525	508	475
14	277	.39	0	0	.05	.10	104	358	479	524	508	468
15	5.8	.39	0	0	.72	.21	104	2.4	523	526	508	447
16	1.4	.39	0	0	.57	.39	104	0	523	526	508	435
17	.94	.50	0	0	.08	.46	104	0	524	524	508	425
18	.86	.40	0	0	.05	.23	104	0	525	524	509	405
19	.74	.40	0	0	.04	.07	116	0	525	525	509	385
20	.67	.30	.12	.17	.02	.03	199	0	525	526	509	366
21	.62	.30	.06	.13	.02	.01	203	0	526	526	509	374
22	.53	.40	.02	.05	.02	.01	211	0	527	526	509	385
23	.52	.30	.02	.03	.02	.02	261	0	525	526	509	386
24	.50	.30	.02	.02	.02	.06	311	0	526	526	509	191
25	.44	.30	.01	.02	.02	.07	335	0	526	525	509	77
26	.45	.30	0	.05	.02	.17	334	0	526	525	509	77
27	.48	.40	0	.05	.01	.06	338	229	524	525	509	77
28	.45	.30	0	.11	0	.05	374	0	526	525	509	77
29	.33	.25	.31	.12	---	.31	376	0	526	525	509	77
30	.32	.20	.44	.06	---	.26	401	0	524	525	508	110
31	.31	---	.16	.05	---	1.4	---	0	---	525	508	---
TOTAL	4388.36	9.90	2.07	3.21	2.04	4.38	4032.27	6457.4	9621	16265	15913	11049
MEAN	142	.33	.067	.10	.073	.14	134	208	321	525	513	368
MAX	349	.50	.44	.77	.72	1.4	401	501	527	526	526	502
MIN	.31	.20	0	0	0	.01	.05	0	0	519	508	77
AC-FT	8700	20	4.1	6.4	4.0	8.7	8000	12810	19080	32260	31560	21920

CAL YR 1981 TOTAL 82292.88 MEAN 225 MAX 528 MIN 0 AC-FT 163200  
WTR YR 1982 TOTAL 67747.63 MEAN 186 MAX 527 MIN 0 AC-FT 134400

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'06", long 120°38'13", in Rancheria del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on right bank 250 ft (76 m) upstream from Owl Creek, 0.9 mi (1.4 km) downstream from Goodwin Dam, and 2.9 mi (4.7 km) northeast of Knights Ferry.

DRAINAGE AREA.--986 mi<sup>2</sup> (2,554 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1957 to current year. Records equivalent to those published as Stanislaus River at Knights Ferry, 1903-14, and as Stanislaus River near Knights Ferry, 1915-32, if adjusted for diversions in Stanislaus and San Joaquin Water Company's canal and Oakdale and South San Joaquin canals.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 252.83 ft (77.063 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by New Melones Reservoir (station 11299000) since 1978 and Tulloch Reservoir, South San Joaquin Canal (station 11300500) and Oakdale Canal (station 11301000) divert at Goodwin Dam 1.0 mi (1.6 km) upstream. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--25 years, 727 ft<sup>3</sup>/s (20.59 m<sup>3</sup>/s), 526,700 acre-ft/yr (649 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft<sup>3</sup>/s (1,140 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 28.85 ft (8.793 m) in gage well, 31.2 ft (9.51 m) outside, from floodmarks, from rating curve extended above 27,000 ft<sup>3</sup>/s (765 m<sup>3</sup>/s); minimum daily, 0.12 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Feb. 8, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 37.7 ft (11.49 m), from floodmarks, discharge, 62,900 ft<sup>3</sup>/s (1.780 m<sup>3</sup>/s), by computation of flow over Goodwin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,810 ft<sup>3</sup>/s (108 m<sup>3</sup>/s) Jan. 5, gage height, 12.71 ft (3.874 m); minimum daily, 19 ft<sup>3</sup>/s (0.54 m<sup>3</sup>/s) Dec. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	224	202	153	223	1220	1390	133	1080	1130	1180	1080
2	34	222	171	379	230	1220	1400	134	1070	1140	1170	1080
3	34	225	162	908	481	1220	1300	135	1090	1130	1170	1100
4	34	224	149	1210	1010	1220	1230	132	1090	1120	1170	1150
5	34	222	136	3250	1010	1210	1250	125	1090	1120	1170	1140
6	35	224	138	1730	1010	1210	1270	130	1100	1110	1170	1100
7	35	220	138	664	1000	1210	1280	125	1110	1050	1170	1080
8	35	225	138	155	1120	1210	1280	120	1070	1040	1170	1100
9	35	226	140	153	1310	1240	1130	118	1080	1050	1180	1050
10	35	224	141	151	1270	1240	185	116	1090	1060	1220	1020
11	35	224	139	146	1290	1250	631	116	1080	1020	1240	1040
12	35	226	137	148	1290	1220	1130	116	1050	1060	1230	1040
13	34	229	141	152	1290	1220	151	116	1030	1060	1270	943
14	34	226	139	152	1290	1220	114	117	1030	1000	1280	876
15	43	227	66	152	1330	1180	137	117	1040	1060	1270	855
16	38	223	19	153	1330	1220	137	116	1070	1120	1280	849
17	37	220	57	152	1250	1240	137	117	1150	1080	1280	854
18	37	225	147	153	1190	1220	140	116	1140	1100	1290	830
19	61	218	148	152	1210	1250	143	110	1190	1140	1290	852
20	148	224	154	153	1220	1240	146	107	1160	1150	1290	878
21	138	218	154	152	1220	1240	145	107	1170	1180	1300	839
22	142	220	154	183	1220	1240	145	107	1180	1180	1300	805
23	143	218	152	231	1220	1270	146	107	1190	1180	1240	805
24	139	226	156	231	1220	1260	149	107	1190	1180	1200	878
25	140	227	142	231	1220	1270	149	107	1200	1180	1210	910
26	142	234	154	232	1220	1280	137	351	1180	1190	1200	907
27	143	229	152	223	1220	1270	131	929	1170	1170	1230	914
28	153	225	153	223	1220	1250	132	1030	1180	1150	1250	873
29	150	229	154	225	---	1080	132	1050	1170	1160	1250	848
30	147	227	155	222	---	1210	133	1140	1170	1170	1160	981
31	184	---	152	224	---	1430	---	1070	---	1180	1070	---
TOTAL	2468	6731	4340	12643	31114	38260	15980	8521	33610	34660	37900	28677
MEAN	79.6	224	140	408	1111	1234	533	275	1120	1118	1223	956
MAX	184	234	202	3250	1330	1430	1400	1140	1200	1190	1300	1150
MIN	34	218	19	146	223	1080	114	107	1030	1000	1070	805
AC-FT	4900	13350	8610	25080	61710	75890	31700	16900	66670	68750	75170	56880
CAL YR 1981 TOTAL	89809		MEAN 246	MAX 1330	MIN 19	AC-FT 178100						
WTR YR 1982 TOTAL	254904		MEAN 698	MAX 3250	MIN 19	AC-FT 505600						

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1966 to current year.

INSTRUMENTATION.--Temperature recorder since February 1966.

REMARKS.--Temperature recorder located 2,300 ft (701 m) upstream from gaging station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 30.5°C July 25, 1974; minimum recorded, 5.5°C Feb. 3, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 19.5°C Oct. 1-5; minimum recorded, 9.5°C on many days January through June.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.5	18.5	17.0	16.5	13.5	13.0	12.0	12.0	10.0	10.0	9.5	9.5
2	19.5	19.0	17.0	16.5	13.0	12.5	12.0	11.5	10.5	10.0	---	---
3	19.5	19.0	17.0	17.0	13.0	13.0	11.5	11.5	10.0	10.0	---	---
4	19.5	18.5	17.0	17.0	13.0	13.0	11.5	11.5	10.0	10.0	---	---
5	19.5	18.5	17.0	17.0	13.0	13.0	12.0	11.5	10.0	10.0	---	---
6	19.0	18.5	17.0	17.0	13.0	13.0	11.5	10.5	10.0	10.0	---	---
7	18.5	18.5	17.0	17.0	13.0	12.5	10.5	10.5	10.0	10.0	---	---
8	19.0	18.0	17.0	16.5	13.0	12.5	10.5	10.0	10.0	10.0	---	---
9	19.0	18.0	16.5	16.0	12.5	12.5	10.5	10.0	10.0	10.0	---	---
10	18.5	18.0	16.5	16.0	12.5	12.0	10.5	10.0	10.0	9.5	---	---
11	18.0	17.5	16.0	15.5	12.5	12.5	10.5	10.0	10.0	9.5	---	---
12	18.0	16.5	15.5	15.5	12.5	12.5	10.5	10.0	10.0	9.5	---	---
13	18.0	16.5	15.5	15.5	13.0	12.5	10.5	10.0	10.0	9.5	---	---
14	18.0	16.5	15.5	15.5	13.0	12.5	10.5	10.0	9.5	9.5	---	---
15	18.0	17.0	15.5	15.5	13.5	13.0	10.0	10.0	9.5	9.5	---	---
16	17.5	16.5	15.5	15.5	13.0	12.5	10.0	10.0	10.0	9.5	---	---
17	17.5	16.5	16.0	15.5	12.5	12.0	10.0	10.0	10.0	9.5	---	---
18	18.0	16.5	15.5	15.0	12.5	12.5	10.5	10.0	10.0	9.5	---	---
19	18.0	16.5	15.0	15.0	12.5	12.5	10.5	10.0	10.0	9.5	---	---
20	17.5	17.0	15.0	14.5	13.0	12.5	10.0	10.0	10.0	9.5	---	---
21	17.5	17.0	15.0	15.0	13.0	12.5	10.0	10.0	10.0	10.0	---	---
22	17.5	17.0	15.5	15.0	12.5	12.0	10.0	9.5	10.0	10.0	---	---
23	17.5	17.0	15.0	15.0	12.5	12.0	10.0	9.5	10.0	9.5	---	---
24	17.5	17.0	15.0	14.5	12.0	11.5	10.0	10.0	10.0	9.5	---	---
25	17.5	17.0	14.5	14.0	12.0	11.5	10.0	10.0	10.0	9.5	---	---
26	17.5	17.0	14.0	14.0	12.0	12.0	10.5	10.0	10.0	9.5	---	---
27	17.5	17.0	13.5	13.5	12.5	12.0	10.5	10.0	10.0	9.5	---	---
28	17.5	17.0	13.5	13.0	12.5	12.0	10.0	10.0	10.0	9.5	---	---
29	17.5	17.0	13.5	13.0	12.0	12.0	10.0	10.0	---	---	---	---
30	17.0	17.0	13.5	13.0	12.5	12.0	10.0	10.0	---	---	---	---
31	17.0	16.5	---	---	12.0	12.0	10.0	10.0	---	---	---	---
MONTH	19.5	16.5	17.0	13.0	13.5	11.5	12.0	9.5	10.5	9.5	---	---

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	12.0	10.5	11.5	10.5	11.5	11.0	12.5	11.5	12.5	11.5
2	9.5	9.5	12.0	10.5	11.0	10.0	11.5	11.0	12.5	11.5	12.5	11.5
3	9.5	9.5	12.0	11.0	10.5	9.5	11.5	10.5	12.5	11.5	12.5	11.5
4	10.0	9.5	12.0	11.0	10.5	10.0	12.0	11.0	12.5	11.5	12.5	11.5
5	10.0	9.5	12.0	11.0	11.0	10.0	12.0	10.5	12.5	11.5	12.5	11.5
6	10.0	9.5	12.0	11.0	10.5	10.0	12.0	11.0	12.5	11.5	12.0	11.5
7	10.5	9.5	12.0	10.5	10.5	10.0	12.0	11.0	12.5	11.5	12.5	11.0
8	10.0	9.5	12.0	11.0	10.5	10.0	12.0	11.0	12.5	12.0	12.0	11.0
9	10.5	9.5	11.5	11.0	11.0	10.0	12.0	11.0	12.0	11.0	12.0	11.0
10	11.0	10.5	11.5	10.5	11.0	10.0	12.0	11.0	12.5	11.0	12.0	11.0
11	11.0	10.5	11.5	10.5	11.0	10.0	12.5	11.0	13.0	12.0	12.0	11.0
12	10.5	10.0	11.5	10.5	11.5	10.5	12.0	11.0	13.0	11.5	12.5	11.0
13	11.0	10.0	11.5	10.0	11.5	10.5	12.0	11.0	13.0	11.5	12.5	11.5
14	10.5	10.5	11.0	9.5	12.0	11.0	12.5	11.0	12.5	11.5	12.0	11.0
15	10.5	10.0	11.0	9.5	12.0	10.5	12.5	11.0	12.5	11.5	11.5	11.0
16	11.0	10.0	11.0	9.5	12.0	10.5	13.0	11.0	12.5	11.5	11.5	11.5
17	11.0	10.5	11.0	9.5	12.0	10.5	12.5	11.0	12.5	11.5	11.5	11.0
18	11.0	10.5	11.0	9.5	11.0	10.5	12.5	11.0	12.5	11.5	11.5	11.0
19	11.0	11.0	11.0	10.0	12.0	11.0	12.5	11.0	12.5	11.5	11.5	11.0
20	11.5	11.0	11.0	9.5	12.0	11.0	12.5	11.0	12.5	11.5	12.0	11.0
21	11.5	11.0	11.0	10.0	12.0	11.0	12.5	11.0	12.5	11.5	12.0	11.0
22	11.5	11.0	11.0	10.0	12.0	11.0	12.5	11.0	12.5	11.5	11.5	11.0
23	11.5	11.0	11.0	10.0	12.0	11.0	12.5	11.0	12.5	11.5	11.5	11.0
24	11.5	11.0	11.0	10.0	11.5	11.0	12.0	11.0	12.5	11.5	11.5	11.0
25	11.5	11.0	11.0	10.0	12.0	11.0	12.5	11.0	12.5	11.5	11.5	11.0
26	12.0	11.0	11.0	10.0	12.0	11.0	12.5	11.5	12.5	11.5	11.5	11.0
27	12.0	11.0	11.0	10.0	12.0	11.0	12.5	11.5	12.5	11.5	11.5	11.0
28	12.0	11.0	11.0	10.0	11.5	10.5	12.5	11.5	12.5	11.5	11.5	11.0
29	12.0	11.0	10.5	10.0	11.5	11.0	12.5	11.5	12.5	11.5	11.5	11.0
30	12.0	11.0	11.5	10.5	11.5	10.5	12.5	11.5	12.5	11.5	11.5	11.0
31	---	---	11.5	10.5	---	---	12.5	11.5	12.5	11.5	---	---
MONTH	12.0	9.5	12.0	9.5	12.0	9.5	13.0	10.5	13.0	11.0	12.5	11.0

## 11303000 STANISLAUS RIVER AT RIPON, CA

LOCATION.--Lat 37°43'47", long 121°06'34", in NW¼SE¼ sec.29, T.2 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 15 ft (5 m) downstream from railroad bridge, 1.1 mi (1.8 km) southeast of Ripon, and 15 mi (24 km) upstream from mouth.

DRAINAGE AREA.--1,075 mi<sup>2</sup> (2,784 km<sup>2</sup>).

PERIOD OF RECORD.--October 1940 to current year. April to September 1940 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 0.72 ft (0.219 m) National Geodetic Vertical Datum of 1929. October 1940 to Nov. 17, 1953, at site 100 ft (30 m) upstream at same datum.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station (see REMARKS for station 11302000). South San Joaquin and Oakdale Canals (stations 11300500, 11301000) divert at Goodwin Dam 34 mi (55 km) upstream. Diversions for irrigation of 57,250 acres (232 km<sup>2</sup>) in vicinity of Oakdale. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--42 years, 997 ft<sup>3</sup>/s (28.24 m<sup>3</sup>/s), 722,300 acre-ft/yr (891 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,500 ft<sup>3</sup>/s (1,770 m<sup>3</sup>/s) Dec. 24, 1955, gage height, 63.25 ft (19.279 m); minimum daily, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Aug. 4-6, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 12, 1938, reached a stage of 64.4 ft (19.63 m) from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,020 ft<sup>3</sup>/s (85.5 m<sup>3</sup>/s) Jan. 6, gage height, 48.22 ft (14.697 m); minimum daily, 135 ft<sup>3</sup>/s (3.82 m<sup>3</sup>/s) Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	152	204	302	380	293	1300	2450	288	1220	1370	1420	1470
2	156	234	289	441	288	1320	2310	305	1260	1360	1430	1490
3	220	252	264	404	287	1380	1790	296	1180	1460	1390	1470
4	277	257	243	761	337	1360	1570	313	1250	1470	1410	1510
5	244	262	234	1580	764	1330	1460	285	1300	1530	1380	1530
6	209	263	221	2770	895	1350	1430	296	1360	1400	1350	1540
7	250	263	212	2280	937	1340	1420	278	1380	1380	1400	1480
8	254	264	208	1240	959	1320	1460	304	1330	1350	1420	1490
9	327	265	205	580	1020	1310	1470	312	1230	1260	1450	1530
10	341	267	204	416	1220	1340	1380	329	1180	1280	1350	1440
11	328	268	206	356	1230	1390	849	330	1240	1260	1410	1460
12	331	275	202	320	1260	1400	1150	324	1260	1290	1450	1520
13	349	292	201	297	1280	1350	1380	326	1260	1280	1450	1540
14	373	330	201	284	1300	1340	697	320	1280	1280	1500	1470
15	399	329	200	275	1330	1370	504	343	1290	1230	1510	1360
16	308	295	198	267	1960	1360	462	366	1280	1240	1430	1410
17	213	296	167	259	2080	1620	441	356	1270	1350	1400	1460
18	168	324	135	253	1560	1770	436	333	1360	1410	1420	1510
19	150	310	148	249	1350	1550	371	341	1430	1420	1520	1450
20	141	286	192	255	1330	1510	367	280	1420	1410	1480	1370
21	153	279	211	329	1310	1430	414	259	1430	1350	1500	1360
22	189	284	265	441	1300	1390	397	246	1420	1340	1530	1340
23	193	295	246	435	1290	1370	338	260	1430	1380	1460	1320
24	193	292	227	459	1290	1370	353	291	1420	1400	1430	1350
25	194	289	219	428	1280	1370	374	256	1450	1410	1420	1350
26	196	300	213	324	1280	1380	417	240	1480	1420	1470	1280
27	196	294	207	308	1280	1450	433	287	1520	1400	1490	1220
28	206	338	207	318	1280	1480	430	719	1500	1350	1510	1250
29	219	403	215	315	---	1460	365	969	1500	1350	1580	1210
30	214	328	329	317	---	1480	307	1040	1500	1380	1600	1150
31	207	---	591	301	---	1620	---	1180	---	1390	1500	---
TOTAL	7350	8638	7162	17642	31990	43810	27225	12072	40430	42200	45060	42330
MEAN	237	288	231	569	1143	1413	908	389	1348	1361	1454	1411
MAX	399	403	591	2770	2080	1770	2450	1180	1520	1530	1600	1540
MIN	141	204	135	249	287	1300	307	240	1180	1230	1350	1150
AC-FT	14580	17130	14210	34990	63450	86900	54000	23940	80190	83700	89380	83960

CAL YR 1981 TOTAL 137233 MEAN 376 MAX 1630 MIN 135 AC-FT 272200  
WTR YR 1982 TOTAL 325909 MEAN 893 MAX 2770 MIN 135 AC-FT 646400

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, San Joaquin County, Hydrologic Unit 18040003, on left bank 12 ft (4 m) downstream from Durham Ferry highway bridge, 2.6 mi (4.2 km) downstream from Stanislaus River, and 3.2 mi (5.1 km) northeast of Vernalis.

WATER-DISCHARGE RECORDS

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 29,800 ft<sup>3</sup>/s (844 m<sup>3</sup>/s) Apr. 18, elevation, 29.12 ft (8.876 m); minimum daily, 1,060 ft<sup>3</sup>/s (30.0 m<sup>3</sup>/s) Oct. 22, 24.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	1260	2270	2770	3670	9500	12200	24400	9010	8120	4430	3960
2	1230	1230	2200	2580	3580	9440	14600	24300	8860	9480	4200	3980
3	1370	1220	2120	2690	4140	9520	15000	24800	8960	10700	3960	4160
4	1730	1290	2030	2960	4210	9830	14300	24600	9130	11200	4230	4430
5	1670	1400	1930	4120	4400	9870	14200	24100	9330	11300	4240	4970
6	1480	1450	1880	7510	4770	9730	14800	23700	9490	10900	4240	5040
7	1340	1370	1950	7990	4700	9610	15900	23200	9420	9930	4340	4300
8	1400	1290	1980	6720	4130	9440	18500	22900	9140	9100	4140	4160
9	1500	1270	1950	5780	3340	9290	21700	22700	8980	8150	4120	4850
10	1510	1260	1920	5130	4360	9230	23900	22700	8670	6830	3960	5090
11	1720	1250	1910	4290	4820	9140	23600	22300	8270	5840	3820	5170
12	1780	1280	1900	3620	4950	8970	22800	22100	8080	5110	3900	5570
13	1690	1410	1880	3750	4970	8880	22500	22100	7760	4610	3920	5600
14	1550	1640	1860	3770	4790	9030	21700	21900	7310	4480	3890	5120
15	1670	1710	1840	3680	4410	9070	21800	21200	6700	4410	4050	5540
16	1740	1800	1810	3570	4240	9430	24100	20400	6290	4390	4060	5810
17	1630	1860	1780	3330	7720	9920	27700	19400	6130	4420	3900	6150
18	1540	1830	1740	2850	9100	11200	29600	18800	6170	4520	3860	6460
19	1360	1790	1570	2460	8780	11600	29600	18200	6190	4460	3940	6810
20	1230	1730	1470	2940	8990	11500	29200	17600	6270	4420	3930	7130
21	1100	1660	1450	3290	9830	11500	28900	16800	6280	4280	3920	7240
22	1060	1600	1560	3580	10600	11400	28600	16000	6090	4220	3950	7230
23	1070	1580	1870	3650	10800	11400	28200	15000	6220	4250	3960	7250
24	1060	1560	1960	3630	10700	11300	27900	14000	6290	4200	3750	7570
25	1090	1550	1940	3220	10400	11200	27600	13100	6430	4390	3710	8160
26	1090	1650	1760	2830	10100	10800	27200	12200	6610	4610	3750	8450
27	1090	1770	1550	3110	9880	10300	26700	11200	7050	4550	3920	8540
28	1170	1850	1470	3430	9690	9750	26100	10300	7350	4520	4030	8540
29	1320	2070	1460	3670	---	9440	25300	9780	7400	4600	4110	8260
30	1330	2290	1720	3820	---	9720	24700	9350	7640	4650	4210	8330
31	1320	---	2680	3820	---	10900	---	9140	---	4410	4080	---
TOTAL	42980	46920	57410	120560	186070	311910	688900	578270	227520	191050	124520	183870
MEAN	1386	1564	1852	3889	6645	10060	22960	18650	7584	6163	4017	6129
MAX	1780											

CAL YR 1981	TOTAL	721380	MEAN	1976	MAX	5700	MIN	1030	AC-FT	1431000
WTR YR 1982	TOTAL	2759980	MEAN	7562	MAX	29600	MIN	1060	AC-FT	5474000



11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL ANALYSES: Water years 1951 to current year.

BIOLOGICAL DATA: Water years 1974-81.

SPECIFIC CONDUCTANCE: Water years 1951-63, 1973-81.

WATER TEMPERATURES: Water years 1951 to current year.

SEDIMENT RECORDS: Water years 1957 to current year.

TURBIDITY: Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: March 1951 to May 1963.

SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981.

WATER TEMPERATURES: March 1951 to current year.

SEDIMENT RECORDS: November 1956 to current year.

INSTRUMENTATION.--Conductivity recorder January 1973 to October 1981. Temperature recorder October 1961 to September 1963, and since December 1972.

REMARKS.--Mean daily specific conductance records January 1973 to October 1981, furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,350 micromhos Aug. 11, 1961; minimum daily, 60 micromhos June 21, 1953.

WATER TEMPERATURES: Maximum recorded 30.0°C July 7, 1970, July 30, 1977; minimum recorded, 3.0°C Jan. 24, 1962.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,590 mg/L Dec. 25, 1964; minimum daily mean, 9 mg/L Jan. 4, 1960, Nov. 18, 1961.

SEDIMENT DISCHARGE: Maximum daily, 54,100 tons (49,100 metric tons) Dec. 25, 1964; minimum daily, 2 tons (1.8 metric tons) Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C July 15; minimum recorded, 7.5°C Jan. 9-12.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 535 mg/L Jan. 6; minimum daily mean, 25 mg/L Dec. 28.

SEDIMENT DISCHARGE: Maximum daily, 12,100 tons (11,000 metric tons) Apr. 2; minimum daily, 99 tons (90 metric tons) Dec. 28.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, DIS- UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV											
05...	1130	1400	729	6.7	15.5	6.0	8.1	160	130	147	47
JAN											
18...	1230	2850	698	7.3	8.5	10	9.4	--	--	145	52
MAR											
22...	1130	11400	265	7.2	12.0	17	10.3	100	88	59	0
MAY											
12...	1500	22100	129	6.8	18.0	14	7.8	67	110	36	4
JUL											
22...	1400	4220	466	7.4	23.0	31	7.7	1400	580	107	35
SEP											
20...	1245	7100	193	7.3	18.0	1.6	8.3	--	200	51	11

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV										
05...	31	17	78	53	2.9	3.4	100	72	94	.1
JAN										
18...	30	17	75	52	2.8	3.3	93	100	92	.2
MAR										
22...	13	6.4	24	46	1.4	2.2	49	30	23	.1
MAY										
12...	8.7	3.5	11	39	.8	1.4	32	7.0	11	<.1
JUL										
22...	23	12	46	48	2.0	2.6	72	55	53	<.1
SEP										
20...	12	5.0	18	43	1.1	1.7	40	18	14	<.1

See footnotes at end of table.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 05...	21	391	377	.53	1.2	.33	1.4	.23	.15	.17
JAN 18...	18	391	395	.53	1.1	.57	1.2	.17	.08	.15
MAR 22...	12	153	141	.21	.56	.09	.82	.14	.11	.07
MAY 12...	11	92	74	.13	--	--	--	--	--	--
JUL 22...	16	265	255	.36	1.1	.20	1.7	.18	.11	.10
SEP 20...	14	107	111	.15	.56	.15	1.0	.14	.05	.05

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 05...	1130	3	2	100	56	1	3	<10	<10	1
JAN 18...	1230	2	2	100	57	1	<1	10	<10	3
MAY 12...	1500	2	1	<100	28	1	<3	<10	<10	1
SEP 20...	1245	1	1	<100	38	<1	<1	10	<10	1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 05...	<3	33	8	1600	21	13	2	160	60	.3
JAN 18...	<3	22	7	1600	28	5	1	120	41	.3
MAY 12...	1	8	5	1200	58	5	3	60	27	.2
SEP 20...	<1	5	4	2200	590	1	<1	90	67	.3

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 05...	<.1	5	2	<1	<1	<1	<1	50	19
JAN 18...	<.1	10	<1	<1	<1	<1	<1	30	21
MAY 12...	<.1	4	3	<1	<1	<1	<1	20	21
SEP 20...	.1	6	3	<1	<1	<1	1	20	7

&lt; Actual value is known to be less than the value shown.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1140	62	191	1260	46	156	2270	63	386
2	1230	81	269	1230	43	143	2200	57	339
3	1370	82	303	1220	38	125	2120	56	321
4	1730	94	439	1290	54	188	2030	48	263
5	1670	84	379	1400	53	200	1930	47	245
6	1480	85	340	1450	49	192	1880	47	239
7	1340	76	275	1370	40	148	1950	49	258
8	1400	75	284	1290	43	150	1980	57	305
9	1500	79	320	1270	45	154	1950	61	321
10	1510	83	338	1260	42	143	1920	54	280
11	1720	93	432	1250	42	142	1910	53	273
12	1780	68	327	1280	70	242	1900	48	246
13	1690	65	297	1410	103	392	1880	45	228
14	1550	65	272	1640	117	518	1860	53	266
15	1670	66	298	1710	94	434	1840	50	248
16	1740	71	334	1800	82	399	1810	45	220
17	1630	79	348	1860	80	402	1780	38	183
18	1540	70	291	1830	79	390	1740	38	179
19	1360	60	220	1790	63	304	1570	33	140
20	1230	50	166	1730	59	276	1470	39	155
21	1100	50	149	1660	56	251	1450	37	145
22	1060	52	149	1600	58	251	1560	38	160
23	1070	46	133	1580	62	264	1870	53	268
24	1060	41	117	1560	52	219	1960	51	270
25	1090	46	135	1550	52	218	1940	44	230
26	1090	44	129	1650	53	236	1760	44	209
27	1090	37	109	1770	54	258	1550	37	155
28	1170	56	177	1850	49	245	1470	25	99
29	1320	65	232	2070	61	341	1460	41	162
30	1330	46	165	2290	66	408	1720	56	260
31	1320	48	171	---	---	---	2680	140	1010
TOTAL	42980	---	7789	46920	---	7789	57410	---	8063

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2770	92	688	3670	51	505	9500	104	2670
2	2580	84	585	3580	54	522	9440	91	2320
3	2690	68	494	4140	70	782	9520	76	1950
4	2960	73	583	4210	66	750	9830	77	2040
5	4120	219	2440	4400	61	725	9870	85	2270
6	7510	535	10800	4770	59	760	9730	89	2340
7	7990	246	5310	4700	54	685	9610	78	2020
8	6720	177	3210	4130	55	613	9440	72	1840
9	5780	147	2290	3340	56	505	9290	70	1760
10	5130	121	1680	4360	57	671	9230	65	1620
11	4290	99	1150	4820	58	755	9140	73	1800
12	3620	99	968	4950	50	668	8970	71	1720
13	3750	89	901	4970	57	765	8880	82	1970
14	3770	81	824	4790	49	634	9030	89	2170
15	3680	72	715	4410	49	583	9070	88	2160
16	3570	53	511	4240	76	870	9430	89	2270
17	3330	50	450	7720	270	5630	9920	107	2870
18	2850	45	346	9100	266	6540	11200	154	4660
19	2460	41	272	8780	202	4790	11600	132	4130
20	2940	38	302	8990	186	4510	11500	130	4040
21	3290	68	604	9830	158	4190	11500	123	3820
22	3580	68	657	10600	139	3980	11400	112	3450
23	3650	88	867	10800	124	3620	11400	123	3790
24	3630	66	647	10700	110	3180	11300	126	3840
25	3220	58	504	10400	99	2780	11200	94	2840
26	2830	66	504	10100	117	3190	10800	73	2130
27	3110	66	554	9880	121	3230	10300	100	2780
28	3430	67	620	9690	108	2830	9750	91	2400
29	3670	63	624	---	---	---	9440	86	2190
30	3820	62	639	---	---	---	9720	97	2550
31	3820	58	598	---	---	---	10900	139	4090
TOTAL	120560	---	41337	186070	---	59263	311910	---	82500

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DAY	APRIL			MAY			JUNE		
	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)
1	12200	335	11000	24400	37	2440	9010	91	2210
2	14600	307	12100	24300	36	2360	8860	93	2220
3	15000	201	8140	24800	34	2280	8960	89	2150
4	14300	121	4670	24600	34	2260	9130	102	2510
5	14200	122	4680	24100	33	2150	9330	80	2020
6	14800	144	5750	23700	34	2180	9490	76	1950
7	15900	176	7560	23200	34	2130	9420	75	1910
8	18500	148	7390	22900	33	2040	9140	75	1850
9	21700	132	7730	22700	34	2080	8980	73	1770
10	23900	95	6130	22700	46	2820	8670	77	1800
11	23600	112	7140	22300	36	2170	8270	75	1670
12	22800	96	5910	22100	40	2390	8080	79	1720
13	22500	78	4740	22100	40	2390	7760	77	1610
14	21700	70	4100	21900	42	2480	7310	74	1460
15	21800	65	3830	21200	45	2580	6700	76	1370
16	24100	74	4820	20400	40	2200	6290	70	1190
17	27700	82	6130	19400	51	2670	6130	73	1210
18	29600	50	4000	18800	48	2440	6170	79	1320
19	29600	45	3600	18200	51	2510	6190	78	1300
20	29200	43	3390	17600	49	2330	6270	72	1220
21	28900	45	3510	16800	56	2540	6280	69	1170
22	28600	37	2860	16000	58	2510	6090	63	1040
23	28200	45	3430	15000	57	2310	6220	71	1190
24	27900	36	2710	14000	70	2650	6290	65	1100
25	27600	34	2530	13100	67	2370	6430	66	1150
26	27200	40	2940	12200	79	2600	6610	68	1210
27	26700	39	2810	11200	81	2450	7050	64	1220
28	26100	37	2610	10300	94	2610	7350	60	1190
29	25300	34	2320	9780	96	2530	7400	59	1180
30	24700	34	2270	9350	106	2680	7640	59	1220
31	---	---	---	9140	98	2420	---	---	---
TOTAL	688900	---	150800	578270	---	74570	227520	---	46130
DAY	JULY			AUGUST			SEPTEMBER		
	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)
1	8120	56	1230	4430	73	873	3960	58	620
2	9480	60	1540	4200	70	794	3980	66	709
3	10700	57	1650	3960	78	834	4160	66	741
4	11200	48	1450	4230	84	959	4430	71	849
5	11300	54	1650	4240	73	836	4970	76	1020
6	10900	53	1560	4240	70	801	5040	65	885
7	9930	57	1530	4340	73	855	4300	57	662
8	9100	65	1600	4140	66	738	4160	64	719
9	8150	60	1320	4120	72	801	4850	65	851
10	6830	74	1360	3960	72	770	5090	62	852
11	5840	75	1180	3820	72	743	5170	63	879
12	5110	75	1030	3900	71	748	5570	61	917
13	4610	74	921	3920	68	720	5600	57	862
14	4480	78	943	3890	72	756	5120	51	705
15	4410	80	953	4050	69	755	5540	58	868
16	4390	79	936	4060	67	734	5810	67	1050
17	4420	85	1010	3900	70	737	6150	64	1060
18	4520	83	1010	3860	69	719	6460	60	1050
19	4460	78	939	3940	64	681	6810	64	1180
20	4420	80	955	3930	78	828	7130	68	1310
21	4280	73	844	3920	76	804	7240	61	1190
22	4220	74	843	3950	73	779	7230	63	1230
23	4250	70	803	3960	68	727	7250	65	1270
24	4200	68	771	3750	66	668	7570	65	1330
25	4390	75	889	3710	68	681	8160	63	1390
26	4610	76	946	3750	69	699	8450	65	1480
27	4550	82	1010	3920	70	741	8540	64	1480
28	4520	73	891	4030	63	686	8540	67	1540
29	4600	80	994	4110	59	655	8260	68	1520
30	4650	77	967	4210	59	671	8330	54	1210
31	4410	75	893	4080	57	628	---	---	---
TOTAL	191050	---	34618	124520	---	23421	183870	---	31429
YEAR	2759980		567709.0						

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
NOV 05...	1130	1400	15.5	53	200	6.0
JAN 18...	1230	2850	8.5	48	369	10
MAR 22...	1130	11400	12.0	--	--	17
MAY 12...	1500	22100	18.0	42	2510	14
JUL 22...	1400	4220	23.0	85	968	31
SEP 20...	1245	7100	18.0	68	1300	1.6

## 11308600 CALAVERAS RIVER ABOVE NEW HOGAN LAKE, NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°11'48", long 120°43'18", in NW 1/4 SW 1/4 sec. 13, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, on right bank 600 ft (183 m) below confluence of the North and South Forks of the Calaveras River, and 2.3 mi (3.7 km) west of San Andreas.

