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For the information of



# Water Resources Data for California

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

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-79-3

## WATER YEAR 1979

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

# CALENDAR FOR WATER YEAR 1979

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UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL D. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in California write to  
District Chief, Water Resources Division  
U.S. Geological Survey  
855 Oak Grove Avenue  
Menlo Park, California 94025

1981



## PREFACE

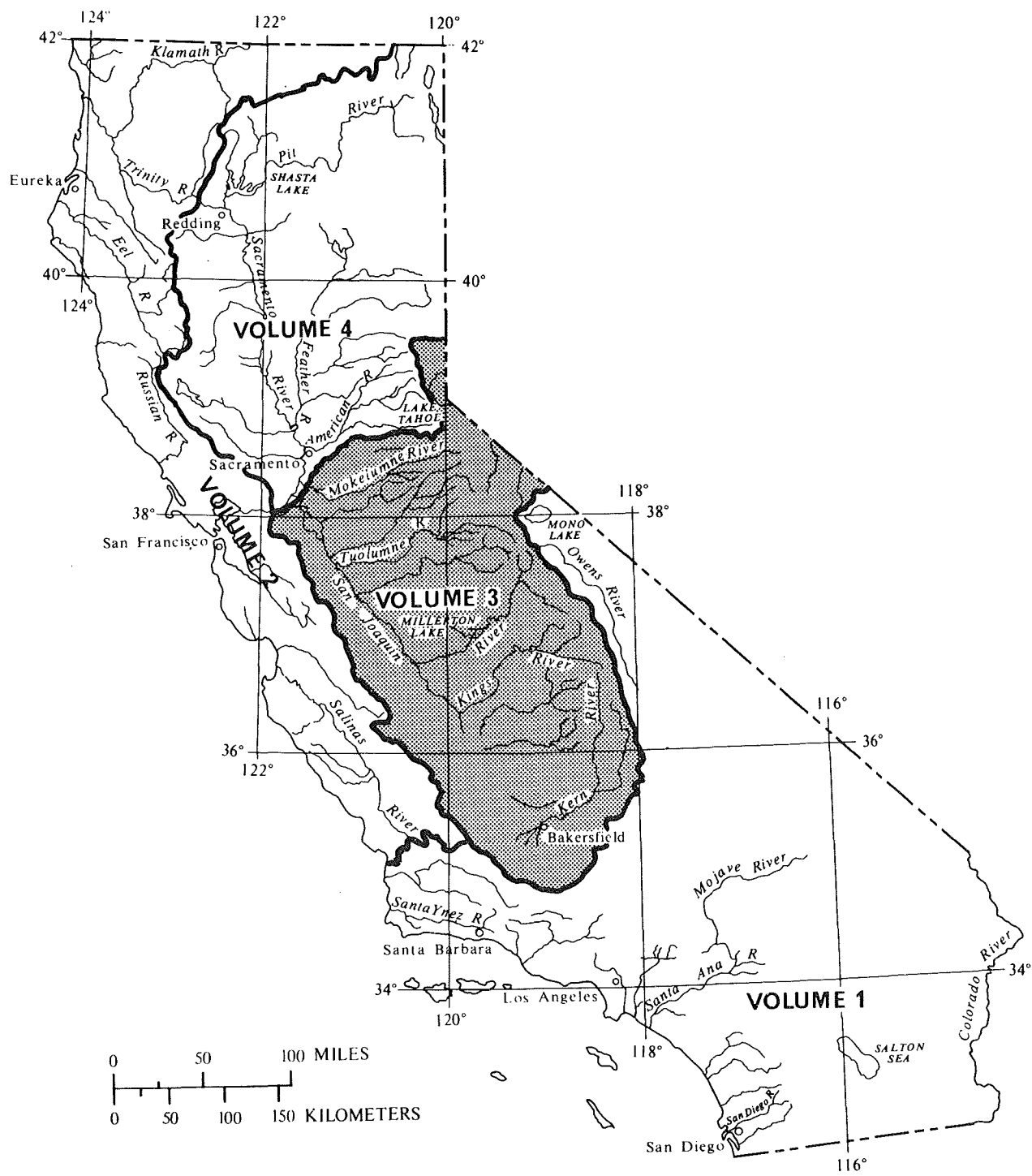
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This report is one of a series issued by State. General direction for the series is by Philip Cohen, Chief Hydrologist.

Data for California are in four volumes as follows:

- Volume 1. Colorado River Basin, 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 Grande to Oregon State Line except Central Valley
- Volume 3. Southern Central Valley Basins and The Great Basin from Walker River to Truckee River
- Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

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

IX

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

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## WATER RESOURCES DIVISION

## Sacramento Subdistrict

E. Jerre McClelland, Chief

## This report was assembled by:

Edward J. Jones, Chief of Data Section  
Verrie F. Pearce, Office Engineer  
Jay R. Foulk, Chief, Sacramento Field Office  
Thomas C. Hunter, Chief, Merced Field Office  
James R. Mullen, Chief, Tahoe City Field Office  
Linda R. Zeitz, Editorial Clerk

## Assisted by:

Randall D. Abbott, Hydrologic Technician  
Richard M. Adorador, Hydrologic Technician  
Allan J. Asquith, Hydrologic Technician  
Lois M. Griffin, Computer Technician  
Dallas Childers, Hydrologist  
Dolores Dare, Clerk Typist  
John Duensing, Supervisory Hydrologic Technician  
William E. Faulkender, Hydrologic Technician  
Henry C. French, Hydrologic Technician  
Verne L. Gamble, Supervisory Hydrologic Technician  
Debra A. Grillo, Clerk Typist  
Jerry G. Harmon, Hydrologist  
Robert D. Harvey, Hydrologic Technician  
Ray J. Hoffman, Biologist  
Richard Ireland, Hydrologic Technician  
Randy M. Jensen, Hydrologic Technician  
Gail L. Keeter, Hydrologic Technician  
Byron R. Laurence, Hydrologic Technician  
Gordon E. Lokke, Hydrologist  
Jon C. McNulty, Hydrologic Technician  
Hugh T. Mitten, Hydrologist  
Richard N. Oltmann, Hydrologist  
Gerald L. Rockwell, Hydrologic Technician  
Johnevan M. Shay, Hydrologic Technician  
M. Kathy Shay, Computer Technician  
Bryant G. Smith, Hydrologic Technician  
Wayne V. Steuben, Hydrologic Technician  
Robert H. Taylor, Hydrologic Technician  
Donald E. Underwood, Hydrologic Technician  
Barbara Van Ummersen, Hydrologic Clerk

## WATER RESOURCES DATA FOR CALIFORNIA, 1979

### Volume 3

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#### INTRODUCTION

Water-resources data for the 1979 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-79-3." 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.

## 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; Water and Power Resources Service 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.

## HYDROLOGIC CONDITIONS

Because of unusually heavy September rain, the 1979 water year started with above-normal flows in major streams in the southern Sierra Nevada. Runoff at the index station, Kings River above North Fork, near Trimmer (fig. 1), was 240 percent of the 1941-70 median for the month of October, and gradually decreased to 88 percent of median in December. Winter storms, which were more severe in central and southern than in northern California, resulted in above-normal streamflow and snowpack. At the index station on April 1, the snowpack was 142 percent of average for the period 1931-75, and streamflow remained above normal for the remainder of the year.

In the area covered by this volume, runoff during the water year ranged from 96 percent of median for Mokelumne River near Mokelumne Hill to 122 percent of median for Kings River above North Fork, near Trimmer. Runoff at selected sites, as shown in figure 1, was mostly above normal for the water year.

Ground-water levels continued to rise, and most areas were recovering from the effects of the drought.

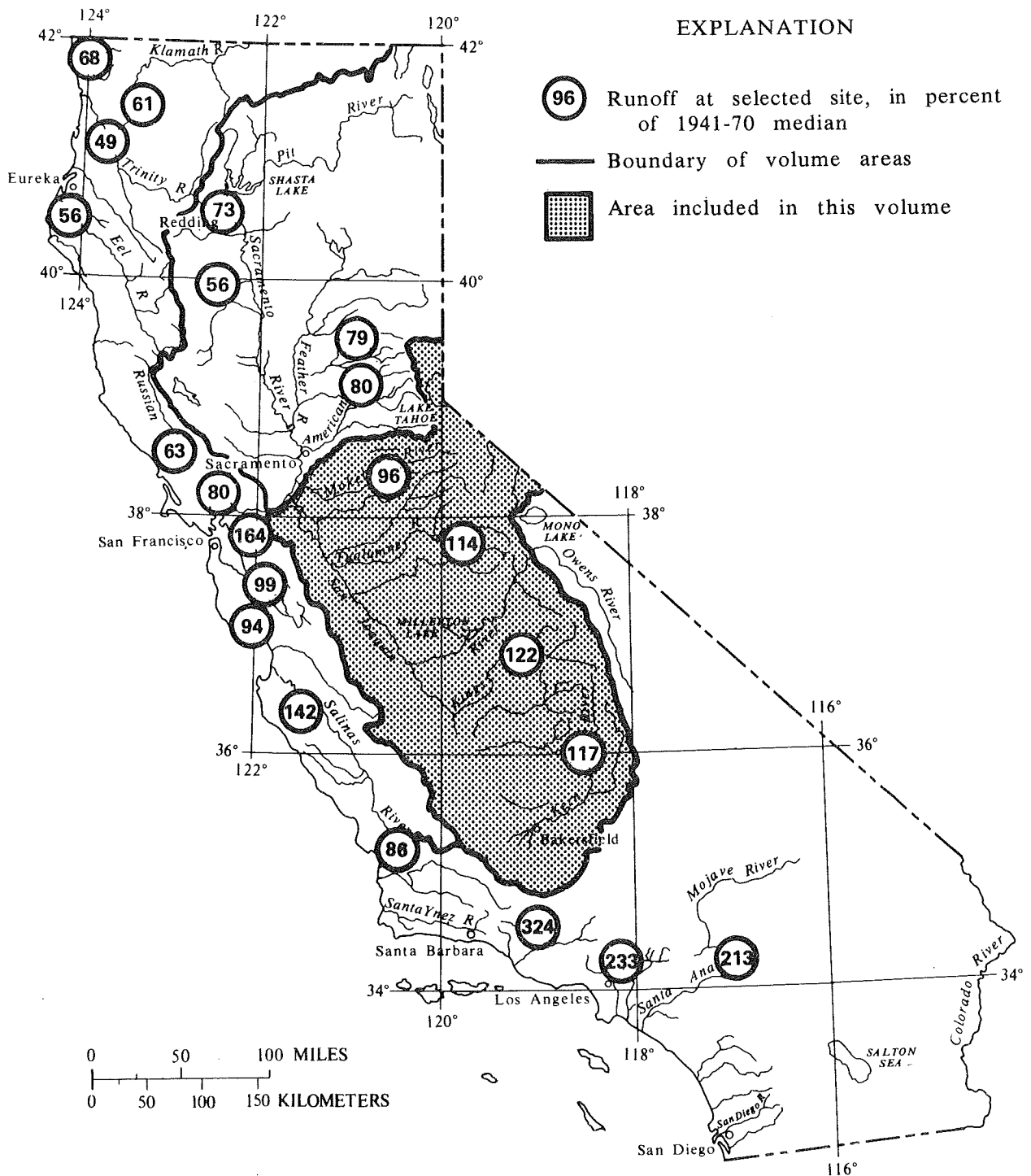


FIGURE 1.--Runoff for the current water year.

## 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  $\pm$  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  $\pm$  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  $\pm$  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 ( $\text{g}/\text{m}^3$ ), and periphyton and benthic organisms in grams per square meter ( $\text{g}/\text{m}^2$ ).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°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 ( $\text{FT}^3/\text{s}$ ,  $\text{ft}^3/\text{s}$ ), 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 at a later date.

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

$$\bar{d} = \frac{s}{\sum_{i=1}^s} \frac{n_i}{n} \log_2 \frac{n_i}{n},$$

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

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

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

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

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 (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 emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

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

Surface area of a lake is the area, in square miles or acres, outlined on the latest 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, 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. 23).



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 indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention 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 9 (Colorado River basin), 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.

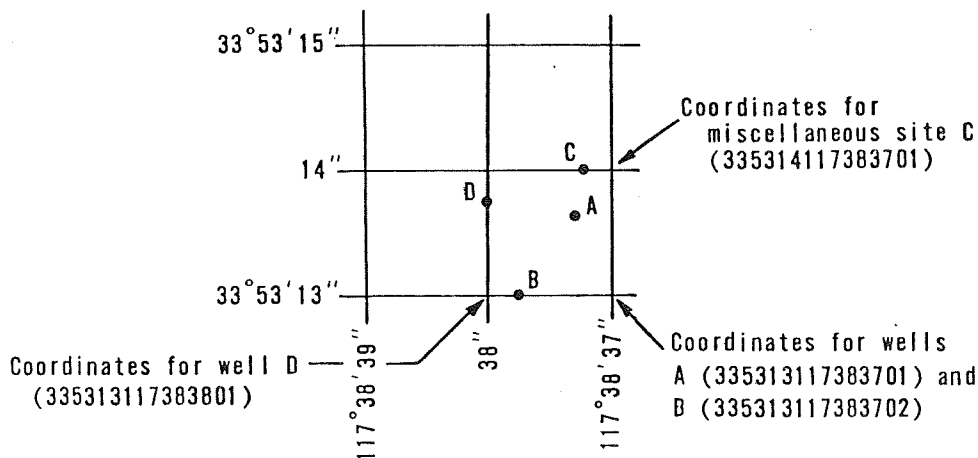


Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

### 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.

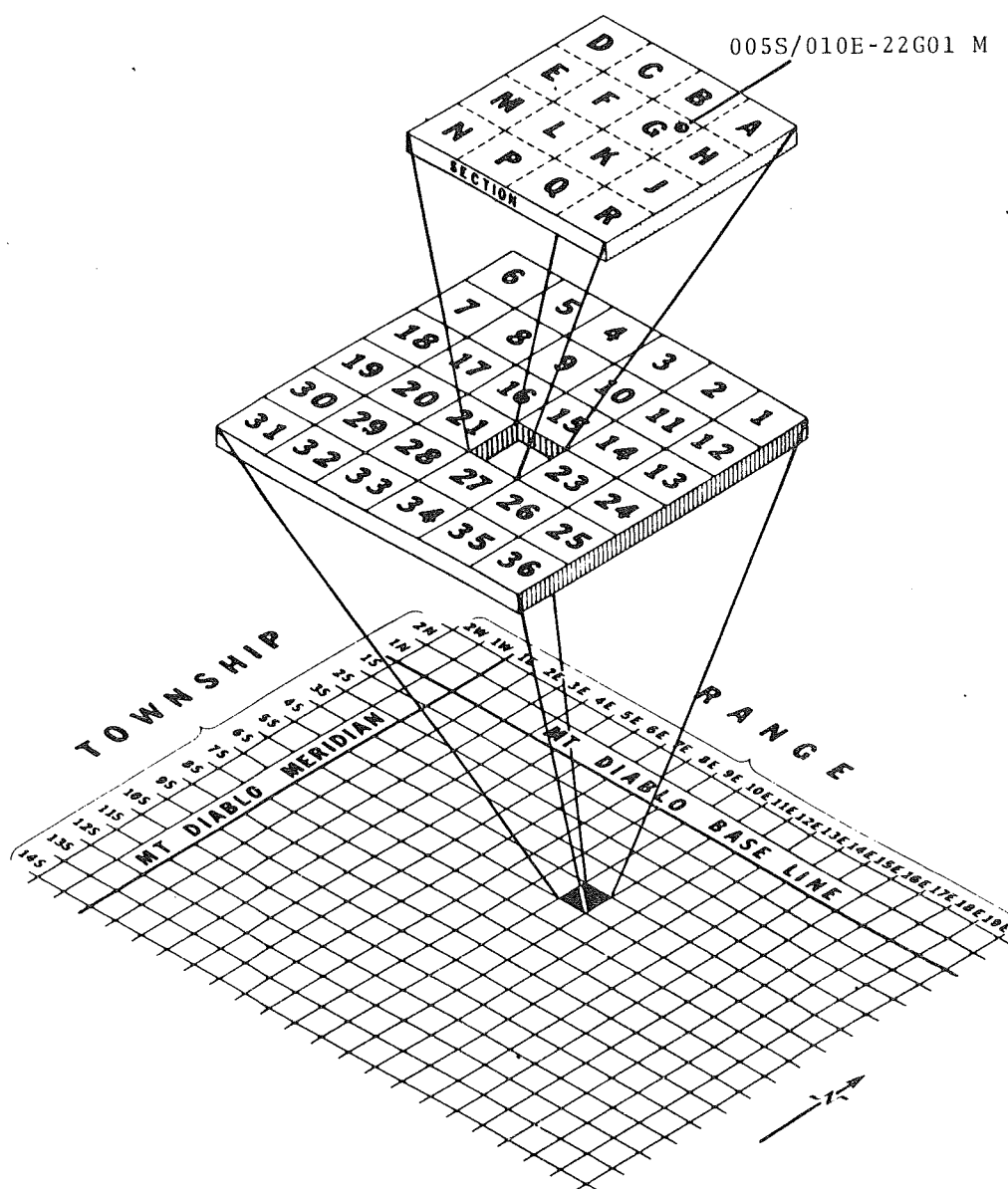


FIGURE 3.--California well-numbering system.

## 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:

09424190 Colorado River Aqueduct near San Jacinto, CA  
09429500 Colorado River above Imperial Dam, AZ-CA  
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  
11250000 Friant-Kern Canal at Friant, 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 8.

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 THE 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.

Skeleton rating tables are published, immediately following EXTREMES, for stream-gaging stations where they serve a useful purpose and the dates of applicability can be easily identified.

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.

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.

## PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four 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, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please specify 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.
- 3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967. 29 pages.
- 3-A6. General procedure for gaging streams, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968. 13 pages.
- 3-A7. Stage measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A11. Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. Aquifer-test design, observation, and data analyses, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. Fluvial sediment concepts, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2, 1970. 59 pages.
- 3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

- 4-A2. Frequency curves, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. Low-flow investigations, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. Regional analyses of streamflow characteristics, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. Methods for determination of inorganic substances in water and fluvial sediments, edited by M. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan: USGS--TWRI Book 5, Chapter A1. 626 p.
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- 5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
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- 5-C1. Laboratory theory and methods for sediment analyses, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. Finite-difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C.2 Computer model of two-dimensional solute transport and dispersion in ground water, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 8-A1. Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages..

## WALKER LAKE BASIN

## 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, 2,900 acre-ft (3.58 hm<sup>3</sup>) June 22, July 5, 6, 1967, elevation, 7,209.58 ft (2,197.480 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, 2,720 acre-ft (3.35 hm<sup>3</sup>) May 28, elevation, 7,209.04 ft (2,197.315 m); minimum, 1,270 acre-ft (1.57 hm<sup>3</sup>) Sept. 8, elevation, 7,204.46 ft (2,195.919 m).

## ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	7,207.51	2,230	--
Oct. 31.....	7,207.34	2,180	-50
Nov. 30.....	7,207.30	2,170	-10
Dec. 31.....	7,207.23	2,140	-30
CAL YR 1978.....	--	--	+930
Jan. 31.....	7,207.35	2,180	+40
Feb. 28.....	7,207.24	2,150	-30
Mar. 31.....	7,207.30	2,170	+20
Apr. 30.....	7,207.86	2,350	+180
May 31.....	7,208.63	2,590	+240
June 30.....	7,208.41	2,520	-70
July 31.....	7,207.78	2,320	-200
Aug. 31.....	--	81,750	-570
Sept. 30.....	7,206.68	1,970	+220
WTR YR 1979.....	--	--	-260

g Interpolated.

## 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, and 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 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, 4,910 acre-ft (6.05 hm<sup>3</sup>) May 30, elevation, 7,202.11 ft (2,195.203 m); minimum, 948 acre-ft (1.17 hm<sup>3</sup>) Sept. 30, elevation, 7,192.37 ft (2,192.234 m).

## ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	7,200.39	4,170	--
Oct. 31.....	7,200.05	4,030	-140
Nov. 30.....	7,199.87	3,960	-70
Dec. 31.....	7,192.23	3,790	-170
CAL YR 1978.....	--	--	+2,898
Jan. 31.....	7,200.15	4,070	+280
Feb. 28.....	7,200.06	4,040	-30
Mar. 31.....	7,200.15	4,070	+30
Apr. 30.....	7,198.57	3,430	-640
May 31.....	7,201.84	4,790	+1,360
June 30.....	7,201.26	4,540	-250
July 31.....	7,200.15	4,070	-470
Aug. 31.....	7,195.44	2,180	-1,890
Sept. 30.....	7,192.37	948	-1,232
WTR YR 1979.....	--	--	-3,222

## WALKER LAKE BASIN

27

10291500 BUCKEYE CREEK NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°14'20", long 119°19'30", in NE¼NE¼ sec.4, T.4 N., R.24 E., Mono County, Hydrologic Unit 16050301, Toiyabe National Forest, on right bank at Buckeye Hot Springs, 0.6 mi (1.0 km) downstream from Eagle Creek, and 5.5 mi (8.8 km) southwest of Bridgeport.

## WATER-DISCHARGE RECORDS

DRAINAGE AREA.--44.1 mi<sup>2</sup> (114.2 km<sup>2</sup>).

PERIOD OF RECORD.--November 1910 to September 1914 (fragmentary), October 1953 to September 1979 (discontinued).

REVISED RECORDS.--WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 6,900 ft (2,103 m), from topographic map. November 1910 to September 1914, nonrecording gage at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good except those for winter periods, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--27 years (water years 1912, 1954-79), 58.1 ft<sup>3</sup>/s (1.645 m<sup>3</sup>/s), 42,090 acre-ft/yr (51.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1954-79): Maximum discharge, 947 ft<sup>3</sup>/s (26.8 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 4.41 ft (1.344 m), from rating curve extended above 360 ft<sup>3</sup>/s (10.2 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.00 ft (1.219 m); minimum, 3.3 ft<sup>3</sup>/s (0.094 m<sup>3</sup>/s) Dec. 12, 1959, result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 21, 1911, reached an observed stage of 4.8 ft (1.46 m), discharge not determined, site and datum then in use.