DRAINAGE AREA.--307 mi<sup>2</sup> (795 km<sup>2</sup>).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

REMARKS.--River dry Oct. 1 to Nov. 13. Backwater from New Hogan Lake, Mar. 10 to Sept. 30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 8, 9, 1978; minimum recorded, 2.0°C Jan. 7, 1973, Jan. 4, 1976.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 14.0°C Nov. 16, 17; minimum recorded, 5.5°C Jan. 9, 14, 22, 23, 30, Feb. 7.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

11308700 NEW HOGAN LAKE NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°09'01", long 120°48'45", in SW 1/4 SW 1/4 sec.31, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, in control house at New Hogan Dam on the Calaveras River, 3.0 mi (4.8 km) south of Valley Springs.

DRAINAGE AREA.--362 mi<sup>2</sup> (938 km<sup>2</sup>).

PERIOD OF RECORD.--December 1963 to current year. Prior to October 1971, published as "New Hogan Reservoir."

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

REMARKS.--Reservoir is formed by an earthfill dam and four earthfill dikes. Storage began Dec. 20, 1963. Total capacity, 317,055 acre-ft (391 hm<sup>3</sup>) between elevations 534.5 ft (162.92 m), invert of outlet valve and 713.0 ft (217.32 m), top of spillway gates. Elevation of spillway crest is 679.5 ft (207.11 m). No dead storage. The reservoir is operated for flood control according to existing downstream channel conditions. Reservoir releases limited, insofar as possible, to amounts that will not cause flows greater than 6,000 ft<sup>3</sup>/s (170 m<sup>3</sup>/s) at Bellota. Records, including extremes, show contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 278,798 acre-ft (344 hm<sup>3</sup>) May 15, 16, 1982, elevation, 703.75 ft (214.503 m); minimum since initial season of normal operation, 9,360 acre-ft (11.5 hm<sup>3</sup>) Oct. 27, 1964, elevation, 576.81 ft (175.812 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 278,798 acre-ft (344 hm<sup>3</sup>) May 15, 16, elevation, 703.75 ft (214.503 m); minimum, 95,882 acre-ft (118 hm<sup>3</sup>) Nov. 11, elevation, 643.64 ft (196.181 m).

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

545	588	600	26,851
550	1,117	610	38,252
555	1,892	630	68,795
560	2,960	650	110,300
570	6,149	670	163,134
580	11,013	700	264,177
590	17,835	713	317,123

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102269	96865	105896	135344	171232	185925	251371	276662	275598	264061	248811	232098
2	101976	96777	106034	138429	171924	188766	247851	277175	275283	263755	248219	231566
3	101705	96668	106103	140066	172496	191151	246708	277690	275007	263448	247629	230998
4	101435	96559	106149	157050	173009	192526	246304	278045	274694	263142	247114	230467
5	101143	96471	106196	176748	173494	193552	244176	278323	274497	262836	246671	229937
6	100852	96384	106218	173221	173918	194421	244030	278600	274222	262492	246194	229406
7	100673	96296	106218	169075	174282	195162	245642	278719	273947	261958	245642	228913
8	100427	96187	106218	165957	174676	195873	247666	278680	273634	261462	245165	228454
9	100181	96100	106449	164248	174980	196520	249440	278561	273281	260968	244615	227962
10	99980	96013	106588	164189	175254	197298	252414	278561	272812	260549	243957	227435
11	99757	95882	106658	164484	175498	199513	268337	278561	272382	260131	243373	226908
12	99512	95969	106727	164219	175803	201149	266637	278600	271952	259713	242861	226453
13	99291	96231	106842	163895	176138	202366	262951	278680	271562	259259	242351	225927
14	99113	97347	106912	163485	177851	205506	261120	278719	271211	258803	241841	225438
15	98957	97677	106981	163017	198958	208673	260777	278798	270861	258312	241333	225053
16	98825	97853	106981	162549	213220	212983	262226	278798	270471	257631	240860	224670
17	98670	98581	107028	162024	207938	214510	264061	278759	269965	257065	240353	224390
18	98515	98935	107121	161558	200396	215123	265597	278660	269500	256500	239773	224111
19	98382	99068	107538	161354	193649	215157	267061	278561	269073	256011	239158	223833
20	98228	99091	113484	163661	188481	215225	268376	278362	268608	255447	238616	223520
21	98095	99291	116670	163984	185016	215327	269539	278204	268143	254921	238075	223276
22	97963	99980	118233	162316	183389	216009	271367	278085	267641	254396	237535	223034
23	97831	100405	119068	161121	183046	217342	271562	278006	267099	253834	236923	222894
24	97655	101548	119634	160714	182984	218474	272460	277847	266598	253236	236348	222755
25	97545	102269	119980	161237	183140	219540	273164	277571	266213	252639	235738	222964
26	97369	102789	120277	162988	183857	220850	273947	277294	265828	252116	235130	222825
27	97281	103720	120722	164836	184451	222027	274694	277057	265405	251595	234628	222651
28	97347	105000	121145	166726	184890	223903	275362	276819	264982	251073	234128	222478
29	97215	105459	123543	168389	---	229195	275795	276504	264598	250591	233593	222201
30	97106	105711	128546	169553	---	234879	276189	276228	264291	250033	233094	221992
31	96996	---	130583	170421	---	252639	---	275913	---	249440	232632	---
MAX	102269	105711	130583	176748	213220	252639	276189	278798	275598	264061	248811	232098
MIN	96996	95882	105896	135344	171232	185925	244030	275913	264291	249440	232632	221992
a	644.15	648.03	658.20	672.46	677.18	696.95	703.09	703.02	700.03	696.09	691.46	688.43
b	-5567	+8715	+24872	+39838	+14469	+67749	+23550	-276	-11622	-14851	-16808	-10640
c	782	370	169	213	358	526	1065	1951	2065	2678	2504	1671

CAL YR 1981 MAX 181058 MIN 95882 b -7044  
WTR YR 1982 MAX 278798 MIN 95882 b +119429

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.



LOCATION.--Lat 38°08'53", long 120°49'26", in NW 1/4 NE 1/4 sec.1, T.3 N., R.10 E., Calaveras County, Hydrologic Unit 18040011, on right bank at county road bridge, 0.5 mi (0.8 km) upstream from Cosgrove Creek, 0.8 mi (1.3 km) downstream from New Hogan Dam, and 3.0 mi (4.8 km) south of Valley Springs.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder and concrete control. Datum of gage is 519.8 ft (158.44 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Auxiliary nonrecording gage 300 ft (91 m) downstream at different datum used May 1, 1962, to Jan. 26, 1963.

AVERAGE DISCHARGE.--(adjusted for change in contents in and evaporation from New Hogan Lake).--21 years, 231 ft<sup>3</sup>/s (6.542 m<sup>3</sup>/s), 167,400 acre-ft/yr (206 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s) Jan. 22, 1980, gage height, 10.52 ft (3.206 m); no flow many days in 1961-65, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,120 ft<sup>3</sup>/s (230 m<sup>3</sup>/s) Mar. 31, gage height, 9.35 ft (2.850 m); minimum daily, 18 ft<sup>3</sup>/s (0.510 m<sup>3</sup>/s) Nov. 27, Dec. 31, and Jan. 3.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	45	28	20	49	49	6880	107	227	178	271	233
2	123	31	34	20	49	51	5260	78	227	179	261	270
3	125	48	40	18	49	50	3740	76	226	179	246	266
4	122	47	40	29	49	49	3540	89	211	178	230	249
5	121	44	40	2390	49	49	3200	109	194	179	219	249
6	125	40	40	4530	48	49	1830	129	190	208	230	248
7	112	40	40	3590	49	49	588	166	200	244	244	231
8	101	40	40	2560	49	49	48	230	225	276	244	220
9	102	40	40	1590	49	46	48	264	251	252	254	220
10	102	40	43	610	49	39	49	206	267	228	282	219
11	103	40	40	227	49	40	2180	204	267	230	277	219
12	102	40	39	493	49	40	4920	183	265	228	243	218
13	93	41	40	497	49	40	4170	150	263	227	228	217
14	76	41	40	508	53	42	2620	149	246	237	228	218
15	59	39	40	499	1420	42	1510	149	233	263	227	217
16	59	39	40	499	4970	677	443	150	240	274	227	185
17	59	41	40	499	5610	2370	38	150	258	272	244	156
18	59	40	40	499	5430	2360	39	178	258	273	271	155
19	58	40	40	493	4500	1830	40	218	257	265	283	153
20	58	40	36	662	3520	1360	40	226	257	250	275	148
21	58	40	27	1570	2510	1040	40	209	267	250	261	141
22	59	40	26	1690	1500	587	48	197	282	249	264	118
23	59	40	26	1210	759	48	54	198	281	266	263	104
24	59	31	34	721	510	49	54	197	249	275	262	104
25	59	20	40	242	353	43	54	234	223	276	262	104
26	59	19	40	49	48	39	54	220	223	258	261	104
27	60	18	40	48	48	38	41	198	224	245	247	104
28	58	19	40	49	48	40	63	214	223	244	235	104
29	53	19	36	49	---	52	154	226	197	244	236	104
30	49	24	21	49	---	46	152	227	179	259	219	104
31	48	---	18	49	---	3060	---	228	---	272	208	---
TOTAL	2503	1086	1128	25951	31915	14323	41897	5559	7110	7458	7702	5382
MEAN	80.7	36.2	36.4	837	1140	462	1397	179	237	241	248	179
MAX	125	48	43	4530	5610	3060	6880	264	282	276	283	270
MIN	48	18	18	18	48	38	38	76	179	178	208	104
AC-FT	4960	2150	2240	51470	63300	28410	83100	11030	14100	14790	15280	10680
CAL YR 1981	TOTAL	47213	MEAN	129	MAX	319	MIN	16	AC-FT	93650		
WTR YR 1982	TOTAL	152014	MEAN	416	MAX	6880	MIN	18	AC-FT	301500		

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1971 to current year.

CHEMICAL ANALYSES: Water years 1964-66.

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1970 to current year.

INSTRUMENTATION.--Temperature recorder since October 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 10, 28, 29, 1977; minimum recorded, 5.5°C Dec. 17, 1971, Jan. 1, 1973.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 15.0°C Nov. 23; minimum recorded, 7.5°C several days during January and February.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

[illegible]

## SAN JOAQUIN RIVER BASIN

11312000 BEAR CREEK NEAR LOCKEFORD, CA

LOCATION.--Lat 38°09'10", long 121°08'17", in NW 1/4 SE 1/4 sec.31, T.4 N., R.8 E., San Joaquin County, Hydrologic Unit 18040005, on right bank 15 ft (5 m) downstream from county road bridge, and 0.8 mi (1.3 km) southeast of Lockeford.

DRAINAGE AREA.--47.4 mi<sup>2</sup> (122.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1926 to November 1930 at site 3 mi (5 km) downstream; records not equivalent.

REVISED RECORDS.--WSP 1635: Drainage area.

GAGE.--Water-stage recorder and low-water concrete control. Datum of gage is 80.68 ft (24.591 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair. No storage or diversion above station. Occasionally water is released from East Bay Municipal Utility District aqueduct into Bear Creek above station. Summer discharge influenced by return flows from irrigated areas.

AVERAGE DISCHARGE.--52 years, 12.1 ft<sup>3</sup>/s (0.343 m<sup>3</sup>/s), 8,770 acre-ft/yr (10.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,930 ft<sup>3</sup>/s (83.0 m<sup>3</sup>/s) Apr. 3, 1958, gage height, 15.13 ft (4.612 m); no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 5	0630	1,400 39.6	13.68 4.170	Apr. 1	0130	*1,770 50.1	14.83 4.520
Jan. 21	0330	501 14.2	8.26 2.518	Apr. 11	2200	578 16.4	8.89 2.710
Feb. 16	0730	1,280 36.2	13.11 3.996				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	0	3.1	120	19	17	1150	2.1	.74	.40	.13	.07
2	.29	0	2.1	141	19	301	266	2.1	.46	.74	.32	.10
3	.83	0	1.7	51	12	163	204	2.4	.21	.52	.13	.10
4	.71	0	1.4	491	9.9	59	255	2.8	.40	.07	.17	.10
5	.15	0	1.3	1180	8.6	37	90	1.1	.52	.04	.17	.13
6	.45	0	1.1	287	7.5	24	62	.90	.17	.02	.42	.10
7	.51	0	1.0	77	6.4	18	49	2.1	1.2	.03	.32	.02
8	.25	0	.90	55	5.7	15	37	2.5	1.0	.02	.58	.02
9	.04	0	.83	40	5.4	13	29	2.1	.40	.02	.13	.01
10	.52	0	.72	28	4.9	13	36	.74	1.2	.04	.03	.02
11	.04	0	.63	21	4.3	104	377	1.1	1.0	.07	.02	.02
12	.02	.33	.60	17	3.8	95	356	.46	.74	.58	.02	.10
13	0	2.2	.61	13	4.0	47	86	.74	.58	.06	.02	.40
14	0	4.7	.58	11	6.0	58	55	.58	.74	.10	.17	.06
15	0	7.5	.61	9.8	536	94	44	.46	.52	.06	.40	.02
16	0	3.3	.58	8.5	1080	109	30	.52	.52	.02	.13	.10
17	0	8.6	.60	7.5	242	318	21	.30	1.0	.07	.06	.10
18	0	10	.95	7.2	81	271	16	1.3	.90	.46	.03	.13
19	0	4.8	3.6	11	56	114	12	.75	.52	.46	.01	.12
20	0	2.6	128	194	40	65	10	1.0	.82	.32	.01	0
21	0	2.4	65	334	29	45	9.4	.59	.52	.04	.01	0
22	0	3.2	23	82	23	32	7.5	.99	.32	.03	.02	0
23	0	8.3	9.9	40	17	23	6.2	.83	.66	.03	.32	0
24	.01	4.3	5.9	27	13	17	5.0	1.7	1.1	.10	.03	.13
25	0	2.5	4.0	23	11	14	4.3	1.1	.90	.13	.02	1.3
26	0	2.5	3.1	27	9.0	15	3.4	1.1	.17	.07	.13	.32
27	.04	7.8	2.7	58	8.2	28	3.2	1.2	.82	.17	.74	.03
28	.72	20	2.2	59	7.8	49	2.8	2.1	.90	1.2	.13	.01
29	.08	13	31	55	---	192	2.7	1.8	.52	.32	.06	.02
30	0	5.5	176	36	---	337	2.2	1.9	.52	.17	.06	.26
31	0	---	51	25	---	823	---	1.4	---	.13	.06	---
TOTAL	4.86	113.53	524.71	3536.0	2269.5	3510	3231.7	40.76	20.07	6.49	4.85	3.79
MEAN	.16	3.78	16.9	114	81.1	113	108	1.31	.67	.21	.16	.13
MAX	.83	20	176	1180	1080	823	1150	2.8	1.2	1.2	.74	1.3
MIN	0	0	.58	7.2	3.8	13	2.2	.30	.17	.02	.01	0
AC-FT	9.6	225	1040	7010	4500	6960	6410	81	40	13	9.6	7.5

CAL YR 1981 TOTAL 2741.09 MEAN 7.51 MAX 390 MIN 0 AC-FT 5440  
WTR YR 1982 TOTAL 13266.26 MEAN 36.3 MAX 1180 MIN 0 AC-FT 26310

## 11313000 DELTA-MENDOTA CANAL AT TRACY PUMPING PLANT, NEAR TRACY, CA

LOCATION.--Lat 37°47'49", long 121°35'03", in SW¼SW¼ sec.31, T.1 S., R.4 E., Alameda County, Hydrologic Unit 18040003, at Tracy pumping plant at intake to canal, 6 mi (10 km) southeast of Byron, and 10 mi (16 km) northwest of Tracy.

PERIOD OF RECORD.--June 1951 to current year. Prior to October 1959, published as "near Tracy."

GAGE.--Water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy pumping plant where it is lifted 200 ft (61 m) into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of the Central Valley Project.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--31 years, 2,243 ft³/s (63.52 m³/s), 1,625,000 acre-ft/yr (2.00 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,935 ft³/s (140 m³/s) Aug. 11, 1969; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3220	939	2.0	1650	1590	4180	3730	3940	3140	822	3980	2460
2	3160	825	0	1640	1960	4130	3570	3940	2680	822	4000	2440
3	3300	863	0	2210	3200	4170	3250	3500	2890	820	4010	2440
4	3300	864	0	2480	3560	4150	3250	3220	3190	820	4360	2420
5	3310	862	0	2520	3920	4180	3260	3230	3170	822	4710	2420
6	2920	859	0	2500	3940	4160	3260	3230	3170	824	4670	2400
7	2560	862	6.0	1860	3910	4190	3250	3220	3160	812	4670	1900
8	2550	855	0	1580	3890	4150	3260	3220	3160	811	4640	1630
9	2560	863	0	1580	3910	4140	3260	3220	3150	1220	4620	1640
10	2550	858	1.0	1580	3960	4160	3250	3200	3160	1570	4630	1660
11	2560	862	0	1580	3950	4250	3260	3660	3150	1560	4660	1650
12	2530	864	140	1580	3940	4170	3320	3890	3140	1550	4660	1650
13	2530	857	0	1580	3930	4160	3230	3830	3140	2710	4700	1660
14	2070	858	0	1570	3950	4170	3260	3900	3140	3750	4700	1660
15	1740	853	2.0	1580	3950	4190	3230	2820	3140	4130	4700	1670
16	1750	852	0	1560	3960	3950	3270	2380	3150	4650	4650	1660
17	1760	852	1.0	1560	3950	4250	3240	2390	3160	4640	4670	2130
18	1740	1400	0	1570	3960	4230	3250	2380	3220	4670	4670	2520
19	1740	1680	0	1570	3950	4160	3250	2470	3110	4660	4690	2490
20	1750	1670	1150	1570	3940	4110	3210	2520	3160	4680	4670	2550
21	1670	2430	1940	1570	3930	4130	3180	2490	2690	4150	4670	2500
22	1800	2780	1690	2080	3910	3920	3200	2480	2530	3990	4630	2490
23	1790	3180	1700	2350	4230	3890	3620	2480	2400	4050	4620	2500
24	1800	3120	1690	2360	4220	3980	3940	2470	2390	4040	4660	2530
25	1800	3120	1670	2360	4150	3970	3960	2480	2460	4030	4650	2210
26	1790	3110	2380	1890	4070	4030	4000	2480	2500	3990	3910	1700
27	1370	3160	2540	1620	4000	4130	3930	2470	2510	3990	4090	1750
28	944	2140	2490	1590	4070	4130	3960	2460	2960	4010	4110	1750
29	943	615	2500	1580	---	4220	3950	2460	3130	3970	3640	1640
30	942	0	2500	1600	---	4050	3940	2910	2090	4020	2920	1540
31	940	---	1920	1580	---	4010	---	3140	---	4020	2260	---
TOTAL	65389	43053	24322.0	55900	105900	127710	103540	92480	88040	90603	135220	61660
MEAN	2109	1435	785	1803	3782	4120	3451	2983	2935	2923	4362	2055
MAX	3310	3180	2540	2520	4230	4250	4000	3940	3220	4680	4710	2550
MIN	940	0	0	1560	1590	3890	3180	2380	2090	811	2260	1540
AC-FT	129700	85400	48240	110900	210100	253300	205400	183400	174600	179700	268200	122300

CAL YR 1981 TOTAL 1098148.0 MEAN 3009 MAX 4850 MIN 0 AC-FT 2178000  
WTR YR 1982 TOTAL 993817.0 MEAN 2723 MAX 4710 MIN 0 AC-FT 1971000

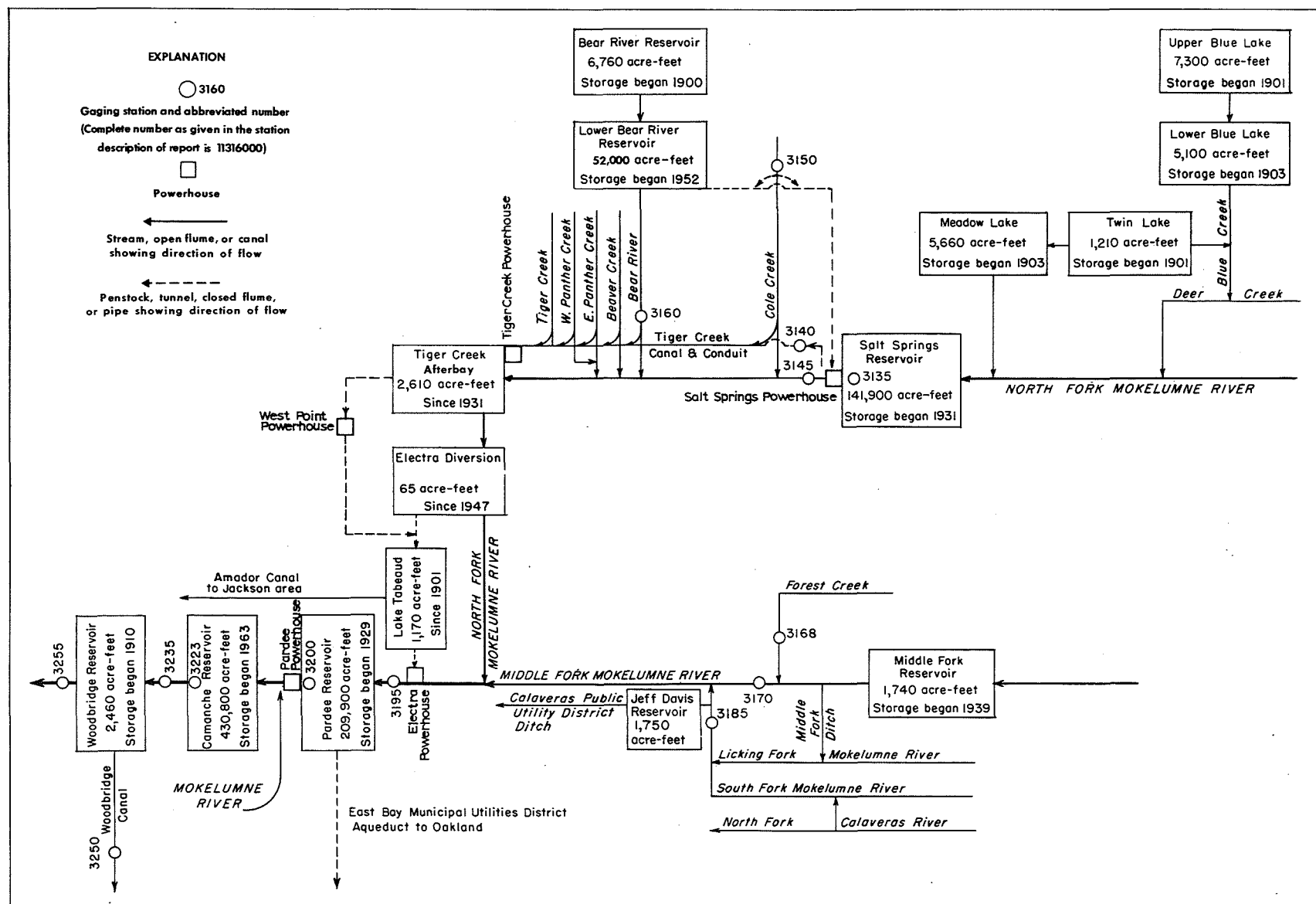


FIGURE 11.--Schematic diagram showing diversions and storage in Mokelumne River basin.

## 11313500 SALT SPRINGS RESERVOIR NEAR WEST POINT, CA

LOCATION.--Lat 38°30'00", long 120°12'55", in SE¼ sec.33, T.8 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Eldorado National Forest, at right end of Salt Springs Dam on North Fork Mokelumne River, 2 mi (3 km) upstream from Cole Creek, and 18 mi (29 km) northeast of West Point.

DRAINAGE AREA.--169 mi<sup>2</sup> (438 km<sup>2</sup>).

PERIOD OF RECORD.--March 1931 to current year. Prior to October 1964, records published as usable contents.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam, completed in 1931; storage began in March 1931. Capacity, 141,900 acre-ft (175 hm<sup>3</sup>) between elevations 3,667.75 ft (1,117.930 m), outlet drain, and 3,958.0 ft (1,206.40 m), top of radial gates, NGVD. Storage of 1,860 acre-ft (2.29 hm<sup>3</sup>) available for release to river only. Water is released through powerhouse just below dam and discharged into Tiger Creek powerhouse conduit (station 11314000). Figures given herein represent total contents. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES (AT 1500) FOR PERIOD OF RECORD.--Maximum contents observed, 141,900 acre-ft (175 hm<sup>3</sup>) for several days in June or July most years, elevation, 3,958.0 ft (1,206.40 m); no contents at times in 1932-33, 1945, 1962.

EXTREMES (AT 1500) FOR CURRENT YEAR.--Maximum contents observed, 141,700 acre-ft (175 hm<sup>3</sup>) July 7, elevation, 3,957.8 ft (1,206.34 m); minimum, 37,160 acre-ft (45.8 hm<sup>3</sup>) Nov. 12, elevation, 3,818.9 ft (1,164.00 m).

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

3,667.75	45	3,740.0	7,320
3,700.0	1,250	3,750.0	9,800
3,705.0	1,680	3,760.0	12,700
3,710.0	2,200	3,780.0	19,600
3,715.0	2,810	3,800.0	28,000
3,720.0	3,520	3,850.0	54,900
3,725.0	4,320	3,900.0	90,800
3,730.0	5,230	3,958.0	141,900
3,735.0	6,230		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 1500

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68951	44852	64132	93267	78659	101470	94802	136891	138696	139269	131443	111629
2	68242	43901	64338	93347	77761	101889	94316	137080	138601	139460	131164	111281
3	67256	43402	64338	93026	77165	101638	94316	137270	138601	140033	130885	110934
4	66207	42742	64064	92865	76349	101805	93831	137270	138696	140416	130606	110500
5	65373	42032	63926	92785	75610	101554	93347	136796	139078	140608	129864	110066
6	65097	41274	63516	92704	74874	101220	92865	136322	139938	140992	129124	109634
7	64476	40415	63109	92785	74068	100719	92464	136417	140033	141665	127926	109202
8	64201	39458	62699	92785	73338	100220	92063	136417	139938	141088	127466	108771
9	63789	38616	62360	91823	72611	99888	91025	136302	140033	141376	126732	108168
10	62970	38145	62292	91424	72032	99639	90151	136133	139651	141376	126336	107567
11	62021	37678	62021	91025	71454	100803	99722	136039	140129	141568	125726	106711
12	61213	37162	61684	90786	70879	101053	109893	136322	139938	141376	125361	105858
13	60745	38093	61549	89834	70162	101220	113377	137080	139555	141376	124541	105177
14	60212	45134	61012	89280	71815	101470	115576	137460	139555	141376	123996	104584
15	59550	46443	60745	88650	74874	101470	116993	136985	140512	141376	123451	103991
16	58957	47947	60212	88020	89676	101470	118238	137365	140033	141184	122908	103569
17	57914	50134	59550	87472	93993	101470	119130	137365	140033	140704	122275	103569
18	56882	51157	58892	86846	95614	101220	120474	136891	139651	140129	121463	103316
19	55924	51581	63107	86300	96511	101220	121914	136606	139651	139555	120564	102895
20	55040	51763	77687	85756	97576	100470	122727	137460	138887	138887	119488	102224
21	54226	51824	85756	85290	98647	99722	123633	137935	140321	138125	118416	101805
22	53295	54226	88571	84671	99805	99142	124541	138315	140129	137270	117348	101303
23	52373	56497	90230	84054	100886	98152	125908	138506	139842	136322	116638	100969
24	51277	60013	91264	83362	101303	97741	127742	138410	140129	135378	116195	101136
25	50194	61819	91823	82749	101721	97248	129671	138315	139938	134436	115753	101136
26	49241	62495	91903	82214	101721	96920	131257	138601	140225	133592	115311	103148
27	48417	63379	92223	81680	101721	96430	132749	138315	139842	133498	114694	102980
28	47831	64064	92383	81072	101554	96022	135001	137650	139651	133019	113903	102895
29	46845	64201	92544	80466	---	95614	137175	137650	140704	132469	113114	102643
30	46845	64201	92945	79937	---	95289	136606	139269	139364	132188	112502	102224
31	45871	---	93187	79410	---	94802	---	138696	---	131629	112065	---
MAX	68951	64201	93187	93347	101721	101889	137175	139269	140704	141665	131443	111629
MIN	45871	37162	58892	79410	70162	94802	90151	136039	138601	131629	112065	100969
a	3835.0	3864.2	3903.0	3885.3	3913.2	3905.0	3952.5	3954.7	3955.4	3947.2	3925.5	3914.0
b	-23700	+18300	+29000	-13800	+22100	-6750	+41800	+2090	+668	-7740	-19600	-9840

CAL YR 1981 b +51500

WTR YR 1982 b +32600

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

## 11314000 TIGER CREEK POWERHOUSE CONDUIT BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'47", long 120°13'04", in SW¼ sec.33, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft (305 m) downstream from Salt Springs Dam and powerhouse.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,620 ft (1,103 m), from topographic map. Auxiliary nonrecording gages in stilling wells upstream and downstream from control.

REMARKS.--Conduit conveys water of North Fork Mokelumne River from tailrace of Salt Springs powerhouse to forebay of Tiger Creek powerhouse. Since December 1952, records include Bear River diversion to Salt Springs powerhouse. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--51 years, 358 ft³/s (10.14 m³/s), 259,400 acre-ft/yr (320 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 577 ft³/s (16.3 m³/s) June 22, 1945; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	545	525	501	520	503	487	260	352	548	358	547
2	546	544	529	500	520	490	488	262	258	549	544	548
3	547	547	525	500	527	491	492	262	322	548	372	551
4	547	546	524	500	531	498	496	259	330	549	553	545
5	547	550	524	500	532	498	497	268	329	552	549	547
6	549	551	524	500	532	499	498	276	330	549	547	552
7	444	549	524	500	531	496	493	280	330	548	547	548
8	400	549	525	500	531	505	484	280	331	549	545	545
9	549	548	525	510	531	515	481	280	332	548	549	544
10	549	548	526	521	531	508	479	273	329	548	546	544
11	550	548	527	521	534	503	515	313	331	548	548	543
12	548	530	525	521	539	497	237	348	331	546	547	541
13	549	376	526	527	527	494	300	350	333	545	547	542
14	549	283	526	531	508	493	300	349	333	544	548	545
15	549	278	528	531	503	492	300	349	332	543	549	548
16	548	365	531	531	507	492	300	348	331	543	551	545
17	544	373	538	531	504	490	300	349	330	544	548	545
18	546	407	536	527	503	491	300	340	329	271	547	539
19	544	526	448	519	503	494	282	344	328	547	551	537
20	545	527	430	520	504	506	250	342	327	545	551	540
21	549	490	438	520	504	508	251	347	126	546	549	537
22	548	300	449	520	503	513	251	351	20	546	548	534
23	549	399	451	520	501	511	251	353	21	546	550	525
24	548	343	478	520	501	513	251	351	20	544	551	537
25	548	389	500	520	502	507	251	355	20	546	547	523
26	548	480	500	507	502	496	252	357	20	540	544	519
27	548	402	500	513	502	491	251	360	20	548	543	520
28	531	501	497	520	502	491	243	364	195	547	542	518
29	476	524	502	520	---	491	245	367	538	547	543	522
30	471	524	501	520	---	490	253	373	548	547	550	522
31	546	---	501	520	---	490	---	375	---	547	548	---
TOTAL	16561	14042	15683	15991	14435	15456	10478	10085	8076	16668	16612	16153
MEAN	534	468	506	516	516	499	349	325	269	538	536	538
MAX	550	551	538	531	539	515	515	375	548	552	553	552
MIN	400	278	430	500	501	490	237	259	20	271	358	518
AC-FT	32850	27850	31110	31720	28630	30660	20780	20000	16020	33060	32950	32040

CAL YR 1981 TOTAL 156994.87 MEAN 430 MAX 560 MIN .00 AC-FT 311400  
WTR YR 1982 TOTAL 170240.00 MEAN 466 MAX 553 MIN 20 AC-FT 337700



## 11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'37", long 120°13'12", in NE¼NW¼ sec.4, T.7 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Stanislaus National Forest, on left bank 0.3 mi (0.5 km) downstream from Salt Springs Dam, and 1.3 mi (2.1 km) upstream from Cole Creek.

DRAINAGE AREA.--170 mi<sup>2</sup> (440 km<sup>2</sup>).

PERIOD OF RECORD.--September 1926 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "above Moore Creek" 1926-30.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,590 ft (1,094 m), from topographic map. Prior to Sept. 12, 1928, at site 100 ft (30 m) upstream and Sept. 12, 1928, to Sept. 23, 1940, at present site at datum 2.0 ft (0.61 m) higher.

REMARKS.--Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 0.3 mi (0.5 km) upstream. Diversion from Bear River and Cole Creek to Salt Springs powerhouse averaged 187 ft<sup>3</sup>/s (5.30 m<sup>3</sup>/s) during current year. Diversion above station through Tiger Creek powerhouse conduit (station 11314000). See schematic diagram of Mokelumne River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (combined flow of North Fork Mokelumne River and Tiger Creek powerhouse conduit minus Bear River-Cole Creek diversion).--56 years, 473 ft<sup>3</sup>/s (13.40 m<sup>3</sup>/s), 342,700 acre-ft/yr (423 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft<sup>3</sup>/s (453 m<sup>3</sup>/s), Nov. 21, 1950, gage height, 17.20 ft (5.243 m), from rating curve extended above 3,900 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) on basis of computations of flow over dam and discharge through powerhouse; minimum daily, 0.3 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Mar. 31, Apr. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,550 ft<sup>3</sup>/s (129 m<sup>3</sup>/s) May 26, gage height, 10.30 ft (3.139 m); minimum daily, 6.5 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) several days during November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	6.5	6.6	357	291	382	374	2270	2080	958	9.3	18
2	11	6.5	6.6	358	291	379	374	2450	2110	742	12	14
3	11	6.5	26	355	279	383	372	2840	1880	642	16	11
4	11	6.5	87	353	272	385	369	2900	1420	642	195	9.7
5	11	6.5	135	318	272	385	368	2710	1190	508	223	9.2
6	11	6.5	149	317	274	384	368	2270	970	390	262	9.2
7	11	6.5	148	316	272	384	367	2490	1460	838	285	14
8	11	6.5	119	314	272	375	337	2610	1660	672	228	13
9	11	6.5	102	313	274	365	369	1880	1860	496	231	11
10	11	6.5	107	313	274	373	372	1360	2360	496	225	11
11	11	6.5	120	327	277	383	426	1100	2280	818	227	11
12	11	6.5	125	320	267	389	556	1000	2310	245	217	12
13	11	8.2	172	309	279	389	591	1370	2020	213	234	11
14	11	10	234	308	284	395	594	2010	1630	168	234	15
15	11	7.3	287	306	303	394	595	1950	2290	266	233	19
16	11	6.9	324	304	342	393	596	2330	3040	273	223	15
17	11	9.1	318	303	342	392	597	2670	2940	212	275	10
18	11	7.4	316	303	368	391	599	2600	2980	193	268	9.3
19	11	7.4	53	301	368	384	631	1930	3660	219	266	9.5
20	11	7.1	14	302	368	374	655	2210	1940	246	305	9.7
21	11	7.7	12	303	371	366	656	2630	2110	254	299	9.4
22	11	9.6	10	303	376	363	658	2900	2360	257	252	9.4
23	11	8.1	9.3	303	376	363	661	3390	2260	255	14	14
24	11	9.5	199	306	376	363	665	3650	2160	253	9.9	13
25	11	8.6	353	306	382	366	668	3650	2120	256	9.5	10
26	11	8.0	353	306	379	373	671	3850	2080	173	11	12
27	11	7.7	354	306	376	374	580	4250	2400	270	12	11
28	11	7.4	182	306	379	375	655	3250	1790	256	13	11
29	11	7.1	321	296	---	374	1740	1750	1890	196	12	12
30	11	6.9	357	296	---	374	1950	2060	1690	9.8	11	11
31	7.0	---	357	296	---	377	---	2320	---	9.4	9.1	---
TOTAL	337.0	222.5	5356.5	9724	8984	11747	18414	76650	62940	11426.2	4820.8	354.4
MEAN	10.9	7.42	173	314	321	379	614	2473	2098	369	156	11.8
MAX	11	10	357	358	382	395	1950	4250	3660	958	305	19
MIN	7.0	6.5	6.6	296	267	363	337	1000	970	9.4	9.1	9.2
AC-FT	668	441	10620	19290	17820	23300	36520	152000	124800	22660	9560	703
CAL YR 1981 TOTAL	11346.4			MEAN 31.1	MAX 530	MIN 4.9	AC-FT 22510					
WTR YR 1982 TOTAL	210976.4			MEAN 578	MAX 4250	MIN 6.5	AC-FT 418500					

## 11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°31'09", long 120°12'41", in NE¼ sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 200 ft (61 m) downstream from bridge, 1.4 mi (2.3 km) north of Salt Springs Dam, 3.2 mi (5.1 km) upstream from mouth, and 6.5 mi (10.5 km) southwest of Mokelumne Peak.

DRAINAGE AREA.--21.0 mi<sup>2</sup> (54.4 km<sup>2</sup>).

PERIOD OF RECORD.--July 1927 to November 1942, October 1943 to current year. Prior to October 1958, published as Cold Creek near Mokelumne Peak. October 1958 to September 1960, published as "near Mokelumne Peak."

REVISED RECORDS.--WSP 1515: 1928, 1930-31, 1938(M), 1944, 1947. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Concrete control since Oct. 30, 1974. Altitude of gage is 5,900 ft (1,800 m), from topographic map. Prior to Oct. 30, 1974, at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Occasional pumping for domestic use in summer-home tract began in September 1961. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--54 years, 64.7 ft<sup>3</sup>/s (1.832 m<sup>3</sup>/s), 46,880 acre-ft/yr (57.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft<sup>3</sup>/s (174 m<sup>3</sup>/s) Dec. 23, 1964, gage height, 10.21 ft (3.112 m) site and datum then in use, from rating curve extended above 900 ft<sup>3</sup>/s (25.5 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 9.69 ft (2.954 m) site and datum then in use; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2200	1,980 56.1	4.82 1.469	Apr. 11	1145	2,590 73.3	5.33 1.625
Dec. 30	0700	3,210 90.9	5.85 1.783	May 3	2015	806 22.8	3.58 1.091
Feb. 16	0300	*3,510 99.4	6.08 1.853	May 24	1945	1,040 29.5	3.86 1.177

Minimum daily, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	33	39	56	30	69	39	421	256	112	3.3	.39
2	.03	30	42	58	28	65	40	446	248	91	2.8	.38
3	.06	27	40	69	31	59	42	490	233	85	2.5	.34
4	.07	20	38	46	32	57	39	500	199	74	2.2	.31
5	.05	15	35	53	39	56	39	407	170	63	2.9	.30
6	.04	22	34	52	33	55	38	407	163	58	3.8	.28
7	.44	22	31	44	31	51	37	457	184	61	3.3	.27
8	.25	13	32	40	27	48	37	384	211	56	3.4	.25
9	.11	9.8	33	38	26	51	38	261	260	51	3.2	.23
10	.91	8.3	34	38	26	128	82	174	282	47	3.0	.23
11	8.9	8.1	34	38	28	159	1660	150	255	46	2.7	.22
12	6.2	46	30	37	27	96	736	201	206	43	2.5	.21
13	4.5	616	31	35	48	97	319	293	181	40	2.7	.20
14	2.7	604	55	35	724	92	184	287	217	37	3.2	.21
15	2.9	174	56	35	1330	67	135	332	285	33	2.6	.41
16	2.5	175	46	35	2050	61	129	420	293	30	1.4	2.2
17	3.0	238	41	35	418	55	146	380	289	26	.83	1.2
18	11	85	47	35	188	48	172	323	283	22	.71	.86
19	7.8	63	1670	34	167	45	188	352	293	18	.66	3.4
20	4.6	48	2220	33	179	45	177	431	207	16	1.3	9.2
21	3.3	185	297	33	176	45	163	456	196	14	2.1	3.2
22	2.6	442	137	34	164	45	201	495	175	12	1.8	1.8
23	2.0	288	100	31	138	47	253	584	161	11	1.1	1.5
24	1.5	409	79	36	113	53	253	616	147	9.9	.46	61
25	1.3	102	69	38	102	58	227	579	141	9.3	.42	107
26	1.1	64	64	41	88	53	217	576	129	8.2	.48	109
27	1.1	53	139	37	75	47	259	533	116	7.0	.48	30
28	53	48	73	36	72	48	333	344	115	6.1	.49	16
29	34	46	61	34	---	45	283	274	169	5.2	.49	11
30	23	43	82	28	---	47	327	277	123	4.4	.59	9.2
31	28	---	63	30	---	40	---	284	---	3.8	.55	---
TOTAL	206.99	3937.2	5752	1224	6390	1932	6793	12134	6187	1099.9	57.96	370.79
MEAN	6.68	131	186	39.5	228	62.3	226	391	206	35.5	1.87	12.4
MAX	53	616	2220	69	2050	159	1660	616	293	112	3.8	109
MIN	.03	8.1	30	28	26	40	37	150	115	3.8	.42	.20
AC-FT	411	7810	11410	2430	12670	3830	13470	24070	12270	2180	115	735
CAL YR 1981	TOTAL	22031.91	MEAN	60.4	MAX	2220	MIN	0	AC-FT	43700		
WTR YR 1982	TOTAL	46084.84	MEAN	126	MAX	2220	MIN	.03	AC-FT	91410		

## 11316000 BEAR RIVER NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'37", long 120°17'18", in NE¼NW¼ sec.2, T.7 N., R.15 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft (61 m) upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 mi (2.4 km) upstream from mouth, and 4 mi (6 km) west of Salt Springs Dam.

DRAINAGE AREA.--48.0 mi<sup>2</sup> (124.3 km<sup>2</sup>).

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

GAGE.--Water-stage recorder and broad-crested weir. Altitude of gage is 3,727 ft (1,136 m), from photogrammetric map.

REMARKS.--Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft (8.34 hm<sup>3</sup>), and since December 1952 by Lower Bear River Reservoir 4 mi (6 km) upstream, capacity, 49,100 acre-ft (60.5 hm<sup>3</sup>). Water diverted for power since December 1952 from Lower Bear River Reservoir through tunnel to Salt Springs powerhouse on North Fork Mokelumne River. Water diverted occasionally from Cole Creek into Lower Bear River Reservoir. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--31 years, 54.2 ft<sup>3</sup>/s (1.535 m<sup>3</sup>/s), 39,270 acre-ft/yr (48.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s (312 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 10.11 ft (3.082 m) in gage well, 11.8 ft (3.60 m), from flood profile, from rating curve extended above 560 ft<sup>3</sup>/s (15.9 m<sup>3</sup>/s) on basis of slope-area measurements of maximum flow; minimum daily, 0.53 ft<sup>3</sup>/s (0.015 m<sup>3</sup>/s) Sept. 7, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1950 reached a stage of 11.2 ft (3.41 m), from floodmarks, discharge, 10,000 ft<sup>3</sup>/s (283 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft<sup>3</sup>/s (31.7 m<sup>3</sup>/s) Feb. 16, gage height, 3.72 ft (1.134 m); minimum daily, 3.7 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	5.7	14	92	24	142	52	574	488	230	5.8	5.6
2	4.3	5.5	13	75	25	152	45	617	462	109	5.7	5.5
3	5.4	4.2	12	61	25	133	48	657	426	17	6.0	5.5
4	4.7	4.0	12	63	25	109	47	765	397	17	6.1	5.5
5	4.5	3.9	11	71	23	89	43	724	302	16	6.1	5.4
6	4.5	4.3	11	53	23	75	41	677	163	15	6.0	5.4
7	7.9	3.9	10	44	22	66	38	688	98	15	6.1	5.3
8	5.2	3.8	9.4	43	22	62	39	733	127	14	6.0	5.3
9	4.7	3.7	9.3	42	21	59	43	697	105	13	5.9	5.3
10	9.3	3.9	10	39	21	108	99	617	329	12	6.0	5.3
11	8.1	3.9	9.1	36	20	218	521	530	689	11	6.0	5.3
12	6.3	14	11	33	20	222	612	488	427	10	6.0	5.4
13	5.5	53	13	31	51	206	597	482	225	9.9	6.0	5.3
14	5.2	72	15	30	195	222	515	495	151	9.6	6.0	5.5
15	5.0	25	15	30	494	190	464	499	216	9.4	5.9	7.2
16	4.8	18	15	29	549	156	402	529	407	9.1	5.9	11
17	4.8	54	13	28	210	131	359	579	507	9.3	5.8	6.2
18	4.7	23	14	29	160	103	325	581	454	9.3	5.7	6.2
19	4.7	16	181	28	150	84	304	565	530	9.3	5.7	7.5
20	4.6	12	415	27	146	72	288	432	400	9.3	5.7	6.1
21	4.6	29	163	26	145	65	271	229	226	9.3	5.6	5.9
22	4.6	70	104	27	167	61	271	303	194	9.3	5.6	5.8
23	4.6	31	78	24	208	59	294	701	203	9.3	5.5	6.0
24	4.6	78	62	25	210	59	361	865	93	9.3	5.5	13
25	4.5	40	54	26	200	60	400	857	19	9.3	5.4	13
26	4.5	29	50	29	180	63	419	782	128	9.1	5.4	10
27	4.7	24	93	27	157	62	443	751	124	8.6	5.4	6.6
28	16	20	61	27	140	67	496	684	98	7.5	5.4	6.3
29	11	17	98	25	---	59	508	568	111	6.6	5.5	6.2
30	6.5	15	158	25	---	55	524	529	200	5.9	5.5	6.1
31	6.1	---	111	24	---	53	---	507	---	5.8	5.6	---
TOTAL	180.2	686.8	1844.8	1169	3633	3262	8869	18705	8299	644.2	178.8	198.7
MEAN	5.81	22.9	59.5	37.7	130	105	296	603	277	20.8	5.77	6.62
MAX	16	78	415	92	549	222	612	865	689	230	6.1	13
MIN	4.3	3.7	9.1	24	20	53	38	229	19	5.8	5.4	5.3
AC-FT	357	1360	3660	2320	7210	6470	17590	37100	16460	1280	355	394
CAL YR 1981 TOTAL	5829.1			16.0	415	3.2	AC-FT	11560				
WTR YR 1982 TOTAL	47670.5			131	865	3.7	AC-FT	94550				

11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW 1/4 NW 1/4 sec.4, T.6 N., R.14 E., Calaveras County, Hydrologic Unit 18040012, on left bank 1.0 mi (1.6 km) downstream from Lion Creek, 1.8 mi (2.9 km) upstream from mouth, and 4 mi (6 km) northeast of Wilseyville.

DRAINAGE AREA.--20.8 mi<sup>2</sup> (53.9 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,950 ft (899 m), from topographic map.

REMARKS.--Records fair. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--22 years, 23.5 ft<sup>3</sup>/s (0.666 m<sup>3</sup>/s), 17,030 acre-ft/yr (21.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft<sup>3</sup>/s (50.1 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 7.68 ft (2.341 m), from rating curve extended above 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 7.41 ft (2.259 m); minimum daily, 0.11 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Aug. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 120 ft<sup>3</sup>/s (3.40 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 5	0700	272 7.70	4.85 1.478	Mar. 14	0700	207 5.86	4.35 1.326
Feb. 16	0400	*1,500 42.5	7.31 2.228	Apr. 11	0930	1,290 36.5	6.99 2.131

Minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	3.5	15	66	28	82	85	116	30	18	7.4	4.6
2	1.8	3.3	14	57	27	108	73	113	30	17	8.0	4.7
3	2.6	3.1	13	50	27	94	98	112	29	17	7.6	4.6
4	2.7	3.0	13	72	26	79	114	111	27	16	8.1	4.4
5	2.3	2.8	12	160	25	73	97	109	27	16	7.2	3.6
6	1.9	3.0	12	70	25	68	89	106	26	16	7.3	3.2
7	3.2	2.9	11	51	25	64	78	100	25	15	7.9	3.8
8	3.1	2.8	11	43	24	59	77	96	24	14	8.6	3.6
9	2.3	2.8	11	38	24	57	82	89	24	14	6.8	3.4
10	3.4	2.8	12	36	23	76	120	80	22	13	6.7	3.3
11	4.7	2.8	11	34	23	149	826	75	22	13	6.9	3.1
12	3.9	6.1	11	32	22	116	457	69	22	13	6.7	3.4
13	3.3	27	12	30	31	104	320	63	22	13	6.4	3.8
14	3.0	39	12	29	115	171	268	60	22	12	6.4	3.7
15	2.7	16	11	27	458	129	231	58	21	12	6.4	5.5
16	2.4	12	11	26	786	113	203	56	20	12	5.8	12
17	2.3	35	11	26	243	108	185	55	20	12	5.9	7.8
18	2.3	19	11	26	186	102	173	53	19	12	5.9	7.3
19	2.1	14	47	26	146	96	164	48	19	12	5.2	8.0
20	2.1	11	163	27	123	89	156	47	18	12	5.3	7.0
21	2.0	19	84	30	116	82	148	46	18	12	5.1	5.9
22	1.9	38	60	28	111	77	144	44	18	11	4.8	5.1
23	1.9	21	50	29	104	74	141	43	17	11	5.0	5.4
24	1.9	55	42	31	99	72	138	41	17	11	4.7	12
25	1.9	30	37	29	88	71	132	39	17	10	4.2	13
26	1.9	24	34	40	78	74	128	38	17	8.5	4.6	14
27	2.0	21	49	36	73	73	125	37	17	8.2	5.0	9.7
28	10	20	44	35	70	81	125	36	16	8.1	5.1	8.0
29	7.7	17	51	32	---	75	122	34	19	8.2	5.2	7.1
30	5.0	16	65	30	---	73	118	33	20	7.7	4.8	6.7
31	4.0	---	61	28	---	93	---	31	---	7.5	4.6	---
TOTAL	94.1	472.9	1001	1274	3126	2782	5217	2038	645	382.2	189.6	187.7
MEAN	3.04	15.8	32.3	41.1	112	89.7	174	65.7	21.5	12.3	6.12	6.26
MAX	10	55	163	160	786	171	826	116	30	18	8.6	14
MIN	1.8	2.8	11	26	22	57	73	31	16	7.5	4.2	3.1
AC-FT	187	938	1990	2530	6200	5520	10350	4040	1280	758	376	372

CAL YR 1981	TOTAL	4329.14	MEAN 11.9	MAX 163	MIN .84	AC-FT 8590
WTR YR 1982	TOTAL	17409.50	MEAN 47.7	MAX 826	MIN 1.8	AC-FT 34530

## 11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA

LOCATION.--Lat 38°23'23", long 120°31'32", in SE 1/4 NE 1/4 sec.10, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 200 ft (61 m) downstream from highway bridge, 0.6 mi (1.0 km) south of West Point, and 4.5 mi (7.2 km) upstream from South Fork Mokelumne River.

DRAINAGE AREA.--68.4 mi<sup>2</sup> (177.2 km<sup>2</sup>).

PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for October 1911, published in WSP 1315-A.

REVISED RECORDS.--WSP 1515: 1919-20, 1927-28(M), 1936(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,450 ft (747 m), from topographic map. Prior to Oct. 6, 1926, nonrecording gage at site 1,200 ft (366 m) upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good prior to June, poor thereafter. Flow slightly regulated by Middle Fork Reservoir, capacity, 1,740 acre-ft (2.15 hm<sup>3</sup>), 6 mi (10 km) above station, since January 1940. Several small diversions above station. At times water diverted 4 mi (6 km) above station to South Fork Mokelumne River via Middle Fork ditch, capacity, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) and Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--71 years, 62.2 ft<sup>3</sup>/s (1.761 m<sup>3</sup>/s), 45,060 acre-ft/yr (55.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,320 ft<sup>3</sup>/s (122 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 8.98 ft (2.737 m); no flow many days in 1931, and Sept. 9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	1500	1,020 28.9	4.96 1.512	Mar. 14	1030	758 21.5	4.34 1.323
Jan. 5	0630	1,570 44.5	5.90 1.798	Mar. 31	1400	684 19.4	4.14 1.262
Feb. 16	0500	*4,510 128	8.67 2.643	Apr. 11	1200	3,590 102	7.98 2.432
Mar. 2	1400	492 13.9	3.54 1.079				

Minimum daily, 2.9 ft<sup>3</sup>/s (0.082 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	6.9	40	329	101	240	343	374	101	54	25	15
2	3.1	6.7	39	211	98	407	278	366	98	50	24	15
3	4.0	8.3	37	157	97	308	406	360	94	49	23	14
4	5.4	9.5	35	498	95	258	530	356	90	48	23	14
5	4.8	9.7	34	1040	90	228	376	341	88	47	23	14
6	4.1	10	33	383	87	206	342	331	84	45	23	13
7	6.5	10	32	223	85	192	291	307	81	45	23	13
8	7.1	10	31	173	84	180	272	296	79	44	22	12
9	5.7	10	30	150	81	173	275	274	77	43	23	12
10	6.8	10	32	136	80	227	412	251	75	42	22	11
11	9.0	10	30	125	77	530	2510	231	73	41	21	11
12	8.6	17	30	116	75	432	1470	215	72	40	21	12
13	6.7	55	33	107	101	348	945	202	71	40	20	13
14	6.3	81	32	101	467	609	767	197	70	38	20	14
15	6.0	33	31	97	1510	506	676	188	65	37	20	30
16	6.0	26	31	93	2270	426	605	185	65	36	21	25
17	6.1	94	29	91	921	375	557	184	67	34	24	25
18	5.9	72	28	92	630	344	531	176	66	33	21	25
19	5.9	47	126	92	500	308	513	165	63	33	18	25
20	5.8	37	775	97	439	287	493	160	62	33	18	23
21	5.7	46	456	96	403	267	472	158	60	33	17	21
22	5.7	129	235	86	373	248	465	155	58	32	16	18
23	5.8	72	160	85	332	234	457	150	56	32	15	19
24	6.1	169	127	90	288	222	448	148	57	31	14	28
25	6.6	102	109	96	256	217	425	144	56	30	15	28
26	7.1	76	98	165	232	237	410	139	54	27	15	30
27	7.4	67	154	149	214	226	400	135	53	28	14	23
28	18	60	123	139	203	265	402	127	55	28	14	22
29	15	51	199	121	---	251	392	118	62	27	14	20
30	9.3	45	332	111	---	249	377	111	58	27	15	19
31	7.3	---	247	105	---	476	---	106	---	26	15	---
TOTAL	210.7	1380.1	3728	5554	10189	9476	16840	6650	2110	1153	599	564
MEAN	6.80	46.0	120	179	364	306	561	215	70.3	37.2	19.3	18.8
MAX	18	169	775	1040	2270	609	2510	374	101	54	25	30
MIN	2.9	6.7	28	85	75	173	272	106	53	26	14	11
AC-FT	418	2740	7390	11020	20210	18800	33400	13190	4190	2290	1190	1120
CAL YR 1981 TOTAL	13647.5		MEAN 37.4	MAX 775	MIN 2.9	AC-FT 27070						
WTR YR 1982 TOTAL	58453.8		MEAN 160	MAX 2510	MIN 2.9	AC-FT 115900						

## 11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA

LOCATION.--Lat 38°22'06", long 120°32'40", in SE 1/4 SE 1/4 sec.16, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 500 ft (152 m) upstream from highway bridge, 2.4 mi (3.9 km) southwest of West Point, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--75.1 mi<sup>2</sup> (194.5 km<sup>2</sup>).

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1315-A: 1934(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,950 ft (594 m), from topographic map. October 1933 to Sept. 19, 1957, at site 1,100 ft (335 m) downstream at different datum.

REMARKS.--Records good. Several small diversions above station for domestic use and for irrigation of about 100 acres (405,000 m<sup>2</sup>). Diversions into South Fork Mokelumne River basin above station at times from North Fork Calaveras River and from Middle Fork Mokelumne River for use below station. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--49 years, 83.7 ft<sup>3</sup>/s (2.370 m<sup>3</sup>/s), 60,640 acre-ft/yr (74.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,920 ft<sup>3</sup>/s (196 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 14.8 ft (4.51 m) from floodmarks, site and datum then in use, from rating curve extended above 2,700 ft<sup>3</sup>/s (76.5 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; no flow Aug. 6, 7, Aug. 12 to Sept. 26, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft<sup>3</sup>/s (14.2 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	Unknown	1,560 44.2	6.84 2.085	Mar. 14	1130	889 25.2	5.69 1.734
Jan. 5	0700	2,310 65.4	7.87 2.400	Mar. 31	1330	1,410 39.9	6.61 2.051
Feb. 16	0430	*6,050 171	11.05 3.368	Apr. 11	1000	5,830 165	10.88 3.316

Minimum daily, 3.2 ft<sup>3</sup>/s (0.906 m<sup>3</sup>/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	8.8	31	515	124	256	617	443	99	55	24	13
2	3.6	7.4	28	328	119	474	456	431	95	53	24	13
3	3.8	5.1	26	250	115	362	659	422	92	52	23	13
4	5.2	4.9	25	954	112	312	796	420	88	51	23	13
5	5.1	4.8	24	1600	105	268	553	402	85	49	22	12
6	3.9	5.0	22	521	100	240	477	379	82	48	23	12
7	5.6	5.5	21	287	97	220	388	369	78	47	22	12
8	8.2	5.1	19	211	94	202	344	352	74	45	23	11
9	7.2	4.8	21	168	91	192	329	325	74	44	21	11
10	7.7	4.7	23	151	89	273	511	297	69	43	21	10
11	11	4.8	22	140	85	636	3570	271	69	42	20	11
12	9.7	11	21	129	81	510	1760	252	68	42	19	9.7
13	7.3	81	25	122	108	420	1100	239	67	41	19	11
14	5.2	204	23	114	539	711	862	230	66	39	19	12
15	4.8	47	22	109	2110	618	745	220	63	37	20	14
16	5.0	33	22	103	3220	527	666	213	61	36	23	32
17	4.0	114	19	102	1070	474	612	209	59	35	17	26
18	3.7	55	19	99	702	444	586	197	60	35	17	26
19	3.5	33	137	107	549	394	572	184	59	35	16	26
20	3.3	25	753	112	479	354	565	174	58	34	16	25
21	3.4	31	739	110	438	322	545	165	56	33	14	22
22	3.3	115	303	96	403	296	540	158	54	33	13	19
23	3.3	54	210	92	359	277	533	151	53	32	14	20
24	3.2	219	129	95	313	264	520	143	54	30	14	32
25	3.3	109	99	105	279	257	493	136	53	28	13	34
26	3.3	74	88	235	251	282	477	131	51	29	13	36
27	4.3	64	180	216	227	265	469	126	51	28	13	29
28	26	59	118	209	211	323	474	120	50	28	14	26
29	23	44	274	169	---	315	461	111	58	27	13	23
30	13	36	523	145	---	351	449	107	57	26	13	22
31	9.8	---	448	132	---	936	---	102	---	25	13	---
TOTAL	207.1	1468.9	4414	7726	12470	11775	21129	7479	2003	1182	559	575.7
MEAN	6.68	49.0	142	249	445	380	704	241	66.8	38.1	18.0	19.2
MAX	26	219	753	1600	3220	936	3570	443	99	55	24	36
MIN	3.2	4.7	19	92	81	192	329	102	50	25	13	9.7
AC-FT	411	2910	8760	15320	24730	23360	41910	14830	3970	2340	1110	1140

CAL YR 1981 TOTAL 15390.8 MEAN 42.2 MAX 753 MIN 1.4 AC-FT 30530  
WTR YR 1982 TOTAL 70988.7 MEAN 194 MAX 3570 MIN 3.2 AC-FT 140800

## 11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.--Lat 38°18'46", long 120°43'09", in SW 1/4 SW 1/4 sec.1, T.5 N., R.11 E., Calaveras County, Hydrologic Unit 18040012, on downstream side of bridge 1.2 mi (1.9 km) northwest of Mokelumne Hill, and 8 mi (13 km) downstream from confluence of North and South Forks of Mokelumne River.

DRAINAGE AREA.--544 mi<sup>2</sup> (1,409 km<sup>2</sup>).

PERIOD OF RECORD.--January to June 1901, May 1903 to December 1904, October 1927 to current year. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

REVISED RECORDS.--WSP 1445: 1903-4, 1928(M), 1936(M), 1938(M), 1940(M), 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.88 ft (178.271 m) National Geodetic Vertical Datum of 1929 (levels by California Division of Highways). Jan. 1 to June 30, 1901, and May 11, 1903, to Dec. 31, 1904, nonrecording gage at site 3 mi (5 km) upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water stage recorder at site 40 ft (12 m) upstream at datum 5.00 ft (1.524 m) higher. Aug. 27, 1952, to Oct. 14, 1977, at present site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good. Flow regulated by Salt Springs Reservoir (station 11313500) beginning in 1931, several smaller reservoirs, and four powerplants. Diversion above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--56 years (water years 1904, 1928-82), 982 ft<sup>3</sup>/s (27.81 m<sup>3</sup>/s), 711,500 acre-ft/yr (877 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft<sup>3</sup>/s (954 m<sup>3</sup>/s) Dec. 3, 1950, gage height, 23.5 ft (7.16 m), present datum; minimum observed, 5 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Aug. 13-15, 17, 18, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26,100 ft<sup>3</sup>/s (739 m<sup>3</sup>/s) Feb. 16, gage height, 21.26 ft (6.480 m); minimum daily, 415 ft<sup>3</sup>/s (11.8 m<sup>3</sup>/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	680	632	2530	1320	2210	3220	4790	3520	2310	696	680
2	498	571	702	2020	1190	2840	2800	5090	3450	1950	773	660
3	596	630	677	1660	1460	2520	3090	5550	3220	1590	807	820
4	536	415	752	3230	1360	2270	3500	5840	2870	1650	834	590
5	614	576	750	6470	1210	2220	2970	5790	2530	1600	859	795
6	518	597	749	2730	1280	2050	2820	5090	2050	1430	900	640
7	490	604	751	2040	1260	2030	2570	5060	2220	1330	960	660
8	419	534	744	1750	1200	1930	2420	5240	2490	1960	1010	835
9	514	556	746	1610	1240	1930	2400	4570	2580	1500	1070	545
10	630	527	750	1610	1230	2100	2790	3820	3280	1390	914	740
11	495	607	747	1500	1160	3200	14100	3280	3740	1380	852	575
12	564	605	817	1440	1200	3100	10400	3040	3520	1710	764	645
13	587	750	819	1450	1180	2780	6500	3020	3160	1190	977	680
14	600	1860	853	1360	3040	3510	5250	3750	2490	1120	980	685
15	655	824	922	1260	9980	3270	4500	3840	2780	1070	980	665
16	503	619	926	1350	17700	3060	4200	3960	4030	1100	1020	835
17	552	830	895	1340	5940	2890	3890	4690	4210	1030	1020	685
18	540	698	903	1270	4020	2800	3770	4730	4060	1100	1000	730
19	625	681	2100	1280	3340	2620	3680	4100	4750	1040	995	785
20	547	659	6620	1430	3050	2520	3600	3820	3630	944	1010	475
21	486	643	3000	1480	2940	2420	3460	4140	2670	1060	976	825
22	634	1130	1640	1240	2790	2240	3470	4230	2860	1030	1020	810
23	542	859	1390	1280	2760	2200	3540	5330	2830	1050	1020	800
24	523	1100	1120	1290	2600	2110	3310	6140	2570	1030	824	640
25	593	952	1230	1300	2490	2110	3270	6170	2530	1060	670	600
26	560	861	1300	1570	2340	2230	3290	6060	2390	960	747	875
27	552	794	1590	1650	2250	2180	3130	6440	2800	861	704	750
28	646	740	1380	1570	2120	2380	3250	5970	2500	817	668	780
29	745	801	1520	1530	---	2450	3760	3990	2550	1030	691	740
30	510	669	2600	1410	---	2510	4470	3000	3010	1080	731	680
31	447	---	2160	1360	---	4010	---	3990	---	873	785	---
TOTAL	17306	22372	41785	55010	83650	78690	123420	144530	91290	39245	27257	21225
MEAN	558	746	1348	1775	2988	2538	4114	4662	3043	1266	879	708
MAX	745	1860	6620	6470	17700	4010	14100	6440	4750	2310	1070	875
MIN	419	415	632	1240	1160	1930	2400	3000	2050	817	668	475
AC-FT	34330	44370	82880	109100	165900	156100	244800	286700	181100	77840	54060	42100
CAL YR 1981 TOTAL	234142			641	6620	37		464400				
WTR YR 1982 TOTAL	745780			2043	17700	415		1479000				

## 11320000 PARDEE RESERVOIR NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°15'25", long 120°50'59", in NW 1/4 SW 1/4 sec.26, T.5 N., R.10 E., Amador County, Hydrologic Unit 18040012, at Pardee Dam on the Mokelumne River, 4.5 mi (7.2 km) north of Valley Springs.

DRAINAGE AREA.--578 mi<sup>2</sup> (1,497 km<sup>2</sup>).

PERIOD OF RECORD.--October 1961 to current year. March 1929 to September 1930 (lake elevation only), October 1930 to September 1933, published in reports of the Geological Survey. October 1933 to September 1961 in files of East Bay Municipal Utility District.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District).

REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929. Storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft (239 hm<sup>3</sup>) between elevations 393.50 ft (119.939 m) diversion tunnel invert, and 567.65 ft (173.020 m) spillway crest. Dead storage, 15,800 acre-ft (19.5 hm<sup>3</sup>). Water is released from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 219,300 acre-ft (270 hm<sup>3</sup>) Dec. 23, 1955, elevation, 571.72 ft (174.260 m); minimum, 47,000 acre-ft (58.0 hm<sup>3</sup>) Mar. 25, 1977, elevation, 454.98 ft (138.678 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 214,700 acre-ft (265 hm<sup>3</sup>) Feb. 16, elevation, 569.73 ft (173.654 m); minimum, 173,600 acre-ft (214 hm<sup>3</sup>) Sept. 12, elevation, 550.46 ft (167.780 m).