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)
Jan. 11	1600	*614 17.4	3.84 1.170
May 5	0100	172 4.87	2.69 .820
May 22	0300	392 11.1	3.33 1.015

Minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Dec. 8, 20, Feb. 4, result of freezeup.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	26	24	18	19	18	26	107	215	140	53	30
2	34	26	23	19	18	25	26	95	215	134	51	30
3	33	25	43	20	17	18	27	109	227	134	50	29
4	33	27	38	19	16	18	29	138	259	133	50	28
5	32	26	23	18	17	18	36	151	279	127	50	27
6	31	25	21	18	17	20	40	117	290	119	49	27
7	31	25	18	18	18	22	36	104	266	112	49	26
8	31	24	16	18	18	24	38	90	209	104	48	26
9	32	24	19	18	19	25	42	82	198	99	46	25
10	32	21	25	19	18	28	40	76	212	100	46	25
11	30	19	23	310	18	30	40	77	227	100	46	24
12	30	21	21	103	18	29	45	93	249	99	45	24
13	29	20	22	52	20	30	54	121	297	99	43	24
14	29	18	22	28	18	30	62	153	249	101	43	23
15	28	21	23	27	24	32	69	182	209	103	42	23
16	28	22	25	26	21	28	70	206	187	103	40	23
17	28	24	22	23	22	28	61	221	172	95	41	23
18	27	23	19	24	19	27	52	239	146	85	42	21
19	27	22	18	23	19	26	50	256	142	85	38	21
20	27	22	16	23	18	25	51	262	156	83	37	21
21	27	23	17	25	18	25	56	279	160	83	37	21
22	26	28	19	24	17	24	61	316	163	82	36	20
23	25	24	21	23	18	24	56	290	170	78	35	20
24	26	26	20	23	21	25	52	276	180	70	34	20
25	26	37	19	21	19	27	54	266	180	69	34	20
26	25	39	18	20	18	28	66	301	171	69	33	20
27	25	43	18	19	20	29	80	324	166	65	33	20
28	25	44	18	17	18	28	88	312	167	61	33	20
29	24	31	18	18	---	26	88	276	159	59	33	20
30	24	24	18	18	---	26	107	239	151	56	33	20
31	25	---	17	20	---	25	---	221	---	54	32	---
TOTAL	884	780	664	1052	523	788	1594	5979	6071	2899	1282	701
MEAN	28.5	26.0	21.4	33.9	18.7	25.4	53.1	193	202	93.5	41.4	23.4
MAX	34	44	43	310	24	32	107	324	297	140	53	30
MIN	24	18	16	17	16	18	26	76	142	54	32	20
AC-FT	1750	1550	1320	2090	1040	1560	3160	11860	12040	5750	2540	1390

CAL YR 1978 TOTAL 28555.2 MEAN 78.2 MAX 333 MIN 6.2 AC-FT 56640  
WTR YR 1979 TOTAL 23217.0 MEAN 63.6 MAX 324 MIN 16 AC-FT 46050

## WALKER LAKE BASIN

10291500 BUCKEYE CREEK NEAR BRIDGEPORT, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to September 1979 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
DEC				
01...	1345	24	87	2.5
29...	1135	24	94	.0
JAN				
22...	1500	32	91	.0
APR				
25...	1540	52	80	7.5
MAY				
30...	1725	269	38	10.0
JUN				
27...	1615	152	39	14.0
JUL				
27...	1430	70	52	15.5
AUG				
29...	1215	34	80	10.5
SEP				
24...	1515	20	90	10.0



## 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 bottom of reservoir, and 6,461 ft (1,969.3 m), crest of spillway is at elevation 6,460.75 ft (1,969.237 m), however, there are four siphons that become operative prior to reaching 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, 43,310 acre-ft (53.4 hm<sup>3</sup>) Mar. 7, elevation, 6,460.28 ft (1,969.093 m); minimum, 10,400 acre-ft (12.8 hm<sup>3</sup>), elevation, 6,444.17 ft (1964.183 m) Sept. 30.

## 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	13,890
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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29950	28080	33320	35960	37870	42260	42700	35780	34380	39510	29760	18140
2	29810	28260	33500	35880	37950	42400	42670	35520	34300	39290	29400	17890
3	29690	28520	33730	35800	38070	42610	42700	35220	34410	39150	29000	17320
4	29570	28840	33890	35780	38150	42880	42700	35060	34670	39040	28610	16980
5	29420	28950	33910	35800	38210	43070	42640	34770	35010	38790	28240	16600
6	29280	29210	34010	35800	38210	43220	42610	34510	35360	38600	27920	16140
7	29160	29300	34110	35780	38230	43310	42580	34300	35860	38320	27370	15630
8	29020	29470	34280	35750	38230	43190	42610	34060	36450	38040	26950	15130
9	28910	29570	34460	35730	38230	43190	42370	33990	36930	37730	26530	14700
10	28840	29640	34640	35700	38260	43040	42400	33830	37400	37260	26090	14260
11	28540	29810	34900	35830	38290	42820	42290	33650	37790	36870	25630	13850
12	28450	29930	34950	36570	38850	42580	42170	33400	38230	36470	25210	13490
13	28260	30020	35220	37300	39420	42140	41970	33170	38740	36040	24770	13160
14	28190	30140	35440	38040	39980	42080	41670	33040	39400	35650	24510	12930
15	28060	30410	35410	38010	40420	41940	41460	32940	39980	35170	24200	12690
16	27900	30590	35670	37980	40590	41790	41000	32890	40240	34720	23870	12460
17	27780	30780	35670	37950	40830	41850	40740	32890	40360	34160	23560	12260
18	27730	30970	35930	37930	41000	41880	40510	32790	40590	33630	23280	12050
19	27670	31280	36100	37870	41230	41910	40270	32720	40770	33140	23000	11860
20	27620	31470	36160	37790	41410	42030	39920	32790	40740	32820	22710	11660
21	27640	31520	36230	37650	41550	42050	39480	32940	40650	32640	22380	11500
22	27670	31570	36290	37480	41700	42110	39060	33170	40620	32410	21990	11320
23	27640	31800	36360	37400	41730	42170	38630	33430	40570	32160	21680	11150
24	27620	32110	36420	37400	41970	42200	38350	33650	40450	31900	21270	10990
25	27730	32260	36370	37400	42000	42260	37900	33860	40390	31620	20920	10800
26	27710	32430	36340	37430	42030	42320	37370	34090	40330	31450	20490	10720
27	27670	32510	36310	37516	42050	42370	37100	34300	40210	31230	20120	10630
28	27760	32720	36280	37650	42080	42550	36760	34380	40120	30970	19840	10560
29	27850	33020	36260	37700	---	42670	36500	34430	39920	30750	19290	10480
30	27870	33220	36180	37760	---	42700	36180	34380	39740	30510	18910	10400
31	27920	---	36070	37810	---	42730	---	34430	---	30140	18530	---
MAX	29950	33220	36420	38040	42080	43310	42700	35780	40770	39510	29760	18140
MIN	27620	28080	33320	35700	37870	41790	36180	32720	34300	30140	18530	10400
†	6454.46	6456.65	6457.74	6458.38	6459.87	6460.09	6457.78	6457.12	6459.07	6455.41	6449.85	6444.17
‡	-2080	+5300	+2850	+1740	+4270	+650	-6550	-1750	+5310	-9600	-11610	-8130

CAL YR 1978 † +30920  
WTR YR 1979 † -19600

† Elevation, in feet NGVD, at end of month.  
‡ Change in contents, in acre-feet.

## WALKER LAKE BASIN

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°19'40", long 119°12'50", in 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 (8 km) north of Bridgeport, and 10 mi (16 km) upstream from Sweetwater Creek.

DRAINAGE AREA.--359 mi<sup>2</sup> (930 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1911 to September 1914 (gage heights only), October 1921 to current year. No winter record water years 1922, 1925.

REVISED RECORDS.--WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 6,400 ft (1,951 m) from topographic map. See WSP 2127 for history of changes prior to May 25, 1939.

REMARKS.--Records good. Diversions for irrigation of pasture lands near Bridgeport. Flow regulated by Bridgeport Reservoir (station 10292500).

AVERAGE DISCHARGE (unadjusted).--56 years (water years 1923-24, 1926-79), 137 ft<sup>3</sup>/s (3.880 m<sup>3</sup>/s), 99,260 acre-ft/yr (122 hm<sup>3</sup>/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD (water years 1922-79).--Maximum discharge, 1,390 ft<sup>3</sup>/s (39.4 m<sup>3</sup>/s) June 19, 1963, gage height, 4.64 (1.414 m); maximum gage height, 4.95 ft (1.509 m) Jan. 22, 1943, top of surge; minimum daily discharge, 0.2 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Nov. 2-29, Dec. 1-22, 25-28, 1955, Jan. 17-25, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 655 ft<sup>3</sup>/s (18.5 m<sup>3</sup>/s) May 29, gage height, 2.97 ft (0.905 m); minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Dec. 6-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	25	18	113	47	23	135	330	545	359	256	272
2	152	19	17	113	47	24	136	341	523	348	256	268
3	161	20	14	113	47	24	135	319	418	326	261	268
4	160	21	15	113	47	26	133	295	367	348	273	273
5	161	23	14	113	47	138	133	295	352	350	272	288
6	160	21	13	113	47	197	123	295	309	325	281	300
7	160	21	13	113	47	247	133	282	282	330	300	297
8	160	22	13	113	48	288	133	257	281	347	300	289
9	159	23	13	113	48	339	133	245	272	346	302	276
10	162	21	13	113	48	368	148	240	250	352	302	267
11	162	18	13	136	48	348	186	247	251	368	302	246
12	163	21	13	166	48	332	291	267	240	367	301	227
13	163	22	13	168	48	295	237	267	212	364	296	206
14	162	22	13	168	48	245	261	279	213	363	277	186
15	162	23	13	168	48	249	324	297	232	362	273	178
16	162	24	13	168	48	188	313	311	275	361	259	160
17	137	25	13	168	48	131	279	324	273	361	261	157
18	111	25	13	168	48	131	279	324	281	361	255	150
19	112	25	13	168	48	131	279	335	304	357	242	133
20	109	25	13	168	48	131	289	349	309	355	242	133
21	102	22	14	168	64	131	313	349	325	346	248	132
22	103	23	62	168	93	138	311	358	325	324	260	130
23	92	23	113	137	94	131	311	391	337	310	259	130
24	71	21	113	82	93	132	311	428	361	275	258	124
25	77	21	113	82	93	130	310	491	361	264	267	112
26	91	21	113	71	93	130	309	507	361	246	278	104
27	91	19	113	48	93	131	310	528	361	246	279	101
28	91	19	113	48	73	132	310	573	361	239	278	94
29	91	19	113	47	---	133	308	622	362	225	277	94
30	69	18	113	47	---	135	316	613	361	226	276	94
31	26	---	113	47	---	135	---	545	---	235	273	---
TOTAL	3931	652	1366	3721	1649	5298	7188	11304	9704	9986	8464	5689
MEAN	127	21.7	44.1	120	58.9	171	237	365	323	322	273	190
MAX	163	25	113	168	94	368	324	622	545	368	302	300
MIN	26	18	13	47	47	23	133	240	212	225	242	94
AC-FT	7800	1290	2710	7380	3270	10510	14100	22420	19250	19810	16790	11280
CAL YR 1978	TOTAL	60143.7	MEAN 165	MAX 475	MIN	2.3	AC-FT 119300					
WTR YR 1979	TOTAL	68872.0	MEAN 189	MAX 622	MIN	13	AC-FT 136600					

10293000 EAST WALKER RIVER NEAR BRIDGEPORT, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1959 to current year.

COOPERATION.--The letter "A" following a date indicates chemical-quality data furnished by the California Department of Water Resources.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
DEC 01...	1220	18	168	--	3.5	--	--	--	--
JAN 22...	1230	163	195	--	4.5	--	--	--	--
APR 25... A	1345	313	183	7.6	10.0	1.0	8.7	62	18
26...	0900	308	175	--	10.0	--	--	--	--
JUN 27...	1300	360	133	--	16.5	--	--	--	--
JUL 27...	1205	245	138	--	19.5	--	--	--	--
AUG 29...	1455	276	165	--	18.0	--	--	--	--
SEP 13... A	1200	212	153	8.9	18.5	1.0	6.5	52	16
25...	1300	118	158	--	19.0	--	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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)
DEC 01...	--	--	--	--	--	--	--	--
JAN 22...	--	--	--	--	--	--	--	--
APR 25... A	4.0	13	.7	74	1.0	116	116	.16
26...	--	--	--	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--
JUL 27...	--	--	--	--	--	--	--	--
AUG 29...	--	--	--	--	--	--	--	--
SEP 13... A	3.0	10	.6	61	.0	104	--	.14
25...	--	--	--	--	--	--	--	--

## WALKER LAKE BASIN

10293050 EAST WALKER RIVER BELOW SWEETWATER CREEK, NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°26'27", long 119°06'18", in NW¼NW¼ sec.29, T.7 N., R.26 E., Lyon County, Nevada, Hydrologic Unit 16050301, Toiyabe National Forest, on left bank 10 ft (3 m) downstream from bridge, 1.8 mi (2.9 km) downstream from Sweetwater Creek, and 14.3 mi (23.0 km) northeast of Bridgeport.

DRAINAGE AREA.--467 mi<sup>2</sup> (1,210 km<sup>2</sup>).

PERIOD OF RECORD.--March 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,760 ft (1,760 m), from topographic map.

REMARKS.--Records good except those for winter months, which are fair. Diversions for irrigation above station. Flow regulated by Bridgeport Reservoir (station 10292500).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft<sup>3</sup>/s (29.5 m<sup>3</sup>/s) Aug. 5, 1974, gage height, 7.43 ft (2.265 m); minimum daily, 5.2 ft<sup>3</sup>/s (0.15 m<sup>3</sup>/s) Mar. 8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 708 ft<sup>3</sup>/s (20.1 m<sup>3</sup>/s) May 30, gage height, 6.73 ft (2.051 m); minimum daily, 26 ft<sup>3</sup>/s (0.74 m<sup>3</sup>/s) Dec. 3-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	35	28	108	52	49	144	311	566	369	257	241
2	157	28	27	109	52	42	144	341	544	361	260	241
3	168	28	26	111	52	45	144	341	444	330	260	247
4	168	28	26	110	52	45	144	293	373	353	269	269
5	171	27	26	110	52	97	146	290	369	365	266	297
6	173	28	26	110	52	196	146	290	322	341	269	315
7	171	29	26	110	52	263	144	286	283	341	297	297
8	171	29	26	110	53	304	140	253	279	357	297	286
9	171	29	27	110	53	369	150	232	266	361	293	283
10	171	28	27	110	53	416	152	229	241	365	293	257
11	171	28	28	110	53	399	198	218	241	382	297	238
12	173	28	29	110	53	377	206	260	235	373	297	220
13	171	29	30	110	53	337	257	266	204	377	293	198
14	173	29	30	110	53	263	257	263	206	373	283	178
15	173	29	30	112	53	276	326	307	212	373	270	175
16	175	29	29	120	52	196	318	315	266	373	260	148
17	157	30	29	145	52	148	269	341	266	369	255	148
18	120	29	29	168	52	148	266	333	269	365	250	150
19	120	29	29	170	52	146	266	341	297	365	250	131
20	118	28	30	170	58	142	276	361	293	361	240	124
21	113	28	40	170	80	139	387	369	311	353	240	129
22	111	28	78	170	100	144	384	369	307	318	240	129
23	107	28	108	159	102	144	384	403	322	311	245	131
24	79	28	110	94	104	150	307	467	361	266	250	129
25	82	28	110	93	106	142	307	487	365	269	250	122
26	99	28	112	90	106	139	307	533	365	244	245	187
27	99	28	114	59	106	144	384	539	330	244	245	187
28	101	28	113	54	101	146	384	583	361	238	240	181
29	101	30	112	52	---	144	387	642	361	226	240	182
30	97	29	110	52	---	142	387	672	369	223	257	184
31	40	---	108	52	---	144	---	572	---	229	247	---
TOTAL	4258	860	1673	3468	1859	5836	7159	11507	9628	10175	8155	5604
MEAN	137	28.7	54.0	112	66.4	188	239	371	321	328	263	187
MAX	175	35	114	170	106	416	326	672	566	382	297	315
MIN	40	27	26	52	52	42	144	218	204	223	240	181
AC-FT	8450	1710	3320	6880	3690	11580	14200	22820	19100	20180	16180	11120

CAL YR 1978 TOTAL 69505 MEAN 190 MAX 555 MIN 10 AC-FT 137900  
WTR YR 1979 TOTAL 70182 MEAN 192 MAX 672 MIN 26 AC-FT 139800

## 10293500 EAST WALKER RIVER ABOVE STROSNIDER DITCH, NEAR MASON, NV

LOCATION.--Lat 38°48'45", long 119°02'50", in NW¼SW¼ sec.14, T.11 N., R.26 E., Lyon County, Hydrologic Unit 16050303, on right bank 0.9 mi (1.4 km) upstream from head of Strosnider ditch, 12 mi (19 km) southeast of Mason, and 13.5 mi (21.7 km) southeast of Yerington.

DRAINAGE AREA.--1,100 mi<sup>2</sup> (2,850 km<sup>2</sup>), approximately.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1947 to current year (no winter records since 1978).

GAGE.--Water-stage recorder. Datum of gage is 4,574.10 ft (1,394.186 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 24, 1957, near present site at datum 0.56 ft (0.171 m) higher. Oct. 24, 1957, to Apr. 3, 1974, at site 400 ft (120 m) downstream at same datum.

REMARKS.--Records good. Diversions for irrigation above station. Flow regulated by Bridgeport Reservoir (station 10292500).

AVERAGE DISCHARGE.--31 years (water years 1948-78), 142 ft<sup>3</sup>/s (4.021 m<sup>3</sup>/s), 102,900 acre-ft/yr (127 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft<sup>3</sup>/s (67.4 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 7.60 ft (2.316 m); minimum daily, 2.3 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s) Mar. 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 601 ft<sup>3</sup>/s (17.0 m<sup>3</sup>/s) May 31, gage height, 4.36 ft (1.329 m); minimum daily, 88 ft<sup>3</sup>/s (2.49 m<sup>3</sup>/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							144	268	512	296	188	235
2							143	279	506	299	205	235
3							143	293	480	288	195	235
4							146	279	383	275	198	238
5							137	245	352	299	205	240
6							137	245	336	277	207	235
7							137	251	287	257	217	225
8							135	253	260	257	239	222
9							141	223	269	270	237	220
10							144	207	246	270	239	213
11							154	193	223	283	247	192
12							167	191	216	291	257	177
13							175	208	204	291	270	171
14							207	226	183	296	254	160
15							249	244	178	285	239	150
16							288	248	191	283	239	149
17							285	246	219	280	234	138
18							254	264	229	275	237	126
19							244	274	242	283	227	122
20							244	286	254	283	212	108
21							254	290	265	291	200	103
22							291	296	267	293	202	109
23							288	311	265	262	212	114
24							285	337	288	254	207	117
25							280	368	310	229	214	120
26							272	415	302	222	231	109
27							283	433	291	207	237	99
28							275	450	296	202	234	100
29							272	495	302	195	237	93
30							271	553	296	186	240	88
31							---	572	---	182	240	---
TOTAL							6445	9443	8652	8161	7000	4843
MEAN							215	305	288	263	226	161
MAX							291	572	512	299	270	240
MIN							135	191	178	182	188	88
AC-FT							12780	18730	17160	16190	13880	9610

## WALKER LAKE BASIN

10293500 EAST WALKER RIVER ABOVE STROSNIDER DITCH, NEAR MASON, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
MAR 09...	1230	359	242	8.0
JUN 14...	1115	185	208	18.0
JUL 27...	1335	189	198	22.0
AUG 27...	1050	242	184	18.0
SEP 21...	1030	106	223	9.5

## 10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

LOCATION.--Lat 38°21'30", 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>), revised.

## WATER-DISCHARGE RECORDS

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.

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 periods, which are poor. Small diversions above station.

AVERAGE DISCHARGE.--35 years (water years 1945-79), 50.1 ft<sup>3</sup>/s (1.419 m<sup>3</sup>/s), 36,300 acre-ft/yr (44.8 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 (0.982 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. 11	1530	*760	21.5	2.72	0.829	June 6	2200	310	8.78	1.95	.594
May 26	2100	379	10.7	2.08	.634	June 13	2000	341	9.66	2.01	.612

Minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Dec. 8, result of freezeup.

## WALKER LAKE BASIN

35

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	24	21	12	12	16	27	64	189	109	33	22
2	26	24	22	14	12	18	27	65	189	106	33	23
3	26	24	24	17	13	17	29	71	203	106	33	22
4	26	24	22	21	12	18	35	79	231	102	34	21
5	25	24	20	18	12	18	46	82	256	99	33	21
6	25	23	17	16	13	20	48	76	264	92	34	19
7	24	23	14	15	14	24	42	74	251	85	35	19
8	24	22	11	15	15	26	48	71	210	79	34	18
9	25	22	15	15	16	29	48	66	196	73	34	17
10	27	19	22	18	15	33	41	61	203	71	33	17
11	25	17	25	351	14	34	42	61	217	71	33	17
12	25	19	25	47	14	35	50	68	239	70	35	16
13	24	18	22	32	18	37	57	80	296	72	33	16
14	24	16	24	19	17	37	61	98	260	73	32	16
15	24	19	23	19	16	35	62	118	217	70	31	16
16	24	20	21	18	19	29	62	138	189	69	29	16
17	23	22	25	16	18	28	60	154	168	63	34	15
18	23	24	22	17	20	26	48	171	143	60	33	14
19	23	22	19	16	19	25	43	189	130	64	30	14
20	23	23	15	16	20	24	43	210	132	65	29	14
21	23	22	14	18	17	24	48	231	132	72	28	14
22	22	29	13	17	18	24	50	264	138	63	27	13
23	22	21	14	16	16	26	48	260	145	57	26	13
24	22	33	13	17	19	30	43	251	156	51	26	14
25	22	29	13	15	18	33	42	251	155	49	25	14
26	21	27	14	14	17	32	52	286	143	47	24	13
27	21	26	14	13	18	30	57	320	135	45	23	14
28	21	27	13	12	17	28	56	296	130	43	23	14
29	21	25	13	12	---	28	61	260	126	41	23	14
30	21	21	13	13	---	28	65	228	119	39	23	14
31	23	---	12	14	---	27	---	203	---	37	23	---
TOTAL	731	689	555	873	449	839	1441	4846	5562	2143	926	490
MEAN	23.6	23.0	17.9	28.2	16.0	27.1	48.0	156	185	69.1	29.9	16.3
MAX	27	33	25	351	20	37	65	320	296	109	35	23
MIN	21	16	11	12	12	16	27	61	119	37	23	13
AC-FT	1450	1370	1100	1730	891	1660	2860	9610	11030	4250	1840	972
CAL YR 1978	TOTAL	23440	MEAN 64.2	MAX 292	MIN 18	AC-FT	46490					
WTR YR 1979	TOTAL	19544	MEAN 53.5	MAX 351	MIN 11	AC-FT	38770					

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT				
26...	1300	17	206	5.5
JAN				
23...	0950	17	218	.0
FEB				
23...	1155	22	251	.0
MAR				
28...	1230	29	226	4.0
APR				
25...	1400	41	183	10.5
MAY				
29...	1500	206	61	9.0
JUN				
26...	1500	124	71	15.0
JUL				
26...	1245	48	140	17.5
AUG				
29...	1055	25	215	11.5

## WALKER LAKE BASIN

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>), revised.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1927: 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 winter periods, which are poor. 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.--41 years, 254 ft<sup>3</sup>/s (7.193 m<sup>3</sup>/s), 184,000 acre-ft/yr (227 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)
May 26	2300	*2,000 56.6	4.97 1.515
June 6	2300	1,480 41.9	4.39 1.338
June 13	2300	1,450 41.1	4.36 1.329

Minimum daily, 38 ft<sup>3</sup>/s (1.08 m<sup>3</sup>/s) Sept. 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	65	64	52	52	70	121	482	934	504	128	64
2	81	66	60	54	52	76	121	440	946	474	125	63
3	81	60	63	56	50	80	123	499	1000	480	121	61
4	79	67	64	58	48	86	135	607	1160	468	116	62
5	77	65	60	56	50	92	163	679	1260	450	115	61
6	74	62	54	55	52	100	184	545	1320	419	112	61
7	74	62	51	53	54	106	174	470	1210	381	113	58
8	72	61	49	52	52	112	184	410	910	352	118	56
9	73	60	52	51	54	116	202	365	822	330	113	55
10	77	48	54	55	54	123	193	345	898	334	109	54
11	73	48	56	498	56	127	195	348	977	334	106	54
12	71	56	58	215	60	130	214	400	1080	335	109	53
13	69	58	58	110	66	136	254	536	1300	343	113	53
14	68	57	56	100	64	138	290	694	1120	346	107	52
15	67	57	54	90	62	141	320	811	880	333	98	51
16	66	60	53	80	64	130	344	946	767	324	92	52
17	65	60	55	76	68	122	323	1050	690	296	97	51
18	64	55	51	72	66	120	284	1180	558	265	101	50
19	64	53	50	70	65	120	259	1260	524	259	94	48
20	64	54	49	66	62	117	251	1340	605	252	88	41
21	63	60	49	68	64	116	262	1470	646	265	84	40
22	61	58	48	64	62	114	284	1590	667	268	81	40
23	61	60	48	62	60	117	276	1450	716	239	76	39
24	58	58	47	62	58	122	259	1360	757	210	74	39
25	60	54	48	58	60	127	257	1360	774	197	71	40
26	59	56	49	55	64	130	288	1570	687	191	68	39
27	58	54	54	52	62	131	357	1670	646	181	66	39
28	57	58	53	50	64	128	368	1580	615	165	64	38
29	57	67	52	48	---	125	396	1310	580	154	64	38
30	56	66	51	49	---	123	474	1100	553	143	65	39
31	61	---	50	50	---	121	---	959	---	135	65	---
TOTAL	2092	1765	1660	2537	1645	3596	7555	28826	25602	9425	2953	1491
MEAN	67.5	58.8	53.5	81.8	58.8	116	252	930	853	304	95.3	49.7
MAX	82	67	64	498	68	141	474	1670	1320	504	128	64
MIN	56	48	47	48	48	70	121	345	524	135	64	38
AC-FT	4150	3500	3290	5030	3260	7130	14990	57180	50780	18690	5060	2960
CAL YR 1978 TOTAL	120944				1750	MIN 26	AC-FT 239900					
WTR YR 1979 TOTAL	89147				1670	MIN 38	AC-FT 176800					



## WALKER LAKE BASIN

37

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1959-66, 1970 to current year.