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

450	43,400	520	120,400
460	50,900	530	136,500
470	59,500	540	153,800
480	69,200	550	172,700
490	80,100	560	193,200
500	92,900	570	215,300
510	105,700	580	239,100

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183400	186500	193100	192800	191400	195500	191100	211700	210700	211600	201600	185700
2	183700	186500	192900	190800	191400	195900	190000	211900	210700	211200	200800	184500
3	184400	186700	192500	189300	191400	193500	189800	212400	210700	210900	199900	183600
4	184800	186400	192400	193000	191200	192100	190300	212400	210400	210800	199100	182300
5	184900	186400	192200	200500	190900	191500	189700	212300	209700	210800	198300	181400
6	184500	186700	192700	199600	190300	191800	189000	211800	209500	210600	197700	180300
7	184100	187300	192500	197200	190000	192000	187500	211900	210700	210400	197100	179100
8	183600	187700	192400	194100	189500	192200	187400	212000	211400	211100	196600	178100
9	183200	187300	192400	190900	189000	191100	187400	211400	211500	210700	196300	176900
10	184000	187200	192300	188500	188600	190600	187000	210900	212000	210600	195600	176000
11	184500	187100	192100	188600	188000	192700	207200	210100	211700	210500	194900	174800
12	184600	187500	192100	188500	187400	194200	213800	208900	212000	210900	193900	173600
13	184700	188200	192900	188500	187000	193400	212800	207700	211900	210300	193400	174100
14	184300	191400	192900	188300	190400	194100	212100	208000	211400	210100	192900	174600
15	184200	192500	192800	187900	204400	194100	211800	208500	211800	209700	192500	175300
16	183900	192200	192600	187700	214700	195300	211300	209200	211800	209400	192700	176200
17	184100	192100	192400	185700	212300	194800	211000	211000	211800	208900	192700	176900
18	184700	191800	192300	181900	211200	193700	210900	211600	212000	208600	192800	177600
19	184600	191400	194800	182100	210400	192100	210800	211100	212100	208400	192800	178400
20	184400	191100	203900	183200	209300	189900	210600	210900	210700	208000	192800	178900
21	184000	190800	203700	184200	208200	187500	210400	211100	211800	207700	193200	179800
22	184000	191500	200700	184700	206700	187700	210300	211200	212000	207200	194400	180500
23	183800	191600	197500	185200	205000	187400	210400	211900	211900	206900	194800	181400
24	184400	192200	196900	185800	206400	187400	210000	212300	211700	206600	194200	182100
25	185100	192200	196500	186300	206300	187300	209600	212600	211700	206200	193000	183000
26	184900	192400	196300	187500	204000	187300	209200	212600	211600	205800	192100	184100
27	184900	192500	196600	188800	201100	187400	208700	212700	212000	205000	191000	184800
28	185100	191900	196600	190100	198100	187300	208700	212100	211700	204300	189900	185600
29	185500	192900	196200	191100	---	187300	209300	210800	211900	203900	188800	186300
30	185200	193200	195300	191200	---	187600	211000	209600	212100	203500	187800	186900
31	185500	---	193700	191200	---	190900	---	210800	---	202700	186700	---
MAX	185500	193200	203900	200500	214700	195900	213800	212700	212100	211600	201600	186900
MIN	183200	186400	192100	181900	187000	187300	187000	207700	209500	202700	186700	173600
a	556.37	560.03	560.24	559.06	562.30	558.99	568.13	568.02	568.58	564.42	556.95	557.05
b	+2700	+7700	+500	+2500	+6900	-7200	+20100	-200	+1300	-9400	-16000	+200
c	384	165	81	154	169	261	577	1142	1170	1460	1239	723
d	15224	17247	15468	12517	4974	11272	8925	17406	17915	19694	19825	17886

CAL YR 1981 b +7500

WTR YR 1982 b +4100

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

d Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.



## 11322300 CAMANCHE RESERVOIR NEAR CLEMENTS, CA

LOCATION.--Lat 38°13'31", long 121°01'17", in NE 1/4 SE 1/4 sec.6, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, at Camanche Dam on the Mokelumne River, 4.3 mi (6.9 km) northeast of Clements.

DRAINAGE AREA.--621 mi<sup>2</sup> (1,608 km<sup>2</sup>).

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 18, 1963. Usable capacity, 430,300 acre-ft (531 hm<sup>3</sup>) between elevations 104.00 ft (31.699 m) invert of emergency valve release, and 235.50 ft (71.780 m) spillway crest. Dead storage, 534 acre-ft (658,000 m<sup>3</sup>). Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 430,300 acre-ft (531 hm<sup>3</sup>) June 6, 1979, elevation, 235.42 ft (71.756 m); minimum since reservoir first filled, 252,200 acre-ft (311 hm<sup>3</sup>) Jan. 29, 1982, elevation, 208.87 ft (63.664 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 420,700 acre-ft (519 hm<sup>3</sup>) July 1, elevation, 234.15 ft (71.369 m); minimum, 252,200 acre-ft (311 hm<sup>3</sup>) Jan. 29, elevation, 208.87 ft (63.664 m).

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

120	4,970	170	82,600
130	13,600	190	156,200
140	25,000	220	320,900
150	38,900	235.5	430,900
160	57,100		

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	255700	261000	275900	274200	253700	296700	318500	352600	379600	420700	392000	374400
2	255100	261100	275600	274400	254200	296500	319500	357800	378600	420400	391000	374200
3	255100	260900	276500	273600	255100	296200	321000	360900	377500	419100	390200	373900
4	255100	260900	276800	273300	256000	295600	321700	365000	376600	417700	389600	373700
5	254200	260900	277300	274100	256800	294500	322100	368700	375600	416200	389100	373400
6	254600	261600	277000	273800	257700	292600	322200	371200	373200	414700	388600	373300
7	255100	261200	277300	273300	258600	290200	322700	372700	370600	413400	388100	373700
8	255600	260900	277600	272600	259500	288100	322000	374400	369900	412900	388100	374200
9	256100	260900	277900	272000	260600	287700	321300	375700	370400	412800	388100	374700
10	255700	262000	278200	270900	261900	287600	322800	375500	372400	412300	387600	375200
11	255300	261800	278600	268300	263200	287600	324700	374600	376600	411600	387300	375600
12	255400	261800	279000	264700	264500	287500	331300	373100	380300	411200	387000	376100
13	255100	263900	278600	261900	266000	289100	338400	371800	383600	410600	386600	375200
14	256000	263700	279300	259400	268100	291400	342800	370300	385700	409700	386200	374000
15	256400	263500	279600	256800	274000	293300	345600	369000	387600	408700	386000	372800
16	256800	263700	280200	254500	283400	294600	347700	367600	392400	407700	385000	371300
17	256800	265300	280900	254500	301500	296500	348800	366500	397700	406600	384100	369600
18	256700	266000	282000	257200	304000	298800	349600	366900	402200	405600	383300	368100
19	257200	267000	282900	256300	304400	300700	350200	367100	408000	404500	382500	366600
20	257500	266900	286500	256300	304400	303000	350700	366500	412600	403500	381700	364800
21	258100	266900	289800	255300	304200	305300	350700	365900	412300	402600	380500	363000
22	258600	269100	291400	254700	303700	305100	350700	365900	413600	401700	378800	361400
23	259100	270300	291200	254300	303400	305000	350600	367100	415000	400700	377500	360200
24	258800	271600	289300	253900	299700	304900	350300	370100	415900	399600	376900	359200
25	258400	272200	287800	253500	297400	305100	349900	373200	416500	398500	376500	358400
26	258900	272100	283700	253400	296800	305500	349700	376400	416800	397600	376200	357000
27	259200	274200	279600	253100	296700	305700	349000	380200	417600	396800	375800	355800
28	260300	275100	275700	252800	296500	307100	348200	383900	418300	395800	375500	354500
29	260500	275300	273800	252200	---	309100	347900	384300	418700	394900	375200	352600
30	261500	275500	274100	252600	---	311100	348200	382900	420300	394100	374900	350500
31	261300	---	274100	253100	---	316900	---	380900	---	393100	374700	---
MAX	261500	275500	291400	274400	304400	316900	350700	384300	420300	420700	392000	376100
MIN	254200	260900	273800	252200	253700	287500	318500	352600	369900	393100	374700	350500
a	210.43	212.81	212.67	209.03	216.21	219.39	224.07	228.74	234.10	230.42	227.86	224.40
b	+4976	+14212	-1451	-20930	+43395	+20404	+31307	+32705	+39347	-27224	-18397	-24168
c	2127	1070	454	692	1000	1233	2466	4337	4757	6072	5585	3409

CAL YR 1981 b -3000

WTR YR 1982 b +94200

a Elevation, in feet NGVD, at end of month.

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## 11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, CA

LOCATION.--Lat 38°13'14", long 121°02'19", in NW 1/4 NW 1/4 sec.7, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, on left bank 0.7 mi (1.1 km) downstream from Murphy Creek, 1.0 mi (1.6 km) downstream from Camanche Dam, and 3.4 mi (5.5 km) northeast of Clements.

DRAINAGE AREA.--627 mi<sup>2</sup> (1,624 km<sup>2</sup>).

PERIOD OF RECORD.--October 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A, and 1735. Prior to October 1961, published as "near Clements."

REVISED RECORDS.--WSP 751: Drainage area. WSP 881: 1905-9 (yearly summaries only). WSP 1445: 1911, 1917(M), 1925(M).

GAGE.--Water-stage recorder. Datum of gage is 82.71 ft (25.210 m) National Geodetic Vertical Datum of 1929. See WSP 1930 for history of changes prior to Oct. 1, 1961.

REMARKS.--Records good. Flow regulated by Camanche Reservoir (station 11322300) 1 mi (2 km) upstream beginning December 1963, Salt Springs Reservoir (station 11313500) beginning March 1931, Pardee Reservoir (station 11320000) beginning March 1929, several small reservoirs, and four powerplants. East Bay Municipal Utility District aqueducts are the largest of several diversions above the station. Maximum capacity is 511 ft<sup>3</sup>/s (14.5 m<sup>3</sup>/s) with Pardee Reservoir full. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--24 years (water years 1905-28), 1,111 ft<sup>3</sup>/s (31.47 m<sup>3</sup>/s), 804,300 acre-ft/yr (992 hm<sup>3</sup>/yr); 54 years (water years 1929-82), 809 ft<sup>3</sup>/s (22.91 m<sup>3</sup>/s), 586,100 acre-ft/yr (723 hm<sup>3</sup>/yr), adjusted for change in contents in and evaporation from Camanche Reservoir since 1963. Storage and diversion by East Bay Municipal Utility District began in March 1929.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,800 ft<sup>3</sup>/s (816 m<sup>3</sup>/s) Nov. 21, 1950, gage height, 24.40 ft (7.437 m) site and datum then in use; no flow on several days in 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) May 30, gage height 9.08 ft (2.767 m); minimum daily, 98 ft<sup>3</sup>/s (2.78 m<sup>3</sup>/s) Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	135	233	3200	1050	3600	2800	2270	3950	1970	1260	924
2	210	135	325	3200	1050	3660	3010	2220	3710	1980	1260	924
3	211	136	329	3180	1050	3350	3110	3630	3460	1970	1130	925
4	211	136	349	3310	1050	3090	3100	3730	3200	1970	1050	924
5	193	139	376	3590	1050	2980	3100	3810	3080	1970	1050	924
6	175	142	376	3720	1050	2860	3090	3910	2940	1800	1050	787
7	161	142	378	3710	1050	2850	2960	3990	2620	1570	1050	550
8	160	142	382	3700	1050	2740	2730	4040	2220	1360	745	467
9	180	143	382	3700	943	2630	2630	4050	1960	1270	728	467
10	182	145	409	3690	809	2490	2640	4050	1730	1270	993	466
11	182	149	440	3450	809	2460	3030	4050	1420	1270	933	467
12	182	151	440	3090	811	2400	3490	4040	1310	1270	932	467
13	183	159	440	2840	817	2390	3500	4040	1320	1270	932	466
14	183	150	440	2560	831	2410	3510	4030	1320	1270	932	467
15	183	146	440	2310	1690	2400	3520	4030	1320	1270	932	573
16	176	140	440	2160	3530	2430	3520	4030	1320	1270	932	743
17	162	154	440	2160	3630	2440	3530	4030	1330	1270	933	800
18	162	146	447	2020	3610	2440	3530	4030	1330	1270	932	803
19	161	147	456	1720	3610	2420	3530	4030	1480	1260	932	799
20	161	148	495	1490	3610	2410	3540	4030	1760	1260	931	833
21	162	151	682	1360	3600	2410	3530	4030	1860	1260	932	902
22	162	155	2680	1240	3600	2270	3530	4030	1870	1260	932	827
23	162	152	2870	1170	3600	2130	3550	4030	1920	1260	926	520
24	162	152	2570	1160	3590	2020	3560	4040	1970	1260	926	594
25	162	151	3150	1090	3590	1920	3560	4040	1970	1260	926	720
26	154	153	3150	1050	3590	1920	3580	4050	1970	1260	926	713
27	124	153	3140	1050	3580	1920	3590	4060	1970	1260	926	540
28	100	154	3160	1050	3580	1920	3590	4060	1970	1260	924	530
29	98	153	3180	1050	---	1960	3600	4060	1970	1260	924	832
30	109	173	3190	1050	---	1950	3380	4070	1970	1260	924	1010
31	135	---	3180	1050	---	2490	---	4060	---	1260	924	---
TOTAL	5163	4432	38969	71120	61830	77360	99340	120570	62220	43670	29827	20964
MEAN	167	148	1257	2294	2208	2495	3311	3889	2074	1409	962	699
MAX	215	173	3190	3720	3630	3660	3600	4070	3950	1980	1260	1010
MIN	98	135	233	1050	809	1920	2630	2220	1310	1260	728	466
AC-FT	10240	8790	77290	141100	122600	153400	197000	239200	123400	86620	59160	41580

CAL YR 1981 TOTAL 128206 MEAN 351 MAX 3190 MIN 84 AC-FT 254300 MEAN a 393 AC-FT 284800  
WTR YR 1982 TOTAL 635465 MEAN 1741 MAX 4070 MIN 98 AC-FT 1260000 MEAN a 1920 AC-FT 1387000

a Adjusted for change in contents in and evaporation from Camanche Reservoir.

LOCATION.--Lat 38°09'07", long 121°18'00", in NE 1/4 SE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, at point of diversion from Woodbridge Reservoir.

GAGE.--Water-stage recorder. Datum of gage is 32.18 ft (9.808 m) National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). Prior to Mar. 15, 1931, water-stage recorder at site 0.2 mi (0.3 km) downstream at different datum.

AVERAGE DISCHARGE.--56 years, 133 ft<sup>3</sup>/s (3.767 m<sup>3</sup>/s), 96,360 acre-ft/yr (119 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 482 ft<sup>3</sup>/s (13.6 m<sup>3</sup>/s) July 8, 1953; no flow at times in each year.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103						0	29	190	241	268	246
2	114						0	65	191	222	282	245
3	91						0	142	197	201	298	247
4	89						0	151	208	190	295	243
5	94						0	165	202	210	284	221
6	105						0	188	193	235	280	219
7	100						0	204	193	246	257	214
8	91						0	200	215	245	40	214
9	89						0	198	244	261	0	197
10	60						0	192	253	265	58	189
11	56						0	178	244	260	261	182
12	68						0	181	242	266	303	168
13	84						0	192	240	273	305	164
14	81						0	199	233	273	276	172
15	72						0	206	241	275	259	164
16	64						0	209	248	285	273	147
17	64						0	214	256	294	292	127
18	75						0	215	249	295	286	121
19	72						0	219	228	298	296	114
20	68						0	218	207	298	297	107
21	60						0	214	211	315	282	97
22	56						0	205	224	316	264	104
23	62						38	199	228	297	256	100
24	64						59	202	237	294	258	77
25	56						66	207	246	286	251	64
26	49						52	211	247	282	206	68
27	10						42	203	243	274	173	64
28	0						40	202	254	276	166	64
29	0				---		32	200	251	279	168	64
30	0				---		32	195	249	280	189	64
31	0	---			---		---	191	---	274	233	---
TOTAL	1997	0	0	0	0	0	361	5794	6864	8306	7396	4467
MEAN	64.4	0	0	0	0	0	12.0	187	229	268	239	149
MAX	114	0	0	0	0	0	66	219	256	316	305	247
MIN	0	0	0	0	0	0	0	29	190	190	0	64
AC-FT	3960	0	0	0	0	0	716	11490	13610	16470	14670	8860
CAL YR 1981	TOTAL	40022.20	MEAN	110	MAX	306	MIN	0	AC-FT	79380		
WTR YR 1982	TOTAL	35185.00	MEAN	96.4	MAX	316	MIN	0	AC-FT	69790		

## SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 38°09'31", long 121°18'09", in NW 1/4 NE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, 0.4 mi (0.6 km) downstream from county highway bridge, and 0.5 mi (0.8 km) downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 mi<sup>2</sup> (1,712 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year (low-water records only 1924-25).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft (4.54 m) National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). See WSP 2130 for history of changes prior to July 26, 1968.

REMARKS.--Records fair. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam (station 11323500). Between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (station 11325000). Nearest diversion is 0.5 mi (0.8 km) upstream. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE (since start of diversion through East Bay Municipal Utility District aqueduct).--53 years (water years 1929-82), 598 ft<sup>3</sup>/s (16.94 m<sup>3</sup>/s), 433,300 acre-ft/yr (534 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft<sup>3</sup>/s (765 m<sup>3</sup>/s) Nov. 22, 1950, gage height, 29.58 ft (9.016 m), from rating curve extended above 6,200 ft<sup>3</sup>/s (176 m<sup>3</sup>/s) on basis of contracted-opening measurement of maximum flow; minimum daily, 0.23 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Nov. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,730 ft<sup>3</sup>/s (106 m<sup>3</sup>/s) May 10; minimum daily, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	86	113	2830	932	3480	2410	3110	3670	1440	810	522
2	36	95	180	2840	933	3500	2630	2200	3540	1470	761	539
3	42	92	287	2840	926	3480	2820	2700	3250	1490	703	534
4	51	92	298	2920	922	3270	2920	3270	2990	1490	597	536
5	62	91	329	3160	909	2980	2950	3420	2730	1470	577	560
6	61	91	347	3260	908	2790	2910	3520	2600	1430	581	558
7	47	92	351	3340	904	2660	2900	3580	2390	1240	584	368
8	35	92	354	3370	901	2620	2780	3720	1960	1110	938	272
9	36	92	355	3380	896	2480	2550	3670	1620	951	643	258
10	44	92	356	3360	768	2330	2510	3730	1400	925	281	223
11	44	91	387	3320	730	2210	2580	3630	1190	916	553	195
12	45	109	402	3030	726	2150	2990	3570	993	936	402	226
13	45	145	407	2740	726	2120	3310	3600	986	890	463	274
14	45	120	405	2500	733	2140	3380	3620	976	878	508	258
15	45	95	404	2240	885	2140	3410	3600	937	873	509	307
16	45	88	405	2000	2140	2140	3430	3600	918	853	467	432
17	48	99	404	1920	3030	2170	3420	3640	918	825	458	597
18	59	93	411	1900	3290	2190	3400	3650	951	835	502	626
19	44	85	427	1740	3440	2170	3410	3640	1010	835	453	620
20	43	84	462	1550	3450	2130	3400	3610	1180	824	467	633
21	43	87	459	1360	3480	2110	3340	3640	1310	822	485	688
22	43	94	1020	1240	3500	2090	3240	3650	1320	812	495	705
23	43	90	1980	1110	3460	1910	2850	3650	1320	820	494	554
24	43	89	2310	1080	3450	1850	3000	3630	1370	818	500	432
25	43	89	2160	1070	3500	1740	3150	3620	1380	842	493	636
26	43	95	2600	992	3500	1720	3250	3620	1380	832	567	635
27	324	96	2680	973	3500	1710	3440	3630	1390	825	576	570
28	542	96	2710	957	3460	1710	3480	3640	1400	824	568	386
29	161	96	2750	952	---	1770	3480	3660	1430	820	574	543
30	88	95	2800	939	---	1880	3470	3680	1420	810	546	750
31	78	---	2820	929	---	1840	---	3680	---	808	489	---
TOTAL	2368	2851	31373	65842	55999	71480	92810	109180	49929	30714	17044	14437
MEAN	76.4	95.0	1012	2124	2000	2306	3094	3522	1664	991	550	481
MAX	542	145	2820	3380	3500	3500	3480	3730	3670	1490	938	750
MIN	35	84	113	929	726	1710	2410	2200	918	808	281	195
AC-FT	4700	5650	62230	130600	111100	141800	184100	216600	99030	60920	33810	28640
CAL YR 1981 TOTAL	50077.4	MEAN	137	MAX	2820	MIN	9.4	AC-FT	99330			
WTR YR 1982 TOTAL	544027.0	MEAN	1490	MAX	3730	MIN	35	AC-FT	1079000			

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL ANALYSES: Water years 1951 to current year.

BIOLOGICAL DATA: Water years 1975-81.

SPECIFIC CONDUCTANCE: Water Years 1952-58, 1975-77.

WATER TEMPERATURES: Water years 1951-58, 1961 to current year.

SEDIMENT RECORDS: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: March 1951 to September 1958.

SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1974 to September 1977.

WATER TEMPERATURES: March 1951 to September 1958, November 1960 to current year.

INSTRUMENTATION.--Temperature recorder since November 1960.

REMARKS.--Unpublished records of specific conductance of daily samples available in files of district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C July 17, 1951; minimum recorded, 1.5°C Jan. 29, 30, 1954.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.0°C Oct. 1; minimum recorded, 8.0°C several days during February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV 25...	1000	89	50	7.4	13.5	5.6	9.9	300	220	21	1
JAN 13...	1000	2760	43	7.7	9.0	17	11.3	K54	230	18	1
MAR 02...	1110	940	39	7.1	10.0	13	11.4	950	440	16	0
MAY 18...	1030	3640	45	--	12.0	10	11.2	K39	K28	17	0
JUL 20...	1000	824	36	7.6	16.0	2.3	10.2	66	210	16	0
SEP 28...	1045	386	33	7.3	16.5	2.4	9.6	111	160	13	0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 25...	5.7	1.6	2.9	22	.3	1.1	20	<5.0	2.1	<.1
JAN 13...	5.0	1.4	2.5	22	.3	.9	17	<5.0	1.5	.1
MAR 02...	4.2	1.3	2.9	27	.3	.8	21	<5.0	1.8	.1
MAY 18...	4.5	1.4	2.2	21	.2	1.0	24	<5.0	1.5	<.1
JUL 20...	4.3	1.2	2.0	21	.2	.8	17	<5.0	1.2	<.1
SEP 28...	3.4	1.0	1.7	21	.2	.8	18	<5.0	1.0	<.1

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 25...	10	38	--	.05	.18	.18	1.00	.03	.02	.03
JAN 13...	9.4	36	--	.05	<.09	.13	.52	.06	.04	<.02
MAR 02...	9.4	31	36	.04	<.10	.08	.40	.06	.05	.01
MAY 18...	12	41	--	.06	<.10	.08	.60	.04	<.01	.03
JUL 20...	11	37	--	.05	<.10	<.06	.70	.02	.01	.01
SEP 28...	10	21	--	.03	<.10	<.06	.50	.02	.04	<.01

See footnotes at end of table.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
NOV 25...	1000	2	1	100	<100	<1	<1	<10	<10	<1
JAN 13...	1000	1	1	<100	<100	<1	<1	<10	<10	2
MAY 18...	1030	3	1	<100	20	<1	<3	<10	<10	<1
SEP 28...	1045	<1	<1	<100	19	<1	<1	<10	<10	<1

DATE	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
NOV 25...	1	5	4	440	60	4	<1	20	10	2.7
JAN 13...	1	16	3	2900	50	2	<1	70	10	.8
MAY 18...	<1	8	4	640	88	2	2	20	6	.1
SEP 28...	<1	2	<1	270	32	<1	<1	20	4	.2

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 25...	.5	<1	1	<1	<1	<1	<1	20	10
JAN 13...	<.1	4	2	<1	<1	<1	<1	40	20
MAY 18...	<.1	5	1	<1	<1	<1	<1	30	26
SEP 28...	<.1	4	<1	<1	<1	<1	1	150	20

&lt; 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).

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

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

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

SAN JOAQUIN RIVER BASIN  
11329500 DRY CREEK NEAR GALT, CA

LOCATION.--Lat 38°14'53", long 121°13'33", in NE 1/4 NE 1/4 sec.32, T.5 N., R.7 E., San Joaquin County, Hydrologic Unit 18040005, on left bank of main channel 35 ft (11 m) downstream from county road bridge, 2 mi (3 km) downstream from Coyote Creek, and 4 mi (6 km) east of Galt.

DRAINAGE AREA.--324 mi<sup>2</sup> (839 km<sup>2</sup>).

PERIOD OF RECORD.--October 1926 to September 1933, October 1944 to current year. Monthly figures only for some periods, published in WSP 1315-A.

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

GAGE.--Water-stage recorder. Datum of gage is 42.83 ft (13.055 m) National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 mi (6 km) downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, on left bank at datum 13.00 ft (3.962 m) higher. Oct. 1, 1945, to June 14, 1966, on right bank and June 15, 1966, to Dec. 4, 1978, on left bank both at datum 10.00 ft (3.048 m) higher.

REMARKS.--Records fair. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft (1.23 hm<sup>3</sup>) and approximately a total of 500 acres (202 hm<sup>2</sup>) irrigated.

AVERAGE DISCHARGE.--45 years, 121 ft<sup>3</sup>/s (3.427 m<sup>3</sup>/s), 87,660 acre-ft/yr (108 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft<sup>3</sup>/s (680 m<sup>3</sup>/s) Apr. 3, 1958, gage height, 15.28 ft (4.657 m) site and datum then in use; maximum gage height, 25.74 ft (7.846 m) Apr. 1, 1982; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	1700	2,600 73.6	21.22 6.468	Feb. 16	1400	16,600 470	25.41 7.745
Jan. 5	1600	16,700 473	25.42 7.748	Mar. 18	1400	3,690 105	22.46 6.846
Jan. 21	1000	2,110 59.8	20.00 6.096	Apr. 1	0400	*23,000 651	25.74 7.845

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	78	1220	336	388	12800	191	62	19	.94	.08
2	0	0	64	1230	295	1240	3630	182	63	20	0	1.8
3	0	0	57	697	278	1220	2710	173	61	21	.03	6.6
4	0	0	46	1520	255	667	4160	164	64	22	8.9	7.3
5	0	0	46	12700	229	501	1860	149	66	20	16	8.7
6	0	0	41	4240	216	438	1360	140	61	19	8.2	6.3
7	0	0	37	1350	201	382	1100	160	57	21	11	.55
8	0	0	35	927	191	356	887	176	55	20	14	0
9	0	0	34	672	172	321	733	174	43	19	15	0
10	0	0	122	521	160	313	760	163	37	19	9.6	0
11	0	0	119	410	153	1160	2750	160	39	18	5.5	0
12	0	0	78	341	145	1020	3250	157	36	20	7.1	.54
13	0	0	66	284	141	633	1410	156	36	19	11	5.9
14	0	135	59	254	285	846	1050	150	38	16	8.8	.31
15	0	73	49	240	3320	1210	872	144	37	15	8.2	1.0
16	0	20	45	220	13400	1320	728	134	35	14	4.2	6.2
17	0	130	42	199	3830	2090	625	125	24	14	2.3	7.8
18	0	129	38	186	1290	3220	564	130	26	15	1.7	9.4
19	0	59	204	269	900	1880	500	113	34	15	5.2	7.9
20	0	33	1640	685	697	1150	461	92	35	11	1.4	5.9
21	0	25	1210	1710	548	863	425	80	32	14	2.6	3.7
22	0	327	558	936	469	690	373	72	27	13	8.9	1.8
23	0	197	284	563	444	581	346	67	23	14	5.9	1.4
24	0	242	189	401	387	504	319	61	22	12	9.3	.56
25	0	268	138	362	354	462	286	53	22	7.2	6.5	5.1
26	0	131	108	443	322	459	269	58	21	5.7	2.1	38
27	0	211	91	762	295	476	254	63	21	12	2.8	35
28	0	296	98	661	287	663	237	61	18	14	5.9	18
29	0	171	184	724	---	1430	217	65	20	6.4	4.1	10
30	1.4	106	1220	482	---	2110	202	62	19	3.9	4.5	6.0
31	0	---	756	372	---	5670	---	59	---	2.3	4.3	---
TOTAL	1.4	2553	7736	35581	29600	34263	45138	3734	1134	461.5	195.97	195.84
MEAN	.045	85.1	250	1148	1057	1105	1505	120	37.8	14.9	6.32	6.53
MAX	1.4	327	1640	12700	13400	5670	12800	191	66	22	16	38
MIN	0	0	34	186	141	313	202	53	18	2.3	0	0
AC-FT	2.8	5060	15340	70570	58710	67960	89530	7410	2250	915	389	388
CAL YR 1981	TOTAL	27551.11	MEAN	75.5	MAX	2400	MIN	0	AC-FT	54650		
WTR YR 1982	TOTAL	160593.71	MEAN	440	MAX	13400	MIN	0	AC-FT	318500		



## 11333000 CAMP CREEK NEAR SOMERSET, CA

LOCATION.--Lat 38°39'26", long 120°39'46", in SW 1/4 SW 1/4 sec.4, T.9 N., R.12 E., El Dorado County, Hydrologic Unit 18040013, on right bank 0.2 mi (0.3 km) upstream from mouth, 1.3 mi (2.1 km) northeast of Somerset, and 5.6 mi (9.0 km) south of Camino.

DRAINAGE AREA.--62.6 mi<sup>2</sup> (162.1 km<sup>2</sup>).

PERIOD OF RECORD.--February to May 1924 (published as "near Pleasant Valley"), October 1954 to current year.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,820 ft (555 m), from topographic map. Feb. 1 to May 31, 1924, nonrecording gage at site 0.2 mi (0.3 km) upstream at different datum.

REMARKS.--Records excellent. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft (50.0 hm<sup>3</sup>). Water is released from Jenkinson Lake through Camino conduit for irrigation and domestic supply in North Fork Cosumnes and South Fork American river basins. Some water is released from Jenkinson Lake for irrigation downstream from station.

AVERAGE DISCHARGE (adjusted for change in contents, evaporation, and diversion from Jenkinson Lake).--28 years (water years 1955-82), 82.4 ft<sup>3</sup>/s (2.334 m<sup>3</sup>/s), 59,700 acre-ft/yr (73.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,680 ft<sup>3</sup>/s (246 m<sup>3</sup>/s) Feb. 16, 1982, gage height, 14.50 ft (4.420 m); no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,680 ft<sup>3</sup>/s (246 m<sup>3</sup>/s) Feb. 16, gage height, 14.50 ft (4.420 m); minimum daily, 2.4 ft<sup>3</sup>/s (0.068 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	4.0	11	198	131	256	405	398	63	15	17	11
2	2.4	3.9	9.7	418	125	341	388	57	37	16	11	
3	2.9	3.7	8.7	348	124	388	483	379	53	36	16	11
4	3.8	3.6	8.1	547	123	323	614	373	49	34	16	11
5	3.5	3.2	7.4	1010	115	284	449	358	47	33	17	11
6	3.2	3.4	7.0	631	111	250	401	331	41	32	18	11
7	5.4	5.0	6.6	421	108	229	339	319	33	30	16	11
8	6.8	5.0	6.3	320	104	215	295	313	28	29	17	10
9	4.8	5.0	6.5	264	101	203	280	290	25	28	16	9.9
10	7.2	5.0	8.0	231	98	240	361	261	23	28	15	10
11	13	5.0	6.4	205	93	456	2020	229	21	27	15	9.9
12	10	11	7.1	183	90	505	1920	206	21	26	14	9.8
13	7.0	36	11	162	110	439	1190	195	19	26	14	9.8
14	5.5	36	8.6	149	518	586	924	185	18	25	14	9.7
15	4.8	9.8	8.8	139	2020	537	794	179	17	24	14	11
16	4.5	7.2	9.6	130	5180	484	704	178	16	23	14	22
17	4.3	23	8.2	123	1690	430	634	178	16	23	14	20
18	4.2	12	8.8	127	997	400	595	174	16	22	13	20
19	4.1	6.7	113	153	745	349	575	160	15	22	13	20
20	4.0	5.4	840	145	613	308	563	149	15	23	13	17
21	3.9	47	341	149	531	277	539	147	15	22	12	16
22	3.9	69	89	121	445	256	527	146	14	22	12	15
23	3.9	26	45	110	392	240	521	142	14	22	12	14
24	3.8	100	34	106	363	231	513	139	14	21	12	27
25	3.7	34	27	105	329	228	483	134	14	20	11	51
26	3.7	24	23	168	291	252	461	124	14	19	11	50
27	3.9	23	42	191	258	258	440	122	13	19	11	28
28	14	20	32	186	210	333	439	113	13	18	11	22
29	12	16	68	163	---	335	428	94	17	18	11	19
30	6.0	13	102	147	---	316	404	81	16	17	11	17
31	4.4	---	83	137	---	478	---	72	---	17	11	---
TOTAL	167.2	565.9	1986.8	7487	16015	10511	18642	6557	737	758	427	515.1
MEAN	5.39	18.9	64.1	242	572	339	621	212	24.6	24.5	13.8	17.2
MAX	14	100	840	1010	5180	586	2020	398	63	37	18	51
MIN	2.4	3.2	6.3	105	90	203	280	72	13	15	11	9.7
AC-FT	332	1120	3940	14850	31770	20850	36980	13010	1460	1500	847	1020
a	-660	+4430	+11719	+1056	-15	+90	+100	-290	-930	-3990	-4200	-2290
b	834	389	246	282	306	369	395	1689	3060	3764	3976	2165
c	60	69	42	6	23	33	94	237	226	278	249	133
CAL YR 1981 TOTAL	5331.8			MEAN 14.6	MAX 840	MIN 1.4	AC-FT 10580	MEAN d 64.8			AC-FT d 46930	
WTR YR 1982 TOTAL	64369.0			MEAN 176	MAX 5180	MIN 2.4	AC-FT 127700	MEAN d 209			AC-FT d 151600	

a Change in contents, in acre-feet, in Jenkinson Lake, furnished by Bureau of Reclamation.

b Diversion, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

c Evaporation, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

d Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

## 11333500 NORTH FORK COSUMNES RIVER NEAR EL DORADO, CA

LOCATION.--Lat 38°35'20", long 120°50'38", in NE 1/4 SW 1/4 sec.35, T.9 N., R.10 E., El Dorado County, Hydrologic Unit 18040013, on downstream side of left abutment of county road bridge, 0.8 mi (1.3 km) north of Nashville, 2.6 mi (4.2 km) upstream from mouth, and 6 mi (10 km) south of El Dorado.

DRAINAGE AREA.--205 mi<sup>2</sup> (531 km<sup>2</sup>).

PERIOD OF RECORD.--August 1911 to December 1941, October 1948 to current year.

REVISED RECORDS.--WSP 1315-A: 1914(M), 1925(M), 1928(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 840 ft (256 m), from topographic map. Prior to October 1933, nonrecording gage at site 1.5 mi (2.4 km) upstream at different datum. October 1933 to December 1941, water-stage recorder at site 1,000 ft (305 m) upstream at different datum.

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft (50.0 hm<sup>3</sup>). Camino conduit above the station diverts water out of the basin. See REMARKS for Camp Creek near Somerset (station 11333000). Numerous small diversions above station for irrigation and domestic use.