COOPERATION.--Chemical-quality records furnished by the California Department of Water Resources.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
APR 25...	1300	250	92	7.6	7.0	1.0	9.8	33	10
SEP 13...	1045	54	234	8.3	13.0	.00	8.3	48	14

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
APR 25...	2.0	5.0	.4	40	.0	58	39.1	.08
SEP 13...	3.0	31	2.0	90	7.0	147	21.4	.20

## WALKER LAKE BASIN

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>), revised.

## WATER-DISCHARGE RECORDS

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. WSP 1927: 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 fair except those for the winter periods, which are poor. 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.--50 years (water years 1903-7, 1910, 1916-37, 1958-79), 270 ft<sup>3</sup>/s (7.646 m<sup>3</sup>/s), 195,600 acre-ft/yr (241 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 (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)
May 21	2400	2,130 60.3	3.85 1.173	June 7	0100	1,680 47.6	3.38 1.030
May 27	0300	*2,250 63.7	3.92 1.195	June 13	2400	1,620 45.9	3.33 1.015

Minimum, 53 ft<sup>3</sup>/s (1.50 m<sup>3</sup>/s) Sept. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	89	88	70	74	88	131	547	1110	500	145	84
2	101	90	82	72	76	78	130	493	1130	466	140	83
3	99	84	78	74	72	90	131	547	1190	470	135	83
4	97	91	90	75	68	90	147	712	1370	461	132	84
5	96	90	89	74	72	91	186	806	1480	444	130	83
6	95	86	78	73	76	97	224	646	1530	419	130	82
7	94	85	74	72	80	105	211	544	1430	384	130	80
8	92	84	70	72	76	115	216	473	1070	342	135	78
9	91	80	74	72	76	118	245	423	940	319	130	76
10	98	80	78	74	76	131	235	391	1020	328	130	75
11	94	66	80	487	76	146	232	391	1120	328	122	74
12	91	66	80	291	78	149	249	457	1230	321	125	74
13	89	80	77	161	85	165	295	611	1480	327	130	74
14	87	80	74	143	84	169	341	834	1320	335	125	73
15	85	77	72	120	82	178	383	1020	1010	322	120	71
16	86	77	70	115	83	160	410	1180	840	314	110	70
17	85	80	74	108	90	143	378	1300	748	285	108	70
18	84	80	68	102	87	141	310	1440	589	254	112	68
19	84	77	67	100	85	135	278	1510	528	247	110	67
20	83	79	66	94	82	124	268	1590	620	244	106	63
21	83	87	64	98	86	122	274	1740	671	255	104	59
22	84	81	62	92	82	117	296	1840	686	262	102	57
23	83	87	63	86	78	119	291	1710	736	235	100	57
24	82	81	64	89	75	126	271	1610	771	212	96	56
25	82	80	66	84	80	137	260	1560	812	198	94	57
26	80	75	70	80	85	144	288	1780	704	191	90	56
27	80	70	78	76	80	155	383	1940	658	184	88	55
28	78	80	74	72	88	143	406	1820	626	171	87	54
29	78	92	72	69	---	138	442	1570	584	159	87	54
30	78	90	70	71	---	134	520	1320	556	150	88	54
31	82	---	68	72	---	130	---	1160	---	148	87	---
TOTAL	2724	2444	2280	3338	2232	3978	8431	33965	28559	9263	3528	2071
MEAN	87.9	81.5	73.5	108	79.7	128	281	1096	952	299	114	69.0
MAX	103	92	90	487	90	178	520	1940	1530	500	145	84
MIN	78	66	62	69	68	78	130	391	528	148	87	54
AC-FT	5400	4850	4520	6620	4430	7890	16720	67370	56650	18370	7000	4110
CAL YR 1978 TOTAL	128983			MEAN 353	MAX 1720	MIN 41	AC-FT 255800					
WTR YR 1979 TOTAL	102813			MEAN 282	MAX 1940	MIN 54	AC-FT 203900					

10296500 WEST WALKER RIVER NEAR COLEVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
NOV				
27...	1100	48	146	.5
JAN				
23...	1230	78	127	1.5
FEB				
23...	1040	78	144	2.0
MAR				
28...	1015	137	132	2.0
APR				
25...	1115	260	109	6.0
MAY				
29...	1200	1620	44	6.5
JUN				
26...	1150	724	44	11.0
JUL				
26...	1025	200	84	15.0
AUG				
29...	0950	87	143	12.5
SEP				
24...	1020	59	160	9.0

## 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 16050302, 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, 60,310 acre-ft (74.4 hm<sup>3</sup>) June 23, 1974, elevation, 5,000.76 ft (1,524.232 m) present datum, no usable contents Oct. 31, 1924, Sept. 22, 24-30, Oct. 1-15, 1960, Aug. 19 to Dec. 23, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 58,770 acre-ft (72.5 hm<sup>3</sup>) Apr. 6, May 29, elevation, 5,004.71 ft (1,525.436 m); minimum contents observed, 9,890 acre-ft (12.2 hm<sup>3</sup>) Sept. 30.

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

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

## WALKER LAKE BASIN

10297000 TOPAZ LAKE NEAR TOPAZ, CA--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30360	24200	29020	33650	43270	50520	58460	49480	57270	55130	35800	20310
2	30110	24380	29270	33690	43520	50720	58520	49350	56590	54570	35240	20090
3	29800	24520	29440	33830	43720	50910	58570	49180	55900	53910	34640	19870
4	29460	24680	29620	33920	43910	51110	58590	49160	55720	53290	34160	19470
5	29200	24830	29720	34030	44010	51310	58660	49310	55870	52670	33430	19120
6	28950	24980	29880	34210	44140	51500	58770	49550	56140	52100	32640	18680
7	28640	25120	30090	34340	44340	51740	58640	49610	56500	51500	31800	18200
8	28320	25280	30250	34510	44510	51990	58500	49400	56550	50850	31000	17720
9	28010	25450	30320	34650	44660	52230	58360	49160	56140	50180	30240	17220
10	27800	25590	30500	34780	44860	52470	58230	48560	55900	49310	29640	16700
11	27540	25720	30660	35260	45070	52800	58090	48090	55630	48690	28810	16290
12	27250	25840	30840	36940	45410	53090	57950	47450	56210	47830	28340	15910
13	26930	25950	31000	37490	45700	53350	57820	47280	56820	47110	27850	15550
14	26590	26100	31140	38040	46620	53730	57680	47110	58200	46310	27230	15150
15	26380	26240	31260	38540	46980	54170	57540	47510	58160	45510	26850	14760
16	26160	26410	31440	39000	47280	54440	57410	48050	57900	44700	26540	14310
17	25970	26590	31510	39350	47560	54750	57270	48950	57540	43870	26140	13870
18	25760	26800	31760	39750	47810	55090	57090	49920	57160	43040	25760	13710
19	25550	26930	32010	40050	48030	55400	56550	51040	56730	42260	25420	12160
20	25380	27070	32160	40360	48280	55690	55960	52380	56280	41530	25050	11890
21	25240	27230	32300	40770	48710	56030	55360	53880	56190	40930	24620	11660
22	25090	27440	32420	40990	48880	56350	54660	55160	56190	40440	24160	11430
23	24920	27630	32570	41230	49250	56590	53950	56080	56300	39950	23770	11270
24	24810	27730	32690	41470	49460	56820	53200	56660	56440	39570	23190	11110
25	24730	27940	32840	41720	49680	57070	52540	56120	56550	39210	22810	10790
26	24640	28120	32960	41920	49920	57360	51720	57360	56620	38820	22410	10600
27	24540	28220	33090	42120	50090	57660	50940	57980	56640	38410	22000	10420
28	24380	28450	33140	42350	50330	57950	50410	58590	56480	38000	21580	10190
29	24260	28600	33140	42570	---	58110	50020	58770	56140	37460	21220	10050
30	24130	28850	33140	42800	---	58250	49680	58590	55650	36920	20880	9890
31	24090	---	33400	43020	---	58360	---	58000	---	36330	20560	---
MAX	30360	28850	33400	43020	50330	58360	58770	58770	58200	55130	35800	20310
MIN	24090	24200	29020	33650	43270	50520	49680	47110	55630	36330	20560	9890
†	4987.18	4989.93	4992.49	4997.46	5000.92	5004.53	5000.62	5004.37	5003.33	4994.08	4985.10	4978.61
‡	-6610	+4760	+4550	+9620	+7310	+8030	-8680	+8320	-2350	-19320	-15770	-10670

CAL YR 1978 † +32400  
WTR YR 1979 † -20810

† Elevation, in feet NGVD, at end of month.  
‡ Change in contents, in acre-feet.

## WALKER LAKE BASIN

41

10297500 WEST WALKER RIVER AT HOYE BRIDGE, NEAR WELLINGTON, NV

LOCATION.--Lat 38°43'40", long 119°25'40", in NE4SE4 sec.17, T.10 N., R.23 E., Douglas County, Hydrologic Unit 16050302, on left bank 20 ft (6 m) upstream from Hoyer bridge, 2 mi (3 km) upstream from head of Saroni Canal, and 4 mi (6 km) southwest of Wellington.

DRAINAGE AREA.--497 mi<sup>2</sup> (1,287 km<sup>2</sup>), revised.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May to August 1910 (published as West Walker River near Wellington), July 1920 to September 1923, March 1924 to August 1925, October 1925 to September 1932, October 1957 to current year. Monthly discharge only for some periods published in WSP 1314.

REVISED RECORDS.--WSP 2127: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,980 ft (1,518 m), from topographic map. May to August 1910, nonrecording gage at same site at different datum. July 1, 1920, to Sept. 30, 1923, water-stage recorder at site 3 mi (5 km) downstream, 1 mi (2 km) downstream from Saroni Canal, at different datum, and supplemental nonrecording gage on Saroni Canal 1 mi (2 km) downstream from head. Mar. 1, 1924, to Sept. 30, 1932, water-stage recorder at same site at different datum.

REMARKS.--Records good except those for the winter months, which are poor. Flow regulated by off-channel storage in Topaz Lake (station 10297000) since Jan. 30, 1922. Diversions for irrigation of about 10,500 acres (42.5 km<sup>2</sup>) above station. Records include releases from Topaz Lake and all return flow from Antelope Valley.

AVERAGE DISCHARGE (unadjusted).--32 years (water years 1921-23, 1926-32, 1958-79), 230 ft<sup>3</sup>/s (6.514 m<sup>3</sup>/s), 166,600 acre-ft/yr (205 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,180 ft<sup>3</sup>/s (61.7 m<sup>3</sup>/s) June 6, 1922; minimum observed, 4.8 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Jan. 5, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,500 ft<sup>3</sup>/s (41.5 m<sup>3</sup>/s) May 29, gage height, 7.46 ft (2.274 m); minimum daily, 23 ft<sup>3</sup>/s (0.65 m<sup>3</sup>/s) Dec. 7, Jan. 30 to Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	204	52	25	29	23	24	95	561	1290	657	363	181
2	207	50	25	29	24	24	109	561	1250	654	351	154
3	234	48	25	29	24	24	110	558	1230	654	357	180
4	234	48	25	29	24	24	111	558	1080	633	357	186
5	208	41	24	29	24	24	113	558	1100	623	384	227
6	199	38	24	29	24	24	133	561	1100	598	403	248
7	224	32	23	29	24	24	166	582	1110	579	435	254
8	224	31	24	29	24	24	171	564	1070	560	438	260
9	198	30	24	29	25	24	198	573	1030	535	400	257
10	196	29	25	30	26	24	240	573	970	564	396	251
11	194	29	25	66	27	24	253	570	875	558	395	221
12	213	29	26	177	26	24	273	570	708	552	391	193
13	223	27	30	60	27	24	280	588	681	572	373	206
14	217	26	30	46	53	24	318	594	744	572	335	216
15	186	26	30	41	41	24	408	634	852	580	310	219
16	182	25	31	38	33	24	415	666	863	583	275	212
17	169	25	30	37	30	25	413	686	800	579	271	191
18	158	25	31	36	28	25	441	743	717	541	237	185
19	166	25	31	35	28	26	498	750	651	514	228	170
20	164	25	30	29	28	26	495	746	587	499	249	153
21	146	25	30	28	27	26	492	838	557	476	263	132
22	146	25	30	27	27	27	535	1040	534	469	273	129
23	143	25	29	27	27	32	544	1150	548	406	285	126
24	133	25	29	27	27	38	549	1170	604	332	264	118
25	134	25	30	26	26	38	564	1080	611	305	235	129
26	134	25	30	25	26	38	570	1240	612	282	259	112
27	149	25	31	25	25	41	591	1310	570	289	246	125
28	149	25	31	24	24	71	570	1410	659	286	228	116
29	149	25	33	24	---	74	567	1470	669	284	204	105
30	149	25	32	23	---	89	561	1430	658	314	191	103
31	130	---	30	23	---	90	---	1370	---	350	188	---
TOTAL	5562	911	873	1135	772	1055	10783	25704	24730	15401	9584	5359
MEAN	179	30.4	28.2	36.6	27.6	34.0	359	829	824	497	309	179
MAX	234	52	33	177	53	90	591	1470	1290	657	438	260
MIN	130	25	23	23	23	24	95	558	534	282	188	103
AC-FT	11030	1810	1730	2250	1530	8090	21390	50980	49050	38558	19010	10630
CAL YR 1978	TOTAL	98990	MEAN 271	MAX	835	MIN 11	AC-FT	196300				
WTR YR 1979	TOTAL	101869	MEAN 279	MAX	1470	MIN 23	AC-FT	202100				

## WALKER LAKE BASIN

10297500 WEST WALKER RIVER AT HOYE BRIDGE, NEAR WELLINGTON, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
FEB				
14...	1230	63	--	5.0
MAR				
08...	1030	24	371	9.5
APR				
12...	1140	238	196	11.5
MAY				
23...	1035	1110	142	17.0
JUN				
14...	1230	732	110	18.5
JUL				
30...	1055	312	139	21.0
AUG				
27...	1110	251	162	19.0
SEP				
20...	1010	158	168	16.0

## CARSON RIVER BASIN

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>).

## WATER-DISCHARGE RECORDS

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 period of no gage height record and those for winter months, which are poor. 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.--19 years, 342 ft<sup>3</sup>/s (9.685 m<sup>3</sup>/s), 247,800 acre-ft/yr (306 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)
Jan. 11	1700	*3,220 91.2	5.98 1.823
May 4	2400	1,620 45.9	4.76 1.451
May 21	2400	3,050 86.4	5.90 1.798

Minimum, 51 ft<sup>3</sup>/s (1.44 m<sup>3</sup>/s) Oct. 27-29.

## CARSON RIVER BASIN

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	76	102	70	115	150	270	964	1120	376	126	109
2	78	81	84	75	118	135	270	914	1110	351	117	94
3	77	73	73	84	105	145	265	1090	1140	341	140	90
4	75	84	80	85	110	160	296	1320	1240	322	146	85
5	73	82	97	85	100	175	377	1360	1310	303	146	83
6	72	78	80	86	100	200	441	1090	1330	285	137	78
7	71	77	70	84	100	250	382	923	1230	268	131	76
8	71	75	80	88	100	300	403	796	982	251	134	74
9	71	74	90	95	105	340	464	691	889	234	117	74
10	72	65	100	100	110	360	419	639	905	219	112	74
11	72	62	105	1280	115	360	403	667	930	215	107	72
12	69	70	97	567	120	365	441	778	973	204	109	72
13	68	75	81	260	180	375	537	1010	1040	200	182	72
14	67	77	85	227	600	390	614	1250	956	193	120	72
15	66	84	80	185	300	370	669	1500	817	182	107	68
16	65	86	75	146	210	325	704	1660	733	186	99	66
17	65	83	80	145	180	290	627	1710	676	182	97	66
18	66	75	80	140	160	275	584	1810	581	175	97	62
19	65	76	76	140	150	270	470	1880	543	174	92	60
20	63	76	65	130	148	260	459	1950	555	179	90	60
21	63	86	60	132	148	250	476	2210	555	208	102	62
22	64	80	65	128	140	245	524	2370	543	225	107	62
23	62	80	70	125	135	240	482	2020	543	200	117	62
24	62	73	70	115	135	250	453	1870	555	170	117	64
25	64	72	75	104	140	265	436	1860	555	155	115	68
26	62	78	72	108	150	290	518	2040	512	145	113	66
27	62	76	75	112	140	310	750	2150	482	135	112	66
28	55	72	78	108	145	290	801	1970	453	123	110	64
29	60	91	78	100	---	280	833	1650	430	117	116	62
30	64	94	77	105	---	275	947	1320	403	112	120	62
31	69	---	70	110	---	270	---	1160	---	120	112	---
TOTAL	2093	2331	2470	5319	4359	8460	15261	44622	24091	6550	3647	2145
MEAN	67.5	77.7	79.7	172	156	273	509	1439	803	211	118	71.5
MAX	80	94	105	1280	600	390	947	2370	1330	376	182	109
MIN	55	62	60	70	100	135	265	639	403	112	90	60
AC-FT	4150	4620	4900	10550	8650	16780	30270	88510	47780	12990	7230	4250
CAL YR 1978 TOTAL	140761		MEAN 386	MAX 1970	MIN 55	AC-FT 279200						
WTR YR 1979 TOTAL	121348		MEAN 332	MAX 2370	MIN 55	AC-FT 240700						

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
NOV				
30...	1105	93	142	2.5
MAY				
10...	1100	623	91	5.0
29...	1220	1590	55	7.0
JUN				
27...	1050	496	61	11.0
JUL				
27...	1050	129	104	15.5
AUG				
30...	1215	124	106	14.5
SEP				
25...	1200	70	121	12.0

## CARSON RIVER BASIN

10309000 EAST FORK CARSON RIVER NEAR GARDNERVILLE, NV

LOCATION.--Lat 38°50'50", long 119°42'10", in SW¼NE¼ sec.2, T.11 N., R.20 E., Douglas County, Hydrologic Unit 16050201, on left bank 0.1 mi (0.2 km) downstream from Horseshoe Bend, 2 mi (3 km) east of Mud Lake Reservoir, 4.5 mi (7.2 km) downstream from Bryant Creek, and 7 mi (11 km) southeast of Gardnerville.

DRAINAGE AREA.--356 mi<sup>2</sup> (922 km<sup>2</sup>), revised.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1890 to December 1893, October 1900 to December 1906 (gage heights only August to December 1904, and July 1905 to December 1906), January 1908 to December 1910, June to October 1917, December 1924 to September 1928, June to September 1929, October 1935 to December 1937, May 1939 to current year. Monthly discharge only for some periods published in WSP 1314.

REVISED RECORDS.--WSP 1214: 1938(M), 1942-43(M), 1945(M). WSP 1514: 1909-10. WSP 1927: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,985.11 ft (1,519.462 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). Prior to May 19, 1939, nonrecording gages at several sites within 2 mi (3 km) of present site at various datums.

REMARKS.--Records good. Station is above all diversions in Carson Valley. 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.--53 years (water years 1891-93, 1901-1903, 1909-10, 1926-28, 1936-37, 1940-79), 381 ft<sup>3</sup>/s (10.79 m<sup>3</sup>/s), 276,000 acre-ft/yr (340 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft<sup>3</sup>/s (498 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 11.88 ft (3.621 m), from rating curve extended above 6,000 ft<sup>3</sup>/s (170 m<sup>3</sup>/s), on basis of slope-area measurements at gage heights 9.66 ft (2.944 m) and 11.88 ft (3.621 m); minimum observed, 7.8 ft<sup>3</sup>/s (0.221 m<sup>3</sup>/s) Nov. 20, 1977, result of freezeup.

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)
Jan. 11	Unknown	*2,740 77.6	4.56 1.390
May 5	0300	1,520 43.0	3.43 1.045
May 22	0100	2,570 72.8	4.42 1.347

Minimum, 45 ft<sup>3</sup>/s (1.274 m<sup>3</sup>/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1970 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	83	106	75	130	158	288	971	1140	379	126	125
2	84	93	92	85	128	134	272	890	1130	359	120	114
3	82	85	79	110	139	153	272	1040	1160	343	142	106
4	82	88	88	115	122	167	296	1260	1260	329	148	103
5	81	85	106	110	130	185	372	1210	1330	308	148	99
6	79	85	73	105	125	219	455	1090	1350	294	142	95
7	78	81	81	105	120	284	390	917	1270	276	136	92
8	77	83	97	110	114	345	403	798	1030	259	138	90
9	77	83	137	120	114	367	475	686	907	248	123	88
10	79	79	145	139	116	372	431	624	920	225	116	88
11	80	59	132	1480	116	390	408	643	956	222	111	87
12	77	70	111	679	121	385	436	751	990	215	116	85
13	76	87	92	304	219	403	538	978	1070	212	180	85
14	73	91	92	252	630	403	624	1240	994	199	135	83
15	73	76	86	205	264	426	686	1460	845	191	118	81
16	73	95	79	170	219	358	738	1620	752	192	108	69
17	71	96	83	158	176	308	661	1640	692	191	105	68
18	73	83	86	161	167	288	543	1700	597	181	106	66
19	75	87	83	147	161	288	480	1770	549	189	100	64
20	75	86	65	139	153	268	465	1820	565	192	97	62
21	73	96	70	150	155	264	470	1980	561	229	187	64
22	73	89	75	139	142	248	532	2190	549	237	115	65
23	73	89	80	132	139	248	495	1900	551	182	129	66
24	73	78	80	139	139	256	466	1760	558	164	128	68
25	73	86	82	137	153	280	445	1730	565	153	129	74
26	71	89	80	124	158	300	500	1850	519	138	128	70
27	75	74	90	119	139	333	764	1960	486	129	126	68
28	73	83	95	115	150	300	812	1840	457	124	124	68
29	71	103	93	110	---	292	833	1600	431	119	129	66
30	75	101	85	115	---	292	934	1340	410	114	137	66
31	85	---	80	120	---	280	---	1190	---	116	129	74
TOTAL	2366	2563	2823	6169	4639	9008	15475	42448	24594	6702	3896	2425
MEAN	76.3	85.4	91.1	199	166	290	516	1369	820	216	126	80.8
MAX	86	103	145	1480	630	426	934	2190	1350	379	180	125
MIN	71	59	65	75	114	134	272	624	410	114	97	62
AC-FT	4690	5080	5600	12240	9200	17860	30690	84200	48780	13290	7730	4810

CAL YR 1978 TOTAL 146447 MEAN 401 MAX 1940 MIN 59 AC-FT 290500  
WTR YR 1979 TOTAL 123102 MEAN 337 MAX 2190 MIN 59 AC-FT 244200



## CARSON RIVER BASIN

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10309000 EAST FORK CARSON RIVER NEAR GARDNERVILLE, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

SEDIMENT RECORDS: Water years 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT				
04...	1130	82	189	10.0
25...	1115	76	--	8.0
NOV				
30...	1400	99	--	6.0
JAN				
30...	1130	116	--	1.0
MAR				
05...	0930	176	204	7.0
30...	1100	277	--	6.0
APR				
30...	1500	888	--	8.5
MAY				
29...	1430	1620	--	9.0
JUN				
28...	1015	490	74	15.0
JUL				
31...	1145	107	--	20.0
AUG				
30...	1030	134	147	8.5
SEP				
28...	1130	71	--	14.5

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
04...	1130	82	4	.89	--
25...	1115	76	8	1.6	--
NOV					
30...	1400	99	6	1.6	--
JAN					
30...	1130	116	8	2.5	--
MAR					
05...	0930	176	14	6.7	--
30...	1100	277	16	12	--
APR					
30...	1500	888	112	269	--
MAY					
29...	1430	1620	180	787	34
JUN					
28...	1015	490	10	13	--
JUL					
31...	1145	107	3	.87	--
AUG					
30...	1030	134	8	2.9	--
SEP					
28...	1130	71	3	.58	--

LOCATION.--Lat 38°46'10", long 119°49'55", in NW¼SE¼ sec.34, T.11 N., R.19 E., Alpine County, Hydrologic Unit 16050201, Tiyoibae 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.--WSP 1927: Drainage area.