AVERAGE DISCHARGE.--64 years, 202 ft<sup>3</sup>/s (5.721 m<sup>3</sup>/s), 146,300 acre-ft/yr (180 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft<sup>3</sup>/s (447 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 14.8 ft (4.51 m), from rating curve extended above 7,500 ft<sup>3</sup>/s (212 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; no flow for part of 1924, 1926, 1931, 1933-34, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft<sup>3</sup>/s (51.0 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 14	0100	1,840 52.1	6.93 2.112	Mar. 2	1430	2,080 58.9	7.25 2.210
Nov. 21	2330	2,090 59.2	7.26 2.213	Mar. 14	1430	1,940 54.9	7.08 2.158
Dec. 20	0830	5,990 170	10.02 3.054	Mar. 31	1230	4,130 117	9.05 2.758
Jan. 5	0430	8,460 240	11.12 3.389	Apr. 11	1930	7,020 199	10.5 3.200
Feb. 16	0530	*15,500 439	14.26 4.346				

Minimum daily, 4.6 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	25	126	1330	442	717	1830	1030	251	103	41	23
2	4.6	23	112	1300	416	1570	1480	1020	235	110	41	23
3	4.9	21	101	991	404	1240	2210	1010	221	113	41	23
4	5.5	20	93	3150	393	954	2150	1000	210	107	41	22
5	7.6	18	87	5430	367	821	1450	974	202	102	41	22
6	7.5	17	82	1860	349	719	1280	908	190	99	40	22
7	8.7	17	76	1170	336	653	1040	880	179	97	40	22
8	13	19	71	896	322	601	908	863	168	89	43	22
9	18	20	77	751	311	564	847	801	160	89	42	22
10	18	19	175	656	302	664	1040	713	155	86	38	23
11	26	18	106	589	287	1420	4700	645	150	79	37	23
12	30	29	93	540	273	1380	4340	582	149	78	36	24
13	24	310	132	493	295	1160	2710	552	141	76	35	25
14	18	744	113	457	1230	1590	2120	539	138	74	34	31
15	15	159	107	427	5330	1500	1800	522	131	71	34	31
16	14	110	114	400	10300	1390	1600	517	125	71	34	43
17	13	362	100	377	3800	1390	1460	520	122	66	34	41
18	13	201	95	378	2310	1520	1380	505	122	66	31	37
19	13	108	996	497	1730	1210	1330	480	126	69	31	38
20	14	77	4940	523	1480	1000	1310	457	127	62	30	30
21	14	400	2280	649	1330	865	1260	451	115	59	29	27
22	14	936	1110	499	1200	772	1240	445	107	58	27	22
23	13	315	698	429	1080	706	1230	435	103	56	26	20
24	13	1160	527	411	959	659	1220	432	99	54	25	39
25	13	479	428	402	860	630	1170	423	98	56	25	107
26	13	318	358	741	769	687	1130	403	95	53	24	191
27	14	277	465	724	690	714	1090	392	89	50	24	91
28	43	280	402	662	615	981	1100	373	88	48	24	60
29	84	189	941	577	---	1110	1080	323	96	48	24	53
30	45	150	1330	512	---	1120	1030	291	116	47	23	47
31	30	---	1020	472	---	2470	---	270	---	43	23	---
TOTAL	568.7	6821	17355	28293	38180	32777	48535	18756	4308	2279	1018	1204
MEAN	18.3	227	560	913	1364	1057	1618	605	144	73.5	32.8	40.1
MAX	84	1160	4940	5430	10300	2470	4700	1030	251	113	43	191
MIN	4.6	17	71	377	273	564	847	270	88	43	23	20
AC-FT	1130	13530	34420	56120	75730	65010	96270	37200	8540	4520	2020	2390

CAL YR 1981 TOTAL 43455.6 MEAN 119 MAX 4940 MIN 1.1 AC-FT 86190  
WTR YR 1982 TOTAL 200094.7 MEAN 548 MAX 10300 MIN 4.6 AC-FT 396900

## 11335000 COSUMNES RIVER AT MICHIGAN BAR, CA

LOCATION.--Lat 38°30'01", long 121°02'39", in NW 1/4 SE 1/4 sec.36, T.8 N., R.8 E., Sacramento County, Hydrologic Unit 18040013, on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 mi (8.8 km) southwest of Latrobe, and 12 mi (19 km) downstream from confluence of North and Middle Forks of Cosumnes River.

DRAINAGE AREA.--536 mi<sup>2</sup> (1,388 km<sup>2</sup>).

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 331: 1911-12. WSP 1315-A: 1908-9, 1911(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 168.09 ft (51.234 m) National Geodetic Vertical Datum of 1929. Prior to July 10, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft (50.0 hm<sup>3</sup>). Camino conduit above the station diverts water out of the basin. See REMARKS for Camp Creek near Somerset (station 11333000). Numerous small diversions above station for irrigation and domestic use.

AVERAGE DISCHARGE.--75 years, 487 ft<sup>3</sup>/s (13.79 m<sup>3</sup>/s), 352,800 acre-ft/yr (435 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,000 ft<sup>3</sup>/s (1,190 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 14.59 ft (4.47 m); no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907 reached a stage of 16.3 ft (4.97 m), discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft<sup>3</sup>/s (113 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 13	2145	6,650 188	7.52 2.292	Mar. 2	1715	5,350 152	7.06 2.152
Dec. 20	1145	12,100 343	8.92 2.719	Mar. 14	1715	4,720 134	6.82 2.079
Jan. 5	0445	29,000 821	12.26 3.737	Mar. 31	1415	21,700 615	10.95 3.338
Feb. 16	0615	*37,000 1,050	13.70 4.176	Apr. 11	1830	18,300 518	10.28 3.133

Minimum daily, 6.1 ft<sup>3</sup>/s (0.173 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	52	377	3420	1030	1620	6790	2090	614	222	64	46
2	6.2	43	328	2990	958	3890	4500	2060	576	210	64	43
3	6.7	41	297	2070	914	3030	6800	2040	542	208	64	43
4	6.9	37	270	7020	885	2280	6290	2030	510	203	66	42
5	6.5	34	250	17400	843	1980	3860	1990	483	192	65	42
6	7.5	33	235	4760	799	1750	3260	1850	458	180	65	43
7	12	28	218	2800	770	1610	2650	1780	430	179	64	41
8	13	27	204	2090	758	1500	2300	1750	406	163	66	41
9	16	30	199	1730	736	1380	2120	1640	383	155	70	39
10	28	29	491	1510	717	1460	2550	1510	367	148	67	38
11	28	28	337	1310	693	3230	12300	1380	353	141	62	37
12	37	37	275	1170	657	3060	11400	1250	346	132	59	36
13	44	705	312	1060	653	2520	6750	1170	338	131	58	37
14	34	1860	301	973	2040	3640	5110	1140	323	128	58	38
15	27	497	286	913	11100	3690	4190	1110	307	121	57	43
16	22	311	286	866	25400	3600	3570	1080	293	115	58	50
17	20	1070	269	828	8800	3850	3160	1090	283	113	57	105
18	19	643	253	810	5300	5000	2930	1060	275	105	55	100
19	18	344	1710	1110	3790	3350	2800	1020	271	106	52	94
20	18	247	10100	1610	3130	2590	2730	959	275	105	51	89
21	18	748	5230	2320	2780	2230	2630	941	266	98	49	78
22	19	2410	2650	1440	2590	1990	2570	930	246	95	47	71
23	18	847	1680	1110	2360	1820	2540	920	229	91	46	63
24	17	2290	1230	1020	2110	1690	2520	911	214	90	46	71
25	17	1260	977	965	1910	1600	2420	901	206	89	46	158
26	17	827	820	1750	1740	1690	2320	882	201	90	44	335
27	17	832	904	1950	1600	1740	2210	867	192	84	43	214
28	36	933	880	1740	1480	2300	2210	841	183	80	42	128
29	148	594	2100	1510	---	3090	2190	757	181	76	42	101
30	121	461	3510	1250	---	3120	2090	690	204	74	44	90
31	73	---	2510	1120	---	11400	---	645	---	70	45	---
TOTAL	876.9	17298	39489	72615	86543	87700	119760	39284	9955	3994	1716	2356
MEAN	28.3	577	1274	2342	3091	2829	3992	332	129	55.4	78.5	
MAX	148	2410	10100	17400	25400	11400	12300	2090	614	222	70	335
MIN	6.1	27	199	810	653	1380	2090	645	181	70	42	36
AC-FT	1740	34310	78330	144000	171700	174000	237500	77920	19750	7920	3400	4670
CAL YR 1981 TOTAL	112839.57			MEAN 309	MAX 10100	MIN 0	AC-FT 223800					
WTR YR 1982 TOTAL	481586.90			MEAN 1319	MAX 25400	MIN 6.1	AC-FT 955200					

## 11336000 COSUMNES RIVER AT McCONNELL, CA

LOCATION.--Lat 38°21'29", long 121°20'34", in NE 1/4 NE 1/4 sec.20, T.6 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, on downstream side of bridge on U.S. Highway 99, 0.2 mi (0.3 km) south of McConnell, 1 mi (2 km) downstream from Deer Creek, and 7 mi (11 km) north of Galt.

DRAINAGE AREA.--724 mi<sup>2</sup> (1,875 km<sup>2</sup>).

PERIOD OF RECORD.--October 1941 to September 1982 (discontinued). Monthly figures only for some periods, published in WSP 1315-A. Gage heights only during high-water periods 1931-40, in reports of California Department of Water Resources.

REVISED RECORDS.--WSP 1315-A: 1947(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.34 ft (1.018 m) below National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair below 5,000 ft<sup>3</sup>/s (142 m<sup>3</sup>/s) and poor above. Diversions for irrigation of about 2,100 acres (8.50 km<sup>2</sup>) between stations at Michigan Bar and at McConnell. Records for 1982 affected by flow through levee breaks upstream from gage.

AVERAGE DISCHARGE.--41 years, 544 ft<sup>3</sup>/s (15.41 m<sup>3</sup>/s), 394,100 acre-ft/yr (486 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1944-82).--Maximum discharge, 54,000 ft<sup>3</sup>/s (1,530 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 46.26 ft (14.100 m), from rating curve extended above 36,000 ft<sup>3</sup>/s (1,020 m<sup>3</sup>/s); no flow for parts of each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 23, 24, 1936, reached a stage of 45.94 ft (14.003 m), discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 18,000 ft<sup>3</sup>/s (510 m<sup>3</sup>/s) Jan. 5; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	40	485	3980	1050	1380	10800	2130	567	211	27	0
2	0	24	413	4040	961	3270	6890	2100	532	186	15	0
3	0	17	364	2920	883	4410	5850	2090	501	184	8.6	0
4	0	13	320	3110	835	2640	7280	2090	470	184	11	0
5	0	8.1	287	18000	779	2110	5340	2030	440	177	14	0
6	0	4.9	266	10400	713	1790	3800	1890	419	164	10	0
7	0	2.2	244	4620	675	1580	3130	1800	389	158	11	0
8	0	.35	227	2800	647	1450	2620	1780	370	155	18	0
9	0	0	215	2140	615	1330	2340	1680	350	149	20	0
10	0	0	355	1750	591	1250	2350	1540	329	140	15	0
11	0	0	409	1470	564	2670	6430	1400	316	120	18	0
12	0	2.1	310	1290	530	3580	12500	1250	318	110	18	0
13	0	79	291	1170	509	2730	8440	1160	319	100	13	0
14	0	2520	329	1030	1090	3090	6410	1120	303	100	11	0
15	0	1350	307	927	5100	4550	4940	1100	286	96	11	0
16	0	405	296	847	14200	3730	4040	1080	266	92	10	0
17	0	1130	293	782	11700	4670	3480	1080	252	86	3.3	0
18	0	1650	268	734	7080	5880	3180	1070	240	64	6.1	58
19	0	593	873	899	4870	5270	2990	1020	238	64	4.0	66
20	0	300	8050	1190	3620	3250	2890	965	255	66	3.6	59
21	0	207	14600	2970	3100	2550	2790	946	242	66	4.0	57
22	0	3170	4830	2130	2780	2180	2680	940	213	54	2.4	52
23	0	2230	2210	1280	2510	1930	2630	929	205	51	2.1	43
24	0	1860	1480	1050	2190	1750	2600	923	190	51	1.5	33
25	0	2170	1160	967	1910	1630	2520	909	184	51	2.4	59
26	0	1040	968	1170	1710	1620	2400	884	176	43	2.4	87
27	0	953	878	2540	1480	1730	2300	857	176	34	0	231
28	0	1280	992	1780	1420	1970	2270	834	170	43	0	218
29	0	1010	1250	1860	---	2930	2260	741	170	38	1.2	125
30	132	646	5200	1390	---	4070	2170	653	187	38	0	87
31	75	---	3670	1180	---	5810	---	595	---	35	0	---
TOTAL	207	22704.65	51840	82416	74112	88800	130320	39586	9073	3110	263.6	1175
MEAN	6.68	757	1672	2659	2647	2865	4344	1277	302	100	8.50	39.2
MAX	132	3170	14600	18000	14200	5880	12500	2130	567	211	27	231
MIN	0	0	215	734	509	1250	2170	595	170	34	0	0
AC-FT	411	45030	102800	163500	147000	176100	258500	78520	18000	6170	523	2330
CAL YR 1981	TOTAL	127552.65	MEAN	349	MAX	14600	MIN	0	AC-FT	253000		
WTR YR 1982	TOTAL	503607.25	MEAN	1380	MAX	18000	MIN	0	AC-FT	998900		

## 11336580 MORRISON CREEK NEAR SACRAMENTO, CA

LOCATION.--Lat 38°29'55", long 121°27'06", in SW 1/4 SE 1/4 sec.32, T.8 N., R.5 E., Sacramento County, Hydrologic Unit 18020109, on right bank 750 ft (229 m) upstream from Florin Road, 1.6 mi (2.6 km) upstream from Elder Creek, and 3.8 mi (6.1 km) south of State Capitol Building in Sacramento.

DRAINAGE AREA.--53.4 mi<sup>2</sup> (138.3 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-72-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 7.60 ft (2.316 m) National Geodetic Vertical Datum of 1929. Prior to June 29, 1960, at site 650 ft (198 m) downstream at datum 1.55 ft (0.472 m) higher. June 29, 1960, to Sept. 12, 1965, at site 475 ft (144.8 m) upstream at datum 2.71 ft (0.826 m) higher.

REMARKS.--Records fair. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

AVERAGE DISCHARGE.--23 years, 19.4 ft<sup>3</sup>/s (0.549 m<sup>3</sup>/s), 14,060 acre-ft/yr (17.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft<sup>3</sup>/s (71.4 m<sup>3</sup>/s) Jan. 5, 1982, gage height, 9.93 ft (3.027 m); no flow at times in 1960, 1962, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s (11.3 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Oct. 28	0430	567 16.1	4.97 1.515	Jan. 5	0330	*2,520 71.4	9.93 3.027
Nov. 13	2100	1,340 37.9	7.18 2.188	Feb. 15	1730	812 23.0	5.34 1.628
Dec. 20	1030	821 23.3	5.81 1.771	Mar. 31	Unknown	Unknown	Unknown
Dec. 29	1345	570 16.1	4.93 1.503	Apr. 11	0330	1,190 33.7	6.51 1.984

Minimum daily, 0.24 ft<sup>3</sup>/s (0.007 m<sup>3</sup>/s) Oct. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	1.3	14	107	14	99	548	6.3	3.4	4.6	5.0	4.3
2	7.1	2.0	12	153	12	171	191	6.7	4.7	6.7	4.8	5.4
3	3.7	2.4	11	65	12	66	186	7.0	5.0	2.4	5.0	4.9
4	2.6	2.1	9.8	787	11	30	95	6.6	4.9	2.0	5.2	3.5
5	6.5	2.0	6.2	1940	9.8	21	46	7.2	5.7	2.4	4.2	4.2
6	8.9	1.7	5.0	364	9.2	17	30	7.9	6.7	4.6	5.3	2.4
7	59	.47	7.2	77	8.3	15	22	8.4	4.4	5.7	4.9	2.8
8	6.3	.36	7.6	58	9.2	15	17	7.0	4.5	5.5	3.7	4.1
9	5.2	1.4	13	52	9.7	13	12	6.7	4.8	5.7	3.1	4.2
10	26	1.9	10	46	9.5	32	201	6.7	4.7	4.8	3.9	3.6
11	2.5	1.9	9.0	39	9.6	54	763	7.7	4.0	4.2	4.4	3.1
12	1.3	175	6.8	30	8.7	36	315	8.8	3.3	4.6	3.5	3.0
13	3.4	724	12	26	48	22	85	5.9	3.2	4.9	3.5	4.3
14	3.0	313	7.9	16	74	30	52	4.6	3.5	6.0	2.0	3.7
15	1.5	46	9.8	14	441	30	34	7.0	4.5	6.6	2.5	3.7
16	1.4	47	9.7	13	385	32	22	7.6	5.6	5.5	2.8	7.5
17	.50	102	8.3	12	90	93	17	7.2	5.2	7.1	3.2	18
18	.28	42	33	12	41	174	14	6.8	5.2	8.2	3.9	31
19	1.1	23	180	20	28	69	11	7.5	4.6	6.5	3.5	5.9
20	1.3	17	534	55	21	34	10	7.4	4.3	6.4	3.2	5.4
21	1.6	96	171	45	17	23	10	7.2	5.4	5.8	3.8	5.2
22	1.9	138	51	26	16	18	8.5	6.4	5.8	6.0	3.8	4.7
23	1.3	51	32	17	14	15	7.7	5.2	6.4	5.3	3.8	6.0
24	.31	37	20	14	12	13	6.8	5.0	6.9	4.2	4.4	20
25	.24	25	15	14	11	12	6.2	3.4	8.6	4.2	4.8	62
26	.85	28	13	28	9.8	28	6.3	3.7	8.9	4.4	3.8	16
27	12	47	11	26	9.4	15	6.6	3.8	10	5.0	3.9	10
28	130	47	18	38	9.1	37	6.4	4.5	11	4.8	3.4	5.5
29	29	30	231	27	---	113	6.1	3.8	13	5.9	4.1	5.4
30	11	18	222	20	---	193	7.0	3.7	5.3	5.9	4.8	4.7
31	4.6	---	82	15	---	907	---	1.3	---	5.3	3.8	---
TOTAL	342.38	2023.53	1772.3	4156	1349.3	2427	2742.6	189.0	173.5	161.2	122.0	264.5
MEAN	11.0	67.5	57.2	134	48.2	78.3	91.4	6.10	5.78	5.20	3.94	8.82
MAX	130	724	534	1940	441	907	763	8.8	13	8.2	5.3	62
MIN	.24	.36	5.0	12	8.3	12	6.1	1.3	3.2	2.0	2.0	2.4
AC-FT	679	4010	3520	8240	2680	4810	5440	375	344	320	242	525

CAL YR 1981	TOTAL	7975.68	MEAN	21.9	MAX	724	MIN	.24	AC-FT	15820
WTR YR 1982	TOTAL	15723.31	MEAN	43.1	MAX	1940	MIN	.24	AC-FT	31190

11337000 CONTRA COSTA CANAL NEAR OAKLEY, CA

LOCATION.--Lat 37°59'44", long 121°42'03", in NW¼NE¼ sec.25, T.2 N., R.2 E., Contra Costa County, Hydrologic Unit 18040003, at pumping plant No. 1, 0.7 mi (1.1 km) east of Oakley, and 2.6 mi (4.2 km) northwest of Knightsen.

PERIOD OF RECORD.--February 1950 to current year.

GAGE.--Recording flowmeters on pumps. Prior to Jan. 1, 1953, water-stage recorder at site 3.2 mi (5.1 km) downstream at datum 121.72 ft (37.100 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumps lift the water 115 ft (35.1 m) into the canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley Project.

COOPERATION.--Records of daily discharge furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--32 years, 101 ft<sup>3</sup>/s (2.860 m<sup>3</sup>/s), 73,170 acre-ft/yr (90.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 281 ft<sup>3</sup>/s (7.96 m<sup>3</sup>/s) June 20, 21, 1981; minimum daily, 4.0 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Jan. 20, 1970.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	99	54	46	50	48	47	67	195	153	182	171
2	166	101	33	46	51	47	44	63	189	151	143	171
3	159	107	30	46	51	51	44	64	189	148	201	164
4	160	100	30	35	50	49	45	82	187	145	196	165
5	166	95	27	25	49	48	50	105	180	150	204	161
6	153	86	27	50	48	45	52	113	179	141	204	159
7	147	86	30	51	50	48	49	114	175	135	198	165
8	145	84	29	52	54	49	50	113	178	137	205	163
9	149	89	30	49	52	51	46	113	177	142	203	166
10	142	90	27	50	56	49	46	97	177	137	197	164
11	135	93	24	53	56	51	44	110	176	142	183	159
12	139	92	24	54	52	48	46	117	176	142	185	155
13	149	77	23	53	49	49	46	113	177	145	180	161
14	150	64	30	54	48	48	47	125	177	150	178	159
15	158	68	29	54	42	47	47	103	184	178	178	152
16	152	70	43	50	49	47	43	107	187	183	175	109
17	144	75	55	48	49	48	46	133	185	174	176	72
18	142	72	52	53	48	48	48	156	167	171	177	74
19	150	103	53	51	46	44	50	164	156	178	176	68
20	160	113	51	49	47	45	52	165	160	187	173	75
21	136	112	38	48	48	49	53	166	163	194	172	66
22	143	108	48	50	54	52	63	165	159	195	169	73
23	144	107	48	48	55	52	68	166	155	198	184	73
24	140	78	48	49	53	52	64	180	153	191	183	60
25	134	70	47	53	53	52	62	142	153	209	182	48
26	138	71	48	51	51	49	70	148	152	210	179	51
27	129	61	49	51	49	48	66	171	155	206	178	71
28	121	62	52	48	49	51	70	191	151	211	170	80
29	112	62	46	54	---	47	72	192	151	192	173	81
30	100	65	51	49	---	47	71	186	152	193	174	74
31	97	---	49	48	---	37	---	192	---	188	171	---
TOTAL	4427	2560	1225	1518	1409	1496	1601	4123	5115	5276	5649	3510
MEAN	143	85.3	39.5	49.0	50.3	48.3	53.4	133	171	170	182	117
MAX	167	113	55	54	56	52	72	192	195	211	205	171
MIN	97	61	23	25	42	37	43	63	151	135	143	48
AC-FT	8780	5080	2430	3010	2790	2970	3180	8180	10150	10460	11200	6960

CAL YR 1981	TOTAL	51515	MEAN 141	MAX 281	MIN 23	AC-FT	102200
WTR YR 1982	TOTAL	37909	MEAN 104	MAX 211	MIN 23	AC-FT	75190

## 11337500 MARSH CREEK NEAR BYRON, CA

LOCATION.--Lat 37°52'24", long 121°43'34", in Los Meganos Grant, Contra Costa County, Hydrologic Unit 18040003, on right bank 40 ft (12 m) downstream from highway bridge on Marsh Creek Road, 1.2 mi (1.9 km) upstream from Marsh Creek Dam, and 5.0 mi (8.0 km) west of Byron.

DRAINAGE AREA.--42.6 mi<sup>2</sup> (110.3 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1635: 1955.

GAGE.--Water-stage recorder and concrete control (control ineffective since 1972 due to gravel fill). Datum of gage is 177.87 ft (54.215 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No regulation or diversion above station.

AVERAGE DISCHARGE.--29 years, 9.61 ft<sup>3</sup>/s (0.272 m<sup>3</sup>/s), 6,960 acre-ft/yr (8.58 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,920 ft<sup>3</sup>/s (168 m<sup>3</sup>/s) Jan. 5, 1982, gage height, 15.35 ft (4.68 m), from slope-area measurement; no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 140 ft<sup>3</sup>/s (3.96 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Dec. 20	1215	314 8.89	5.21 1.588	Jan. 28	0930	173 4.90	5.67 1.728
Dec. 29	1815	384 10.9	5.47 1.667	Feb. 16	0200	1,440 40.8	8.53 2.600
Jan. 5	0200	*5,920 168	a15.35 4.680	Mar. 31	1100	2,200 62.3	9.72 2.963
Jan. 20	1845	625 17.7	6.97 2.124	Apr. 11	0400	538 15.2	6.77 2.063

a Backwater.

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	5.5	49	61	39	365	21	8.2	2.9		
2		0	4.4	74	56	60	217	21	8.3	1.5		
3		0	3.7	43	54	34	300	20	8.3	1.7		
4		0	3.2	1650	51	26	186	19	7.5	2.4		
5		0	2.8	2800	46	23	128	18	7.2	2.1		
6		0	2.5	300	45	20	102	17	6.5	1.4		
7		0	2.2	98	44	19	80	17	5.4	1.3		
8		0	2.1	77	42	18	67	16	3.9	1.3		
9		0	2.0	68	40	16	57	16	4.4	1.2		
10		0	2.0	61	39	16	103	16	4.8	.95		
11		0	1.8	56	37	19	292	15	4.7	.79		
12		0	1.7	53	35	16	147	13	5.4	.60		
13		0	1.7	50	41	14	104	13	5.6	.24		
14		2.8	1.5	47	75	14	106	13	5.3	.12		
15		.56	1.4	45	580	13	81	13	4.2	0		
16		0	1.4	44	594	19	69	12	3.1	.10		
17		0	1.3	42	148	22	61	12	1.7	.18		
18		1.0	1.5	41	87	22	54	11	1.8	.28		
19		1.2	2.6	47	62	19	49	11	2.2	.25		
20		.81	177	346	48	15	44	9.6	2.3	.19		
21		.77	62	233	39	14	40	9.1	2.6	.12		
22		8.1	31	109	33	14	37	9.1	2.3	.04		
23		6.4	20	86	29	13	35	8.5	2.6	0		
24		9.9	14	79	26	13	32	7.7	2.5	0		
25		8.9	11	75	24	12	31	6.9	2.5	0		
26		9.7	8.1	86	22	14	28	7.5	2.7	0		
27		15	11	76	21	12	27	7.2	2.3	0		
28		13	8.1	117	20	19	25	8.0	2.0	0		
29		9.5	121	82	---	149	24	6.9	2.5	0		
30		7.0	111	70	---	92	22	8.6	3.4	0		
31		---	54	66	---	1180	---	8.1	---	0		---
TOTAL	0	94.64	673.5	7070	2399	1976	2913	391.2	126.2	19.66	0	0
MEAN	0	3.15	21.7	228	85.7	63.7	97.1	12.6	4.21	.63	0	0
MAX	0	15	177	2800	594	1180	365	21	8.3	2.9	0	0
MIN	0	0	1.3	41	20	12	22	6.9	1.7	0	0	0
AC-FT	0	188	1340	14020	4760	3920	5780	776	250	39	0	0
CAL YR 1981	TOTAL	1471.68	MEAN	4.03	MAX	177	MIN	0	AC-FT	2920		
WTR YR 1982	TOTAL	15663.20	MEAN	42.9	MAX	2800	MIN	0	AC-FT	31070		

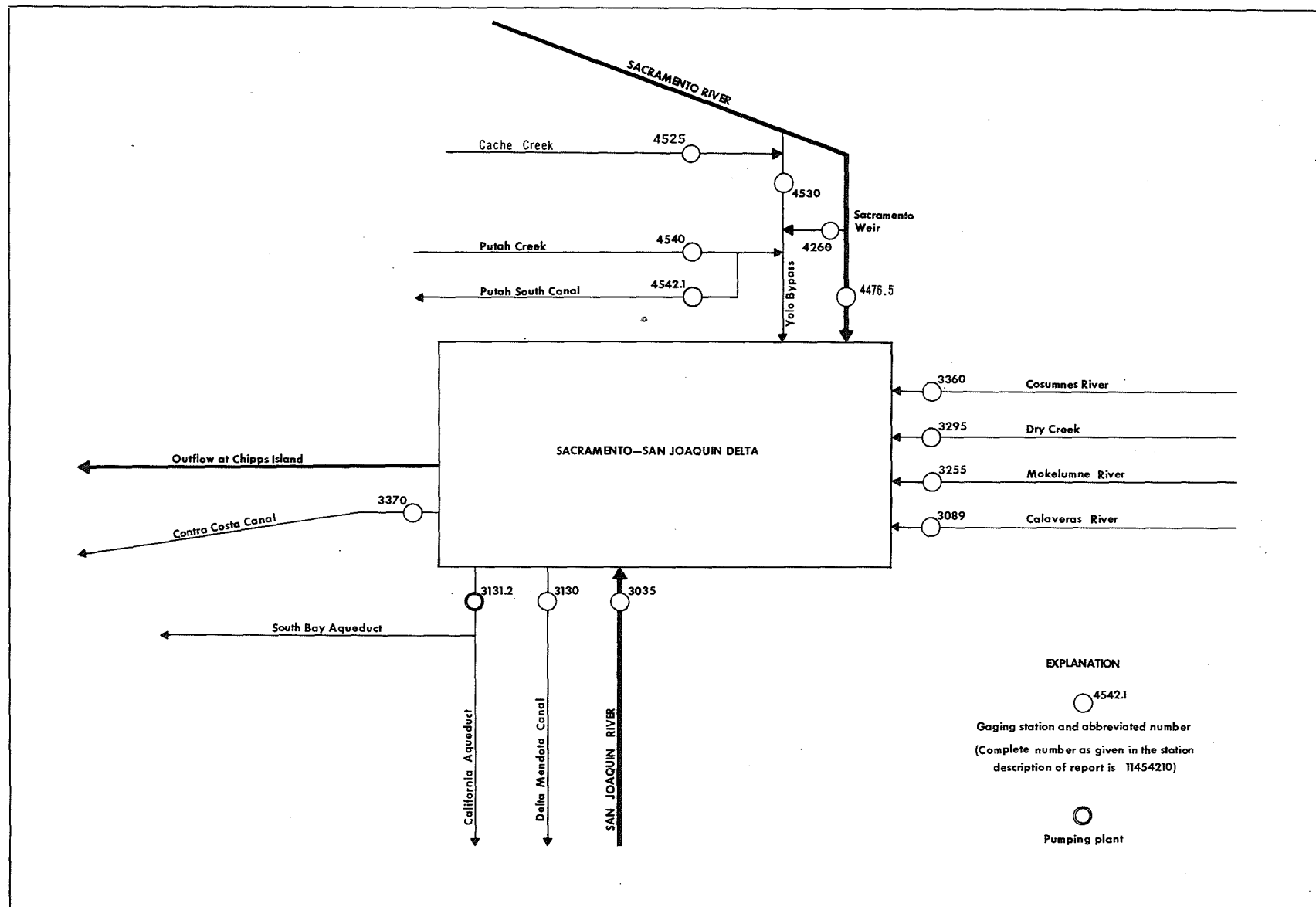


FIGURE 12.--Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.



LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

DRAINAGE AREA.--Total drainage area of inflow streams tabulated below is 39,699 mi<sup>2</sup> (102,820 km<sup>2</sup>).

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971, can be obtained from published records for stations tabulated below.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals furnished by Bureau of Reclamation, California Aqueduct by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE  
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

Inflows, in thousands of acre-feet												
Month												Water year
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
85.25	93.07	113.9	239.1	369.1	618.7	1366	1147	451.3	378.9	247.0	364.7	5470
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
4.96	2.15	2.24	51.47	63.30	28.41	83.10	11.03	14.10	14.79	15.28	10.68	301.5
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
4.70	5.65	62.23	130.6	111.1	141.8	184.1	216.6	99.03	60.92	33.81	28.64	1079
11329500 DRY CREEK NEAR GALT												
.03	5.06	15.34	70.57	58.71	67.96	89.53	7.41	2.25	.92	.39	.39	318.5
11336000 COSUMNES RIVER AT MCCONNELL												
.41	45.03	102.8	163.5	147.0	176.1	258.5	78.52	18.00	6.17	.52	2.33	998.9
11426000 SACRAMENTO WEIR SPILL												
0	2.06	35.54	9.28	224.5	1.74	121.5	0	0	0	0	0	394.6
11447650 SACRAMENTO RIVER AT FREEPORT												
608.4	1960	3816	3973	3301	3862	4557	2605	1536	1084	1267	1479	30050
114530000 YOLO BYPASS NEAR WOODLAND <sup>1/</sup>												
--	220.8	1464	1286	1236	305.7	1884	7.8	--	--	--	--	6404
11454000 PUTAH CREEK NEAR WINTERS												
13.82	5.31	7.33	4.68	3.49	65.37	298.9	38.79	36.55	37.29	36.07	20.47	568.0
Total	717.6	2339	5619	5928	5514	5268	8843	4112	2157	1583	1600	45587

Diversions, in thousands of acre-feet												
Month												Water year
Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
11313000 DELTA-MENDOTA CANAL												
129.7	85.40	48.24	110.9	210.1	253.3	205.4	183.4	174.6	179.7	268.2	122.3	1971
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
224.8	187.9	266.1	210.6	311.4	383.6	363.4	177.1	45.56	59.47	219.3	182.7	2632
11337000 CONTRA COSTA CANAL												
8.78	5.08	2.43	3.01	2.79	2.97	3.18	8.18	10.15	10.46	11.20	6.96	75.19
11454210 PUTAH SOUTH CANAL												
12.14	2.60	2.63	2.24	2.27	6.75	5.55	29.44	32.06	32.94	32.41	19.21	180.2
Total	375.4	281.0	319.4	326.8	526.6	646.6	577.4	398.1	262.4	282.6	531.1	4858

1. Flow not computed below 1,000 ft<sup>3</sup>/s.

NOTE.--Minor inflow streams and diversions are not included.

## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current water year is given. Information on some lower floods may have been obtained but is not published herein. 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 1982

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi <sup>2</sup> )	Period of record	Date	Gage height (feet)	Discharge (ft <sup>3</sup> /s)
Tulare Lake basin							
11205680	Frazier Creek Creek near Strathmore, CA	Lat 36°08'33", long 118°57'17", in NE¼SE¼ sec.32, T.20 S., R.28 E., Tulare County, Hydrologic Unit 18030012, at culvert on county road No. J28, 5.9 mi (9.5 km) east of Strathmore.	3.05	1974-82	4-11-82	6.33	28d
11205690	Lewis Creek near Lindsay, CA	Lat 36°11'11", long 118°59'46", in NW¼NE¼ sec.13, T.20 S., R.27 E., Tulare County, Hydrologic Unit 18030012, at culvert on Road 258, 0.2 mi (0.4 km) downstream from unnamed tributary, and 7.0 mi (11.3 km) southeast of Lindsay.	21.5	1969a, 1974-82	4-11-82	22.73	444
11210970	Antelope Creek at Woodlake, CA	Lat 36°25'42", long 119°06'22", in SE¼SE¼ sec.24, T.17 S., R.26 E., Tulare County, Hydrologic Unit 18030012, at culverts on two separate channels at Cajon Avenue, and 1.1 mi (1.8 km) northwest of town of Woodlake.	19.2	1969a, 1974-82	4-11-82	9.83	14d
San Joaquin River basin							
11336030	Badger Creek at Riley Road, near Galt, CA	Lat 38°20'21", long 121°17'48", in San Jon de Los Moquelumnes Land Grant, T.6 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on Riley Road, 2.3 mi (3.7 km) upstream from U.S. Highway 99, and 5.9 mi (9.5 km) north of Galt.	13.0	1972-82	--	41.13	1310
11336040	North Fork Badger Creek at Riley Road, near Galt, CA	Lat 38°21'06", long 121°17'48", in San Jon de Los Moquelumnes Land Grant, T.6 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on Riley Road, 2.4 mi (3.9 km) upstream from U.S. Highway 99, and 6.8 mi (10.9 km) north of Galt.	12.6	1972-82	--	40.59	730
11336050	Willow Creek at McKenzie Road, near Galt, CA	Lat 39°19'08", long 121°18'01", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on McKenzie Road, 1.5 mi (2.4 km) upstream from U.S. Highway 99, and 4.5 mi (7.2 km) north of Galt.	2.95	1972-82	--	40.26	164
11336070	Cosumnes River at State Highway 104, near Galt, CA	Lat 38°17'27", long 121°22'45", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.5 E., Sacramento County, Hydrologic Unit 18040005, at State Highway 104 crossing and 5.0 mi (8.0 km) northwest of Galt.	Not deter- mined	1972-82	--	*	--

## Annual maximum discharge at crest-stage partial-record stations during water year 1982--Continued

					Annual maximum		
Station No.	Station name	Location	Drain- age area (mi <sup>2</sup> )	Period of record	Date	Gage height (feet)	Discharge (ft <sup>3</sup> /s)
San Joaquin River basin--Continued							
11336530	Laguna Creek at McKenzie Road, near Galt, CA	Lat 38°18'46", long 121°18'01", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on McKenzie Road, 1.2 mi (1.9 km) upstream from U.S. Highway 99, and 4.1 mi (6.6 km) north of Galt.	117	1972-82	--	40.43	10330
11336550	Skunk Creek at McKenzie Road, near Galt, CA	Lat 38°17'57", long 121°18'01", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on McKenzie Road, 1.6 km (2.6 km) upstream from U.S. Highway 99, and 3.1 mi (5.0 km) north of Galt.	11.7	1972-82	--	40.02	--
11336555	Laguna Creek at State Highway 104, near Galt, CA	Lat 38°17'27", long 121°22'29", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.5 E., Sacramento County, Hydrologic Unit 18040005, at bridge on State Highway 104, 4.8 mi (7.7 km) northwest of Galt.	Not deter- mined	1972-82	--	*	--
11336560	Deadman Gulch at Christen- son Road, near Galt, CA	Lat 38°16'44", long 121°21'11", in San Jon de Los Moquelumnes Land Grant, T.5 N., R.6 E., Sacramento County, Hydrologic Unit 18040005, at bridge on Christenson Road, 2.6 mi (4.2 km) downstream from U.S. Highway 99, and 2.6 mi (4.2 km) northwest of Galt.	8.82	1972-82	--	*	--

d Estimated.

a Published as a miscellaneous measurement.

\* Destroyed due to construction of new road and bridges.

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

## CARSON RIVER BASIN

10305500 EAST FORK CARSON RIVER NEAR MARKLEEVILLE, CA

## WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982\*

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH, FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (FTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO <sub>3</sub> )
SEP 22...	1125	E120	103	8.0	12.0	<1.0	8.8	45

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CaCO <sub>3</sub> )	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
SEP 22...	9.0	3.0	7.0	.5	1.5	40	3.0	66

\* Data from Calif. Dept. of Water Resources.

FRESNO COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 365325120391504 LOCAL NUMBER 012S012E16H05M

4.4 MI SOUTHWEST OF SOUTH DOS PALOS. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 4 IN, DEPTH 720 FT, PERFORATED 670-712 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 110.1 FEET BELOW LAND SURFACE DATUM AUG 23, 1982.

LOWEST WATER LEVEL 133.4 FEET BELOW LAND SURFACE DATUM OCT 23, 1967.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17, 1981	113.1	MAR 15, 1982	112.0	JUN 07, 1982	110.9	AUG 23, 1982	110.1
JAN 18, 1982	112.5						

SITE NUMBER 365325120391505 LOCAL NUMBER 012S012E16H06M

4.4 MI SOUTHWEST OF SOUTH DOS PALOS. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 4 IN, DEPTH 926 FT, PERFORATED 770-926 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE 1960 TO CURRENT YEAR.

HIGHEST WATER LEVEL 130.8 FEET BELOW LAND SURFACE DATUM AUG 23, 1982.

LOWEST WATER LEVEL 207.5 FEET BELOW LAND SURFACE DATUM SEP 13, 1960.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17, 1981	137.9	MAR 15, 1982	134.3	JUN 07, 1982	131.8	AUG 23, 1982	130.8
JAN 18, 1982	134.8						

SITE NUMBER 364535120184701 LOCAL NUMBER 013S015E35D03M

1.2 MI EAST OF MENDOTA. UNUSED ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 1 IN, DEPTH 735 FT, PERFORATED 460-735 FT. ALTITUDE OF LSD 166 FT. RECORDS AVAILABLE 1951 TO CURRENT YEAR.

HIGHEST WATER LEVEL 53.3 FEET BELOW LAND SURFACE DATUM FEB 04, 1981.

LOWEST WATER LEVEL 129.2 FEET BELOW LAND SURFACE DATUM OCT 16, 1962.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 28, 1982	61.6

## GROUND WATER

## FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 364536120184301 LOCAL NUMBER 013S015E35D05M

4.4 MI EAST OF MENDOTA. OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN. DEPTH 433 FT.  
PERFORATED 373-433 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE AUG. 1960 TO CURRENT YEAR.  
RECORDER INSTALLED 1970.

HIGHEST WATER LEVEL 29. FEET BELOW LAND SURFACE DATUM FEB 11, 1970.

LOWEST WATER LEVEL 100.1 FEET BELOW LAND SURFACE DATUM SEP 01, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18, 1981	40.6	MAR 01, 1982	58.5	APR 10, 1982	38.3	JUN 26, 1982	61.0
JAN 21, 1982	38.3	02	59.6	11	38.0	27	61.0
22	38.2	03	59.9	12	37.0	28	61.0
23	37.5	04	60.4	13	36.5	29	61.1
24	37.2	05	60.4	14	35.9	30	61.2
25	36.9	06	60.6	15	35.7	JUL 01	61.0
26	36.9	07	60.8	16	34.8	02	61.0
27	37.4	08	60.6	17	34.8	03	61.1
28	38.5	09	60.5	18	34.3	04	61.0
29	39.3	10	61.4	19	34.8	05	61.0
30	39.4	11	62.5	20	36.7	06	61.0
31	39.6	12	63.5	21	37.7	07	60.2
FEB 01	40.4	13	64.3	22	38.4	08	59.9
02	40.6	14	64.5	23	38.6	09	59.1
03	40.5	15	64.5	24	40.3	10	59.0
04	41.1	16	63.7	25	42.3	11	58.9
05	41.4	17	63.6	26	43.8	12	56.9
06	42.1	18	62.2	27	45.7	13	56.2
07	42.5	19	59.7	28	47.3	14	56.1
08	43.4	20	57.8	29	48.1	15	56.7
09	43.9	21	54.2	30	48.8	16	57.0
10	44.5	22	52.5	JUN 07	51.1	17	57.4
11	45.5	23	51.4	08	51.0	18	57.9
12	46.4	24	49.9	09	50.3	19	58.9
13	47.4	25	49.0	10	50.3	20	59.7
14	47.5	26	47.8	11	50.1	21	60.9
15	47.9	27	47.6	12	49.9	22	61.8
16	48.0	28	47.4	13	49.9	23	62.5
17	47.7	29	47.0	14	50.0	24	63.0
18	48.2	30	46.8	15	50.6	25	64.4
19	49.3	31	46.3	16	50.9	26	64.9
20	50.3	APR 01	45.9	17	51.1	27	65.0
21	51.1	02	45.8	18	52.6	28	65.9
22	52.1	03	44.8	19	53.9	29	66.1
23	52.4	04	44.8	20	54.9	30	66.4
24	52.8	05	43.5	21	56.8	31	67.0
25	53.4	06	41.9	22	58.0	AUG 01	69.0
26	54.4	07	40.7	23	59.2	02	69.7
27	55.6	08	39.7	24	59.9	03	69.9
28	56.5	09	38.7	25	60.9	04	69.9

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
AUG 05, 1982	69.9	AUG 20, 1982	68.7	SEP 04, 1982	65.4	SEP 19, 1982	55.5
06	69.9	21	68.7	05	64.0	20	55.7
07	69.9	22	68.8	06	62.2	21	55.3
08	70.5	23	67.2	07	62.1	22	55.1
09	70.9	24	67.7	08	61.2	23	54.0
10	70.9	25	67.3	09	60.2	24	53.2
11	71.9	26	67.1	10	59.6	25	53.0
12	71.9	27	67.8	11	59.1	26	52.2
13	71.9	28	68.9	12	58.2	27	51.2
14	71.9	29	70.0	13	57.2	28	50.2
15	71.9	30	70.0	14	57.2	29	50.2
16	69.9	31	69.9	15	56.2	30	50.2
17	69.9	SEP 01	69.1	16	56.0		
18	68.9	02	68.2	17	55.2		
19	68.7	03	67.1	18	55.1		

SITE NUMBER 364734120060101 LOCAL NUMBER 013S017E22B01M

1.1 MI WEST OF BIOLA. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN. DEPTH 90 FT. ALTITUDE  
OF LSD 221 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS  
AVAILABLE 1944 TO CURRENT YEAR.

HIGHEST WATER LEVEL 16.6 FEET BELOW LAND SURFACE DATUM APR 15, 1947.

LOWEST WATER LEVEL 56.5 FEET BELOW LAND SURFACE DATUM DEC 03, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	42.3	FEB 1982	41.5

## FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 364340120361201 LOCAL NUMBER 014S012E12H01M

12.8 MI WEST OF MENDOTA. OBSERVATION ARTESIAN WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 936 FT.  
PERFORATED 740-936 FT. ALTITUDE OF LSD 338 FT. RECORDS AVAILABLE 1965 TO CURRENT YEAR. RECORDER  
INSTALLED OCT. 1964.

HIGHEST WATER LEVEL 365.9 FEET BELOW LAND SURFACE DATUM AUG 14, 1982.

LOWEST WATER LEVEL 609.9 FEET BELOW LAND SURFACE DATUM JUL 29, 1965.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	381.1	NOV 22, 1981	378.7	FEB 07, 1982	373.9	APR 16, 1982	370.4
02	380.7	23	378.4	08	373.7	18	370.3
03	380.3	26	378.3	14	373.8	19	370.2
04	379.8	28	378.2	16	373.7	20	370.1
06	379.8	29	377.9	17	373.5	22	370.0
07	379.5	30	377.8	19	373.6	23	369.9
08	379.4	DEC 01	377.4	22	373.5	24	369.8
09	379.2	05	377.3	24	373.4	26	369.7
10	379.4	08	377.2	25	373.3	27	369.6
11	379.5	09	376.9	26	373.2	29	369.5
12	379.6	10	376.7	27	373.1	30	369.2
13	379.4	11	376.6	28	373.3	MAY 01	369.4
14	379.4	13	376.5	MAR 02	373.2	02	369.3
15	379.2	14	376.4	03	373.1	03	369.2
16	379.7	18	376.3	05	373.0	06	369.1
17	379.6	19	375.7	07	372.9	11	369.0
18	379.3	20	375.5	08	372.7	12	368.8
20	379.4	24	375.4	12	372.6	15	368.7
21	379.3	27	375.3	13	372.5	16	368.6
22	379.0	28	375.1	15	372.7	20	368.5
23	379.0	29	375.3	16	372.9	23	368.4
24	378.8	30	375.1	17	372.7	26	368.3
31	378.7	JAN 01, 1982	375.0	19	372.6	JUN 01	368.2
NOV 01	378.9	04	374.9	20	372.5	04	368.1
02	378.8	07	374.8	21	372.4	07	368.6
03	379.2	08	374.6	22	372.1	08	368.4
04	379.3	11	374.5	23	372.0	09	367.9
05	379.0	18	374.7	28	371.9	13	367.8
06	379.1	19	375.0	29	372.0	17	367.7
07	379.5	22	374.9	30	371.7	30	367.8
08	379.3	24	374.8	31	371.6	JUL 01	367.7
09	379.2	25	374.7	APR 02	371.7	02	367.5
10	379.4	26	374.5	03	371.3	03	367.7
11	379.6	27	374.4	04	371.4	04	367.5
16	379.7	29	374.3	05	371.3	05	367.4
17	379.8	30	374.2	06	371.5	06	367.2
18	379.9	31	374.1	07	371.1	07	367.0
19	379.4	FEB 02	374.0	10	371.0	08	366.9
20	379.2	05	373.9	11	370.6	11	366.8
21	378.7	06	373.7	15	370.5	12	366.7
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 13, 1982	366.6	JUL 21, 1982	366.7	JUL 27, 1982	366.2	AUG 23, 1982	367.1
14	366.4	22	366.4	29	366.1		
16	366.5	24	366.5	AUG 01	366.0		
17	366.8	26	366.4	14	365.9		

## FRESNO COUNTY--Continued

## San Joaquin Valley (5-22)

SITE NUMBER 364358120314906 LOCAL NUMBER 0145013E11D06M

7.6 MI WEST OF MENDOTA. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 8 IN, DEPTH 1358 FT, PERFORATED 1133-1196 FT. ALTITUDE OF LSD 284 FT. RECORDS AVAILABLE 1961 TO CURRENT YEAR. RECORDER INSTALLED 1961.

HIGHEST WATER LEVEL 249.9 FEET BELOW LAND SURFACE DATUM DEC 30, 1982.

LOWEST WATER LEVEL 514.4 FEET BELOW LAND SURFACE DATUM AUG 01, 1967.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	310.8	NOV 25, 1981	304.4	FEB 04, 1982	305.5	MAR 30, 1982	303.0
02	310.5	26	304.8	06	305.6	31	302.6
03	310.7	30	304.7	07	305.9	APR 01	302.6
04	310.5	DEC 01	304.4	08	306.0	02	302.4
05	310.3	06	304.3	09	306.5	03	302.1
06	309.8	08	304.2	10	306.7	06	302.0
07	310.5	10	304.1	11	306.8	07	301.6
08	310.1	11	303.8	12	307.1	08	301.5
09	309.5	13	303.7	13	307.6	09	301.3
10	309.7	14	303.4	14	307.8	10	301.1
11	309.6	17	303.3	15	307.9	12	301.0
12	309.5	18	303.2	16	308.1	13	300.7
13	309.3	19	302.7	17	308.4	14	300.5
14	309.1	20	302.4	19	308.5	15	300.4
15	308.9	24	302.3	23	308.6	16	300.2
16	308.6	27	302.2	MAR 03	308.5	17	300.1
18	308.5	30	302.1	04	308.2	18	299.8
19	308.1	JAN 03, 1982	302.0	05	308.0	19	299.7
22	308.0	04	301.9	06	307.8	20	299.5
23	307.8	07	301.8	07	307.8	21	299.3
24	308.1	12	301.7	08	307.4	22	299.1
25	307.7	13	301.9	09	307.3	24	299.0
27	307.8	16	302.0	10	307.0	25	298.8
28	308.0	18	301.3	11	307.0	26	298.7
29	308.4	19	301.4	12	306.8	27	298.5
30	308.1	20	301.6	13	306.4	28	298.4
31	307.7	21	301.7	14	306.4	29	298.2
NOV 01	307.6	22	302.0	15	306.1	30	298.1
04	307.5	23	302.3	17	306.0	MAY 05	298.0
05	308.1	24	302.6	18	305.6	07	297.9
06	308.1	25	303.0	19	305.3	08	298.0
07	307.7	26	303.4	20	305.1	11	298.1
08	307.6	27	303.6	21	304.9	13	298.0
10	307.5	28	303.8	22	304.5	15	297.9
14	307.4	29	304.2	23	304.2	16	297.8
15	307.2	30	304.3	24	304.1	17	297.7
16	307.0	31	304.5	25	304.1	18	297.9
17	304.7	FEB 01	304.7	26	303.6	19	297.8
21	304.7	02	304.8	27	303.4	20	297.6
22	304.3	03	305.1	29	303.3	21	297.8
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 22, 1982	297.7	AUG 27, 1982	299.2	SEP 08, 1982	298.3	SEP 22, 1982	297.3
23	297.6	29	299.1	11	298.2	23	297.7
28	297.5	30	299.0	14	298.1	26	297.6
30	297.4	31	298.9	17	298.2	27	297.2
JUN 06	297.3	SEP 04	298.8	18	298.1	28	297.1
07	297.6	05	298.6	19	298.0	29	296.7
AUG 23	299.3	06	298.5	20	297.9	30	296.6
24	299.3	07	298.4	21	297.4		



## GROUND WATER

## FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 363851120313901 LOCAL NUMBER 015S013E11D02M

10.4 MI SOUTHWEST OF MENDOTA. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 6 IN, DEPTH 960 FT, PERFORATED 900-960 FT. ALTITUDE OF LSD 346 FT. RECORDS AVAILABLE NOV. 1964 TO CURRENT YEAR. RECORDER INSTALLED NOV. 1964.

HIGHEST WATER LEVEL 358.4 FEET BELOW LAND SURFACE DATUM SEPT 30, 1982.

LOWEST WATER LEVEL 652.3 FEET BELOW LAND SURFACE DATUM AUG 02, 1966.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	372.5	DEC 14, 1981	367.0	FEB 14, 1982	366.2	APR 21, 1982	362.5
02	372.1	16	366.9	17	366.1	23	362.4
05	372.0	18	366.8	18	366.0	24	362.3
06	371.8	20	366.7	19	365.8	25	362.0
08	371.7	21	367.1	26	365.7	26	361.9
11	371.6	22	367.8	27	365.3	27	361.8
12	371.4	23	368.0	28	365.6	28	361.6
13	371.2	24	368.1	MAR 03	365.5	MAY 01	361.5
14	371.1	25	369.1	04	365.4	02	361.4
15	370.9	28	369.2	05	365.3	03	361.3
17	370.8	29	369.5	06	365.1	04	361.2
18	370.6	30	369.6	07	365.4	05	361.1
19	370.5	31	369.7	08	364.9	08	361.0
24	370.4	JAN 01, 1982	369.8	13	364.8	10	360.9
25	370.2	02	369.9	14	365.0	11	360.8
30	370.1	03	370.0	15	365.5	12	360.5
31	370.0	04	369.3	16	365.6	15	360.4
NOV 01	369.9	05	369.0	18	365.7	16	360.1
05	369.8	06	368.9	19	365.6	19	360.0
06	370.0	07	368.6	21	365.5	21	359.9
07	369.9	08	368.3	22	365.4	22	359.8
08	369.7	09	368.1	23	365.1	23	359.6
09	369.6	10	367.6	25	365.0	27	359.5
10	369.5	12	367.5	26	364.8	28	359.2
11	369.4	13	367.9	27	364.6	31	359.1
16	369.3	14	367.6	28	364.8	JUN 05	359.0
17	368.2	15	367.7	29	364.8	06	359.4
18	368.8	16	367.6	30	364.5	07	360.8
19	368.5	17	367.5	APR 04	364.4	08	360.9
20	368.6	18	366.6	05	364.3	09	360.7
21	368.5	30	366.7	06	364.5	10	361.0
22	368.2	FEB 02	366.6	07	364.0	11	361.2
24	368.1	03	366.5	10	363.9	14	361.3
DEC 01	368.0	04	366.7	11	363.6	15	361.5
03	367.9	07	366.6	12	363.4	16	361.8
04	367.8	08	366.4	16	363.3	17	362.2
05	367.7	09	366.5	17	363.0	18	362.6
10	367.6	10	366.6	19	362.9	19	362.8
11	367.1	11	366.3	20	362.7	20	362.9
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 21, 1982	363.0	JUL 09, 1982	359.3	AUG 12, 1982	359.5	SEP 05, 1982	360.3
22	363.2	11	359.2	13	359.3	06	360.0
23	362.6	12	358.8	14	359.6	08	359.9
24	362.2	13	358.7	15	359.3	09	359.8
25	361.7	14	358.6	17	359.4	10	359.7
26	361.3	15	358.5	18	359.5	11	359.6
29	361.2	16	358.7	19	359.7	13	359.5
30	360.9	22	358.8	20	359.8	18	359.4
JUL 01	360.6	31	358.7	23	361.0	20	359.3
02	360.5	AUG 01	358.9	26	360.9	21	359.0
04	360.4	02	359.1	27	360.8	25	359.1
05	360.3	03	359.2	28	360.5	26	359.0
06	360.1	07	359.3	29	360.9	27	358.9
07	359.4	08	359.4	30	360.6	28	358.5
08	360.0	09	359.6	SEP 04	360.5	30	358.4

## FRESNO COUNTY--Continued

## San Joaquin Valley (5-22)

SITE NUMBER 363425120164202 LOCAL NUMBER 0155016E31N03M

4.8 MI SOUTHWEST OF SAN JOAQUIN. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 595 FT. PERFORATED 497-537 FT. ALTITUDE OF LSD 188 FT. RECORDS AVAILABLE MAR. 1967 TO CURRENT YEAR. RECORDER INSTALLED 1967.

HIGHEST WATER LEVEL 77.7 FEET BELOW LAND SURFACE DATUM DEC 22, 1982.

LOWEST WATER LEVEL 159.3 FEET BELOW LAND SURFACE DATUM AUG 27, 1968.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1981	85.2	DEC 18, 1981	81.4	APR 04, 1982	80.8	JUL 13, 1982	81.2
04	85.1	20	81.3	07	80.7	14	81.1
10	85.0	24	81.2	09	80.6	16	81.0
15	84.9	27	81.1	12	80.5	19	80.9
17	84.8	30	81.0	15	80.4	22	81.0
19	84.7	JAN 02, 1982	80.9	18	80.3	24	81.1
20	84.6	05	80.9	21	80.2	28	81.2
21	84.5	07	81.0	25	80.1	AUG 03	81.1
22	84.4	14	81.1	28	80.2	06	81.2
23	84.3	19	81.1	30	80.3	08	81.3
24	84.2	22	81.2	MAY 02	80.4	09	81.4
25	84.1	23	81.3	04	80.5	11	81.5
27	84.0	26	81.4	07	80.6	12	81.6
28	83.8	28	81.5	10	80.7	14	81.7
30	83.7	29	81.6	16	80.6	17	81.8
NOV 01	83.6	31	81.7	20	80.5	20	81.9
03	83.5	FEB 02	81.8	JUN 08	80.4	22	82.0
07	83.4	05	81.9	23	80.5	24	82.1
11	83.3	07	82.0	24	80.6	26	82.2
12	83.2	09	82.1	25	80.9	SEP 03	82.1
15	83.1	11	82.2	26	81.5	09	82.2
17	83.0	13	82.3	27	82.6	12	82.1
18	82.9	19	82.3	28	83.3	13	82.0
20	82.8	22	82.2	29	83.7	14	81.9
24	82.7	25	82.1	30	84.3	15	81.8
26	82.6	28	82.0	JUL 01	84.2	16	81.7
27	82.5	MAR 02	81.9	02	83.7	18	81.6
29	82.4	06	81.8	03	83.2	19	81.5
DEC 01	82.3	10	81.7	04	82.7	20	81.4
03	82.2	11	81.6	05	82.4	21	81.3
04	82.1	14	81.5	06	82.1	22	81.2
06	82.0	16	81.4	07	81.9	23	81.1
07	81.9	22	81.3	08	81.7	24	81.0
09	81.8	25	81.2	09	81.6	26	80.9
11	81.7	28	81.1	10	81.5	27	80.8
14	81.6	30	81.0	11	81.4	28	80.7
16	81.5	APR 01	80.9	12	81.3	30	80.6

SITE NUMBER 363801119321701 LOCAL NUMBER 0155022E14A01M

0.7 MI SOUTHEAST OF DEL REY. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH 63.3 FT. ALTITUDE OF LSD 348 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1946 TO CURRENT YEAR.

HIGHEST WATER LEVEL 21.2 FEET BELOW LAND SURFACE DATUM JUN 01, 1946.

LOWEST WATER LEVEL 57.9 FEET BELOW LAND SURFACE DATUM OCT 01, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	33.6	FEB 1982	33.6

## FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 362913120195701 LOCAL NUMBER 016S015E34N04M

1.2 MI SOUTHWEST OF CANTUA CREEK. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULAKE FORMATION. DIAM 8 IN. DEPTH 1130 FT. PERFORATED 1052-1112 FT. ALTITUDE OF LSD 334 FT. RECORDS AVAILABLE AUG. 1960 TO CURRENT YEAR. RECORDER INSTALLED 1960.

HIGHEST WATER LEVEL 306.1 FEET BELOW LAND SURFACE DATUM JUN 07, 1982.

LOWEST WATER LEVEL 617.7 FEET BELOW LAND SURFACE DATUM AUG 29, 1967.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	320.3	NOV 26, 1981	314.9	JAN 20, 1982	313.5	MAR 08, 1982	312.7
02	319.8	27	315.1	22	313.5	09	312.6
03	320.0	29	315.2	23	314.0	12	312.5
04	319.8	30	315.1	24	314.6	14	312.4
08	319.7	DEC 01	315.0	25	314.8	15	312.0
09	319.3	02	314.9	26	315.1	16	312.1
10	319.3	03	314.8	27	315.5	17	312.3
11	319.6	04	314.7	28	315.6	18	312.0
12	319.3	05	314.6	29	315.9	19	311.8
13	319.3	06	314.5	30	315.6	20	311.5
14	318.9	07	314.4	31	315.3	21	311.2
15	318.8	08	314.2	FEB 01	314.6	22	311.1
17	318.7	10	314.1	02	314.6	23	310.9
18	318.4	12	314.0	03	314.2	25	310.8
25	318.3	13	313.9	04	314.1	27	310.9
26	318.7	14	313.6	05	313.8	28	311.2
31	318.6	15	313.4	06	314.1	29	311.6
NOV 01	318.0	16	313.0	07	314.6	30	311.4
02	317.9	18	313.1	08	314.6	31	311.8
03	317.8	19	312.9	09	315.1	APR 01	312.0
04	317.7	20	312.4	10	315.5	02	311.8
05	318.0	22	312.5	12	315.6	03	311.6
06	318.2	23	312.6	13	315.5	04	311.4
07	317.9	26	312.7	14	315.1	05	311.6
10	317.8	28	312.6	15	314.7	06	312.1
11	317.5	29	312.7	16	314.6	07	311.8
12	317.6	30	312.8	17	314.4	08	311.7
13	318.0	31	312.9	18	313.9	09	311.6
14	317.8	JAN 02, 1982	312.8	19	313.8	10	312.0
15	317.2	03	313.1	20	313.7	11	311.7
16	316.8	04	313.0	21	313.5	12	311.1
17	315.2	05	312.9	26	313.6	13	310.9
18	315.4	06	313.1	28	313.7	14	310.6
20	315.4	07	313.3	MAR 02	313.8	15	310.6
21	315.2	10	313.4	03	313.6	16	310.4
22	315.0	11	313.7	04	313.5	17	309.3
23	315.0	12	313.9	05	313.2	18	309.3
24	315.1	14	314.0	06	313.1	19	309.5
25	314.9	19	313.3	07	313.0	20	309.2
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 21, 1982	309.1	JUN 01, 1982	306.7	JUL 15, 1982	308.5	SEP 03, 1982	311.3
23	309.0	02	306.6	16	308.8	04	311.3
26	308.9	03	305.7	17	309.1	05	310.8
27	308.6	04	306.2	21	309.2	06	310.6
28	308.3	05	306.4	23	309.3	07	310.3
30	308.2	06	306.0	24	309.4	08	310.1
MAY 01	308.6	07	306.1	25	309.6	09	309.9
02	308.8	08	306.4	27	309.7	10	309.8
03	307.9	09	306.2	28	309.6	11	309.5
04	308.4	10	306.3	29	309.8	12	309.2
05	308.6	11	306.5	31	309.9	13	309.0
07	308.6	12	306.4	AUG 01	310.0	14	308.9
08	308.9	15	306.5	02	310.1	15	309.1
10	308.8	16	306.7	03	310.2	16	309.0
11	308.7	17	306.9	05	310.3	17	308.7
12	308.4	18	307.2	08	310.2	18	308.4
14	308.3	19	307.5	09	310.5	19	308.3
15	308.1	20	307.6	10	310.4	20	308.2
16	307.8	21	308.0	11	310.8	21	308.0
17	307.7	22	308.1	16	310.7	22	307.5
18	307.4	23	308.2	18	310.6	23	307.9
19	306.9	24	308.3	19	310.9	24	308.0
22	307.0	27	308.4	21	311.0	25	308.1
24	306.9	28	308.6	23	311.1	26	307.5
25	306.7	29	308.7	24	311.9	27	307.1
27	306.8	30	308.9	25	312.0	28	306.9
28	306.6	JUL 01	308.7	30	311.9	29	306.7
29	306.4	09	308.8	31	311.8	30	306.5
30	306.5	10	308.5	SEP 01	311.7		
31	306.6	12	308.4	02	311.5		

## GROUND WATER

## FRESNO COUNTY--Continued

## San Joaquin Valley (5-22)

SITE NUMBER 362913120195601 LOCAL NUMBER 016S015E34N05M

1.2 MI SOUTHWEST OF CANTUA CREEK. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.  
DIAM 4 IN. DEPTH 300 FT. PERFORATED 240-300 FT. ALTITUDE OF LSD 334 FT. RECORDS AVAILABLE 1960  
TO CURRENT YEAR.

HIGHEST WATER LEVEL 162.5 FEET BELOW LAND SURFACE DATUM JAN 19, 1982.

LOWEST WATER LEVEL 196.3 FEET BELOW LAND SURFACE DATUM JUN 03, 1969.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17, 1981	163.4	JAN 19, 1982	162.5

SITE NUMBER 362645120183401 LOCAL NUMBER 017S015E14Q01M

3.8 MI SOUTH OF CANTUA CREEK. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM  
10 IN. DEPTH 2315 FT. PERFORATED 1064-1094 FT. ALTITUDE OF LSD 342 FT. RECORDS AVAILABLE 1969 TO  
CURRENT YEAR. RECORDER INSTALLED 1969.

HIGHEST WATER LEVEL 300.8 FEET BELOW LAND SURFACE DATUM OCT 19, 1982.

LOWEST WATER LEVEL 605.3 FEET BELOW LAND SURFACE DATUM JUL 01, 1970.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	324.9	DEC 19, 1981	321.4	FEB 06, 1982	326.0	MAR 18, 1982	323.3
02	324.3	20	321.2	07	326.2	19	322.8
03	324.3	23	321.1	08	326.3	20	322.4
04	324.2	26	321.0	09	326.5	21	322.0
08	324.1	29	320.9	10	326.6	22	321.5
09	323.4	30	321.6	11	326.7	23	321.3
10	323.2	31	322.6	12	326.0	24	321.1
11	323.2	JAN 01, 1982	323.1	13	326.0	25	322.6
12	323.6	02	323.8	14	326.3	26	327.5
13	323.5	03	324.1	15	326.4	27	329.8
14	323.1	04	324.3	16	326.5	28	331.3
18	323.0	05	324.5	17	325.6	29	332.4
19	322.7	06	324.9	18	325.5	30	333.2
20	322.4	07	325.1	19	326.0	31	333.6
21	322.3	08	325.3	20	325.0	APR 01	333.9
22	322.1	09	325.5	21	324.5	02	333.3
23	321.4	11	325.6	22	324.0	03	333.4
28	319.2	12	325.9	23	324.5	04	333.5
29	319.3	13	326.1	24	325.1	05	332.9
NOV 05	318.8	14	326.2	25	325.7	06	332.8
06	318.8	15	325.6	26	326.0	07	332.4
07	318.5	16	325.3	27	326.3	08	332.2
08	318.3	17	325.7	28	326.4	09	332.2
10	318.2	18	325.8	MAR 01	326.5	10	331.5
11	318.1	19	325.6	02	327.0	11	326.5
12	317.6	20	326.0	03	326.7	12	324.7
15	317.5	21	326.1	04	326.8	13	325.3
18	322.6	22	326.4	05	326.9	14	328.1
19	323.0	23	326.5	06	326.5	15	329.3
21	322.9	24	326.6	07	325.5	16	329.8
22	322.6	25	326.7	08	324.5	17	328.1
27	322.5	26	327.0	09	323.9	18	324.5
30	322.6	27	327.1	10	323.5	19	322.8
DEC 01	322.4	28	327.3	11	328.1	20	321.7
02	322.3	29	327.2	12	328.6	21	321.0
03	322.2	30	327.0	13	326.3	22	320.2
04	322.1	31	327.4	14	326.0	23	319.8
12	322.0	FEB 03	327.3	15	324.8	24	319.6
13	321.9	04	326.2	16	324.5	25	319.4
14	321.6	05	325.8	17	323.9	26	319.2

## FRESNO COUNTY--Continued

## San Joaquin Valley (5-22)

Site Number 362645120183401 Local Number 017S015E14Q01M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 27, 1982	319.1	JUN 12, 1982	317.7	JUL 14, 1982	324.9	AUG 30, 1982	329.4
28	319.0	13	318.2	15	324.3	31	327.7
29	318.9	14	318.6	16	323.4	SEP 01	324.3
30	318.7	15	318.8	17	323.5	02	322.6
MAY 02	318.8	16	319.5	18	323.6	03	321.8
03	318.6	17	322.5	19	323.8	04	321.2
04	318.5	18	323.1	20	323.9	05	320.7
06	318.4	19	321.0	22	323.8	06	319.9
09	318.3	20	320.7	23	324.0	07	319.5
10	318.2	21	320.8	24	324.1	08	317.5
11	318.0	22	321.0	25	324.3	09	315.8
12	317.7	23	320.9	26	324.2	10	310.5
13	317.6	24	320.6	27	324.4	11	309.3
14	317.5	25	320.0	29	324.5	12	308.3
15	317.2	26	319.0	30	324.4	13	307.9
16	317.1	27	318.5	31	324.6	14	307.2
17	316.9	28	318.1	AUG 01	324.2	15	306.9
19	316.8	29	317.9	02	324.3	17	306.8
20	316.5	30	318.5	03	324.5	18	306.3
21	316.4	JUL 01	319.2	07	324.6	20	306.2
22	316.3	02	319.8	08	324.7	21	305.4
23	316.2	03	320.5	09	324.0	22	305.2
24	316.0	04	320.7	10	324.3	25	305.3
25	315.7	05	320.9	11	324.5	26	305.2
30	315.6	07	320.8	16	324.4	27	305.1
JUN 02	315.5	08	324.1	17	324.5	28	304.4
06	315.4	09	325.0	18	324.6	29	304.3
08	315.0	10	325.2	19	324.9	30	304.2
09	315.0	11	325.3	20	325.0		
10	315.9	12	325.4	24	329.4		
11	317.0	13	325.2	28	329.3		

SITE NUMBER 361935120134501 LOCAL NUMBER 018S016E33A01M

7.2 MI NORTHEAST OF OILFIELD. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 8 IN, DEPTH 1070 FT, PERFORATED 858-1070 FT. ALTITUDE OF LSD 320 FT. RECORDS AVAILABLE 1964 TO CURRENT YEAR.

HIGHEST WATER LEVEL 307.5 FEET BELOW LAND SURFACE DATUM AUG 24, 1982.

LOWEST WATER LEVEL 466.1 FEET BELOW LAND SURFACE DATUM JUL 30, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18, 1981	314.9	MAR 16, 1982	316.5	JUN 08, 1982	307.7	AUG 24, 1982	307.5
JAN 19, 1982	317.4						

## FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 361334120035101 LOCAL NUMBER 0205018E06D01M

2.8 MI NORTHEAST OF HURON. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 6 IN. DEPTH 1007 FT. PERFORATED 720-1007 FT. ALTITUDE OF LSD 324 FT. RECORDS AVAILABLE DEC. 1964 TO CURRENT YEAR. RECORDER INSTALLED 1964.

HIGHEST WATER LEVEL 284.7 FEET BELOW LAND SURFACE DATUM DEC 08, 1982.

LOWEST WATER LEVEL 546.3 FEET BELOW LAND SURFACE DATUM FEB 13, 1968.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	321.4	JAN 27, 1982	349.7	MAR 08, 1982	338.2	JUN 12, 1982	304.5
02	320.4	28	351.2	09	334.7	13	312.0
03	320.4	29	353.7	10	333.7	14	317.5
04	319.4	30	355.2	11	332.2	15	322.0
05	318.9	31	351.2	12	330.7	16	323.0
06	318.4	FEB 01	346.2	13	330.2	17	325.0
07	317.9	02	341.7	14	329.7	18	330.0
08	317.4	03	338.2	15	329.7	19	334.0
09	316.9	04	335.2	16	328.4	20	338.5
10	316.4	05	334.2	19	327.9	21	342.5
11	315.9	06	335.2	20	327.4	22	346.0
NOV 18	299.9	07	340.2	21	326.9	23	344.5
19	292.9	08	344.7	22	325.7	24	340.0
20	292.9	09	348.7	23	324.9	25	337.5
21	291.9	10	351.7	24	323.4	26	334.0
24	292.4	11	354.7	25	322.4	27	331.5
25	292.9	12	357.2	26	320.9	28	333.0
28	293.4	13	353.7	27	320.4	29	337.0
29	293.9	14	348.2	28	319.9	30	338.0
30	294.9	15	343.2	29	318.9	JUL 01	334.5
DEC 01	295.9	16	340.2	30	317.9	02	330.0
02	298.9	17	337.7	APR 01	316.9	03	327.0
03	306.9	18	334.7	02	315.9	04	324.5
04	311.9	19	333.7	03	314.9	05	322.5
05	315.4	20	334.7	04	313.9	06	321.0
06	318.9	21	339.2	05	313.4	07	319.0
07	321.4	22	345.2	06	312.9	08	318.0
08	323.4	23	348.7	07	312.4	09	316.0
09	325.4	24	347.7	08	311.9	10	315.0
10	326.4	25	343.7	09	311.4	11	315.0
11	321.4	26	343.7	10	310.9	12	314.5
12	316.9	27	345.7	11	310.4	13	314.0
JAN 19, 1982	326.7	28	348.7	12	309.4	14	314.0
20	326.7	MAR 01	351.2	13	308.9	15	314.0
21	329.7	02	353.7	14	308.4	16	314.0
22	334.2	03	352.7	16	307.9	17	314.0
23	337.2	04	352.7	19	306.9	18	314.0
24	340.7	05	349.2	20	306.4	19	314.0
25	343.7	06	344.7	JUN 08	300.0	20	314.5
26	346.7	07	341.2	11	300.0	21	315.0
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 22, 1982	316.0	AUG 09, 1982	369.0	AUG 27, 1982	342.2	SEP 14, 1982	311.7
23	317.0	10	369.5	28	339.2	15	311.2
24	324.0	11	370.0	29	337.7	16	311.2
25	331.0	12	370.0	30	335.7	17	310.2
26	337.5	13	370.0	31	333.7	18	308.2
27	342.0	14	360.5	SEP 01	331.7	19	308.2
28	346.5	15	351.0	02	329.2	20	307.2
29	350.0	16	344.0	03	327.2	21	306.7
30	353.0	17	338.5	04	325.7	22	305.2
31	355.0	18	335.5	05	323.7	23	305.2
AUG 01	358.0	19	335.5	06	322.2	24	304.7
02	360.0	20	333.0	07	320.2	25	305.2
03	362.0	21	332.0	08	318.2	26	304.2
04	363.0	22	330.5	09	317.2	27	304.2
05	364.5	23	334.0	10	316.2	28	303.7
06	366.0	24	342.2	11	314.7	29	303.2
07	366.0	25	344.7	12	313.7	30	301.2
08	368.0	26	344.2	13	312.7		

FRESNO COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 361156119585501 LOCAL NUMBER 020S018E11Q01M

2.0 MI SOUTHEAST OF WESTHAVEN. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN, DEPTH 710 FT, PERFORATED 650-710 FT. ALTITUDE OF LSD 268 FT. RECORDS AVAILABLE SEPT. 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 216.6 FEET BELOW LAND SURFACE DATUM JUN 08, 1982.

LOWEST WATER LEVEL 494.8 FEET BELOW LAND SURFACE DATUM JUL 31, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18, 1981	224.4	JAN 19, 1982	218.1	MAR 16, 1982	224.5	JUN 08, 1982	216.6

SITE NUMBER 361156119585503 LOCAL NUMBER 020S018E11Q03M

2.0 MI SOUTHEAST OF WESTHAVEN. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 4 IN, DEPTH 1930 FT, PERFORATED 1885-1925 FT. ALTITUDE OF LSD 268 FT. RECORDS AVAILABLE APR. 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 173.2 FEET BELOW LAND SURFACE DATUM MAR 16, 1982.

LOWEST WATER LEVEL 461. FEET BELOW LAND SURFACE DATUM SEP 24, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 18, 1981	193.4	JAN 19, 1982	173.5	MAR 16, 1982	173.2	JUN 08, 1982	181.2

SITE NUMBER 360709120161501 LOCAL NUMBER 021S016E08E01M

1.5 MI WEST OF COALINGA. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 463 FT. ALTITUDE OF LSD 604 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 136.5 FEET BELOW LAND SURFACE DATUM MAY 08, 1958.

LOWEST WATER LEVEL 294.5 FEET BELOW LAND SURFACE DATUM DEC 16, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
DEC 16, 1981	294.5

## GROUND WATER

## KERN COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 35400119293601 LOCAL NUMBER 0265023E16H02M

11 MI SOUTHWEST OF POND. OBSERVATION WELL. DIAM 6.62 IN. DEPTH 978 FT. ALTITUDE OF LSD 230 FT.  
RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 37.0 FEET BELOW LAND SURFACE DATUM OCT 16, 1982.

LOWEST WATER LEVEL 335.2 FEET BELOW LAND SURFACE DATUM OCT 19, 1982.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 21, 1982	217.8	MAR 03, 1982	253.0	APR 13, 1982	212.9	MAY 24, 1982	234.0
22	217.8	04	253.5	14	211.8	25	234.1
23	217.3	05	253.8	15	211.6	26	234.9
24	216.5	06	254.5	16	210.8	27	235.9
25	215.8	07	254.6	17	210.2	28	235.7
26	215.3	08	254.1	18	209.8	29	235.8
27	214.7	09	254.5	19	209.2	31	235.9
28	214.5	10	254.7	20	209.1	JUN 01	236.7
29	214.1	11	255.3	21	210.0	02	236.9
30	213.7	12	254.6	22	211.3	03	237.2
31	213.4	13	253.8	23	212.0	04	238.8
FEB 01	213.0	14	251.8	24	213.5	05	239.8
02	212.8	15	249.4	25	215.8	06	240.8
03	213.4	16	246.8	26	216.7	07	241.0
04	215.5	17	244.2	27	217.4	08	241.5
05	217.7	18	243.2	28	218.2	09	242.8
06	218.4	19	241.8	29	219.0	10	243.5
07	220.0	20	241.4	30	220.2	11	244.2
08	219.8	21	240.4	MAY 01	222.1	12	244.7
09	220.8	22	238.5	02	223.4	13	245.3
10	222.2	23	236.0	03	224.0	14	245.4
11	222.1	24	233.8	04	225.5	15	246.3
12	221.8	25	232.5	05	226.7	16	247.2
13	222.7	26	230.9	06	227.3	17	250.0
14	223.2	27	229.8	07	227.4	18	252.1
15	222.7	28	228.4	08	228.8	19	253.2
16	223.6	29	227.1	09	229.2	20	253.4
17	224.2	30	226.1	10	229.6	21	253.2
18	225.5	31	224.4	11	230.0	22	252.3
19	227.9	APR 01	224.7	12	230.7	23	251.8
20	230.3	02	224.3	13	231.7	24	251.4
21	231.0	03	222.4	14	232.3	25	251.1
22	232.7	04	221.0	15	233.7	26	250.8
23	236.0	05	220.0	16	233.9	27	250.3
24	240.1	06	218.8	17	233.9	28	250.3
25	242.5	07	218.3	18	235.4	29	249.9
26	244.9	08	217.5	19	235.7	30	250.1
27	247.0	09	216.7	20	235.8	JUL 01	249.8
28	249.0	10	215.7	21	235.2	02	250.0
MAR 01	250.6	11	214.7	22	234.7	03	250.3
02	252.2	12	213.8	23	234.3	04	250.9
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUL 05, 1982	251.3	JUL 27, 1982	275.4	AUG 18, 1982	287.9	SEP 09, 1982	278.6
06	252.3	28	276.9	19	287.9	10	278.5
07	254.2	29	278.2	20	287.3	11	277.5
08	256.3	30	279.0	21	287.3	12	276.5
09	258.3	31	280.2	22	287.2	13	273.5
10	259.7	AUG 01	281.2	23	285.3	14	271.9
11	262.5	02	281.1	24	285.6	15	270.4
12	264.2	03	281.1	25	284.9	16	269.9
13	265.6	04	282.0	26	283.9	17	269.2
14	267.2	05	282.7	27	284.7	18	268.7
15	268.1	06	281.8	28	284.8	19	267.1
16	269.3	07	282.1	29	284.0	20	265.5
17	271.3	08	281.7	30	283.7	21	264.0
18	271.9	09	282.4	31	283.9	22	262.8
19	272.3	10	283.3	SEP 01	284.5	23	261.3
20	271.4	11	283.6	02	285.0	24	260.1
21	271.3	12	285.1	03	285.0	25	258.8
22	270.6	13	286.2	04	284.1	26	257.4
23	271.1	14	287.3	05	282.9	27	255.9
24	272.3	15	287.3	06	281.2	28	254.1
25	273.2	16	287.2	07	280.5	29	252.1
26	274.1	17	287.4	08	279.9	30	251.0



## KERN COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 350436119061901 LOCAL NUMBER 011N021W03B01S

9.6 MI NORTHWEST OF WHEELER RIDGE. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 8 IN, DEPTH 1477 FT, PERFORATED 1037-1237 FT. ALTITUDE OF LSD 435 FT. RECORDS AVAILABLE APR. 1963 TO CURRENT YEAR. RECORDER INSTALLED 1963.

HIGHEST WATER LEVEL 251.7 FEET BELOW LAND SURFACE DATUM JAN 20, 1982.

LOWEST WATER LEVEL 539.5 FEET BELOW LAND SURFACE DATUM JUN 29, 1970.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08, 1981	353.5	JAN 20, 1982	251.7	MAR 31, 1982	350.4	JUN 07, 1982	348.6
16	353.4	21	351.9	APR 03	350.5	09	349.1
22	353.3	26	351.8	08	350.4	16	349.1
27	353.2	FEB 01	351.7	13	350.3	20	349.4
31	353.3	02	351.6	14	350.2	25	349.4
NOV 11	353.5	05	351.5	15	350.1	30	349.5
20	353.7	06	351.4	16	350.0	JUL 05	349.3
22	353.1	07	351.3	17	349.8	10	349.1
23	353.0	08	351.1	19	349.7	20	349.1
26	352.9	09	351.3	20	349.6	30	349.4
27	353.0	11	351.4	25	349.5	AUG 05	349.4
30	353.1	12	351.2	27	349.4	11	349.1
DEC 12	352.8	13	351.2	29	349.3	20	349.1
13	352.3	14	351.0	30	349.2	25	348.1
14	352.1	15	351.1	MAY 11	349.5	27	348.2
16	352.2	18	351.2	12	349.1	28	348.7
18	352.3	19	350.9	13	348.9	30	348.6
19	351.9	24	351.0	14	348.8	31	348.4
20	352.0	25	350.9	16	348.7	SEP 03	348.3
22	352.1	MAR 03	350.8	17	348.8	07	348.4
27	352.2	07	350.7	24	349.0	15	348.5
28	352.1	08	350.6	25	348.6	20	348.6
29	352.0	09	350.4	28	348.5	22	348.7
JAN 10, 1982	351.9	10	350.6	29	348.8	23	349.0
11	351.7	18	349.9	31	348.9	25	349.1
13	351.8	20	350.6	JUN 04	348.8	26	349.4
18	351.9	25	350.5	06	349.0		

## KERN COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 35400119293602 LOCAL NUMBER 0265023E16H03M

11 MI SOUTHWEST OF POND, OBSERVATION WELL, DIAM 6.62 IN, DEPTH 335 FT, ALTITUDE OF LSD 230 FT. .  
RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 192.2 FEET BELOW LAND SURFACE DATUM DEC 29, 1982.

LOWEST WATER LEVEL 289.4 FEET BELOW LAND SURFACE DATUM AUG 25, 1982.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	281.6	NOV 11, 1981	244.5	DEC 25, 1981	227.0	APR 04, 1982	222.4
02	280.9	12	243.6	26	226.0	05	220.9
03	279.6	13	242.7	27	225.2	06	219.8
04	278.7	14	242.1	28	225.0	07	218.9
05	277.5	15	241.2	29	225.1	08	218.0
06	276.7	16	240.5	30	225.8	09	217.0
07	275.8	17	239.8	31	226.1	10	216.2
08	275.2	18	239.6	JAN 01, 1982	226.3	11	215.4
09	274.4	19	241.6	02	226.3	12	214.6
10	273.4	20	241.6	03	227.0	13	213.7
11	272.1	21	240.8	04	226.8	14	212.6
12	271.3	22	240.2	05	225.4	15	211.7
13	269.8	23	239.4	06	225.5	16	210.8
14	268.4	24	238.6	07	227.9	17	210.4
15	267.5	25	238.8	08	229.2	18	209.7
16	267.1	26	238.1	09	230.1	19	209.3
17	266.5	27	237.2	10	230.3	20	208.8
18	265.3	28	236.7	11	229.8	21	208.8
19	263.5	29	235.7	12	230.1	22	210.6
20	262.5	30	235.0	14	230.3	23	211.6
21	261.6	DEC 01	234.1	15	229.0	24	212.6
22	261.1	02	233.2	16	227.7	25	213.9
23	260.4	03	232.6	21	216.4	26	215.4
24	259.8	04	232.0	MAR 17	247.3	27	216.7
25	259.3	05	231.2	18	245.4	28	218.6
26	258.4	06	230.9	19	243.8	29	219.7
27	257.5	07	230.2	20	244.5	30	221.2
28	257.2	08	229.7	21	242.8	MAY 01	223.0
29	255.7	09	229.0	22	240.3	02	225.4
30	255.3	10	228.2	23	238.1	03	226.7
31	254.5	11	227.8	24	236.2	04	227.5
NOV 01	253.4	12	227.3	25	234.4	05	227.9
02	252.4	13	227.0	26	232.7	06	229.5
03	251.4	14	226.7	27	231.2	07	229.8
04	250.7	15	226.1	28	229.9	08	230.7
05	249.9	16	225.8	29	228.7	09	232.4
06	249.3	17	226.1	30	227.5	10	232.0
07	248.6	19	236.2	31	225.5	11	232.2
08	247.6	20	226.5	APR 01	226.4	12	232.2
09	246.0	21	226.8	02	227.1	13	233.2
10	245.5	23	226.9	03	224.0	14	233.9

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 15, 1982	237.2	MAY 29, 1982	241.9	JUN 12, 1982	245.3	JUN 25, 1982	253.5
16	238.7	30	240.7	13	246.0	26	253.2
17	238.6	JUN 01	240.6	14	246.0	27	253.0
18	238.7	02	241.7	15	246.3	28	252.9
19	238.9	03	241.2	16	247.2	29	252.4
20	239.7	04	242.2	17	249.7	30	252.0
21	239.8	05	243.3	18	252.0	JUL 01	251.3
22	239.8	06	244.3	19	253.0	02	251.0
23	238.6	07	244.4	20	253.8	03	250.8
24	237.6	08	244.7	21	253.7	04	250.8
26	237.7	09	243.0	22	253.8	05	250.7
27	240.7	10	244.0	23	254.0	AUG 25	289.4
28	241.7	11	244.9	24	254.0		

KERN COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 352935119294701 LOCAL NUMBER 0285023E16K01M

2 MI NORTHWEST OF BUTTONWILLOW. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 550 FT, PERFORATED 200-350 FT. ALTITUDE OF LSD 285 FT. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 107.0 FEET BELOW LAND SURFACE DATUM FEB 01, 1982.

LOWEST WATER LEVEL 270.0 FEET BELOW LAND SURFACE DATUM OCT 09, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
FEB 01, 1982	107.0

SITE NUMBER 352841119101301 LOCAL NUMBER 0285026E21H01M

0.4 MI NORTHEAST OF DOW. HYDRAULIC ROTARY UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 580 FT. ALTITUDE OF LSD 391 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 111.7 FEET BELOW LAND SURFACE DATUM MAR 31, 1954.

LOWEST WATER LEVEL 241.5 FEET BELOW LAND SURFACE DATUM AUG 22, 1967.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 27, 1982	185.5	SEP 30, 1982	169.5

SITE NUMBER 352841119101303 LOCAL NUMBER 0285026E21H03M

0.4 MI NORTHEAST OF DOW. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 1 IN, DEPTH 800 FT, OPEN END. ALTITUDE OF LSD 391 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 106.8 FEET BELOW LAND SURFACE DATUM MAR 02, 1953.

LOWEST WATER LEVEL 327. FEET BELOW LAND SURFACE DATUM AUG 16, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 27, 1982	239.5	SEP 30, 1982	237.7

SITE NUMBER 352511119145701 LOCAL NUMBER 0295025E12M03M

1.4 MI NORTHEAST OF ROSEDALE. HYDRAULIC ROTARY OBSERVATION WELL IN ALLUVIUM. DIAM 1 IN, DEPTH 670 FT, PERFORATED 480-670 FT. ALTITUDE OF LSD 331 FT. RECORDS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 87.5 FEET BELOW LAND SURFACE DATUM FEB 05, 1976.

LOWEST WATER LEVEL 212.5 FEET BELOW LAND SURFACE DATUM AUG 23, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
FEB 02, 1982	197.5

KERN COUNTY--Continued

## San Joaquin Valley (5-22)

SITE NUMBER 351237119151501 LOCAL NUMBER 031S025E26A01M

3 MI NORTHEAST OF FORD CITY. HYDRAULIC ROTARY IRRIGATION WELL IN ALLUVIUM. DIAM 16-12 IN, DEPTH 1474 FT, 16-IN CSG 0-206 FT, 14-IN CSG 206-606 FT, 12-IN CSG 606-1474 FT, PERFORATED 206-1474 FT. ALTITUDE OF LSD 289 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1965 TO CURRENT YEAR.

HIGHEST WATER LEVEL 38.5 FEET BELOW LAND SURFACE DATUM JAN 23, 1968.

LOWEST WATER LEVEL 129.5 FEET BELOW LAND SURFACE DATUM OCT 17, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	85.0	FEB 03, 1982	77.0

SITE NUMBER 350720118532401 LOCAL NUMBER 032S028E23R01M

1.7 MI SOUTH OF WEED PATCH. HYDRAULIC ROTARY IRRIGATION WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH 815 FT. ALTITUDE OF LSD 387 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1945 TO CURRENT YEAR.

HIGHEST WATER LEVEL 58.1 FEET BELOW LAND SURFACE DATUM DEC 07, 1945.

LOWEST WATER LEVEL 305. FEET BELOW LAND SURFACE DATUM OCT 01, 1962.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 28, 1981	231.5	JAN 28, 1982	218.5

## KINGS COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 362036119555301 LOCAL NUMBER 018S019E20P01M

6 MI SOUTH OF LANARE. HYDRAULIC ROTARY OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULAKE FORMATION. DIAM 6 IN. DEPTH 695 FT. PERFORATED 647-687 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE MAR. 1967 TO CURRENT YEAR. RECORDER INSTALLED MAR. 1967.

HIGHEST WATER LEVEL 122.6 FEET BELOW LAND SURFACE DATUM SEP 30, 1982.

LOWEST WATER LEVEL 218.9 FEET BELOW LAND SURFACE DATUM SEP 24, 1968.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1981	135.0	NOV 26, 1981	130.7	JAN 07, 1982	129.9	MAR 10, 1982	132.6
06	134.9	28	130.6	08	130.1	11	132.5
08	134.8	29	130.8	09	130.3	13	132.4
10	134.7	30	131.0	10	130.4	14	132.3
11	134.6	DEC 01	131.0	11	130.3	16	132.1
14	134.5	02	130.8	12	130.2	19	132.0
15	134.4	03	130.7	13	130.1	20	131.9
17	134.3	04	130.5	14	129.9	21	131.8
18	134.2	05	130.4	15	129.8	22	131.7
19	134.1	06	130.2	16	129.9	23	131.6
20	134.0	07	130.1	17	130.1	24	131.5
21	133.9	08	129.9	18	130.4	25	131.4
22	133.8	09	129.7	19	130.8	26	131.3
23	133.7	10	129.6	20	130.9	27	131.2
24	133.6	11	129.4	21	131.3	28	131.1
25	133.5	12	129.2	22	131.8	29	130.9
26	133.4	14	129.2	23	132.2	30	130.8
27	133.3	15	129.5	24	132.4	31	130.7
28	133.1	16	129.8	25	132.4	APR 01	130.5
30	133.0	17	130.2	26	132.3	02	130.4
31	132.9	18	130.5	27	132.2	03	130.3
NOV 01	132.8	19	130.8	28	132.1	04	130.2
02	132.7	20	131.1	29	132.4	05	130.0
03	132.5	21	131.5	30	132.7	06	129.9
04	132.4	22	131.8	31	132.9	07	129.8
05	132.3	23	132.0	FEB 01	133.3	08	129.7
06	132.2	24	132.3	02	133.4	09	129.5
08	132.1	25	132.4	03	133.4	10	129.4
09	132.0	26	132.5	05	133.3	11	129.2
10	131.9	27	132.3	06	133.2	12	121.1
11	131.8	28	132.1	07	133.0	13	129.0
12	131.6	29	131.7	09	132.9	14	128.8
13	131.5	30	131.4	10	132.8	15	128.6
14	131.4	31	131.1	12	132.9	16	128.5
15	131.3	JAN 01, 1982	130.9	20	133.0	17	128.3
16	131.2	02	130.6	27	133.1	18	128.2
17	131.1	03	130.5	MAR 01	133.0	19	128.0
18	131.0	04	130.2	04	132.9	20	127.9
19	130.9	05	130.0	06	132.8	21	127.9
23	130.8	06	129.9	09	132.7	22	128.1
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 23, 1982	128.4	JUN 03, 1982	126.9	JUL 14, 1982	127.6	AUG 22, 1982	129.6
24	128.7	04	126.6	15	127.4	23	129.8
25	128.9	05	126.5	16	127.6	24	129.8
26	129.2	06	126.4	17	127.7	25	129.7
27	129.4	07	126.2	18	128.0	26	129.9
28	129.5	08	126.1	19	128.2	27	130.1
29	129.7	09	126.4	20	128.2	28	130.2
30	129.7	10	126.6	21	128.3	SEP 01	130.3
MAY 01	129.5	11	126.9	22	128.7	03	130.2
02	129.2	12	127.2	23	128.6	04	130.0
03	128.9	13	127.4	24	128.7	05	129.5
04	128.6	14	127.6	25	128.9	06	129.1
05	128.4	15	127.8	26	128.7	07	128.8
06	128.2	16	127.9	27	128.5	08	128.3
07	127.9	19	127.8	28	128.4	09	128.0
08	127.7	20	127.7	29	128.1	10	127.7
09	127.8	21	127.5	30	128.2	11	127.4
10	127.9	22	127.2	31	128.3	12	127.1
11	128.0	23	127.0	AUG 01	128.3	13	126.9
13	128.2	24	126.7	02	128.4	14	126.6
14	128.3	25	126.5	03	128.5	15	126.4
15	128.5	26	126.5	04	128.4	16	126.1
16	128.6	27	126.6	05	128.3	17	125.9
17	128.5	28	126.7	06	128.2	18	125.7
18	128.3	29	126.9	07	128.3	19	125.4
19	128.1	30	127.0	08	128.1	20	125.2
20	127.8	JUL 01	127.1	09	128.0	21	125.0
21	127.6	02	127.0	10	128.1	22	124.8
22	127.4	03	126.9	11	128.2	23	124.6
23	127.1	04	127.0	12	128.4	24	124.4
24	126.9	05	127.1	13	128.4	25	124.2
25	126.7	06	126.8	14	128.5	26	124.0
26	126.6	07	126.9	15	128.6	27	123.5
27	126.8	08	127.1	16	128.8	28	123.3
28	127.0	09	127.2	17	128.9	29	122.9
29	127.2	10	127.4	18	129.1	30	122.6
31	127.4	11	127.7	19	129.2		
JUN 01	127.3	12	127.8	20	129.5		
02	127.1	13	127.7	21	129.6		

## KINGS COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 362036119555302 LOCAL NUMBER 018S019E20P02M

6 MI SOUTH OF LANARE. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN.  
 DEPTH 577 FT. PERFORATED 497-537 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE MAR. 1967 TO  
 CURRENT YEAR. RECORDER INSTALLED MAR. 1967.

HIGHEST WATER LEVEL 111.0 FEET BELOW LAND SURFACE DATUM DEC 20, 1982.

LOWEST WATER LEVEL 229.5 FEET BELOW LAND SURFACE DATUM AUG 25, 1971.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	144.9	NOV 12, 1981	130.2	DEC 22, 1981	147.2	FEB 27, 1982	140.7
02	144.5	13	129.9	JAN 19, 1982	129.8	28	141.0
03	144.2	14	129.1	20	132.0	MAR 01	141.1
04	143.9	15	128.5	21	133.6	02	141.3
05	143.6	16	128.1	22	135.1	03	141.4
06	143.0	17	128.0	23	135.7	04	141.6
07	142.5	18	130.4	24	134.6	05	141.7
08	142.0	19	132.6	25	133.9	10	141.7
09	141.5	20	135.0	26	133.6	11	141.5
10	141.0	21	136.5	27	133.4	12	141.4
11	140.5	22	137.2	28	133.3	13	141.2
12	140.0	23	138.0	29	133.3	14	140.9
13	139.5	24	139.7	30	133.5	15	140.8
14	139.0	25	140.4	31	133.7	16	140.7
15	138.5	26	138.5	FEB 01	133.6	17	140.4
16	137.9	27	136.0	02	133.7	18	140.0
17	137.5	28	135.6	03	133.9	19	139.6
18	136.9	29	135.6	04	134.0	20	139.1
19	136.4	30	135.2	05	134.2	21	138.6
20	136.0	DEC 01	134.0	06	134.4	22	138.2
21	135.4	02	132.7	07	134.6	23	137.5
22	135.0	03	131.8	08	134.9	24	136.9
23	134.6	04	131.1	09	135.1	25	136.4
24	134.0	05	130.4	10	135.2	26	135.8
25	133.6	06	129.8	11	135.4	27	135.2
26	133.3	07	129.4	12	135.5	28	134.8
27	133.0	08	129.0	13	135.6	29	134.2
28	132.6	09	128.7	14	135.7	30	133.7
29	133.3	10	128.5	15	136.0	31	133.3
30	131.9	11	130.8	16	136.3	APR 01	132.7
31	131.6	12	132.5	17	136.4	02	132.2
NOV 01	131.2	13	133.2	18	136.8	03	131.7
02	130.8	14	134.8	19	137.1	04	131.2
03	130.5	15	137.4	20	137.4	05	130.7
04	130.5	16	139.2	21	137.7	06	130.3
06	130.6	17	140.6	22	138.1	07	129.9
08	130.7	18	142.0	23	138.6	08	129.4
09	130.5	19	143.2	24	139.2	09	129.1
10	130.4	20	144.7	25	139.9	10	128.6
11	130.3	21	145.8	26	140.3	11	128.2

KINGS COUNTY--Continued

San Joaquin Valley (5-22)

Site Number 362036119555302 Local Number 018S019E20P02M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 12, 1982	127.9	MAY 30, 1982	121.8	JUL 11, 1982	140.0	AUG 21, 1982	139.8
13	127.5	31	121.6	12	141.2	22	140.6
14	127.1	JUN 01	122.1	13	142.5	23	137.9
15	126.7	02	125.0	14	143.4	24	136.6
16	126.4	03	127.0	15	144.3	25	139.8
17	126.0	04	128.1	16	142.1	26	139.5
18	125.7	05	129.5	17	140.5	27	138.1
19	125.4	06	132.0	18	139.3	28	137.8
20	125.2	08	134.3	19	139.0	29	137.2
21	126.9	09	135.5	20	142.5	30	135.9
22	129.2	10	137.6	21	144.3	31	134.2
23	130.7	11	139.1	22	141.3	SEP 01	132.8
24	131.7	12	139.5	23	142.9	02	131.5
25	132.5	13	141.2	24	143.2	03	130.8
26	131.0	14	142.6	25	144.2	04	130.0
27	130.2	15	143.7	26	145.0	05	129.2
28	129.0	16	144.3	27	145.4	06	128.7
29	128.2	17	144.6	28	143.4	07	128.0
30	127.7	18	144.9	29	144.6	08	127.3
MAY 01	127.2	19	141.9	30	142.8	09	126.8
02	126.7	20	138.2	31	142.5	10	126.1
03	126.3	21	135.8	AUG 01	145.8	11	125.5
04	125.8	22	134.2	02	147.3	12	125.0
07	124.7	23	133.3	03	148.5	13	124.6
08	124.4	24	132.3	04	148.8	14	124.0
09	124.2	25	131.5	05	147.3	15	123.8
10	123.9	26	130.8	06	145.7	16	123.3
11	123.7	27	130.1	07	141.8	17	122.8
12	123.5	28	129.5	08	139.1	18	122.5
13	123.3	29	129.0	09	138.7	19	122.1
14	123.2	30	128.5	10	138.7	20	121.7
15	123.0	JUL 01	128.1	11	139.0	21	121.4
16	122.9	02	127.7	12	138.4	23	120.8
21	122.8	03	127.4	13	138.7	24	120.5
22	122.9	04	129.0	14	139.2	25	120.2
24	123.1	05	130.4	15	139.6	26	119.8
25	122.9	06	134.4	16	140.1	27	119.5
26	122.7	07	135.1	17	143.4	28	119.3
27	122.5	08	135.0	18	142.9	29	119.1
28	122.3	09	137.0	19	143.7	30	118.9
29	122.1	10	138.9	20	141.6		

## KINGS COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 362035119555203 LOCAL NUMBER 0185019E20P03M

6 MI SOUTH OF LANARE. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN.  
 DEPTH 222 FT, PENFORATED 200-222 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE OCT. 1972 TO  
 CURRENT YEAR. RECORDER INSTALLED SEPT. 1972.

HIGHEST WATER LEVEL 110.1 FEET BELOW LAND SURFACE DATUM SEP 30, 1982.