REMARKS.--Records fair except those for winter months, which are poor. 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>).

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

Minimum daily, 13 ft<sup>3</sup>/s (0.368 m<sup>3</sup>/s) Sept. 6-9, 19-24.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	20	28	19	35	32	63	290	263	79	68	41
2	20	21	23	20	38	34	64	301	255	77	70	19
3	20	21	21	21	21	33	65	348	261	76	68	15
4	19	24	22	20	26	34	80	380	277	80	34	14
5	19	24	22	20	34	37	107	382	283	90	26	14
6	18	23	21	20	32	41	124	305	287	87	25	13
7	18	23	20	21	30	40	107	251	264	81	25	13
8	18	22	20	22	29	57	122	212	227	54	25	13
9	18	22	23	21	30	64	144	197	210	49	24	13
10	19	20	24	24	31	73	130	206	206	49	23	18
11	18	18	23	184	31	82	130	217	210	47	23	35
12	18	20	23	179	30	89	153	249	213	48	23	39
13	18	23	22	104	35	95	187	318	216	49	28	39
14	18	23	21	75	30	98	213	394	197	47	81	44
15	18	23	20	51	33	104	227	451	177	47	83	36
16	18	25	19	40	33	89	230	484	162	48	80	16
17	18	23	18	46	33	77	194	495	153	68	63	14
18	18	22	17	43	31	70	167	514	138	73	37	14
19	18	21	17	37	30	68	155	501	126	86	23	13
20	18	22	17	37	33	63	160	502	126	78	22	13
21	18	24	16	45	32	59	174	553	124	76	21	13
22	18	22	16	42	31	57	186	625	118	77	21	13
23	18	23	17	35	28	56	172	527	114	50	21	13
24	18	21	17	41	30	62	155	472	114	45	22	13
25	18	21	19	40	32	71	160	455	113	43	23	26
26	18	22	18	30	32	80	189	500	105	39	24	27
27	17	21	18	31	32	70	270	512	97	39	32	27
28	17	22	19	28	32	68	267	466	92	36	45	26
29	17	26	17	26	---	63	267	409	88	35	49	21
30	17	27	18	34	---	63	301	311	83	32	49	15
31	19	---	19	36	---	61	---	277	---	46	48	---
TOTAL	567	669	615	1392	874	1998	4963	12104	5299	1830	1206	630
MEAN	18.3	22.3	19.8	44.9	31.2	64.5	165	390	177	59.0	38.9	21.0
MAX	23	27	28	184	38	104	301	625	287	90	83	44
MIN	17	18	16	19	21	32	63	197	83	38	21	13
AC-FT	1120	1330	1220	2760	1730	3960	9840	24010	10510	3630	2390	1250
CAL YR 1978	TOTAL	36596	MEAN 100	MAX 608	MIN 16	AC-FT 72590						
WTR YR 1979	TOTAL	32147	MEAN 88.1	MAX 625	MIN 13	AC-FT 63760						

## CARSON RIVER BASIN

47

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1959 to current year.

COOPERATION.--The letter "A" following a date indicates chemical-quality data furnished by the California Department of Water Resources.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT									
26...	1300	17	75	--	5.5	--	--	--	--
NOV									
29...	1115	25	66	--	2.5	--	--	--	--
MAR									
07...	1310	44	70	--	4.5	--	--	--	--
APR									
02...	1150	48	70	--	5.0	--	--	--	--
25... A	1100	153	53	7.3	3.0	.00	10.7	23	6.0
MAY									
04...	1105	329	45	--	6.5	--	--	--	--
31...	1445	267	43	--	9.5	--	--	--	--
JUN									
27...	1410	97	54	--	14.5	--	--	--	--
JUL									
27...	1325	38	69	--	13.5	--	--	--	--
AUG									
30...	1035	49	74	--	11.5	--	--	--	--
SEP									
13... A	0730	33	76	7.5	11.8	.00	8.4	28	8.0
25...	1400	27	79	--	11.5	--	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINEITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 100 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT								
26...	--	--	--	--	--	--	--	--
NOV								
29...	--	--	--	--	--	--	--	--
MAR								
07...	--	--	--	--	--	--	--	--
APR								
02...	--	--	--	--	--	--	--	--
25... A	2.0	3.0	.3	23	.0	45	18.6	.06
MAY								
04...	--	--	--	--	--	--	--	--
31...	--	--	--	--	--	--	--	--
JUN								
27...	--	--	--	--	--	--	--	--
JUL								
27...	--	--	--	--	--	--	--	--
AUG								
30...	--	--	--	--	--	--	--	--
SEP								
13... A	2.0	3.0	.2	33	.0	58	5.17	.08
25...	--	--	--	--	--	--	--	--

## PYRAMID AND WINNEMUCCA LAKES BASIN

## 10336500 PYRAMID LAKE NEAR NIXON, NV

LOCATION.--Lat 39°59'05", long 119°30'00", in NE¼NW¼ sec.3, T.24 N., R.22 E., Washoe County, Hydrologic Unit 16050103, Pyramid Lake Indian Reservation, 0.25 mi (0.40 km) north of the Pyramid, 1.6 mi (2.6 km) northeast of Anaho Island, and 13 mi (21 km) northwest of Nixon.

DRAINAGE AREA.--2,720 mi<sup>2</sup> (7,040 km<sup>2</sup>).

PERIOD OF RECORD.--1867-1925 (occasional elevations in some years), June 1926 to current year (occasional elevations in each year).

REVISED RECORDS.--WSP 880: 1934-38 (bench mark). WSP 1090: 1926(M). WDR NV-67-1: 1966.

GAGE.--Nonrecording gage. Datum of gage is National Geodetic Vertical Datum of 1929 (U.S. Coast and Geodetic Survey Bench Mark N 21). See WSP 1927 for history of changes prior to Aug. 6, 1968.

REMARKS.--Truckee Canal (station 10351400) diverts water out of the basin to Lahontan Reservoir (station 10312100). Elevations are given to the nearest 0.1 ft (0.03 m) and contents to four significant figures in order to reflect trends of change. Any single observation, however, may be affected by wind and seiche movements on the lake surface. Elevations published for 1867 and 1871 may have been 9 ft (2.7 m) lower because of uncertainty of date of photograph on which they were based.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation observed, 3,884.9 ft (1,184.12 m) in 1871 (see REMARKS); minimum observed, 3,783.9 ft (1,153.33 m) Feb. 6, Mar. 6, 1967.

## MONTHEND ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	3,791.0	20,730,000	--
Oct. 31.....	3,790.7	20,700,000	-30,000
Nov. 30.....	3,790.5	20,680,000	-20,000
Dec. 31.....	3,790.1	20,630,000	-50,000
CAL YR 1978.....	--	--	-280,000
Jan. 31.....	3,789.7	20,590,000	-40,000
Feb. 28.....	3,790.0	20,620,000	+30,000
Mar. 31.....	3,790.0	20,620,000	0
Apr. 30.....	3,789.9	20,610,000	-10,000
May 31.....	3,790.0	20,620,000	+10,000
June 30.....	3,789.8	20,600,000	-20,000
July 31.....	3,789.2	20,530,000	-70,000
Aug. 31.....	3,788.8	20,490,000	-40,000
Sept. 30.....	3,788.5	20,460,000	-30,000
WTR YR 1979.....	--	--	-270,000

10336600 UPPER TRUCKEE RIVER NEAR MEYERS, CA

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.

DRAINAGE AREA.--33.1 mi<sup>2</sup> (85.7 km<sup>2</sup>), revised.

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

GAGE.--Water-stage recorder. Altitude of gage is 6,325 ft (1,928 m), from topographic map.

REMARKS.--Records good except for the winter months, which are fair. No regulation. Some small diversions above station for domestic use.

AVERAGE DISCHARGE.--19 years, 62.0 ft<sup>3</sup>/s (1.756 m<sup>3</sup>/s), 44,920 acre-ft/yr (55.4 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. 1, 1963, gage height, 12.41 ft (3.783 m); minimum daily, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Aug. 31 to Sept. 7, 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. 11	1630	*590 16.7	8.20 2.499	May 21	2200	534 15.1	7.97 2.429
May 5	2230	294 8.33	6.62 2.018	May 26	2300	499 14.1	7.79 2.374

Minimum daily, 3.4 ft<sup>3</sup>/s (0.096 m<sup>3</sup>/s) Sept. 25, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.3	12	8.0	18	16	30	175	220	58	13	6.3
2	6.7	8.8	11	8.0	18	16	31	195	227	55	13	5.9
3	6.5	8.4	10	8.0	17	16	32	225	245	52	12	5.7
4	6.5	8.9	10	8.0	17	16	36	250	271	48	11	5.6
5	6.6	8.9	9.7	8.0	16	17	48	265	272	45	11	5.2
6	6.5	8.4	9.6	8.0	16	19	57	240	278	42	10	5.0
7	6.5	8.7	9.5	8.0	16	25	50	170	231	38	10	4.8
8	6.5	8.8	9.4	8.6	16	32	54	130	176	36	9.9	4.8
9	6.5	8.8	9.3	8.6	16	35	62	112	161	34	9.5	4.6
10	6.8	8.5	9.1	9.8	15	39	54	110	168	32	9.3	4.5
11	6.6	7.0	8.7	280	15	42	52	121	176	30	9.3	4.5
12	6.5	7.0	8.4	172	15	44	59	149	184	29	9.2	4.4
13	6.6	7.0	8.3	84	19	46	80	199	190	28	9.9	4.3
14	6.6	7.0	8.4	54	25	48	99	245	170	27	9.3	4.3
15	6.4	7.1	8.2	44	30	51	113	284	150	26	9.2	4.0
16	6.5	7.4	8.4	39	22	43	117	324	135	24	9.1	3.9
17	6.5	7.6	8.5	34	20	38	97	354	120	23	8.9	3.8
18	6.3	7.7	8.4	30	19	35	86	373	110	20	8.6	3.7
19	6.3	7.7	8.2	28	18	33	75	381	103	21	8.3	3.7
20	6.5	7.7	8.2	26	18	31	77	391	100	22	7.8	3.8
21	6.4	7.7	8.2	24	17	30	84	425	102	39	7.6	3.7
22	6.3	7.7	8.2	23	17	29	87	428	98	39	7.6	3.6
23	6.1	7.7	8.2	22	17	29	76	367	93	27	7.2	3.6
24	6.1	7.7	8.2	22	16	30	70	338	90	22	6.9	3.6
25	6.1	7.7	8.2	21	16	34	68	359	85	20	6.9	3.4
26	6.1	7.7	8.2	20	16	37	95	395	80	18	6.8	3.6
27	6.0	7.8	8.2	20	16	38	185	395	75	17	6.7	3.7
28	5.9	8.0	8.2	19	16	35	182	353	70	16	6.4	3.5
29	5.9	8.2	8.2	19	---	32	170	299	65	15	6.4	3.5
30	6.0	9.7	8.0	18	---	30	180	245	61	15	6.4	3.4
31	6.9	---	8.0	18	---	30	---	222	---	14	6.6	---
TOTAL	198.9	238.6	273.1	1100.0	497	996	2506	8519	4506	932	273.8	128.4
MEAN	6.42	7.95	8.81	35.5	17.8	32.1	83.5	275	150	30.1	8.83	4.28
MAX	7.2	9.7	12	280	30	51	185	428	278	58	13	6.3
MIN	5.9	7.0	8.0	8.0	15	16	30	110	61	14	6.4	3.4
AC-FT	395	473	542	2180	986	1980	4970	16900	8940	1850	543	255
CAL YR 1978	TOTAL	23921.5	MEAN 65.5	MAX 405	MIN 5.9	AC-FT 47450						
WTR YR 1979	TOTAL	20168.8	MEAN 55.3	MAX 428	MIN 3.4	AC-FT 40000						

## PYRAMID AND WINNEMUCCA LAKES BASIN

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, 5.51 ft (1.679 m) Jan. 22, 1970; minimum, 1.79 ft (0.546 m) Jan. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 3.92 ft (1.195 m) May 18; minimum, 2.05 ft (0.625 m) Dec. 16.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.57	2.58	2.16	2.12	2.36	2.50	2.52	3.51	3.27	3.15	3.61	3.10
2	3.55	2.57	2.16	2.11	2.35	2.47	2.50	3.55	3.22	3.17	3.60	3.07
3	3.52	2.53	2.16	2.10	2.33	2.46	2.49	3.63	3.21	3.20	3.58	3.05
4	3.48	2.48	2.16	2.10	2.31	2.45	2.49	3.74	3.24	3.23	3.54	3.03
5	3.44	2.45	2.15	2.10	2.30	2.43	2.49	3.87	3.26	3.25	3.51	3.03
6	3.41	2.42	2.13	2.10	2.29	2.43	2.54	3.87	3.28	3.28	3.50	3.02
7	3.38	2.39	2.12	2.11	2.27	2.43	2.55	3.85	3.27	3.30	3.50	3.01
8	3.35	2.36	2.12	2.17	2.24	2.43	2.57	3.72	3.21	3.31	3.49	2.98
9	3.32	2.32	2.11	2.16	2.23	2.44	2.58	3.59	3.13	3.28	3.48	2.97
10	3.29	2.30	2.11	2.30	2.22	2.45	2.62	3.49	3.09	3.28	3.47	2.96
11	3.26	2.29	2.10	3.30	2.21	2.48	2.64	3.40	3.08	3.30	3.45	2.95
12	3.22	2.27	2.09	3.25	2.16	2.51	2.67	3.37	3.07	3.31	3.48	2.95
13	3.19	2.25	2.09	3.12	2.35	2.54	2.72	3.41	3.04	3.32	3.46	2.94
14	3.16	2.22	2.09	3.05	2.43	2.56	2.79	3.52	3.00	3.33	3.45	2.93
15	3.12	2.21	2.08	2.98	2.43	2.60	2.87	3.65	2.96	3.35	3.43	2.92
16	3.09	2.19	2.05	2.88	2.44	2.58	2.97	3.77	2.89	3.36	3.41	2.91
17	3.06	2.17	2.13	2.82	2.42	2.57	3.01	3.87	2.86	3.37	3.39	2.90
18	3.03	2.14	2.22	2.75	2.45	2.58	3.04	3.92	2.82	3.38	3.37	2.87
19	2.99	2.09	2.23	2.69	2.44	2.58	3.04	3.87	2.77	3.38	3.34	2.86
20	2.96	2.11	2.22	2.64	2.50	2.55	3.03	3.80	2.74	3.40	3.31	2.85
21	2.93	2.13	2.21	2.60	2.53	2.54	3.03	3.83	2.70	3.51	3.29	2.83
22	2.88	2.13	2.21	2.57	2.57	2.52	3.07	3.84	2.72	3.55	3.27	2.80
23	2.84	2.12	2.20	2.53	2.57	2.50	3.13	3.77	2.78	3.58	3.24	2.78
24	2.82	2.11	2.20	2.49	2.55	2.49	3.11	3.68	2.84	3.59	3.24	2.77
25	2.78	2.11	2.20	2.47	2.52	2.49	3.11	3.66	2.90	3.60	3.22	2.75
26	2.76	2.10	2.17	2.45	2.50	2.48	3.20	3.69	2.97	3.61	3.21	2.74
27	2.72	2.09	2.15	2.42	2.47	2.60	3.33	3.69	3.02	3.61	3.18	2.73
28	2.68	2.08	2.14	2.39	2.50	2.60	3.38	3.64	3.07	3.61	3.16	2.72
29	2.63	2.07	2.13	2.37	---	2.58	3.42	3.56	3.10	3.62	3.15	2.71
30	2.60	2.07	2.12	2.37	---	2.55	3.47	3.43	3.12	3.62	3.13	2.70
31	2.61	---	2.12	2.37	---	2.53	---	3.34	---	3.62	3.12	---
MEAN	3.09	2.25	2.15	2.51	2.39	2.51	2.88	3.66	3.02	3.40	3.37	2.89
MAX	3.57	2.58	2.23	3.30	2.57	2.60	3.47	3.92	3.28	3.62	3.61	3.10
MIN	2.60	2.07	2.05	2.10	2.16	2.43	2.49	3.34	2.70	3.15	3.12	2.70

CAL YR 1978 MAX 4.55 MIN 2.05  
WTR YR 1979 MAX 3.92 MIN 2.05

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CAL YR 1978	TOTAL	17000.23	MEAN	46.6	MAX	272	MIN	.20	AC-FT	33720
WTR YR 1979	TOTAL	12337.89	MEAN	33.8	MAX	278	MIN	.74	AC-FT	24470

## PYRAMID AND WINNEMUCCA LAKES BASIN

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>).

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.--19 years, 35.5 ft<sup>3</sup>/s (1.005 m<sup>3</sup>/s), 25,720 acre-ft/yr (31.7 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)
Jan. 11	1530	225 6.37	2.10 0.640	May 21	1945	*336 9.52	2.51 0.765
May 4	1930	209 5.92	2.03 0.619	May 26	1915	298 8.49	2.38 0.725

Minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.5	6.4	3.6	7.4	8.3	16	100	104	21	4.1	2.3
2	2.7	3.0	5.1	3.6	7.3	8.0	15	105	106	21	3.9	2.2
3	2.6	3.1	4.8	3.7	7.2	7.8	16	134	116	20	3.7	2.2
4	2.6	3.2	4.7	3.7	7.1	7.6	20	159	129	19	3.5	2.2
5	2.6	3.3	4.6	3.7	7.1	7.6	27	164	130	18	3.4	2.1
6	2.6	3.2	4.6	3.7	7.1	9.0	33	127	133	16	3.3	2.1
7	2.6	3.2	4.5	3.7	6.9	12	29	92	112	15	3.3	2.1
8	2.6	3.2	4.4	4.1	6.6	15	32	72	87	13	3.3	2.1
9	2.6	3.2	4.3	4.0	6.6	17	36	63	79	13	2.5	2.1
10	2.7	3.2	4.1	5.2	6.8	18	30	61	81	12	2.3	2.1
11	2.6	3.3	4.1	105	6.6	20	30	66	83	11	2.4	2.0
12	2.6	3.3	3.9	59	6.5	21	34	79	87	11	2.7	2.0
13	2.6	3.3	3.9	32	8.0	25	46	104	84	11	2.7	2.0
14	2.6	3.3	3.9	23	12	27	55	134	72	10	2.6	1.9
15	2.5	3.3	3.9	21	15	29	64	161	60	9.7	2.6	2.0
16	2.4	3.3	4.0	14	12	24	70	180	54	8.9	2.6	1.9
17	2.4	3.3	4.1	13	11	22	58	187	52	8.5	3.3	1.9
18	2.4	3.3	4.1	12	10	20	47	201	44	7.8	3.8	1.9
19	2.4	3.3	4.1	11	10	18	42	209	41	7.2	3.0	1.9
20	2.5	3.8	4.1	10	9.8	17	42	213	42	7.0	3.0	1.8
21	2.6	3.9	4.1	9.8	9.6	17	46	245	42	8.3	2.8	1.9
22	2.4	3.9	4.1	9.4	9.3	16	49	236	40	8.5	2.7	1.9
23	2.5	3.9	4.1	9.1	9.1	16	43	198	39	6.9	2.7	1.9
24	2.6	3.9	4.1	8.9	9.0	17	39	181	39	6.2	2.6	1.9
25	2.6	3.9	3.9	8.7	8.9	19	38	198	37	5.6	2.5	2.0
26	2.6	3.9	3.9	8.4	8.8	21	59	225	35	5.3	2.5	2.0
27	2.6	3.7	3.9	8.2	8.7	20	108	218	32	5.1	2.5	1.9
28	2.6	3.7	3.9	8.0	8.5	20	102	189	29	4.8	2.5	1.9
29	2.7	4.0	3.9	7.8	---	17	94	148	27	4.6	2.9	1.9
30	2.7	4.8	3.7	7.7	---	16	104	119	24	4.4	2.6	1.9
31	5.2	---	3.6	7.6	---	16	---	107	---	4.2	2.5	---
TOTAL	82.6	106.2	130.8	432.6	242.9	528.3	1424	4675	2040	324.0	90.8	60.0
MEAN	2.66	3.54	4.22	14.0	8.68	17.0	47.5	151	68.0	10.5	2.93	2.00
MAX	5.2	4.8	6.4	105	15	29	108	245	133	21	4.1	2.3
MIN	2.4	3.0	3.6	3.6	6.5	7.6	15	61	24	4.2	2.3	1.8
AC-FT	164	211	259	858	482	1050	2820	9270	4050	643	180	119

CAL YR 1978 TOTAL 14577.1 MEAN 39.9 MAX 239 MIN 2.3 AC-FT 28910  
WTR YR 1979 TOTAL 10137.2 MEAN 27.8 MAX 245 MIN 1.8 AC-FT 20110



## PYRAMID AND WINNEMUCCA LAKES BASIN

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

LOCATION.--Lat 39°07'56", long 120°09'24", in NW¼SE¼ sec.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.

DRAINAGE AREA.--9.70 mi<sup>2</sup> (25.1 km<sup>2</sup>).

PERIOD OF RECORD.--October 1972 to current year.

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

REMARKS.--Records good except those for the winter periods, which are fair. Minor diversion for local water supply.

AVERAGE DISCHARGE.--7 years, 22.2 ft<sup>3</sup>/s (0.629 m<sup>3</sup>/s), 16,080 acre-ft/yr (19.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 800 ft<sup>3</sup>/s (22.7 m<sup>3</sup>/s) Nov. 12, 1973, gage height, 6.65 ft (2.027 m), from rating extended above 310 ft<sup>3</sup>/s (8.78 m<sup>3</sup>/s); maximum gage height, 7.18 ft (2.188 m) Dec. 17, 1972 (backwater from ice); no flow on many days during 1977-78.