LOWEST WATER LEVEL 155.3 FEET BELOW LAND SURFACE DATUM SEP 29, 1972.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1981	118.8	NOV 24, 1981	115.0	JAN 19, 1982	114.6	MAR 27, 1982	115.6
05	118.7	25	115.1	21	114.5	28	115.5
06	118.5	26	115.2	22	114.7	29	115.3
07	118.4	28	115.1	23	114.9	30	115.2
08	118.3	DEC 01	115.2	24	115.0	31	115.1
09	118.1	02	115.1	30	115.1	APR 01	114.9
10	118.0	04	115.0	31	115.2	02	114.8
11	117.9	05	114.9	FEB 04	115.3	04	114.7
12	117.8	06	114.8	05	115.4	05	114.6
13	117.7	07	114.7	06	115.5	06	114.5
14	117.6	08	114.6	11	115.6	07	114.3
15	117.5	09	114.5	12	115.7	08	114.2
16	117.4	10	114.4	14	115.8	09	114.1
17	117.3	11	114.8	16	115.9	10	114.0
18	117.1	12	115.0	17	116.0	11	113.8
19	117.0	13	115.2	18	116.1	14	113.7
20	116.9	14	115.3	19	116.2	15	113.5
21	116.7	15	115.5	20	116.3	16	113.4
22	116.6	16	115.6	22	116.4	17	113.3
23	116.5	17	115.8	23	116.6	19	113.2
24	116.3	18	115.9	24	116.7	21	113.0
25	116.2	19	116.0	25	116.9	23	113.1
26	116.1	20	116.2	26	117.0	24	113.2
27	116.0	21	116.4	27	117.1	25	113.3
28	115.9	22	116.6	MAR 02	117.2	27	113.4
30	115.8	23	116.7	04	117.3	MAY 01	113.3
NOV 01	115.7	25	116.9	07	117.2	03	113.2
02	115.5	26	116.5	11	117.1	04	113.1
03	115.4	27	116.2	12	117.0	06	113.0
04	115.3	29	115.7	13	116.9	07	112.9
05	115.2	30	115.4	14	116.8	08	112.8
10	115.1	31	115.3	16	116.7	09	112.7
11	114.9	JAN 01, 1982	115.1	17	116.6	10	112.6
12	114.8	03	114.9	20	116.5	11	112.5
13	114.7	04	114.8	21	116.4	13	112.4
15	114.6	05	114.6	22	116.2	15	112.3
18	114.5	08	114.6	23	116.1	17	112.2
20	114.6	12	114.5	24	115.9	24	112.1
21	114.8	14	114.6	25	115.8	26	112.0
22	114.9	16	114.7	26	115.7	27	111.9
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 29, 1982	111.8	JUL 03, 1982	112.8	AUG 03, 1982	115.3	SEP 03, 1982	113.2
30	111.7	04	112.7	04	115.6	04	113.1
JUN 03	111.6	05	112.6	06	115.7	05	112.9
05	111.7	06	112.9	07	115.3	06	112.8
06	112.0	07	113.2	08	115.0	07	112.6
08	112.5	08	113.4	09	114.7	08	112.4
09	112.8	09	113.5	10	114.4	09	112.3
10	113.0	10	113.6	11	114.3	10	112.1
11	113.2	11	113.7	12	114.2	11	112.0
12	113.4	12	113.8	13	114.1	12	111.8
13	113.7	13	113.9	14	114.0	13	111.7
14	114.0	15	114.0	15	113.9	14	111.6
15	114.2	16	113.9	16	113.9	15	111.5
16	114.4	17	113.5	17	114.2	16	111.4
17	114.5	18	113.4	18	114.5	17	111.3
18	114.6	19	113.4	19	114.7	18	111.2
19	114.7	20	113.9	20	114.5	19	111.1
20	114.4	21	114.4	21	114.2	20	111.0
21	114.2	22	114.3	22	114.6	21	110.9
22	114.1	23	114.6	23	114.5	22	110.8
23	114.0	24	114.8	24	114.1	23	110.7
24	113.9	25	115.0	25	114.3	24	110.6
25	113.8	26	115.2	26	114.1	25	110.5
26	113.7	27	115.3	27	114.0	26	110.4
27	113.5	28	114.9	28	113.8	27	110.3
28	113.4	29	115.1	29	113.7	28	110.2
29	113.2	30	114.8	30	113.6	30	110.1
30	113.1	31	114.5	31	113.5		
JUL 01	113.0	AUG 01	114.8	SEP 01	113.4		
02	112.9	02	115.1	02	113.3		



## KINGS COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 361847119352401 LOCAL NUMBER 0195022E04801M

0.7 MI SOUTHEAST OF HANFORD. HYDRAULIC ROTARY IRRIGATION WELL IN ALLUVIUM. DIAM 12 IN. DEPTH 173 FT. ALTITUDE OF LSD 245 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 72.2 FEET BELOW LAND SURFACE DATUM APR 03, 1961.

LOWEST WATER LEVEL 144.6 FEET BELOW LAND SURFACE DATUM JUL 22, 1976.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 19, 1982	91.0	SEP 30, 1982	86.1

SITE NUMBER 360027119574201 LOCAL NUMBER 0225019E18P02M

IN KETTLEMAN CITY, NEAR INTERSECTION OF SIXTH STREET AND GEN. PET STREET. HYDRAULIC ROTARY PUBLIC SUPPLY WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN. DEPTH 410 FT. PERFORATED 309-329, 356-377 FT. ALTITUDE OF LSD 255 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1950 TO CURRENT YEAR.

HIGHEST WATER LEVEL 110.2 FEET BELOW LAND SURFACE DATUM JAN 15, 1950.

LOWEST WATER LEVEL 210. FEET BELOW LAND SURFACE DATUM JUL 03, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 08, 1982	169.0	APR 16, 1982	160.0	AUG 02, 1982	150.0

MERCED COUNTY

## San Joaquin Valley (5-22)

SITE NUMBER 372020120383501 LOCAL NUMBER 007S012E10F02M

0.1 MI SOUTHWEST OF ATWATER. CABLE TOOL IRRIGATION WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 55 FT.  
 ALTITUDE OF LSD 145 FT. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.3 FEET BELOW LAND SURFACE DATUM DEC 01, 1980.

LOWEST WATER LEVEL 48.4 FEET BELOW LAND SURFACE DATUM JUN 01, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	25.78	DEC 10, 1981	26.4	JAN 25, 1982	25.82	JUN 30, 1982	25.9
OCT 14	28.0						

SITE NUMBER 371830120354401 LOCAL NUMBER 007S012E24J01M

2.7 MI SOUTH OF ATWATER. IRRIGATION ARTESIAN WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 232 FT.  
 ALTITUDE OF LSD 136 FT. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 13.43 FEET BELOW LAND SURFACE DATUM JAN 25, 1982.

LOWEST WATER LEVEL 29.00 FEET BELOW LAND SURFACE DATUM MAY 30, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1981	16.66	JAN 25, 1982	13.43	JUL 02, 1982	14.78

SITE NUMBER 371523121002801 LOCAL NUMBER 008S009E08E01M

0.2 MI SOUTH OF GUSTINE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 60 FT.  
 ALTITUDE OF LSD 105 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.  
 RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 11. FEET BELOW LAND SURFACE DATUM APR 11, 1974.

LOWEST WATER LEVEL 17.5 FEET BELOW LAND SURFACE DATUM MAR 17, 1972.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1981	13.5	APR 21, 1982	11.5

SITE NUMBER 371047120570901 LOCAL NUMBER 009S009E14N01M

1 MI NORTHWEST OF VOLTA. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 500 FT,  
 PERFORATED 100-220, 360-500 FT. ALTITUDE OF LSD 96 FT. MEASUREMENTS FURNISHED BY CALIFORNIA  
 DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.4 FEET BELOW LAND SURFACE DATUM OCT 13, 1976.

LOWEST WATER LEVEL 158.3 FEET BELOW LAND SURFACE DATUM NOV 07, 1967.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 21, 1981	59.3

SITE NUMBER 370413120394301 LOCAL NUMBER 010S012E09P01M

1.6 MI SOUTHEAST OF DOS PALOS. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN, DEPTH  
 180 FT, PERFORATED 7-150 FT. ALTITUDE OF LSD 105 FT. MEASUREMENTS FURNISHED BY CALIFORNIA  
 DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.8 FEET BELOW LAND SURFACE DATUM MAR 01, 1970.

LOWEST WATER LEVEL 17.5 FEET BELOW LAND SURFACE DATUM NOV 29, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 1981	7.1	FEB 19, 1982	7.0

SAN JOAQUIN COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 375003121121901 LOCAL NUMBER 001S007E21G01M

1 MI SOUTH OF TURNER. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM.  
DIAM 5 IN, DEPTH 85 FT, CASED TO 85 FT. ALTITUDE OF LSD 44 FT.  
MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 18. FEET BELOW LAND SURFACE DATUM OCT 03, 1973.

LOWEST WATER LEVEL 43.2 FEET BELOW LAND SURFACE DATUM OCT 04, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 03, 1982	30.4

SITE NUMBER 374335121253301 LOCAL NUMBER 002S005E28P01M

0.3 MI WEST OF TRACY. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6.5 IN, DEPTH  
119 FT, PERFORATED 109-119 FT. ALTITUDE OF LSD 72 FT. MEASUREMENTS FURNISHED BY CALIFORNIA  
DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 17. FEET BELOW LAND SURFACE DATUM OCT 03, 1974.

LOWEST WATER LEVEL 25.5 FEET BELOW LAND SURFACE DATUM MAR 22, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1981	19.5	MAR 25, 1982	20.5

SITE NUMBER 380717121114501 LOCAL NUMBER 003N007E10L04M

0.8 MI SOUTHEAST OF VICTOR. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 12-10 IN, DEPTH 190 FT,  
12-IN CSG 0-121 FT, 10-IN CSG 121-190 FT. ALTITUDE OF LSD 73 FT. MEASUREMENTS FURNISHED BY  
CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1935 TO CURRENT YEAR.

HIGHEST WATER LEVEL 35.51 FEET BELOW LAND SURFACE DATUM JAN 11, 1943.

LOWEST WATER LEVEL 98.74 FEET BELOW LAND SURFACE DATUM AUG 01, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1981	89.5	JAN 25, 1982	85.1	APR 08, 1982	82.8	JUL 07, 1982	89.8
NOV 06	88.8	FEB 10	84.5	MAY 10	82.9	AUG 09	94.1
DEC 09	86.8	MAR 05	84.0	JUN 09	86.4	SEP 10	92.8

SITE NUMBER 374223121250601 LOCAL NUMBER 003S005E04H01M

2 MI NORTHWEST OF CARBONA. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM  
6 IN, DEPTH 140 FT, SCREENED 120-140 FT. ALTITUDE OF LSD 118 FT. MEASUREMENTS FURNISHED BY  
CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 45.5 FEET BELOW LAND SURFACE DATUM OCT 03, 1974.

LOWEST WATER LEVEL 55.5 FEET BELOW LAND SURFACE DATUM MAR 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1981	51.0	MAR 25, 1982	51.5

STANISLAUS COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 374040121083701 LOCAL NUMBER 003S007E13A01M

3.3 MI SOUTHWEST OF RIPON. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 198 FT. ALTITUDE OF LSD 41 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1937 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.2 FEET BELOW LAND SURFACE DATUM MAR 03, 1969.

LOWEST WATER LEVEL 9.2 FEET BELOW LAND SURFACE DATUM NOV 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 1981	9.2	MAR 1982	6.0

SITE NUMBER 373001120583201 LOCAL NUMBER 005S009E16H01M

1.9 MI WEST OF TURLOCK. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 129 FT. ALTITUDE OF LSD 67 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.2 FEET BELOW LAND SURFACE DATUM JUL 28, 1977.

LOWEST WATER LEVEL 23.0 FEET BELOW LAND SURFACE DATUM OCT 09, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 09, 1981	23.0

SITE NUMBER 372040121024501 LOCAL NUMBER 007S008E12D01M

0.4 MI NORTHWEST OF NEWMAN. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 425 FT. ALTITUDE OF LSD 106 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 34.00 FEET BELOW LAND SURFACE DATUM MAR 20, 1980.

LOWEST WATER LEVEL 67. FEET BELOW LAND SURFACE DATUM OCT 17, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	46.0	APR 20, 1982	36.0

TULARE COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 362215119124001 LOCAL NUMBER 0185025E12Q01M

1 MI SOUTH OF IVANHOE. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN.  
ALTITUDE OF LSD 363 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.  
RECORDS AVAILABLE 1924 TO CURRENT YEAR.

HIGHEST WATER LEVEL 20. FEET BELOW LAND SURFACE DATUM APR 09, 1925.

LOWEST WATER LEVEL 134.6 FEET BELOW LAND SURFACE DATUM OCT 11, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
FEB 01, 1982	46.5

SITE NUMBER 361002119212601 LOCAL NUMBER 0205024E27C01M

0.7 MI NORTHWEST OF OCTOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN.  
ALTITUDE OF LSD 265 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.  
RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 58.0 FEET BELOW LAND SURFACE DATUM JAN 26, 1981.

LOWEST WATER LEVEL 108.5 FEET BELOW LAND SURFACE DATUM OCT 06, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
FEB 04, 1982	64.0

SITE NUMBER 360931119223401 LOCAL NUMBER 0205024E28L01M

0.8 MI NORTHWEST OF OCTOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN.  
ALTITUDE OF LSD 257.5 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.  
RECORDS AVAILABLE 1973 TO CURRENT YEAR.

HIGHEST WATER LEVEL 64.00 FEET BELOW LAND SURFACE DATUM SEP 23, 1980.

LOWEST WATER LEVEL 112.5 FEET BELOW LAND SURFACE DATUM OCT 08, 1976.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
FEB 04, 1982	83.0

## TULARE COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 355933119062001 LOCAL NUMBER 0225027E30D02M

3.6 MI NORTHWEST OF TERMA BELLA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.  
DIAM 10.75 IN. DEPTH 1246 FT. PERFORATED 1043-1207 FT. ALTITUDE OF LSD 407 FT. RECORDS AVAILABLE  
1970 TO CURRENT YEAR. RECORDER INSTALLED 1970.

HIGHEST WATER LEVEL 210.3 FEET BELOW LAND SURFACE DATUM MAR 09, 1971.

LOWEST WATER LEVEL 357.5 FEET BELOW LAND SURFACE DATUM JUL 31, 1967.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	307.0	DEC 16, 1981	251.1	JAN 25, 1982	237.4	MAR 18, 1982	233.1
02	307.4	17	250.7	26	237.2	19	232.4
03	304.8	18	250.4	27	236.4	20	231.5
04	302.7	19	250.1	28	236.5	21	230.8
05	301.2	20	249.7	29	236.3	22	230.2
06	304.7	21	249.4	30	236.0	23	229.6
07	306.1	22	249.1	31	235.7	24	229.3
08	307.3	23	248.6	FEB 01	235.3	25	228.8
09	307.4	24	248.3	02	235.0	26	228.4
10	305.2	25	247.8	03	234.6	27	228.0
11	301.3	26	247.4	04	234.4	28	227.5
12	298.2	27	247.0	05	234.2	29	227.1
13	295.9	28	246.5	06	233.9	30	226.8
NOV 19	295.5	29	246.1	07	233.6	31	226.4
20	295.0	30	245.7	08	233.3	APR 01	226.0
21	294.6	31	245.4	09	233.0	02	225.8
22	293.8	JAN 01, 1982	244.9	10	232.7	03	225.5
23	292.9	02	244.6	11	232.6	04	225.2
24	292.5	03	244.3	12	232.2	05	224.8
25	292.0	04	243.8	13	231.9	06	224.6
26	291.2	05	243.5	14	231.6	07	224.3
27	290.6	06	243.2	15	231.4	08	224.2
28	290.1	07	242.9	16	231.1	09	224.0
29	289.6	08	242.6	17	230.8	10	223.8
30	289.1	09	242.3	18	230.6	11	223.5
DEC 01	288.5	10	242.0	19	230.4	12	223.3
02	287.4	11	241.8	20	230.2	13	222.9
03	287.4	12	241.6	21	230.0	14	222.6
04	286.9	13	241.5	22	229.8	15	222.4
05	286.4	14	241.0	23	229.7	16	222.1
06	285.9	15	240.7	24	229.4	17	221.9
07	285.4	16	240.4	25	229.2	18	221.6
08	284.8	17	240.0	26	229.1	19	221.3
09	284.3	18	239.8	27	228.9	20	221.1
10	283.9	19	239.4	28	228.7	21	220.9
11	283.4	20	239.1	29	228.5	22	220.8
12	282.9	21	238.8	01	228.3	23	220.7
13	282.5	22	238.6	02	228.3	24	220.8
14	282.0	23	238.3	03	228.5	25	221.1
15	281.5	24	237.9	04	228.7	26	221.4
17				17	234.3		
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 27, 1982	221.8	JUN 06, 1982	278.6	JUL 16, 1982	301.5	AUG 25, 1982	318.2
28	222.1	07	278.6	17	303.1	26	318.2
29	222.6	08	279.0	18	301.4	27	317.3
30	224.2	09	279.3	19	302.8	28	316.6
MAY 01	226.7	10	278.5	20	304.0	29	315.9
02	226.7	11	279.5	21	302.7	30	314.3
03	228.3	12	280.5	22	304.9	31	316.1
04	231.0	13	281.9	23	306.4	SEP 01	315.6
05	235.1	14	280.2	24	308.6	02	315.9
06	237.0	15	281.2	25	309.8	03	314.6
07	238.4	16	284.8	26	310.0	04	312.8
08	240.5	17	286.9	27	308.5	05	309.9
09	245.0	18	286.5	28	310.0	06	307.4
10	246.2	19	287.4	29	311.0	07	304.8
11	246.3	20	288.8	30	309.5	08	305.0
12	248.9	21	290.1	31	312.0	09	304.8
13	251.1	22	288.8	AUG 01	313.3	10	303.9
14	256.2	23	290.4	02	313.2	11	305.4
15	256.9	24	291.3	03	312.6	12	305.6
16	257.9	25	292.2	04	312.6	13	305.1
17	256.3	26	293.1	05	314.2	14	306.3
18	255.9	27	295.7	06	315.4	15	303.8
19	257.7	28	297.3	07	316.3	16	301.7
20	260.0	29	296.3	08	317.1	17	300.2
21	263.3	30	295.7	09	315.7	18	299.4
22	267.1	JUL 01	291.9	10	315.1	19	300.5
23	269.8	02	294.1	11	314.7	20	298.5
24	271.4	03	295.7	12	316.7	21	296.4
25	272.8	04	294.5	13	318.1	22	293.8
26	274.6	05	293.3	14	319.2	23	292.3
27	274.0	06	293.0	15	320.0	24	291.0
28	273.8	07	294.2	16	319.4	25	289.1
29	273.0	08	297.9	17	319.9	26	287.5
30	272.0	09	296.9	18	321.0	27	286.0
31	270.9	10	297.7	19	321.8	28	284.6
JUN 01	270.2	11	300.2	20	322.4	29	283.2
02	270.7	12	302.0	21	321.0	30	282.0
03	272.0	13	301.4	22	319.9		
04	275.0	14	300.3	23	316.4		
05	277.2	15	302.0	24	317.0		

TULARE COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 355523119170602 LOCAL NUMBER 023S025E16N03M

2.4 MI SOUTH OF PIXLEY. OBSERVATION ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 8 IN, DEPTH 430 FT, PERFORATED 360-420 FT. ALTITUDE OF LSD. 267 FT. RECORDS AVAILABLE JUNE 1959 TO CURRENT YEAR. RECORDER INSTALLED 1959.

HIGHEST WATER LEVEL 125.6 FEET BELOW LAND SURFACE DATUM FEB 29, 1980.

LOWEST WATER LEVEL 288.5 FEET BELOW LAND SURFACE DATUM JUL 31, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	208.1	DEC 02, 1981	159.3	JAN 11, 1982	143.8	FEB 22, 1982	138.1
02	206.5	03	158.9	12	143.7	23	138.4
03	205.1	04	158.0	13	143.2	24	138.3
04	206.3	05	157.7	14	143.8	25	138.1
05	205.7	06	157.0	15	142.8	26	138.4
06	204.8	07	156.7	16	142.4	27	138.9
07	203.6	08	156.0	17	142.0	28	139.8
08	203.7	09	155.6	18	141.9	MAR 01	140.1
09	203.8	10	154.9	19	141.1	02	140.4
10	201.3	11	154.7	20	140.1	03	141.1
11	201.7	12	153.9	21	140.0	04	141.4
12	199.3	13	153.7	22	139.9	05	141.1
13	197.6	14	153.0	23	139.8	06	142.1
14	195.7	15	152.3	24	139.6	07	142.7
15	194.7	16	152.1	25	139.1	08	143.0
16	192.9	17	151.8	26	139.1	09	143.7
17	191.7	18	151.5	27	138.9	10	145.8
18	190.0	19	150.7	28	138.7	11	146.1
19	188.7	20	150.5	29	138.4	12	147.0
20	187.6	21	150.1	30	138.2	13	148.4
21	187.2	22	150.0	FEB 01	138.1	14	149.6
22	186.7	23	149.8	02	138.0	15	150.6
23	185.9	24	149.7	03	137.9	16	150.9
24	185.2	25	149.4	04	138.1	17	150.9
25	184.7	26	148.9	05	137.7	18	150.1
26	183.9	27	148.4	06	137.5	19	148.6
27	183.7	28	148.0	07	137.3	20	148.1
NOV 19	167.2	29	147.9	08	137.2	21	147.5
20	167.6	30	147.6	09	137.3	22	147.1
21	166.9	31	147.2	10	137.4	23	146.9
22	166.9	JAN 01, 1982	146.9	11	137.3	26	146.8
23	166.0	02	146.7	12	137.8	27	146.1
24	164.9	03	146.2	13	137.4	28	146.0
25	163.9	04	145.9	14	137.1	29	145.5
26	162.9	05	145.3	15	137.5	30	143.5
27	162.3	06	145.2	16	137.3	31	142.9
28	161.8	07	145.1	17	137.7	APR 01	142.0
29	160.9	08	144.9	18	137.9	02	141.1
30	160.5	09	144.1	19	137.8	03	140.2
DEC 01	159.8	10	143.9	21	137.7	04	140.0

## GROUND WATER

## TULARE COUNTY--Continued

## San Joaquin Valley (5-22)

Site Number 355523119170602 Local Number 023S025E16N03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 05, 1982	139.2	MAY 21, 1982	151.5	JUL 05, 1982	160.0	AUG 18, 1982	179.1
06	139.3	22	151.3	06	159.4	19	180.2
07	138.2	23	151.0	07	158.9	20	179.4
08	137.9	24	150.6	08	158.1	21	179.4
09	137.8	25	150.0	09	157.2	22	179.1
10	137.3	26	150.0	10	157.0	23	177.6
11	137.0	27	150.5	11	157.2	24	178.5
12	136.0	28	151.1	12	157.4	25	181.2
13	135.9	29	151.5	13	159.5	26	181.3
14	135.0	30	152.0	14	161.2	27	180.4
15	135.0	31	153.3	15	162.0	28	180.3
16	134.6	JUN 01	156.1	16	165.2	29	180.3
17	134.0	02	158.0	17	163.7	30	178.8
18	134.0	03	155.4	18	163.9	31	178.5
19	133.6	04	154.5	19	164.8	SEP 01	179.3
20	133.2	05	154.0	20	166.2	02	177.6
21	135.9	06	153.2	21	167.2	03	176.8
22	136.4	07	153.0	22	167.8	04	176.9
23	135.3	08	152.5	23	170.1	05	178.0
24	137.0	09	153.1	24	170.3	06	176.4
25	140.0	10	152.3	25	170.8	07	179.2
26	141.0	11	152.2	26	171.2	08	179.9
27	144.2	12	152.5	27	172.5	09	178.5
28	146.7	13	152.8	28	175.3	10	175.7
29	146.6	14	153.2	29	175.2	11	174.4
30	145.4	15	153.3	30	175.8	12	172.5
MAY 01	147.0	16	154.1	31	176.2	13	170.9
02	146.0	17	154.2	AUG 01	177.0	14	169.5
03	145.1	18	155.4	02	177.3	15	168.7
05	145.1	19	157.3	03	178.1	16	167.7
06	146.0	20	160.8	04	178.5	17	166.4
07	146.7	21	159.2	05	182.1	18	165.4
08	147.8	22	158.6	06	183.0	19	165.2
09	148.1	23	159.0	07	183.3	20	164.3
11	148.0	24	159.1	08	183.2	21	162.9
12	149.0	26	159.2	09	184.6	22	162.0
13	151.0	27	159.5	10	185.2	23	161.3
14	151.1	28	160.1	11	185.3	24	160.4
15	149.9	29	160.9	12	181.2	25	160.2
16	149.0	30	161.1	13	180.5	26	159.4
17	149.0	JUL 01	160.7	14	180.0	27	158.4
18	150.8	02	160.3	15	178.5	28	157.9
19	150.5	03	160.2	16	177.4	29	160.1
20	150.9	04	160.1	17	177.3	30	160.4



## GROUND WATER

## TULARE COUNTY--Continued

## San Joaquin Valley (5-22)

SITE NUMBER 355523119170603 LOCAL NUMBER 023S025E16N04M

2.4 MI SOUTH OF PIXLEY. ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 250 FT. PERFORATED 200-240 FT. RECORDS AVAILABLE JUNE 1959 TO CURRENT YEAR. RECORDER INSTALLED 1959.

HIGHEST WATER LEVEL 73.4 FEET BELOW LAND SURFACE DATUM MAR 19, 1981.

LOWEST WATER LEVEL 122.9 FEET BELOW LAND SURFACE DATUM AUG 17, 1961.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	85.0	DEC 15, 1981	83.6	FEB 01, 1982	82.8	APR 02, 1982	81.4
02	84.9	16	83.5	02	82.7	03	81.2
04	85.0	17	83.6	04	82.6	05	81.1
05	85.1	19	83.5	05	82.8	10	81.0
08	85.2	22	83.6	06	82.8	11	80.9
14	85.3	24	83.5	07	82.7	12	81.1
17	85.2	25	83.4	09	82.6	13	81.0
18	85.0	27	83.3	10	82.5	17	80.9
20	84.9	28	83.4	11	82.6	18	80.8
23	84.8	29	83.3	12	82.7	19	80.7
24	84.7	30	83.2	13	82.6	20	80.6
27	84.8	31	83.3	14	82.4	21	80.8
28	84.7	JAN 02, 1982	83.2	16	82.5	22	80.7
30	84.8	03	83.5	17	82.4	24	80.6
NOV 01	84.7	04	83.2	20	82.3	25	80.7
02	84.5	05	83.0	21	82.2	27	80.8
04	84.4	06	83.3	22	82.1	30	80.7
07	84.5	07	83.4	23	82.2	MAY 04	80.6
11	84.4	08	83.3	24	82.1	06	80.7
12	84.2	09	83.2	27	82.0	07	80.5
14	84.3	10	83.1	28	81.9	08	80.4
17	84.2	11	83.0	MAR 04	81.8	09	80.5
18	84.3	12	83.1	06	81.7	15	80.4
19	84.2	13	83.3	07	81.5	16	80.3
22	84.2	14	83.1	10	81.6	17	80.2
23	84.1	15	83.0	11	81.4	21	80.1
25	84.1	16	83.1	13	81.5	22	80.3
26	83.8	17	82.9	14	81.4	26	80.2
28	83.9	18	83.0	17	81.5	27	80.3
29	84.1	19	82.9	18	81.6	28	80.4
30	84.1	20	82.8	19	81.7	29	80.3
DEC 01	84.0	21	82.8	20	81.5	31	80.4
03	83.9	22	83.1	21	81.4	JUN 01	80.5
07	83.8	23	83.2	22	81.3	05	80.4
08	83.7	24	83.0	23	81.2	09	80.3
09	83.6	25	82.8	28	81.1	12	80.2
10	83.8	27	82.9	29	81.2	13	80.3
11	83.7	28	82.7	30	81.4	16	80.3
12	83.6	29	82.8	31	81.2	17	80.2
14	83.7	31	82.9	APR 01	81.1	18	80.3
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 20, 1982	80.3	JUL 16, 1982	79.8	AUG 22, 1982	79.6	SEP 17, 1982	78.7
24	80.2	21	79.9	25	79.6	19	78.6
25	80.3	28	79.9	27	79.5	20	78.5
26	80.2	29	79.8	SEP 01	79.4	23	78.4
28	80.1	AUG 02	79.7	02	79.3	24	78.3
29	80.0	04	79.8	05	79.2	25	78.2
JUL 01	80.0	05	79.9	09	79.3	28	78.1
03	79.9	12	79.9	10	79.0	29	78.0
04	79.8	16	79.8	11	79.1	30	78.2
09	79.8	18	79.7	12	79.0		
13	79.7	20	79.8	13	78.9		
15	79.6	21	79.7	14	78.8		

TULARE COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 355003119173901 LOCAL NUMBER 0245025E17P01M

0.8 MI SOUTHWEST OF EARLIMART. HYDRAULIC ROTARY WATER-TABLE WELL IN ALLUVIUM. DIAM. 14 IN. DEPTH 500 FT. PERFORATED 240-500 FT. ALTITUDE OF LSD 268 FT. MEASUREMENTS FURNISHED BY U.S. BUREAU OF RECLAMATION. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 75.4 FEET BELOW LAND SURFACE DATUM JAN 15, 1981.

LOWEST WATER LEVEL 153.3 FEET BELOW LAND SURFACE DATUM AUG 23, 1968.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 03, 1982	81.9	SEP 30, 1982	89.6

SITE NUMBER 354805119105701 LOCAL NUMBER 0245026E32G01M

0.3 MI WEST OF JOVISTA. CABLE TOOL UNUSED ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULAKE FORMATION. DIAM 16 IN. DEPTH 470 FT. ALTITUDE OF LSD 397 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1932 TO CURRENT YEAR.

HIGHEST WATER LEVEL 104. FEET BELOW LAND SURFACE DATUM JAN 27, 1972.

LOWEST WATER LEVEL 329.7 FEET BELOW LAND SURFACE DATUM OCT 15, 1946.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 28, 1982	130.0	SEP 30, 1982	124.0

## TULARE COUNTY--Continued

San Joaquin Valley (5-22)

SITE NUMBER 354800119090501 LOCAL NUMBER 024S026E34F01M

0.8 MI EAST OF JUVISTA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN,  
 DEPTH 1522 FT. PERFORATED 400-1522 FT. ALTITUDE OF LSD 445 FT.  
 RECORDS AVAILABLE OCTOBER 1957 TO CURRENT YEAR. RECORDER INSTALLED 1957.

HIGHEST WATER LEVEL 18.46 FEET BELOW LAND SURFACE DATUM OCT 30, 1982.

LOWEST WATER LEVEL 327.5 FEET BELOW LAND SURFACE DATUM JUL 20, 1961.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1981	210.6	NOV 10, 1981	203.5	JAN 08, 1982	197.5	MAR 18, 1982	185.8
02	210.4	11	203.3	09	197.2	19	185.6
03	210.6	12	202.9	10	197.4	20	185.6
04	210.2	13	202.4	11	197.1	21	185.6
05	210.2	14	202.2	12	197.3	22	185.6
06	209.9	15	201.7	13	197.4	23	185.5
07	209.8	16	201.5	14	197.5	24	185.7
08	209.6	17	201.8	15	197.4	25	185.6
09	209.7	18	201.6	16	197.4	26	185.6
10	209.8	19	201.4	17	197.4	27	186.2
11	209.1	20	200.8	18	197.1	28	186.6
12	208.9	21	200.3	19	197.0	29	186.4
13	208.8	22	200.2	20	197.4	30	196.3
14	208.8	23	199.9	21	196.1	31	186.4
15	197.6	24	199.8	22	196.4	APR 01	186.4
16	197.4	25	199.8	23	196.4	02	186.5
17	208.4	26	199.2	24	196.4	03	186.1
18	208.1	27	198.9	25	196.7	04	186.0
19	207.9	28	199.0	26	196.6	05	186.2
20	207.7	29	198.5	27	196.2	06	186.2
21	207.4	30	198.6	28	195.8	07	185.9
22	207.3	DEC 01	198.5	FEH 27	190.8	08	186.1
23	207.2	02	198.2	28	190.9	09	186.0
24	207.0	03	198.1	MAR 01	190.6	10	185.6
25	206.6	04	197.8	02	190.3	11	185.7
26	206.8	05	197.4	03	190.3	12	185.9
27	206.8	06	197.0	04	190.0	13	186.0
28	206.5	07	197.2	05	189.8	14	186.0
29	206.2	08	196.9	06	189.2	15	186.0
30	205.8	09	196.7	07	189.0	16	185.7
31	205.4	10	196.5	08	189.1	17	185.8
NOV 01	204.5	11	196.3	09	189.2	18	186.1
02	204.5	12	196.2	10	188.7	19	186.4
03	204.4	13	195.6	11	188.8	20	185.9
04	204.1	14	195.8	12	188.4	21	186.0
05	204.0	15	195.6	13	188.1	22	185.8
06	204.0	JAN 04, 1982	197.0	14	188.0	23	185.7
07	203.4	05	197.0	15	188.2	24	185.8
08	203.2	06	197.1	16	185.9	25	185.4
09	203.4	07	197.4	17	185.8	26	185.2
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 27, 1982	185.4	JUN 03, 1982	186.2	JUL 10, 1982	191.6	AUG 29, 1982	191.5
28	185.2	04	186.4	11	191.3	30	191.1
29	185.8	05	186.4	12	191.4	31	191.2
30	186.0	06	186.5	13	192.0	SEP 01	191.2
MAY 01	185.3	07	186.7	14	193.0	02	191.3
02	185.2	08	187.2	15	194.2	03	191.0
03	185.3	09	187.5	16	195.0	04	190.8
04	185.9	10	187.5	17	194.9	05	190.6
05	185.4	11	187.7	18	194.7	06	190.4
06	185.4	12	187.6	19	194.9	07	190.0
07	185.7	13	187.8	20	195.0	08	190.5
08	185.8	14	187.8	21	195.1	09	190.2
09	185.8	15	187.8	22	195.4	10	190.0
10	186.0	16	188.0	23	196.2	11	189.8
11	185.7	17	188.3	24	196.2	12	189.7
13	186.5	18	188.6	25	196.3	13	189.4
14	186.2	19	189.0	26	196.6	14	189.3
15	185.9	20	188.8	27	197.0	15	189.2
16	185.9	21	189.2	28	198.0	16	189.3
17	185.8	22	189.6	29	199.0	17	189.0
18	185.8	23	190.3	30	199.8	18	188.8
19	185.6	24	190.6	31	199.2	19	188.4
20	185.6	25	191.6	AUG 01	198.6	20	188.2
21	185.6	26	192.8	02	198.1	21	188.4
22	185.6	27	193.6	03	197.7	22	188.2
23	185.5	28	193.4	04	198.0	23	188.4
24	185.7	29	193.2	05	198.2	24	189.3
25	185.6	30	193.1	06	198.0	25	189.3
26	185.6	JUL 01	193.0	07	197.6	26	188.8
27	186.2	02	192.7	08	196.6	27	188.6
28	186.6	03	192.4	09	195.8	28	189.0
29	186.4	04	192.2	10	195.8	29	189.0
30	186.3	05	191.7	25	193.0	30	188.8
31	186.4	06	192.0	26	192.8		
JUN 01	186.4	07	192.1	27	193.0		
02	186.4	09	191.9	28	192.4		

TUOLUMNE COUNTY

San Joaquin Valley (5-22)

SITE NUMBER 365926120422201 LOCAL NUMBER 0115012E07E02M

1 MI WEST OF DOS PALOS, HYDRAULIC ROTARY INDUSTRIAL ARTESIAN WELL IN ALLUVIUM BELOW THE CORCORAN CLAY MEMBER OF THE TULARE FORMATION. DIAM 10 IN, DEPTH 488 FT, PERFORATED 388-488 FT. ALTITUDE OF LSD 109 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES, U.S. BUREAU OF RECLAMATION. RECORDS AVAILABLE 1960 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.2 FEET ABOVE LAND SURFACE DATUM MAR 13, 1964.

LOWEST WATER LEVEL 5.1 FEET BELOW LAND SURFACE DATUM JUN 21, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1981	0.6	APR 20, 1982	0.4

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October 1, 1978

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

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

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

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