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. 11	0500	-- --	*a6.22 1.896	May 4	1715	167 4.73	5.51 1.679
Jan. 11	1400	200 5.66	(a) --	May 21	1800	*283 8.01	5.85 1.783

a Backwater from ice.

Minimum daily, 0.38 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	5.2	6.0	3.6	7.5	7.0	12	66	76	18	2.3	1.1
2	1.7	3.7	5.2	3.5	7.4	7.0	12	76	76	17	2.1	1.0
3	1.6	3.4	4.9	3.7	7.2	6.9	12	102	83	16	1.9	.99
4	1.5	3.7	4.8	3.7	7.1	6.9	14	125	92	15	1.5	.91
5	1.5	3.6	4.8	3.7	7.0	7.8	19	124	93	14	1.4	.81
6	1.5	3.3	4.7	3.5	6.9	9.6	22	96	95	14	1.5	.76
7	1.5	3.2	4.7	3.5	6.7	11	19	64	78	13	1.6	.66
8	1.5	3.2	4.7	3.8	6.5	13	20	53	61	12	1.5	.63
9	1.5	3.3	4.7	3.9	6.6	14	22	46	55	11	1.3	.66
10	1.5	3.4	4.7	4.1	6.6	14	19	44	55	10	1.2	.68
11	1.4	3.6	4.7	8.0	6.6	16	18	49	56	9.9	1.1	.65
12	1.5	3.7	4.6	4.1	6.6	16	20	62	59	9.4	1.1	.63
13	1.4	3.7	4.4	26	8.0	17	27	87	60	9.0	1.1	.55
14	1.4	3.7	4.2	18	12	18	33	113	52	8.6	1.1	.49
15	1.3	3.7	4.2	15	13	19	40	136	44	8.2	1.1	.41
16	1.4	3.7	3.9	14	12	19	43	152	48	7.6	1.1	.41
17	1.3	3.8	4.1	13	11	17	37	157	38	6.9	.92	.40
18	1.4	3.8	4.2	13	9.2	15	30	166	34	6.0	.83	.38
19	1.4	3.8	4.2	12	8.9	14	27	173	31	5.8	.85	.41
20	1.4	3.9	4.2	12	8.2	13	27	170	31	5.8	.91	.47
21	1.6	3.9	4.3	11	7.7	13	30	199	30	6.8	.96	.54
22	1.7	3.7	4.4	10	7.4	13	32	182	29	6.4	.91	.53
23	1.8	3.6	4.1	9.6	7.4	13	27	149	29	5.5	.85	.51
24	1.9	3.7	4.1	9.2	7.3	13	25	141	29	5.0	.84	.56
25	1.9	3.6	4.2	8.8	7.2	14	25	147	28	4.6	.80	.56
26	1.9	3.6	4.1	8.6	7.2	16	37	175	26	4.2	.73	.60
27	1.9	3.5	4.1	8.4	7.1	15	69	168	24	3.8	.73	.63
28	2.0	3.5	4.1	8.2	7.0	15	63	146	23	3.4	.75	.54
29	2.1	3.6	4.1	8.0	---	13	62	111	21	3.1	2.8	.47
30	2.2	3.6	3.6	7.8	---	12	70	88	20	2.7	1.5	.45
31	3.3	---	3.6	7.6	---	13	---	79	---	2.4	1.3	---
TOTAL	51.6	109.7	136.6	378.2	223.3	411.2	913	3646	1468	265.1	38.58	18.39
MEAN	1.66	3.66	4.41	12.2	7.98	13.3	30.4	118	48.9	8.55	1.24	.61
MAX	3.3	5.2	6.0	8.0	13	19	70	199	95	18	2.8	1.1
MIN	1.3	3.2	3.6	3.5	6.5	6.9	12	44	20	2.4	.73	.38
AC-FT	102	218	271	750	443	816	1810	7230	2910	526	77	36
CAL YR 1978 TOTAL	10046.00			MEAN 27.5	MAX 201	MIN 1.3	AC-FT 19930					
WTR YR 1979 TOTAL	7659.67			MEAN 21.0	MAX 199	MIN .38	AC-FT 15190					

PYRAMID AND WINNEMUCCA LAKES BASIN  
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 fair except those for winter months and period of no gage-height record, which are poor. One transmountain diversion to Washoe Valley.

AVERAGE DISCHARGE.--6 years (water years 1970-73, 1978-79), 7.30 ft<sup>3</sup>/s (0.207 m<sup>3</sup>/s), 5,290 acre-ft/yr (6.52 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110 ft<sup>3</sup>/s (3.12 m<sup>3</sup>/s) June 26, 1971, gage height, 3.17 ft (0.966 m); maximum gage height, 3.77 ft (1.149 m) Jan 23, 1973, backwater from ice; minimum discharge, 0.66 ft<sup>3</sup>/s (0.019 m<sup>3</sup>/s) Oct. 13, 14, 16-19, 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)
Nov. 28	0500	-- --	*a3.42 1.042
May 19	0200	45 1.27	2.74 .835
May 27	0100	*66 1.87	2.90 .884

a Backwater from ice.

Minimum daily, 1.4 ft<sup>3</sup>/s (0.040 m<sup>3</sup>/s) Feb. 12, 13 (result of freezeup).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.1	4.6	2.6	1.8	1.8	3.6	8.3	19	5.4	1.8	2.1
2	3.3	2.8	3.7	2.6	1.7	1.8	3.9	8.6	19	5.2	1.8	2.1
3	3.3	2.5	3.4	2.7	1.7	1.8	3.9	10	21	5.0	1.9	2.1
4	3.2	2.6	3.3	2.9	1.7	2.2	4.9	13	23	4.9	1.9	2.0
5	3.1	2.7	3.3	2.9	1.7	3.0	6.3	13	24	4.8	1.8	2.0
6	3.1	2.6	3.3	2.7	1.7	4.1	5.7	10	23	4.6	1.8	1.7
7	3.1	2.5	3.3	2.7	1.7	5.0	5.9	8.6	21	4.5	2.0	1.7
8	3.1	2.5	3.1	2.9	1.6	5.0	6.4	7.4	15	4.4	1.9	1.7
9	3.3	2.5	3.0	3.1	1.6	5.8	6.2	6.1	14	4.3	1.8	1.7
10	2.9	2.5	3.0	3.1	1.5	6.0	6.2	5.1	14	4.2	1.8	1.7
11	2.5	2.6	2.9	13	1.5	5.9	5.4	5.6	15	4.1	1.8	1.7
12	2.7	2.6	2.8	5.8	1.4	6.1	6.3	6.3	16	4.0	1.8	1.7
13	2.7	2.6	2.7	5.6	1.4	6.4	7.3	6.9	15	3.9	1.8	1.6
14	2.7	2.6	2.7	5.3	4.4	6.6	7.8	9.1	13	3.8	1.9	1.7
15	2.7	2.6	2.8	4.9	11	6.1	7.8	11	11	3.7	1.9	1.7
16	2.7	2.6	2.9	3.5	3.1	5.2	8.0	18	9.6	3.7	1.8	1.7
17	2.7	2.6	2.9	3.1	2.9	6.7	6.7	20	9.2	3.8	1.7	1.6
18	2.7	2.6	3.0	2.8	2.7	3.7	5.6	21	8.0	3.5	1.7	1.6
19	2.9	2.6	3.0	2.6	2.4	3.8	5.8	36	7.3	3.4	1.7	2.0
20	2.9	3.0	3.0	2.4	2.2	3.7	5.3	35	7.5	3.4	1.8	2.0
21	2.9	3.0	3.0	2.3	2.1	3.6	5.2	35	7.5	3.9	2.0	1.7
22	2.9	3.0	3.0	2.3	2.1	3.0	5.6	31	7.2	3.7	1.8	2.0
23	2.5	3.0	3.0	2.3	2.1	2.9	6.3	29	7.2	3.3	1.7	2.0
24	2.5	3.0	3.0	2.2	2.1	3.6	6.1	29	7.2	3.0	1.5	2.0
25	2.5	3.0	2.9	2.1	2.1	4.2	5.3	33	6.8	2.7	1.5	2.3
26	2.5	3.0	2.8	2.0	2.1	3.8	6.6	42	6.5	2.6	1.5	2.3
27	2.5	2.9	2.8	2.0	2.0	4.2	6.8	65	6.2	2.4	1.5	2.3
28	2.5	2.8	2.8	1.9	1.9	5.6	7.1	50	6.1	2.3	1.8	2.2
29	2.5	3.1	2.8	1.9	---	4.7	7.1	44	5.9	2.2	5.5	2.1
30	2.9	3.4	2.7	1.8	---	3.3	7.4	30	5.7	2.1	2.7	2.1
31	3.1	---	2.6	1.8	---	4.4	---	20	---	1.9	2.3	---
TOTAL	87.9	82.9	94.1	99.8	66.2	134.8	182.6	667.0	370.9	114.6	60.2	57.1
MEAN	2.84	2.76	3.04	3.22	2.36	4.35	6.09	21.5	12.4	3.89	1.94	1.90
MAX	3.3	3.4	4.6	13	11	6.7	8.0	65	24	5.4	5.5	2.3
MIN	2.5	2.5	2.6	1.8	1.4	1.8	3.6	5.1	5.7	1.9	1.8	1.6
AC-FT	174	164	187	198	131	263	362	1320	736	227	119	113

CAL YR 1978 TOTAL 2199.8 MEAN 6.03 MAX 50 MIN 1.2 AC-FT 4360  
WTR YR 1979 TOTAL 2018.0 MEAN 5.53 MAX 65 MIN 1.4 AC-FT 4000

NOTE.--No gage-height record May 31 to July 25.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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10336698 THIRD CREEK NEAR CRYSTAL BAY, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1970-73, 1975, 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
FER 27...	0855	2.1	71	8.5	.5	11.5	--	.29	.04
JUN 19...	1119	7.7	45	7.5	8.0	9.4	20	.01	.00

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, 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, ORTHO. TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO. DIS- SOLVED (MG/L AS P)
FER 27...	.33	.14	.06	.30	.36	.69	.01	.01	.01
JUN 19...	.01	.01	.01	.29	.30	.31	.01	.01	.04

## 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>), revised.

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

REVISED RECORDS.--WDR CA-77-3: 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. 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, 12,070 acre-ft (14.9 hm<sup>3</sup>) Jan. 12, 15, 1979, elevation, 7,838.66 ft (2,389.22 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, 12,070 acre-ft (14.9 hm<sup>3</sup>) Jan. 12, 15, 1979, elevation, 7,838.66 ft (2,389.22 m); minimum, 11,580 acre-ft (14.3 hm<sup>3</sup>) Sept. 26-30, elevation, 7,837.45 ft (2,388.85 m).

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

7,835	10,650	7,837	11,410
7,836	11,030	7,838.5	12,000

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336710 MARLETTE LAKE NEAR CARSON CITY, NV--Continued

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11680	11660	11770	11950	11990	12040	12000	12020	12010	11880	11820	11670
2	11680	11680	11770	11950	12000	12030	12000	12030	12000	11870	11810	11660
3	11680	11680	11770	11960	12000	12030	11990	12030	12000	11870	11810	11660
4	11680	11680	11780	11960	11990	12020	11990	12030	11990	11870	11800	11660
5	11680	11680	11780	11960	11990	12010	11990	12030	11990	11860	11800	11660
6	11680	11680	11780	11970	11990	12010	12000	12030	11980	11860	11790	11660
7	11680	11680	11780	11980	11980	12000	12000	12060	11980	11860	11790	11650
8	11670	11680	11780	12000	11980	12000	11990	12050	11970	11850	11790	11650
9	11670	11670	11780	12010	11970	11990	11990	12060	11960	11850	11790	11650
10	11670	11680	11780	12010	11970	11990	11990	12060	11960	11840	11790	11640
11	11670	11680	11790	12050	11970	11990	11980	12050	11950	11840	11780	11640
12	11660	11690	11790	12070	11960	11990	11990	12050	11950	11840	11780	11640
13	11660	11710	11790	12060	12010	11960	11980	12050	11940	11830	11770	11630
14	11660	11710	11790	12060	12040	11980	11980	12050	11940	11830	11770	11630
15	11660	11710	11790	12070	12040	12000	11980	12050	11930	11830	11760	11630
16	11660	11720	11790	12060	12030	12000	11990	12060	11930	11830	11760	11630
17	11660	11720	11800	12040	12020	12000	11990	12060	11930	11820	11750	11620
18	11660	11710	11870	12030	12040	12010	11990	12060	11920	11820	11740	11610
19	11660	11720	11900	12030	12030	12030	11990	12060	11920	11820	11730	11610
20	11660	11720	11900	12020	12050	12020	11990	12060	11920	11820	11720	11610
21	11650	11740	11910	12020	12060	12010	11990	12060	11910	11850	11720	11600
22	11640	11740	11920	12010	12060	12010	12000	12060	11910	11850	11710	11600
23	11640	11740	11930	12000	12060	12000	12030	12050	11910	11850	11700	11600
24	11650	11740	11940	12000	12060	12000	12000	12050	11900	11850	11700	11590
25	11640	11740	11950	12000	12040	11990	12020	12050	11900	11840	11700	11590
26	11640	11740	11960	11990	12030	11990	12030	12040	11900	11840	11690	11580
27	11640	11740	11960	11990	12030	12020	12030	12030	11890	11830	11680	11580
28	11630	11750	11940	11990	12040	12030	12030	12030	11890	11830	11670	11580
29	11630	11750	11940	11980	---	12020	12030	12020	11880	11830	11680	11580
30	11640	11750	11940	11990	---	12010	12020	12020	11880	11820	11670	11580
31	11660	---	11940	11990	---	12010	---	12010	---	11820	11670	---
MAX	11680	11750	11960	12070	12060	12040	12030	12060	12010	11880	11820	11670
MIN	11630	11660	11770	11950	11960	11960	11980	12010	11880	11820	11670	11580
†	7837.65	7837.89	7838.37	7838.47	7838.59	7838.52	7838.55	7838.52	7838.22	7838.08	7837.69	7837.44
‡	-30	+90	+190	+50	+50	-30	+10	-10	-130	-60	-150	-90
CAL YR 1978	† +180											
WTR YR 1979	‡ -110											

† Elevation, in feet NGVD, at end of month.  
‡ 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 about 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.--2.08 mi<sup>2</sup> (5.39 km<sup>2</sup>), revised.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-77-3: Drainage area.

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

REMARKS.--Records good. Flow regulated by Marlette Lake (station 10336710).

AVERAGE DISCHARGE.--6 years, 1.98 ft<sup>3</sup>/s (0.056 m<sup>3</sup>/s), 1,430 acre-ft/yr (1.76 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9.8 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Feb. 23, 1979, gage height, 2.34 ft (0.713 m); no flow July 12-15, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.8 ft<sup>3</sup>/s (0.278 m<sup>3</sup>/s) Feb. 23, gage height, 2.34 ft (0.713 m); minimum daily, 0.03 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Oct. 9-11, 15.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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10336715 MARLETTE CREEK NEAR CARSON CITY, NV--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.07	.05	.06	2.2	6.3	3.8	4.5	4.0	.57	.12	.07
2	.05	.05	.05	.06	2.6	5.5	3.5	4.6	3.7	.49	.12	.07
3	.05	.05	.05	.06	2.4	5.2	3.2	4.7	3.5	.46	.10	.06
4	.04	.06	.05	.06	2.3	4.6	3.0	5.1	3.3	.43	.10	.06
5	.04	.06	.05	.06	2.0	4.1	2.9	6.6	3.0	.40	.09	.06
6	.04	.06	.05	.06	2.0	3.9	3.3	6.9	2.8	.37	.10	.06
7	.04	.05	.05	.05	1.9	3.6	3.3	6.3	2.6	.34	.09	.06
8	.04	.06	.05	.05	1.8	3.4	3.1	6.6	2.3	.30	.09	.06
9	.03	.04	.05	.05	1.7	3.3	3.1	6.6	2.0	.31	.09	.07
10	.03	.05	.05	.05	1.7	3.1	2.9	8.0	1.9	.22	.09	.07
11	.03	.05	.05	1.1	1.5	2.9	2.9	7.3	1.8	.21	.09	.06
12	.04	.06	.04	6.3	1.4	2.8	2.7	6.8	1.8	.17	.09	.06
13	.04	.04	.05	5.8	2.1	2.7	2.7	6.5	2.0	.17	.09	.06
14	.04	.05	.05	5.8	.88	2.4	2.8	6.7	1.7	.17	.09	.06
15	.03	.05	.04	5.8	.75	3.0	2.6	6.8	1.5	.16	.09	.06
16	.04	.06	.05	5.2	6.0	3.6	2.7	7.0	1.6	.16	.09	.06
17	.05	.06	.04	4.8	5.5	3.4	3.0	7.3	1.4	.14	.09	.07
18	.05	.07	.04	4.2	5.3	3.4	3.1	7.5	1.3	.13	.08	.07
19	.06	.07	.04	3.8	5.8	5.2	2.9	7.6	1.3	.13	.08	.06
20	.06	.07	.04	3.4	6.0	4.8	2.8	7.7	1.2	.14	.08	.06
21	.07	.05	.04	3.2	7.7	4.2	2.8	7.6	1.1	.19	.08	.06
22	.07	.05	.04	2.9	7.9	3.9	2.8	7.6	.93	.27	.08	.06
23	.06	.05	.04	2.7	8.7	3.7	3.7	7.3	.90	.27	.08	.06
24	.08	.05	.04	2.6	7.2	3.4	4.5	6.9	.85	.32	.08	.06
25	.05	.05	.04	2.5	6.5	3.2	4.1	6.9	.80	.25	.08	.06
26	.04	.05	.05	2.4	5.8	3.0	4.3	6.3	.74	.23	.07	.06
27	.05	.05	.05	2.2	5.2	3.6	4.9	6.2	.75	.23	.07	.04
28	.05	.06	.05	2.2	5.3	5.1	4.7	6.2	.78	.19	.07	.04
29	.07	.05	.05	2.0	---	5.1	4.5	5.6	.71	.17	.07	.04
30	.07	.05	.05	2.0	---	4.6	4.6	5.1	.62	.16	.07	.05
31	.07	---	.05	2.0	---	4.2	---	4.5	---	.13	.08	---
TOTAL	1.53	1.64	1.44	73.46	110.13	181.2	101.2	207.3	52.88	7.88	2.69	1.79
MEAN	.049	.055	.047	2.37	3.93	2.91	3.37	6.69	1.76	.25	.087	.060
MAX	.08	.07	.05	6.3	8.7	6.3	4.9	8.6	4.0	.57	.12	.07
MIN	.03	.04	.04	.05	.75	2.4	2.6	4.5	.62	.13	.07	.04
AC-FT	3.0	3.3	2.9	146	218	240	201	411	105	16	5.3	3.6
CAL YR 1978	TOTAL 776.03	MEAN 2.13	MAX 7.1	MIN .03	AC-FT 1540							
WTR YR 1979	TOTAL 683.14	MEAN 1.87	MAX 8.7	MIN .03	AC-FT 1360							

## WATER-QUALITY RECORDS

PERIOD OF RECORD---

CHEMICAL ANALYSES: Water years 1977 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
MAR				
05...	1145	4.2	50	1.0
MAY				
22...	1200	7.9	44	5.0
JUN				
13...	1120	1.9	42	13.0
JUL				
11...	1805	.19	48	9.0
AUG				
13...	1010	.04	57	10.0

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA

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.

DRAINAGE AREA, --36.7 mi<sup>2</sup> (95.1 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 6,250 ft (1,905 m), from topographic map.

REMARKS.--Records good except those for the winter period, which are fair. Minor diversions for local water supply.

AVERAGE DISCHARGE.--19 years, 34.5 ft<sup>3</sup>/s (0.977 m<sup>3</sup>/s), 25,000 acre-ft/yr (30.8 hm<sup>3</sup>/yr).

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 120 ft<sup>3</sup>/s (3.40 m<sup>3</sup>/s) May 27, gage height, 7.69 ft (2.344 m), no other peak above base of 100 ft<sup>3</sup>/s (2.83 m<sup>3</sup>/s); minimum daily, 9.8 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	15	14	12	11	15	17	51	88	38	19	13
2	14	17	14	12	11	14	18	50	86	35	18	13
3	14	16	13	12	11	14	19	58	86	34	18	13
4	14	16	13	13	11	15	23	63	88	34	17	13
5	14	16	13	13	11	16	25	66	88	32	17	13
6	14	16	12	13	13	18	26	62	89	31	16	12
7	14	16	12	13	13	20	24	55	87	30	16	12
8	14	15	12	13	14	21	27	51	80	29	16	12
9	14	15	12	13	17	21	28	47	76	28	16	12
10	14	13	12	14	19	22	27	47	74	26	16	12
11	14	12	13	61	19	22	28	52	73	26	16	12
12	14	12	13	49	19	22	29	63	72	26	20	12
13	14	12	13	28	24	23	34	77	71	25	24	12
14	13	13	13	26	28	24	37	78	69	24	18	11
15	13	14	13	23	23	25	39	79	66	23	17	12
16	13	16	13	21	18	22	40	82	64	22	16	11
17	13	15	13	19	16	19	36	85	65	21	16	11
18	13	15	13	18	16	18	31	88	62	20	16	10
19	13	15	13	15	15	18	29	92	57	22	15	10
20	13	15	13	15	15	18	28	92	54	26	15	10
21	14	15	13	16	15	17	31	97	52	56	15	10
22	13	15	13	15	15	16	33	102	50	46	14	9.9
23	13	15	13	15	14	17	34	100	48	31	14	10
24	13	15	13	14	14	18	32	98	48	27	14	10
25	13	14	13	14	14	20	32	100	47	26	14	10
26	13	14	13	13	14	21	40	106	45	24	14	10
27	13	14	13	12	14	19	54	110	44	22	13	10
28	13	14	13	12	15	17	49	107	42	22	13	9.9
29	13	15	12	12	---	17	48	102	40	21	14	9.8
30	12	15	12	12	---	17	51	96	39	20	14	9.9
31	13	---	12	11	---	17	---	91	---	19	14	---
TOTAL	416	440	397	549	439	583	969	2447	1950	866	495	335.5
MEAN	13.4	14.7	12.8	17.7	15.7	18.8	32.3	78.9	65.0	27.9	16.0	11.2
MAX	14	17	14	61	28	25	54	110	89	56	24	13
MIN	12	12	12	11	11	14	17	47	39	19	13	9.8
AC-FT	825	873	787	1090	871	1160	1920	4850	3870	1720	982	665
CAL YR 1978	TOTAL	10799.9	MEAN 29.6	MAX 117	MIN 7.9	AC-FT 21420						
WTR YR 1979	TOTAL	9886.5	MEAN 27.1	MAX 110	MIN 9.8	AC-FT 19610						

## PYRAMID AND WINNEMUCCA LAKES BASIN

59

10337000 LAKE TAHOE AT TAHOE CITY, CA

LOCATION.---Lat 39°10'51", long 120°07'06", in NE&NE& 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.

## WATER-DISCHARGE RECORDS

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) Water and Power Resources Service 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, 6,225.14 ft (1,897.423 m) June 7, 12, 13; minimum, 6,223.38 ft (1,896.886 m) Dec. 16.

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 1970 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.09	3.82	3.56	3.45	3.69	3.95	4.11	4.35	5.05	5.07	4.78	4.18
2	4.09	3.83	3.54	3.44	3.68	3.95	4.10	4.36	5.06	5.07	4.77	4.18
3	4.09	3.81	3.54	3.43	3.66	3.95	4.10	4.38	5.08	5.05	4.75	4.14
4	4.08	3.80	3.53	3.42	3.65	3.95	4.11	4.38	5.09	5.04	4.71	4.14
5	4.07	3.80	3.52	3.42	3.64	3.95	4.10	4.43	5.11	5.02	4.68	4.13
6	4.07	3.80	3.48	3.41	3.64	3.95	4.12	4.46	5.12	5.01	4.68	4.13
7	4.06	3.79	3.48	3.42	3.64	3.95	4.12	4.56	5.14	5.00	4.66	4.10
8	4.05	3.79	3.48	3.45	3.62	3.95	4.11	4.58	5.12	4.98	4.65	4.09
9	4.05	3.78	3.47	3.45	3.63	3.95	4.11	4.58	5.12	4.95	4.64	4.07
10	4.05	3.75	3.45	3.49	3.61	3.95	4.11	4.59	5.13	4.95	4.63	4.07
11	4.05	3.70	3.44	3.65	3.60	3.95	4.11	4.59	5.13	4.93	4.62	4.06
12	4.04	3.70	3.43	3.68	3.57	3.96	4.11	4.61	5.14	4.94	4.61	4.05
13	4.03	3.70	3.43	3.67	3.72	3.96	4.12	4.63	5.14	4.93	4.57	4.04
14	4.02	3.66	3.42	3.72	3.76	3.97	4.11	4.67	5.13	4.93	4.55	4.03
15	4.00	3.65	3.41	3.75	3.77	4.00	4.11	4.69	5.12	4.92	4.53	4.02
16	4.00	3.64	3.38	3.75	3.78	3.99	4.13	4.71	5.12	4.91	4.51	4.01
17	4.00	3.64	3.47	3.74	3.77	3.99	4.15	4.73	5.12	4.90	4.48	4.00
18	3.97	3.62	3.53	3.72	3.81	4.01	4.15	4.76	5.12	4.89	4.47	3.97
19	3.96	3.60	3.53	3.73	3.80	4.03	4.16	4.79	5.12	4.88	4.44	3.96
20	3.95	3.60	3.53	3.73	3.86	4.03	4.16	4.82	5.12	4.89	4.42	3.96
21	3.95	3.60	3.52	3.72	3.89	4.01	4.16	4.85	5.12	4.90	4.39	3.93
22	3.93	3.60	3.51	3.70	3.93	4.02	4.17	4.88	5.13	4.90	4.38	3.92
23	3.89	3.59	3.51	3.72	3.94	4.02	4.24	4.91	5.13	4.87	4.36	3.90
24	3.88	3.58	3.51	3.72	3.94	4.02	4.24	4.94	5.12	4.87	4.33	3.90
25	3.88	3.57	3.50	3.71	3.93	4.01	4.25	4.96	5.12	4.86	4.33	3.88
26	3.87	3.55	3.50	3.71	3.93	3.96	4.28	4.98	5.12	4.85	4.31	3.86
27	3.86	3.54	3.49	3.71	3.93	4.10	4.30	4.99	5.12	4.83	4.29	3.85
28	3.84	3.54	3.48	3.70	3.96	4.12	4.32	5.01	5.11	4.82	4.29	3.84
29	3.82	3.54	3.47	3.70	---	4.12	4.34	5.04	5.10	4.81	4.25	3.83
30	3.80	3.52	3.47	3.69	---	4.11	4.34	5.05	5.10	4.80	4.24	3.83
31	3.82	---	3.45	3.69	---	4.11	---	5.05	---	4.79	4.20	---
MEAN	3.98	3.67	3.48	3.62	3.76	4.00	4.17	4.72	5.12	4.92	4.50	4.00
MAX	4.09	3.83	3.56	3.75	3.96	4.12	4.34	5.05	5.14	5.07	4.78	4.18
MIN	3.80	3.52	3.38	3.41	3.57	3.95	4.10	4.35	5.05	4.79	4.20	3.83
†	99500	63100	54600	83800	116600	134800	162700	249100	255200	217500	145700	100800
‡	-34100	-36400	-8500	+29200	+32800	+18200	+27900	+86400	+6100	-37700	-71800	-44900
CAL YR 1978	‡	-32800										
WTR YR 1979	‡	+54600										

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

‡ Change in contents, in acre-feet.

NOTE.--Add 6,200 ft to obtain elevation above mean sea level, Water and Power Resources Service datum, at 2400 hours.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10337000 LAKE TAHOE AT TAHOE CITY, CA--Continued

## WATER-QUALITY RECORDS

LAKE TAHOE SITE NO. 3 AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°57'11", long 119°59'43", El Dorado County, Hydrologic Unit 16050101, 1.5 mi (2.4 km) northwest of South Lake Tahoe Post Office.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1979 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAMPLING DEPTH (M) 1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)
JUN							
20...	1331	.50	88	7.9	12.8	8.1	97
20...	1332	1.0	88	7.9	12.8	8.2	98
20...	1333	2.0	88	7.9	12.8	8.2	98
20...	1334	3.0	88	7.9	12.8	8.2	98
20...	1335	4.0	88	7.9	12.8	8.2	98
20...	1336	5.0	88	7.9	12.8	8.2	98
20...	1337	6.0	88	7.9	12.8	8.2	98
20...	1338	7.0	91	7.9	12.7	8.2	98
20...	1339	8.0	90	7.9	12.7	8.2	98
20...	1340	9.0	90	7.9	12.6	8.1	96
20...	1341	10.0	90	7.9	12.5	8.2	97
20...	1342	11.0	88	7.9	12.3	8.2	97
20...	1343	12.0	89	7.9	12.2	8.2	97
20...	1344	13.0	88	7.9	12.1	8.2	96
20...	1345	15.0	88	7.8	11.9	8.2	96
20...	1346	16.0	88	7.8	11.3	8.3	96
20...	1347	17.0	89	7.8	11.2	8.3	96
20...	1348	18.0	89	7.8	11.0	8.4	96
20...	1349	19.0	89	7.8	10.6	8.5	97
20...	1350	20.0	89	7.8	10.4	8.6	97
20...	1351	21.0	90	7.8	10.2	8.6	97
20...	1352	22.0	89	7.8	10.0	8.7	97
20...	1353	23.0	89	7.8	9.8	8.8	98
20...	1355	24.0	90	7.8	9.7	8.8	98
20...	1356	25.0	90	7.8	9.4	8.8	97
20...	1357	26.0	90	7.8	9.3	8.8	97
20...	1358	27.0	88	7.8	8.9	8.9	97
20...	1359	28.0	90	7.8	8.7	9.0	98
20...	1400	29.0	90	7.8	8.6	9.0	97
20...	1401	30.0	90	7.8	8.6	9.0	97
20...	1402	31.0	88	7.8	8.4	9.0	97
20...	1403	32.0	89	7.8	8.2	9.0	96
20...	1404	34.0	89	7.8	7.9	9.1	97
20...	1405	36.0	90	7.8	7.5	9.1	96
20...	1406	38.0	91	7.8	7.2	9.2	96
20...	1407	40.0	89	7.8	7.1	9.2	96
20...	1408	42.0	89	7.8	7.0	9.2	96
20...	1409	44.0	89	7.8	6.9	9.2	96
20...	1410	46.0	89	7.8	6.8	9.2	95
20...	1411	48.0	89	7.8	6.7	9.2	95
20...	1412	50.0	89	7.8	6.7	9.2	95
20...	1413	55.0	89	7.8	6.6	9.2	95
20...	1414	60.0	89	7.8	6.5	9.2	95
20...	1415	65.0	88	7.8	6.2	9.2	94
20...	1416	70.0	88	7.8	6.1	9.2	94
20...	1417	75.0	88	7.8	6.1	9.2	94
20...	1418	80.0	88	7.8	6.0	9.2	93
20...	1419	81.0	88	7.8	5.8	9.1	92
20...	1420	82.0	88	7.8	5.8	9.1	92
20...	1421	83.0	88	7.8	5.8	9.1	92
20...	1422	84.0	88	7.8	5.8	9.1	92
20...	1423	85.0	90	7.7	5.7	9.1	92
20...	1424	90.0	88	7.7	5.5	9.0	90
20...	1425	92.0	88	7.7	5.4	8.9	89
20...	1426	93.0	88	7.7	5.4	8.9	89
20...	1427	94.0	88	7.7	5.4	8.9	89
20...	1428	95.0	88	7.7	5.3	8.8	88
20...	1429	96.0	88	7.7	5.3	8.8	88
20...	1430	97.0	88	7.6	5.3	8.8	88
20...	1431	98.0	90	7.6	5.2	8.8	88

1. To convert meters to feet, multiply by 3.281.



## PYRAMID AND WINNEMUCCA LAKES BASIN

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10337000 LAKE TAHOE AT TAHOE CITY, CA--Continued

LAKE TAHOE SITE NO. 3 AT SOUTH LAKE TAHOE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	ALKA- LINITY (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N02)
JUN										
20...	1435	49	10	88	7.9	43	.01	.01	.00	.01
20...	1440	82	82	89	7.9	42	.01	.00	.00	.02
20...	1445	164	131	96	7.4	41	.00	.02	.02	.01

DATE	NITRO- GEN, N02+N03 TOTAL (MG/L AS N)	NITRO- GEN, N02+N03 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,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
JUN									
20...	.01	.01	.00	.00	.25	.25	.26	.01	.04
20...	.01	.01	.01	.01	.66	.67	.68	.00	.04
20...	.02	.02	.01	.00	1.2	1.2	1.2	.00	.04

## LAKE TAHOE SITE NO. 2 AT EMERALD BAY, NEAR SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°57'23", long 120°05'39", El Dorado County, Hydrologic Unit 16050101, at Emerald Bay, 7.0 mi (11.3 km) west of South Lake Tahoe Post Office.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1979 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
20...	1531	.50	59	7.9	13.4	8.2	99
20...	1532	1.0	60	7.8	13.2	8.2	99
20...	1533	2.0	60	7.8	13.2	8.2	99
20...	1534	3.0	60	7.8	13.2	8.2	99
20...	1535	4.0	60	7.8	13.2	8.2	99
20...	1536	5.0	58	7.8	12.8	8.2	98
20...	1537	6.0	59	7.8	12.6	8.3	99
20...	1538	7.0	59	7.8	12.4	8.3	98
20...	1539	8.0	59	7.7	12.1	8.3	98
20...	1540	9.0	57	7.7	11.9	8.4	98
20...	1541	10.0	57	7.8	11.7	8.5	99
20...	1542	11.0	59	7.8	11.2	8.7	100
20...	1543	12.0	59	7.8	10.9	8.8	101
20...	1544	13.0	63	7.9	9.5	9.1	101
20...	1545	14.0	65	7.9	9.0	9.2	101
20...	1546	15.0	66	7.8	8.2	9.5	102
20...	1547	16.0	66	7.8	8.0	9.4	100
20...	1548	17.0	64	7.8	7.9	9.5	101
20...	1549	18.0	68	7.8	7.0	9.6	100
20...	1550	19.0	68	7.8	6.9	9.4	98
20...	1551	20.0	67	7.7	6.6	9.3	96
20...	1552	21.0	67	7.7	6.5	9.4	97
20...	1553	22.0	67	7.6	6.4	9.4	96
20...	1554	23.0	67	7.6	6.3	9.3	95
20...	1555	24.0	68	7.6	6.2	9.3	95
20...	1556	25.0	68	7.6	6.1	9.2	94
20...	1557	26.0	68	7.6	6.0	9.1	92
20...	1558	28.0	68	7.5	5.9	9.0	91
20...	1559	30.0	68	7.5	5.9	9.0	91
20...	1600	32.0	69	7.4	5.7	8.9	90
20...	1601	34.0	69	7.4	5.6	8.9	89
20...	1602	36.0	69	7.4	5.6	8.8	88
20...	1603	38.0	69	7.4	5.5	8.8	88
20...	1604	40.0	69	7.4	5.5	8.8	88
20...	1605	45.0	69	7.4	5.4	8.7	87
20...	1606	50.0	70	7.3	5.2	8.5	85
20...	1607	55.0	70	7.3	5.2	8.4	84
20...	1608	60.0	70	7.3	5.1	8.3	82
20...	1609	61.0	70	7.3	5.1	8.2	81
20...	1610	62.0	78	7.0	5.1	7.0	70

1. To convert meters to feet, multiply by 3.281.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10337000 LAKE TAHOE AT TAHOE CITY, CA--Continued

LAKE TAHOE SITE NO. 2 AT EMERALD BAY, NEAR SOUTH LAKE TAHOE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	ALKA- LINITY (MG/L AS CACO3)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
JUN										
20...	1615	33	10	58	7.8	27	.00	.00	.00	.00
20...	1620	49	49	66	7.8	30	.01	.00	.00	.00
20...	1625	164	131	69	7.3	33	.01	.00	.00	.00

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	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, ORTHO, DIS- SOLVED (MG/L AS P)
JUN									
20...	.00	.00	.00	.01	.04	.04	.04	.01	.04
20...	.01	.01	.00	.01	.40	.40	.41	.00	.04
20...	.01	.00	.01	.00	.08	.09	.10	.00	.04

## LAKE TAHOE SITE NO. 1 NEAR TAHOE CITY, CA

LOCATION.--Lat 39°14'07", long 119°56'53", Washoe County, Nevada, Hydrologic Unit 16050101, at Incline Beach,  
11.1 mi (17.9 km) northeast of Tahoe City.

PERIOD OF RECORD.--  
CHEMICAL ANALYSES: Water years 1978 to September 1979 (discontinued).

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
20...	1020	.50	88	8.1	13.6	8.0	97
20...	1021	1.0	88	8.1	13.6	8.0	97
20...	1022	2.0	90	8.0	13.2	8.0	96
20...	1023	3.0	90	8.0	13.1	8.1	97
20...	1024	4.0	88	8.0	13.0	8.1	97
20...	1025	5.0	88	8.0	12.9	8.1	97
20...	1026	6.0	88	8.0	12.8	8.2	98
20...	1027	7.0	88	8.0	12.8	8.2	98
20...	1028	8.0	90	7.9	12.6	8.2	98
20...	1029	9.0	88	7.9	12.4	8.2	97
20...	1030	10.0	88	7.9	12.3	8.2	97
20...	1031	12.0	89	7.9	12.1	8.2	96
20...	1032	14.0	89	7.9	12.0	8.2	96
20...	1033	15.0	89	7.9	12.0	8.2	96
20...	1034	16.0	89	7.9	12.0	8.2	96
20...	1035	18.0	88	7.9	12.0	8.2	96
20...	1036	20.0	88	7.9	11.9	8.2	96
20...	1037	22.0	88	7.9	11.9	8.2	96
20...	1038	24.0	88	7.9	11.8	8.3	97
20...	1039	26.0	89	7.9	11.7	8.3	97
20...	1040	27.0	89	7.9	11.1	8.4	96
20...	1041	28.0	90	7.9	10.6	8.6	98
20...	1042	29.0	90	7.9	9.7	8.8	98
20...	1043	30.0	90	7.9	9.5	8.9	98
20...	1044	31.0	90	7.9	9.1	8.9	97
20...	1045	32.0	91	7.9	8.7	9.0	98
20...	1046	33.0	90	7.9	8.5	9.0	97
20...	1047	34.0	91	7.9	8.2	9.1	97
20...	1048	35.0	89	7.9	8.1	9.1	97
20...	1049	36.0	89	7.9	8.0	9.1	97
20...	1050	37.0	89	7.9	8.0	9.1	97
20...	1051	38.0	89	7.9	7.9	9.1	97
20...	1052	40.0	91	7.9	7.7	9.1	96
20...	1053	42.0	90	7.9	7.5	9.2	97
20...	1054	44.0	90	7.9	7.4	9.2	97
20...	1055	46.0	91	7.9	7.2	9.2	96
20...	1056	48.0	89	7.9	6.9	9.3	96
20...	1057	50.0	90	7.9	6.7	9.3	96
20...	1058	55.0	89	7.9	6.4	9.3	96

1. To convert meters to feet, multiply by 3.281.

PYRAMID AND WINNEMUCCA LAKES BASIN

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10337000 LAKE TAHOE AT TAHOE CITY, CA--Continued

LAKE TAHOE SITE NO. 1 NEAR TAHOE CITY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) <u>1</u> /	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVFD (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
20...	1059	60.0	90	7.9	6.1	9.3	95
20...	1100	65.0	88	7.9	6.0	9.3	94
20...	1101	70.0	88	7.9	5.8	9.3	94
20...	1102	75.0	90	7.9	5.7	9.2	93
20...	1103	80.0	90	7.8	5.7	9.2	93
20...	1104	85.0	90	7.8	5.5	9.1	91
20...	1105	87.0	88	7.6	5.5	9.1	91

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	ALKA- LINIT (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N02)
JUN										
20...	1110	49	10	90	7.9	--	.01	.00	.00	.01
20...	1115	164	115	90	7.9	40	.01	.00	.00	.00

DATE	NITRO- GEN, N02+N03 TOTAL (MG/L AS N)	NITRO- GEN, N02+N03 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,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
JUN									
20...	.01	.01	.00	.00	.21	.21	.22	.00	.04
20...	.01	.00	.00	.00	.05	.05	.06	.00	.04

1. To convert meters to feet, multiply by 3.281.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10337500 TRUCKEE RIVER AT TAHOE CITY, CA

LOCATION.--Lat 39°09'59", long 120°08'36", in NE¼NW¼ sec.7, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050101, on left bank 510 ft (155 m) downstream from dam at outlet of Lake Tahoe at Tahoe City.

DRAINAGE AREA.--507 mi<sup>2</sup> (1,313 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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."

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

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. Nov. 12, 1912, to Sept. 30, 1937, nonrecording gage, Oct. 1, 1937, to Aug. 21, 1957, water-stage recorder at datum 2.26 ft (0.689 m) higher and Aug. 22, 1957, to July 10, 1960, at datum 2.42 ft (0.738 m) higher; all at site 270 ft (82 m) upstream.

REMARKS.--Records good. 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.

AVERAGE DISCHARGE (unadjusted).--79 years (water years 1901-79), 245 ft<sup>3</sup>/s (6.938 m<sup>3</sup>/s), 177,500 acre-ft/yr (219 hm<sup>3</sup>/yr).

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, 455 ft<sup>3</sup>/s (12.9 m<sup>3</sup>/s) Aug. 9, gage height, 4.57 ft (1.393 m); minimum daily, 8.7 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Oct. 19-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	134	67	39	92	168	65	67	72	255	439	289
2	31	139	69	39	94	168	65	66	72	328	439	275
3	34	134	64	38	90	168	66	68	73	316	437	269
4	34	134	65	38	91	168	75	68	74	312	434	265
5	34	129	62	40	87	169	92	68	73	314	434	261
6	34	132	52	37	86	136	93	65	75	316	437	260
7	33	130	51	37	83	69	91	66	75	314	439	254
8	34	129	42	40	82	69	94	66	73	315	439	245
9	34	123	42	45	79	67	86	66	74	361	447	243
10	33	134	41	47	78	68	63	66	75	374	447	237
11	33	109	40	89	76	69	63	68	76	372	442	232
12	33	95	44	100	71	70	67	69	76	371	442	230
13	31	108	37	106	88	71	72	70	76	374	442	226
14	21	101	36	109	129	70	73	72	75	374	437	208
15	21	90	35	123	128	69	72	72	75	378	437	157
16	21	88	33	127	93	67	72	72	76	384	429	163
17	21	86	32	91	50	67	68	73	76	423	426	151
18	18	85	49	39	53	67	67	72	76	413	421	85
19	8.7	68	59	63	57	66	67	71	88	423	401	62
20	8.7	74	58	118	58	66	67	74	121	447	389	63
21	8.7	78	58	118	58	66	67	73	121	449	377	64
22	8.7	75	59	117	58	67	66	73	120	450	370	64
23	8.7	76	57	116	71	69	66	72	120	447	360	65
24	8.7	78	56	110	98	70	67	72	120	445	353	65
25	8.7	67	55	106	112	72	68	71	130	443	344	65
26	8.7	65	55	103	122	68	70	72	138	441	335	63
27	32	63	52	101	122	66	70	73	157	440	331	64
28	41	62	51	101	145	64	70	72	203	438	317	65
29	28	62	49	90	---	63	69	71	221	438	313	66
30	53	61	46	91	---	64	69	71	220	439	304	67
31	134	---	42	93	---	64	---	72	---	437	298	---
TOTAL	918.6	2909	1558	2511	2451	2665	2160	2171	3101	12031	12360	4823
MEAN	29.6	97.0	50.3	81.0	87.5	86.0	72.0	70.0	103	388	399	161
MAX	134	139	69	127	145	169	94	74	221	450	447	289
MIN	8.7	61	32	37	50	63	63	65	72	255	298	62
AC-FT	1820	5770	3090	4980	4860	5290	4280	4310	6150	23860	24520	9570
CAL YR 1978 TOTAL	34732.23			MEAN 95.2	MAX 463	MIN 21	AC-FT 68890					
WTR YR 1979 TOTAL	49658.60			MEAN 136	MAX 450	MIN 8.7	AC-FT 98500					

10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

(NOT PREVIOUSLY PUBLISHED)

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
FEB 22...	1315	27	96	7.8	7.0	10.3	--	32	8.6	2.6	5.7
MAR 24...	1000	34	101	7.4	5.5	9.9	--	33	9.3	2.3	7.5
APR 21...	0815	51	95	7.9	3.0	10.0	1	32	8.9	2.5	6.0
MAY 25...	1145	59	95	7.5	9.5	9.7	--	33	9.2	2.4	6.2
JUN 27...	1045	51	96	7.7	14.0	8.4	--	32	8.8	2.4	5.6
JUL 26...	1200	163	95	7.8	20.0	8.0	--	32	9.3	2.2	6.2
AUG 23...	1000	421	--	8.0	15.0	8.5	--	33	9.0	2.6	5.9
SEP 27...	0830	81	98	7.6	14.0	8.4	2	33	8.3	3.0	6.1

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
FEB 22...	.4	1.5	41	1.6	67	.00	.00	.00	.10	.01
MAR 24...	.6	1.1	41	2.2	60	.16	.01	.01	.10	.00
APR 21...	.5	1.3	43	1.2	67	.00	.00	.00	.00	.00
MAY 25...	.5	1.6	43	4.2	59	.01	.00	.00	.10	.01
JUN 27...	.4	1.5	42	2.4	70	.01	.02	.00	.10	.01
JUL 26...	.5	1.6	43	2.2	72	.00	.02	.00	.20	.01
AUG 23...	.4	1.5	43	2.5	63	.01	.00	.02	.00	.00
SEP 27...	.5	1.7	42	2.6	62	.02	.00	.02	.10	.01

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
FEB 22...	1315	--	--	0	--	--	--
MAR 24...	1000	--	--	100	--	--	--
APR 21...	0815	0	0	0	0	0	0
MAY 25...	1145	--	--	0	--	--	--
JUN 27...	1045	--	--	0	--	--	--
JUL 26...	1200	0	0	0	0	0	0
AUG 23...	1000	--	--	0	--	--	--
SEP 27...	0830	0	0	0	0	0	10

## PYRAMID AND WINNEMUCCA LAKES BASIN

10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978  
(NOT PREVIOUSLY PUBLISHED)

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
FEB 22...	--	--	--	--	--	--
MAR 24...	--	--	--	--	--	--
APR 21...	20	0	0	.1	0	.7
MAY 25...	--	--	--	--	--	--
JUN 27...	--	--	--	--	--	--
JUL 26...	0	0	0	.0	0	--
AUG 23...	--	--	--	--	--	--
SEP 27...	800	0	20	.1	10	2.4

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 26...	1120	88.7	97	7.9	10.5	8.9	--	33	8.9	2.7	6.0
NOV 29...	1110	62	94	7.4	9.0	9.6	--	32	8.5	2.7	6.7
DEC 27...	1400	50	98	7.6	5.5	10.2	--	30	9.0	2.0	7.0
JAN 24...	1045	114	95	7.5	5.0	9.8	--	35	9.0	3.0	7.1
FEB 26...	1250	123	94	7.6	4.5	9.9	--	32	9.0	2.0	6.0
MAR 14...	0945	67	95	7.4	6.5	9.9	0	30	9.0	2.0	6.0
APR 26...	0900	68	94	7.4	7.0	9.7	--	30	9.0	2.0	6.0
MAY 24...	0800	73	94	7.6	9.0	9.2	--	30	9.0	2.0	6.0
JUN 26...	1645	139	92	7.9	14.5	8.5	--	30	9.0	2.0	6.0
JUL 25...	1000	445	94	7.6	17.0	8.2	--	30	9.0	2.0	6.0
AUG 24...	1025	356	94	7.9	17.0	7.9	--	30	9.0	2.0	6.0
SEP 27...	1530	63	94	8.0	19.0	8.3	1	30	9.0	2.0	6.0

E Estimated.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT										
26...	.5	1.4	43	2.1	73	.00	.02	.00	.10	.01
NOV										
29...	.5	1.7	42	2.0	54	.01	.00	.00	.10	.01
DEC										
27...	.5	1.6	44	3.0	65	.00	.00	.00	.00	.00
JAN										
24...	.5	1.7	43	2.9	51	.00	.00	.00	.10	.00
FEB										
26...	.5	1.8	40	2.0	66	--	--	--	--	.00
MAR										
14...	.5	1.7	40	1.0	66	--	--	--	--	.00
APR										
26...	.5	1.7	41	.0	56	--	--	--	--	.00
MAY										
24...	.5	1.7	41	2.0	60	--	--	--	--	.00
JUN										
26...	.5	1.7	41	2.0	64	--	--	--	--	.00
JUL										
25...	.5	2.1	41	2.0	59	--	--	--	--	.00
AUG										
24...	.5	1.7	40	1.0	64	--	--	--	--	.00
SEP										
27...	.5	1.7	41	1.0	64	--	--	--	--	.00

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT							
26...	1120	--	--	100	--	--	--
NOV							
29...	1110	--	--	0	--	--	--
DEC							
27...	1400	0	0	0	0	0	0
JAN							
24...	1045	--	--	0	--	--	--
FEB							
26...	1250	--	--	0	--	--	--
MAR							
14...	0945	10	0	0	0	0	0
APR							
26...	0900	--	--	0	--	--	--
MAY							
24...	0800	0	0	0	0	0	0
JUN							
26...	1645	--	--	0	--	--	--
JUL							
25...	1000	0	0	0	0	0	0
AUG							
24...	1025	--	--	0	--	--	--
SEP							
27...	1530	0	0	0	0	0	0

## PYRAMID AND WINNEMUCCA LAKES BASIN

10337500 TRUCKEE RIVER AT TAHOE CITY, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT						
26...	--	--	--	--	--	--
NOV						
29...	--	--	--	--	--	--
DEC						
27...	10	10	0	.0	0	--
JAN						
24...	--	--	--	--	--	--
FEB						
26...	--	--	--	--	--	--
MAR						
14...	0	0	0	.0	0	.7
APR						
26...	--	--	--	--	--	--
MAY						
24...	20	0	0	.0	0	--
JUN						
26...	--	--	--	--	--	--
JUL						
25...	0	0	10	.0	0	--
AUG						
24...	--	--	--	--	--	--
SEP						
27...	0	0	0	.0	0	1.3



## PYRAMID AND WINNEMUCCA LAKES BASIN

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10338000 TRUCKEE RIVER NEAR TRUCKEE, CA

LOCATION (REVISED).--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.

DRAINAGE AREA.--553 mi<sup>2</sup> (1,432 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1944 to September 1961, June 1977 to current year. Monthly discharge only for some periods, published in WSP 1314.

REVISED RECORDS.--WDR CA-77-3: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,860 ft (1,786 m), from topographic map.

REMARKS.--Records good. Flow regulated by Lake Tahoe (station 10337000), operating capacity, 744,600 acre-ft (918 hm<sup>3</sup>).

AVERAGE DISCHARGE.--18 years (water years 1946-61, 1978-79), 328 ft<sup>3</sup>/s (9.29 m<sup>3</sup>/s), 237,600 acre-ft/yr (293 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,760 ft<sup>3</sup>/s (220 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 7.92 ft (2.414 m), from rating curve extended above 2,500 ft<sup>3</sup>/s (70.8 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 7.62 ft (2.323 m) and 7.92 ft (2.414 m); minimum daily, 7.7 ft<sup>3</sup>/s (0.22 m<sup>3</sup>/s) Nov. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 763 ft<sup>3</sup>/s (21.6 m<sup>3</sup>/s) Jan. 11, gage height, 2.74 ft (0.835 m); minimum daily, 24 ft<sup>3</sup>/s (0.68 m<sup>3</sup>/s) Oct. 21-26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	150	90	43	111	196	121	313	287	292	442	301
2	49	150	84	52	115	192	122	323	287	395	443	288
3	47	150	74	52	115	192	126	374	387	385	442	282
4	47	148	76	52	111	192	144	421	329	383	439	274
5	45	144	79	52	108	196	190	435	325	382	437	270
6	45	141	65	46	105	201	216	377	331	382	439	270
7	45	140	55	44	105	134	197	320	291	379	438	264
8	45	140	48	47	102	154	211	282	248	377	439	255
9	47	139	56	52	102	160	215	263	236	408	441	247
10	47	145	54	57	99	168	176	260	241	425	444	243
11	45	133	51	456	99	176	174	274	248	421	443	239
12	43	111	51	239	96	179	188	300	254	417	440	234
13	43	116	49	173	121	188	224	342	254	417	439	231
14	37	121	43	160	207	196	246	393	226	416	435	227
15	34	105	41	163	177	197	261	434	205	412	429	163
16	34	103	39	160	160	169	269	462	195	411	426	166
17	34	96	38	143	82	162	236	472	194	444	424	163
18	32	97	49	72	82	144	207	490	177	432	417	105
19	29	82	81	67	85	137	192	499	171	432	405	77
20	26	86	107	137	85	129	190	498	216	466	393	75
21	24	89	88	140	90	127	200	535	223	469	381	76
22	24	85	83	137	82	122	205	519	218	465	377	74
23	24	85	83	137	82	123	198	456	219	459	366	74
24	24	87	81	134	121	129	189	427	220	483	357	76
25	24	81	78	131	134	140	188	435	218	450	348	74
26	24	75	75	128	146	144	261	475	231	448	344	73
27	34	74	67	125	146	149	357	467	230	447	339	72
28	63	71	63	125	160	139	328	417	273	443	332	72
29	50	75	58	111	---	128	310	357	296	443	333	72
30	40	80	52	115	---	123	323	311	290	443	315	72
31	143	---	47	118	---	121	---	292	---	442	312	---
TOTAL	1338	3299	2005	3668	3228	4897	6464	12223	7439	13028	12459	5109
MEAN	43.2	110	64.7	118	115	158	215	394	248	420	402	170
MAX	143	150	107	456	207	201	357	535	331	469	444	301
MIN	24	71	38	43	82	121	121	260	171	292	312	72
AC-FT	2650	6540	3980	7280	6400	9710	12820	24240	14760	25840	24710	10130
CAL YR 1978	TOTAL	72544	MEAN 199	MAX 551	MIN 24	AC-FT	143900					
WTR YR 1979	TOTAL	75157	MEAN 206	MAX 535	MIN 24	AC-FT	149100					

## PYRAMID AND WINNEMUCCA LAKES BASIN

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-66, 1977 to current year.

CHEMICAL ANALYSES: Water years 1951-66.

SPECIFIC CONDUCTANCE: Water years 1977 to current year.

WATER TEMPERATURES: Water years 1977 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1977 to current year.

WATER TEMPERATURES: July 1977 to current year.

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

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 231 micromhos Oct. 14, 1977; minimum recorded, 40 micromhos

June 7, 9, 14, 1978.

WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 4, 1978; minimum recorded, 0.0°C on many days in 1977-79.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 152 micromhos Oct. 21; minimum recorded, 48 micromhos May 16.

WATER TEMPERATURES: Maximum recorded, 22.5°C Aug. 10; ; minimum recorded, 0.0°C on many days during December. to March.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	---	---	117	103	98	112	---		---	91	93
2	110	103	105	113	103	100	112	72		---	92	93
3	113	101	106	106	105	102	110	65		---	92	93
4	112	100	105	106	105	102	107	63		90	92	93
5	112	101	108	109	104	103	99	62		89	92	93
6	113	100	110	110	104	103	96	65		90	92	93
7	113	99	114	112	105	110	99	63		90	92	93
8	113	99	115	115	105	107	97	65		90	92	94
9	112	100	107	116	105	106	96	68		89	92	94
10	112	101	101	117	105	105	100	68		89	92	94
11	113	100	106	70	105	104	101	65		89	92	94
12	113	---	109	81	105	104	99	63		89	92	94
13	113	---	110	97	107	102	93	60		90	92	94
14	116	---	112	97	100	100	90	58		90	93	94
15	118	---	113	95	105	100	86	53		90	92	95
16	119	---	113	99	104	106	87	50		90	92	94
17	119	---	110	100	114	107	90	58		90	92	96
18	121	---	108	108	113	108	96	57		90	92	99
19	125	---	104	111	111	108	98	56		91	93	104
20	131	---	109	103	112	113	97	55		90	92	104
21	140	104	105	101	107	110	95	---		90	92	104
22	141	105	105	102	108	109	93	---		91	93	103
23	140	105	105	102	107	110	96	---		91	93	103
24	140	105	105	101	102	110	100	---		91	93	103
25	141	105	106	102	103	107	100	---		91	93	104
26	142	106	106	106	104	105	---	---		91	93	104
27	139	---	105	104	106	106	---	---		91	93	104
28	108	---	107	106	102	106	---	---		91	93	104
29	110	---	109	108	---	111	---	---		91	92	104
30	122	---	112	103	---	110	---	---		91	92	104
31	---	---	117	100	---	111	---	---		91	92	---
MONTH	121	---	108	104	106	106	98	---		90	92	98

10338000 TRUCKEE RIVER NEAR TRUCKEE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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



## PYRAMID AND WINNEMUCCA LAKES BASIN

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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 (revised) 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 north 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>), revised.

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.

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 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, 25.0°C July 12, 13, 16, 31; minimum recorded, -0.5°C Jan. 5, 10-16.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
MAY 23...	0900	21	72	8.1	8.0	4.1	9.8	--	.02	--	.04
SEP 28...	1015	2.2	129	7.5	7.0	.90	10.6	.08	.00	.08	.01

DATE	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, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
MAY 23...	1.1	1.1	--	.05	.04	14	11	3	370	270
SEP 28...	.19	.20	.28	.01	.01	0	0	2	120	50

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 23...	100	53	37	16	50	10	40	110	--	--
SEP 28...	70	22	0	26	0	0	10	0	0	<3

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	0.0	7.5	2.0	19.5	5.0	21.5	6.0	24.5	8.5	20.0	5.5
2	10.0	0.0	14.0	3.5	21.0	5.5	22.5	7.0	24.5	8.0	20.5	8.0
3	11.5	0.0	14.5	3.0	20.5	7.5	21.0	7.5	23.5	7.0	20.5	7.5
4	13.0	0.5	13.0	4.5	22.0	8.0	22.0	7.0	23.5	9.0	20.5	6.5
5	13.5	0.5	8.0	3.0	23.0	8.0	20.5	7.5	23.0	8.0	21.0	6.0
6	9.5	1.5	9.0	2.0	22.5	9.0	21.5	6.0	23.5	8.0	21.5	6.5
7	12.5	0.5	7.0	1.0	19.0	6.5	19.0	6.0	20.0	11.0	21.0	7.0
8	12.5	0.5	10.0	1.0	20.5	4.5	21.5	5.0	23.0	10.0	20.5	8.0
9	9.5	1.5	10.0	1.0	21.0	5.5	22.0	8.0	24.5	9.0	19.5	5.5
10	10.0	0.0	14.0	1.5	22.0	7.0	22.0	6.5	24.0	10.5	20.0	4.5
11	11.0	2.0	15.5	2.5	22.5	7.0	22.5	7.5	21.0	10.5	20.0	5.5
12	12.5	2.0	15.5	3.0	22.0	8.0	25.0	8.0	20.5	9.0	19.5	6.0
13	12.5	1.0	16.5	4.0	21.0	9.5	25.0	8.5	22.5	11.0	21.0	7.0
14	12.0	0.5	16.0	4.0	20.5	6.5	24.5	9.5	18.0	7.0	20.5	7.0
15	11.5	1.0	15.0	4.5	20.5	5.0	24.0	9.0	21.0	6.0	20.0	6.5
16	8.5	1.5	16.5	5.0	19.0	5.5	25.0	10.0	21.0	7.0	---	---
17	8.5	0.0	16.5	4.5	13.5	6.0	24.5	9.0	21.5	8.0	---	---
18	9.0	1.5	17.5	5.0	13.0	5.0	24.0	7.5	20.5	7.5	---	---
19	11.0	0.0	17.5	5.5	20.5	5.5	20.5	10.0	17.5	6.0	---	---
20	12.0	0.5	18.0	5.5	22.0	7.0	16.5	10.5	14.0	9.0	---	---
21	13.0	1.5	18.5	6.5	22.0	6.5	13.5	11.5	19.5	8.0	---	---
22	8.0	2.0	16.0	7.0	22.5	6.0	23.5	10.0	20.5	5.5	---	---
23	8.5	1.0	16.0	6.5	24.0	8.0	24.5	9.0	20.5	6.0	---	---
24	12.0	1.0	17.5	6.0	23.5	8.5	23.5	10.0	20.5	5.0	---	---
25	10.5	1.0	19.5	6.0	23.0	7.5	24.5	9.5	20.5	5.5	---	---
26	9.5	4.5	20.0	8.0	23.5	7.0	24.0	9.5	20.5	5.0	15.5	3.5
27	12.5	2.5	17.0	8.0	23.0	6.5	24.0	9.0	21.5	6.5	16.5	3.0
28	11.5	1.0	18.0	6.0	23.5	7.0	23.5	7.5	16.0	7.0	17.0	4.0
29	11.0	2.0	17.5	5.0	20.5	8.0	24.0	7.5	18.5	9.5	17.0	4.0
30	13.0	2.0	18.0	4.5	22.5	7.0	24.5	8.0	17.0	8.5	17.5	5.0
31	---	---	18.5	5.0	---	---	25.0	8.5	20.0	5.5	---	---
MONTH	13.5	0.0	20.0	1.0	24.0	4.5	25.0	5.0	24.5	5.0	---	---

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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)
MAY 23...	0900	21	8.0	12	.69
SEP 28...	1015	2.2	7.0	4	.02

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>), revised.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March to May 1972 (occasional readings only), June 1972 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 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. Capacity table revised Oct. 1, 1978. 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, 4,450 acre-ft (5.49 hm<sup>3</sup>) Apr. 2, 1974, elevation, 5,805.14 ft (1,769.407 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, 2,480 acre-ft (3.06 hm<sup>3</sup>) Jan. 11, elevation, 5,795.86 ft (1,766.578 m); minimum, 774 acre-ft (954,000 m<sup>3</sup>) on several days in August and September, elevation, 5,779.99 ft (1,761.741 m).

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

5779	716	5790	1646
5780	775	5800	3255
5785	1139	5810	5884

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	2040	2230	2360	783	788	814	829	793	781	778	777
2	1920	2050	2230	2360	783	787	815	830	792	781	778	776
3	1920	2060	2230	2370	782	788	819	831	791	781	778	776
4	1920	2060	2240	2380	783	790	827	832	789	781	776	776
5	1920	2060	2250	2380	783	793	833	842	789	781	776	776
6	1930	2070	2250	2380	783	799	826	832	787	781	776	776
7	1930	2080	2250	2390	783	805	824	839	786	780	777	775
8	1930	2080	2250	2400	783	809	823	836	786	780	777	774
9	1940	2080	2260	2400	783	811	820	829	786	780	777	774
10	1940	2090	2260	2420	783	813	817	824	784	780	777	774
11	1940	2090	2270	2480	783	813	818	822	784	780	776	774
12	1950	2100	2270	2260	783	818	822	822	783	780	776	775
13	1950	2110	2280	2000	822	824	826	824	782	780	776	775
14	1960	2110	2280	1760	823	830	827	825	781	780	776	775
15	1960	2120	2280	1530	811	826	829	826	783	780	776	775
16	1960	2120	2280	1300	799	813	833	825	781	780	776	775
17	1970	2130	2300	1100	793	807	827	824	786	779	776	775
18	1970	2130	2310	953	793	805	820	822	787	779	776	774
19	1980	2140	2320	815	789	803	817	820	786	780	774	775
20	1980	2150	2320	791	791	801	817	818	784	781	774	776
21	1980	2160	2330	787	789	803	817	817	783	786	775	775
22	1990	2170	2330	786	788	805	818	814	783	785	775	775
23	1990	2170	2340	784	788	813	827	812	783	783	774	776
24	2000	2180	2340	785	787	820	822	810	782	781	774	776
25	2000	2180	2340	784	788	824	817	807	782	780	774	776
26	2000	2190	2350	783	788	823	838	804	781	780	774	777
27	2010	2190	2350	783	787	825	838	803	781	780	774	777
28	2010	2200	2350	782	789	816	834	800	781	779	776	777
29	2020	2200	2360	781	---	810	831	798	781	779	778	778
30	2020	2210	2360	782	---	813	831	796	781	779	778	778
31	2030	---	2360	783	---	815	---	794	---	778	778	---
MAX	2030	2210	2360	2480	823	830	838	842	793	786	778	778
MIN	1910	2040	2230	781	782	787	814	794	781	778	774	774
†	5792.95	5794.18	5795.15	5780.12	5780.23	5780.63	5780.89	5780.31	5780.10	5780.05	5780.05	5780.04
‡	+80	+180	+150	-1577	+6	+26	+16	-37	-13	-3	0	0

CAL YR 1978 ‡a +350

WTR YR 1979 ‡a -1132

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

‡ Change in contents, in acre-feet.

a Computed on basis of revised capacity table put into use Oct. 1, 1978.

## 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 1978 TO SEPTEMBER 1979

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
MAY 23...	1135	84	7.6	17.0	3.0	9.5	.01	.02	.03	.03
SEP 28...	1100	140	9.8	16.5	8.4	10.6	.50	.00	.50	.13

DATE	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, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
MAY 23...	.20	.23	.26	.03	.02	7	3	4	1100	690
SEP 28...	1.1	1.2	1.7	.09	.05	3	3	0	250	120

DATE	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)	MANGANESE, DIS-SOLVED (UG/L AS MN)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
MAY 23...	410	26	11	15	140	80	60	20	--	--
SEP 28...	130	22	22	0	90	40	50	50	50	<3

## SUSPENDED SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPERATURE (DEG C)	SEDIMENT, SUSPENDED (MG/L)
MAY 23...	1135	17.0	2
SEP 28...	1100	16.5	6



## PYRAMID AND WINNEMUCCA LAKES BASIN

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10339400 MARTIS CREEK NEAR TRUCKEE, CA

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.

DRAINAGE AREA.--39.9 mi<sup>2</sup> (103.3 km<sup>2</sup>), revised.

## WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR CA-77-3: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,730 ft (1,747 m), from topographic map. Prior to July 10, 1972, at site 1.0 mi (1.6 km) downstream at different datum.

REMARKS.--Records good. Flow subject to regulation by Martis Creek Lake Dam since Oct. 7, 1971.

AVERAGE DISCHARGE (unadjusted).--21 years, 22.8 ft<sup>3</sup>/s (0.646 m<sup>3</sup>/s), 16,520 acre-ft/yr (20.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft<sup>3</sup>/s (53.2 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 6.16 ft (1.878 m), site and datum then in use; minimum, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) July 19, 20, 1961. Maximum discharge since construction of Martis Creek Lake Dam in 1971, 648 ft<sup>3</sup>/s (18.4 m<sup>3</sup>/s) Apr. 2, 1974, gage height, 6.01 ft (1.832 m); minimum daily, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) Nov. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 135 ft<sup>3</sup>/s (3.82 m<sup>3</sup>/s) Jan. 12, gage height, 3.53 ft (1.076 m); minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.5	4.0	4.6	7.4	12	34	52	15	5.8	4.3	5.3
2	3.1	3.5	4.0	4.6	7.5	10	33	50	14	6.0	4.2	5.1
3	3.1	3.5	4.0	4.6	7.3	11	34	52	13	6.0	4.2	4.9
4	3.1	3.5	4.0	4.8	7.1	12	41	53	12	5.9	4.2	4.8
5	3.1	3.5	4.2	4.8	7.2	14	49	57	11	5.9	4.0	4.7
6	3.1	3.6	4.1	4.8	7.2	17	53	62	11	5.8	4.0	4.7
7	3.1	3.7	4.2	5.1	7.3	23	44	58	9.8	5.7	4.1	4.7
8	3.2	3.7	4.2	5.1	7.2	27	43	59	9.4	5.6	4.4	4.6
9	3.2	3.7	4.2	5.3	7.3	31	43	52	9.1	5.7	4.4	4.3
10	3.1	3.7	4.2	5.3	7.6	32	38	46	8.9	5.3	4.4	4.2
11	3.2	3.8	4.2	4.6	7.5	34	36	43	8.4	5.5	4.6	4.3
12	3.2	3.9	4.2	132	7.6	35	38	42	8.0	5.5	4.6	4.3
13	3.2	4.0	4.2	129	16	41	43	43	7.2	5.4	4.6	4.3
14	3.2	3.9	4.2	126	61	48	47	45	6.7	5.3	4.6	4.4
15	3.2	3.9	4.3	122	36	52	50	46	6.8	5.1	4.7	4.4
16	3.2	4.0	4.3	118	24	41	53	46	7.1	5.1	4.7	4.2
17	3.2	4.0	4.4	99	16	29	53	44	7.9	4.8	4.6	4.2
18	3.2	4.0	4.4	82	13	26	44	42	9.3	4.6	4.6	4.2
19	3.2	3.8	4.4	78	12	25	37	40	9.2	4.7	4.6	4.1
20	3.2	3.9	4.4	22	11	24	34	38	8.3	4.7	4.4	4.2
21	3.2	3.9	4.4	9.7	12	23	35	36	7.6	4.7	4.6	4.2
22	3.3	3.8	4.4	9.0	11	24	36	34	7.2	4.7	4.6	4.3
23	3.2	3.9	4.4	8.7	10	28	42	32	6.9	4.7	4.6	4.4
24	3.2	3.9	4.5	8.7	9.8	35	43	29	6.7	4.7	4.5	4.4
25	3.3	4.0	4.6	8.0	9.9	40	36	27	6.3	4.6	4.5	4.5
26	3.3	4.0	4.6	7.4	11	42	43	25	6.2	4.6	4.5	4.6
27	3.3	4.0	4.6	7.4	10	55	64	23	5.9	4.6	4.5	4.6
28	3.3	4.0	4.6	7.2	11	41	59	21	5.8	4.6	4.7	4.6
29	3.3	4.1	4.6	7.2	---	32	54	19	5.8	4.5	5.2	4.4
30	3.4	4.1	4.6	7.2	---	31	52	18	5.8	4.4	5.4	4.5
31	3.4	---	4.6	7.2	---	32	---	16	---	4.4	5.5	---
TOTAL	99.3	114.8	134.0	1090.7	361.9	927	1311	1250	256.3	158.9	140.8	134.4
MEAN	3.20	3.83	4.32	35.2	12.9	29.9	43.7	40.3	8.54	5.13	4.54	4.48
MAX	3.4	4.1	4.6	132	61	55	64	62	15	6.0	5.5	5.3
MIN	3.0	3.5	4.0	4.6	7.1	10	33	16	5.8	4.4	4.0	4.1
AC-FT	197	228	266	2160	718	1840	2600	2480	508	315	279	267

CAL YR 1978 TOTAL 8568.00 MEAN 23.5 MAX 128 MIN .60 AC-FT 16990  
WTR YR 1979 TOTAL 5979.10 MEAN 16.4 MAX 132 MIN 3.0 AC-FT 11860

NOTE.--No gage-height record Jan. 4 to Feb. 1.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

CHEMICAL ANALYSES: Water years 1975 to current year.

WATER TEMPERATURES: Water years 1975 to current year.

SEDIMENT RECORDS: Water year 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, 1.0°C on several days in 1975, 1976, and 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C July 29 to Aug. 2; minimum recorded, 2.0°C Feb. 15-18.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
MAY 23...	1000	32	84	7.8	14.5	3.9	8.7	.05	.02	.07	.05
SEP 28...	1145	4.6	129	9.2	15.5	4.4	8.3	2.9	.02	2.9	.07

DATE	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, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)
MAY 23...	.19	.24	.31	.04	.02	8	5	3	1400	1300
SEP 28...	.91	.98	3.9	.07	.04	10	10	0	440	310

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 23...	100	42	18	24	70	30	40	40	--	--
SEP 28...	130	26	9	17	90	10	80	50	10	40

## PYRAMID AND WINNEMUCCA LAKES BASIN

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10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	5.5	11.0	9.0	17.5	13.5	21.5	15.0	24.0	16.0	19.5	13.5
2	6.5	5.5	11.5	8.5	18.0	14.0	21.5	15.5	24.0	16.0	20.0	14.0
3	6.5	5.5	12.5	9.5	18.5	14.5	21.0	15.5	23.5	15.5	19.5	14.0
4	7.0	6.0	13.0	10.5	19.0	14.5	21.5	15.5	23.0	16.5	20.0	13.5
5	7.0	6.0	11.0	9.0	19.5	15.0	21.5	15.5	23.5	16.0	20.0	13.0
6	7.0	6.5	10.0	8.5	19.5	15.0	21.5	15.0	23.5	16.0	20.5	13.5
7	7.0	6.0	9.0	7.5	18.5	14.5	20.5	15.0	22.0	17.0	20.0	13.5
8	7.5	6.5	8.0	6.5	19.0	14.0	21.0	14.5	23.0	16.5	20.0	14.0
9	7.5	7.0	7.5	6.5	19.0	14.0	21.0	15.0	23.5	16.0	20.0	13.5
10	7.5	7.0	9.5	6.5	20.0	14.5	21.0	14.5	23.5	16.5	20.0	13.0
11	7.5	7.0	11.5	7.5	20.5	14.5	22.0	15.0	21.5	16.5	20.0	13.0
12	8.0	7.0	12.5	9.5	20.5	15.5	22.5	15.0	22.0	16.5	20.0	13.0
13	8.5	8.0	13.5	10.5	20.0	15.5	22.5	15.0	22.5	17.0	19.5	13.5
14	9.0	8.0	14.0	11.0	20.0	14.0	22.5	15.5	20.5	15.5	20.0	13.0
15	9.5	8.5	14.5	12.0	19.5	14.0	23.0	15.5	22.0	15.5	20.0	13.0
16	9.0	8.5	15.0	12.5	19.0	14.0	23.0	16.5	21.5	15.0	19.5	13.5
17	8.5	8.0	15.0	12.0	17.0	12.0	23.5	16.0	21.5	15.5	19.5	13.0
18	8.0	7.0	16.0	12.5	17.0	13.5	23.5	15.5	22.0	15.0	19.0	13.0
19	9.0	7.0	16.0	13.5	18.0	13.5	22.5	16.5	20.0	14.5	19.0	12.5
20	10.0	7.5	17.0	13.0	19.0	13.5	20.0	17.0	17.5	15.5	19.0	12.5
21	10.0	8.0	17.0	14.0	19.5	13.5	18.5	18.0	20.5	15.0	18.5	12.5
22	9.5	8.0	16.5	14.0	20.0	13.5	22.0	17.5	21.0	14.0	17.0	12.0
23	9.5	8.0	15.5	14.0	20.5	14.5	22.5	17.0	20.5	13.5	17.5	12.5
24	9.5	7.5	16.0	13.5	21.0	14.5	23.0	17.0	21.0	13.5	18.0	12.5
25	9.5	7.5	16.5	13.0	21.0	14.5	23.5	16.5	20.5	13.5	17.0	13.0
26	9.5	8.0	17.0	14.5	21.5	14.5	23.5	16.5	20.5	13.0	17.5	12.0
27	10.5	8.0	17.5	15.0	21.5	14.5	23.5	16.5	21.0	13.5	16.0	11.5
28	11.0	8.5	17.5	15.0	22.0	15.0	23.5	16.0	18.5	13.5	18.0	12.0
29	11.5	9.0	17.5	14.5	20.5	15.5	24.0	16.0	16.5	15.0	18.0	11.5
30	11.5	9.0	16.5	14.0	21.5	15.0	24.0	16.0	18.5	14.5	17.0	12.0
31	---	---	17.0	13.5	---	---	24.0	16.5	20.0	14.0	---	---
MONTH	11.5	5.5	17.5	6.5	22.0	12.0	24.0	14.5	24.0	13.0	20.5	11.5

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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)
MAY 23...	1000	32	14.5	7	.61
SEP 28...	1145	4.6	15.5	5	.06

10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'45", long 120°08'25", 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, 1.5 mi (2.4 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>), revised.

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 Water and Power Resources Service).

REVISED RECORDS.--WDR CA-76-3: 1975.

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 Water and Power Resources Service.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,269 acre-ft (39.8 hm<sup>3</sup>) revised, 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, 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, 27,386 acre-ft (33.8 hm<sup>3</sup>) July 30 to Aug. 1, elevation, 5,737.83 ft (1,748.890 m); minimum observed, 8,916 acre-ft (11.0 hm<sup>3</sup>) Dec. 15, elevation, 5,700.90 ft (1,737.634 m).

MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	5,734.80	25,301	--
Oct. 31.....	5,702.57	9,454	-15,847
Nov. 30.....	5,703.15	9,646	+192
Dec. 31.....	5,701.57	9,129	-517
CAL YR 1978.....	--	--	+6,997
Jan. 31.....	5,702.03	9,277	+148
Feb. 28.....	5,702.80	9,529	+252
Mar. 31.....	5,702.22	9,339	-190
Apr. 30.....	5,712.57	13,203	+3,864
May 31.....	5,731.65	23,250	+10,047
June 30.....	5,737.35	27,049	+3,799
July 31.....	5,737.83	27,386	+337
Aug. 31.....	5,737.46	27,127	-259
Sept. 30.....	5,735.30	25,637	-1,490
WTR YR 1979.....	--	--	+336

## PYRAMID AND WINNEMUCCA LAKES BASIN

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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 1.0 mi (1.6 km) upstream from mouth, 0.2 mi (0.3 km) downstream from Prosser Creek Dam, and 4.2 mi (6.7 km) northeast of Truckee.

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

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.--WSP 2127: 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 Water and Power Resources Service). 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).--36 years (water years 1943-50, 1952-79), 84.8 ft<sup>3</sup>/s (2.402 m<sup>3</sup>/s), 61,440 acre-ft/yr (75.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1943-79): 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, 482 ft<sup>3</sup>/s (13.7 m<sup>3</sup>/s) Oct. 18, gage height, 4.88 ft (1.487 m), minimum daily, 6.2 ft<sup>3</sup>/s (0.18 m<sup>3</sup>/s) Aug. 15-25, Aug. 28 to Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	19	36	11	9.5	9.5	62	122	9.8	40	6.8	6.2
2	25	9.5	36	11	9.5	9.5	63	137	9.9	40	6.8	6.2
3	41	9.5	36	11	9.5	9.5	63	146	10	40	6.8	6.2
4	52	9.5	36	11	9.5	9.5	63	160	9.9	40	6.6	6.2
5	80	9.5	36	10	9.5	22	63	170	9.9	40	6.6	6.2
6	99	9.5	36	10	9.5	33	70	170	9.9	40	6.5	6.2
7	126	9.5	37	10	9.5	43	75	192	11	40	6.6	6.2
8	175	9.5	37	10	9.5	50	75	204	11	40	6.5	6.2
9	270	9.5	37	10	9.5	50	75	171	10	23	6.5	6.2
10	317	9.5	36	10	9.5	50	75	150	10	12	6.5	6.2
11	315	9.5	36	16	9.5	50	54	122	10	12	6.5	6.5
12	314	9.5	36	117	9.4	64	38	104	10	12	6.5	6.5
13	312	9.5	36	197	9.9	73	39	105	10	12	6.5	28
14	365	9.5	36	196	27	113	39	130	10	12	6.3	83
15	421	9.7	21	90	63	138	39	146	67	12	6.2	84
16	446	9.5	10	8.8	62	129	69	163	104	12	6.2	84
17	453	9.5	11	8.8	62	124	94	175	104	12	6.2	84
18	466	9.5	10	8.8	62	122	94	77	55	12	6.2	83
19	471	9.5	9.9	8.8	62	85	94	9.9	22	12	6.2	83
20	417	9.5	9.9	8.8	62	60	93	9.9	40	9.3	6.2	30
21	380	9.6	9.9	8.8	60	61	93	9.9	52	7.6	6.2	11
22	377	9.5	9.9	9.2	36	60	93	9.9	60	7.2	6.2	11
23	355	9.5	9.9	9.2	36	47	66	9.9	67	7.1	6.2	11
24	340	9.5	10	9.2	11	38	37	9.8	67	7.1	6.2	11
25	321	9.5	10	9.5	9.7	38	37	9.8	67	7.1	6.2	12
26	306	9.5	10	26	9.5	38	37	10	68	7.1	6.3	12
27	285	9.5	10	39	9.5	39	69	9.9	76	7.1	6.4	12
28	211	9.5	10	39	9.6	91	95	9.9	81	7.1	6.2	12
29	169	25	10	39	---	127	95	9.9	56	7.1	6.2	65
30	126	36	11	40	---	127	112	9.9	40	7.0	6.2	85
31	59	---	11	22	---	88	---	9.9	---	6.8	6.2	---
TOTAL	8133	336.8	690.5	1014.9	705.1	1998.0	2071	2772.6	1167.4	550.6	197.7	876.0
MEAN	262	11.2	22.3	32.7	25.2	64.5	69.0	89.4	38.9	17.8	6.38	29.2
MAX	471	36	37	197	63	138	112	204	104	40	6.8	85
MIN	25	9.5	9.9	8.8	9.4	9.5	37	9.8	9.8	6.8	6.2	6.2
AC-FT	16130	668	1370	2010	1400	3960	4110	5500	2320	1090	392	1740

CAL YR 1978 TOTAL 31967.96 MEAN 87.6 MAX 1160 MIN 9.94 AC-FT 63410 MEAN ‡ 97.3 AC-FT ‡ 70410  
WTR YR 1979 TOTAL 20513.60 MEAN 56.2 MAX 471 MIN 6.2 AC-FT 40690 MEAN ‡ 56.7 AC-FT ‡ 41030

‡ Adjusted for change in contents in Prosser Creek Reservoir.

## PYRAMID AND WINNEMUCCA LAKES BASIN

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>), revised.

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

REVISED RECORDS.--WDR CA-77-3: 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 (25 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 excellent except those for periods of no gage-height record and Sept. 1-30, which are poor. Flow regulated by Independence Lake, usable capacity, 17,500 acre-ft (21.6 hm<sup>3</sup>).

AVERAGE DISCHARGE (unadjusted).--16 years (water years 1903-7, 1969-79), 27.3 ft<sup>3</sup>/s (0.773 m<sup>3</sup>/s), 19,780 acre-ft/yr (24.4 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 286 ft<sup>3</sup>/s (8.10 m<sup>3</sup>/s) June 23, 1907, gage height, 3.9 ft (1.19 m) site and datum then in use; no flow Sept. 28 to Nov. 10, 1905, June 1, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 92 ft<sup>3</sup>/s (2.61 m<sup>3</sup>/s) May 29, gage height, 3.99 ft (1.216 m); minimum daily, 0.58 ft<sup>3</sup>/s (0.016 m<sup>3</sup>/s) Sept. 1-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	15	14	11	9.6	8.8	9.3	12	78	17	12	.58
2	17	15	14	11	9.5	8.8	9.2	12	74	16	12	.58
3	17	15	14	11	9.5	8.8	9.3	13	70	15	12	.58
4	17	14	14	11	9.4	8.8	9.4	13	66	15	12	.58
5	17	14	14	11	9.3	8.8	9.4	13	63	14	12	.58
6	17	14	13	11	9.3	8.8	9.4	12	61	14	12	.58
7	16	14	13	11	9.2	8.9	9.5	12	59	13	12	.58
8	16	15	13	11	9.2	8.9	9.6	11	57	13	12	.58
9	16	15	13	11	9.2	8.9	9.7	11	56	12	12	.58
10	16	14	13	11	9.3	8.9	9.7	11	53	12	12	.58
11	16	15	13	11	9.1	8.9	9.7	12	51	12	12	.58
12	16	14	13	11	8.5	8.9	9.8	12	49	12	12	.58
13	16	14	13	11	8.6	8.9	10	13	46	12	14	.58
14	16	14	12	11	8.6	9.0	10	13	44	12	13	.58
15	15	14	12	10	8.5	9.0	11	13	42	12	16	.58
16	15	14	12	10	8.4	9.1	11	13	40	12	22	.58
17	15	14	12	10	8.4	9.1	10	13	38	12	22	.58
18	15	14	12	10	8.5	9.1	10	13	36	12	22	.58
19	15	14	12	10	8.6	9.1	10	12	35	12	22	.58
20	15	14	12	10	8.5	9.1	10	12	33	12	23	.58
21	15	14	12	10	8.6	9.1	10	12	31	12	23	.58
22	15	14	12	10	8.5	9.1	10	13	29	12	22	.58
23	15	14	12	10	8.6	9.1	10	12	27	12	22	.58
24	15	14	12	10	8.6	9.1	9.9	13	26	12	23	.58
25	15	14	12	10	8.6	9.1	10	13	24	12	23	.58
26	15	13	12	9.9	8.6	9.1	11	25	22	12	23	.58
27	15	13	12	9.8	8.6	9.2	12	38	21	12	23	.58
28	15	14	12	9.7	8.7	9.2	12	70	20	12	15	.58
29	15	14	12	9.7	---	9.3	12	86	19	12	2.8	.58
30	15	14	11	9.6	---	9.3	12	86	18	12	2.8	.58
31	15	---	11	9.6	---	9.2	---	82	---	12	2.0	---
TOTAL	485	424	388	322.3	248.0	279.4	304.9	696	1288	393	479.6	17.40
MEAN	15.6	14.1	12.5	10.4	8.86	9.01	10.2	22.5	42.9	12.7	15.5	.58
MAX	17	15	14	11	9.6	9.3	12	86	78	17	23	.58
MIN	15	13	11	9.6	8.4	8.8	9.2	11	18	12	2.0	.58
AC-FT	962	841	770	639	492	554	605	1380	2550	780	951	35

CAL YR 1978 TOTAL 7023.20 MEAN 19.2 MAX 122 MIN 7.2 AC-FT 13930  
WTR YR 1979 TOTAL 5325.60 MEAN 14.6 MAX 86 MIN .58 AC-FT 10560

NOTE.--No gage-height record Dec. 8 to Feb. 9, May 25 to July 12.

## PYRAMID AND WINNEMUCCA LAKES BASIN

83

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°25'54", long 120°14'07", 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>), revised.

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

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 good October to February and excellent thereafter. No storage or diversion above station.

AVERAGE DISCHARGE.--26 years, 11.9 ft<sup>3</sup>/s (0.337 m<sup>3</sup>/s), 8,620 acre-ft/yr (10.6 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 130 ft<sup>3</sup>/s (3.68 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)
Jan. 11	1300	69 1.95	2.78 0.847
May 5	1700	*72 2.04	2.81 .856
May 16	1900	51 1.44	2.61 .796

Minimum daily, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Sept. 16-19, 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.6	3.2	2.4	2.8	3.1	4.8	30	17	3.7	1.8	1.8
2	2.1	3.2	3.8	2.4	2.8	3.0	4.8	34	16	3.7	1.8	1.7
3	2.1	2.9	4.0	2.4	2.8	3.1	5.2	38	16	3.6	1.8	1.7
4	2.1	2.4	3.3	2.4	2.7	3.2	6.5	40	15	3.5	1.8	1.7
5	2.1	2.5	3.0	2.4	2.7	3.5	8.7	46	15	3.4	1.7	1.7
6	2.2	2.5	3.0	2.5	2.7	4.0	9.6	36	14	3.2	1.7	1.7
7	2.2	2.5	3.0	2.4	2.7	4.7	9.4	31	13	3.1	1.8	1.6
8	2.2	2.5	3.0	2.5	2.7	5.2	11	27	11	3.1	2.0	1.6
9	2.2	2.5	2.9	2.5	2.8	5.3	10	25	10	3.0	1.9	1.6
10	2.2	2.6	2.8	2.9	2.8	5.6	9.2	27	9.8	3.0	1.9	1.6
11	2.2	2.6	2.7	3.6	2.7	6.0	10	29	9.2	2.9	1.8	1.6
12	2.2	2.6	2.6	12	2.7	6.4	13	31	8.7	2.8	1.7	1.6
13	2.2	2.6	2.5	6.1	3.9	6.5	16	35	8.2	2.6	1.7	1.6
14	2.2	2.7	2.4	4.8	6.6	7.1	18	39	7.5	2.5	1.7	1.6
15	2.2	2.7	2.4	4.2	4.1	7.0	21	41	7.2	2.4	1.7	1.6
16	2.2	2.7	2.3	3.8	3.7	5.9	21	42	6.9	2.3	1.7	1.5
17	2.2	2.7	2.3	3.7	3.4	5.3	18	42	8.1	2.2	1.7	1.5
18	2.2	2.8	2.5	3.4	3.3	5.0	14	41	7.5	2.2	1.7	1.5
19	2.2	2.8	2.4	3.2	3.3	4.8	13	40	6.9	2.2	1.7	1.5
20	2.4	3.2	2.4	3.1	3.2	4.6	15	39	6.4	2.4	1.8	1.6
21	2.2	3.2	2.5	3.1	3.3	4.5	17	39	5.9	3.8	1.8	1.6
22	2.2	3.1	2.4	3.1	3.2	4.4	16	37	5.5	3.5	1.7	1.5
23	2.2	3.1	2.4	3.1	3.2	4.6	15	34	5.3	2.6	1.6	1.5
24	2.2	3.0	2.5	3.0	3.1	5.5	14	31	5.0	2.7	1.6	1.6
25	2.2	3.0	2.5	3.0	3.1	6.2	15	30	4.7	2.5	1.6	1.6
26	2.2	3.0	2.5	3.0	3.1	6.1	27	29	4.5	2.4	1.6	1.6
27	2.3	3.0	2.5	3.0	3.0	6.0	33	27	4.3	2.4	1.6	1.6
28	2.3	3.0	2.5	3.0	3.1	5.3	30	25	4.1	2.3	1.8	1.6
29	2.3	3.0	2.4	3.0	---	4.9	30	23	3.9	2.2	2.2	1.6
30	2.3	3.0	2.4	3.0	---	4.7	32	20	3.8	2.0	2.3	1.6
31	2.4	---	2.4	2.9	---	4.7	---	19	---	2.0	2.0	---
TOTAL	68.5	84.0	83.5	138.3	89.5	156.2	467.2	1027	260.4	86.2	55.2	48.1
MEAN	2.21	2.80	2.69	4.46	3.20	5.04	15.6	33.1	8.68	2.78	1.78	1.60
MAX	2.4	3.2	4.0	36	6.6	7.1	33	46	17	3.8	2.3	1.8
MIN	2.1	2.4	2.3	2.4	2.7	3.0	4.8	19	3.8	2.0	1.6	1.5
AC-FT	136	167	166	274	178	310	927	2040	517	171	109	95

CAL YR 1978 TOTAL 4665.6 MEAN 12.8 MAX 88 MIN 2.0 AC-FT 9250  
WTR YR 1979 TOTAL 2564.1 MEAN 7.02 MAX 46 MIN 1.5 AC-FT 5090

## 10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'24", long 120°06'06", in NW¼NW¼ sec.28, T.19 N., R.17 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, in control house on Stampede Dam on Little Truckee River, just downstream from mouth of Davies Creek, 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 Water and Power Resources Service).

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 Water and Power Resources Service, 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, 65,954 acre-ft (81.3 hm<sup>3</sup>) Apr. 11, 16, elevation, 5,883.85 ft (1,793.397 m); minimum, 48,732 acre-ft (60.1 hm<sup>3</sup>) May 18, elevation, 5,877.60 ft (1,791.492 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61453	60780	60999	61248	61497	61395	63493	64615	60853	61674	60055	58540
2	61439	60795	60999	61248	61397	61351	63628	64189	61215	61571	60004	58497
3	61417	60809	60999	61248	61245	61341	63802	63257	61578	61475	59954	58455
4	61395	60809	60999	61263	61093	61331	63976	62325	61940	61380	59877	58406
5	61373	60809	61015	61277	60941	61321	64311	61073	62409	61270	59800	58356
6	61351	60809	61028	61287	60963	61321	64646	59821	62877	61160	59724	58314
7	61312	60809	60998	61297	60984	61321	65015	58568	63230	61053	59673	58272
8	61273	60809	60970	61307	60999	61409	65384	57888	63583	60946	59623	58197
9	61233	60794	60980	61351	61014	61497	65753	57208	63669	60838	59594	58122
10	61218	60780	60990	61395	61029	61605	65908	56973	63754	60758	59566	58047
11	61204	60790	60999	61838	61041	61713	65954	56738	63840	60678	59518	57990
12	61131	60800	61007	62281	61058	61822	65923	55313	63900	60678	59370	57934
13	61058	60809	61014	62425	61234	61903	65892	53888	63961	60678	59422	57892
14	61058	60787	61014	62569	61409	61984	65923	52463	63833	60673	59322	57850
15	61058	60766	61014	62713	61490	62133	65939	50853	63704	60668	59222	57794
16	61058	60788	61046	62772	61571	62281	65954	49243	63589	60664	59186	57738
17	61029	60809	61078	62832	61596	62286	65900	48744	63473	60598	59151	57682
18	60999	60809	61110	62870	61621	62291	65846	48732	63357	60533	59111	57585
19	60955	60809	61143	62907	61645	62296	65714	49554	63230	60504	59071	57487
20	60911	60809	61175	62892	61667	62266	65583	50376	63102	60475	59037	57417
21	60897	60860	61190	62877	61689	62236	65393	51197	62945	60460	58966	57347
22	60883	60911	61204	62862	61662	62221	65203	52391	62787	60445	58895	57282
23	60868	60911	61209	62735	61635	62207	65013	53584	62697	60431	58874	57217
24	60861	60911	61214	62608	61608	62296	64799	54532	62608	60409	58852	57153
25	60853	60901	61219	62459	61582	62385	64585	55480	62519	60388	58828	57076
26	60853	60891	61234	62310	61556	62474	64326	56453	62377	60351	58804	57000
27	60853	60882	61248	62167	61498	62683	64067	57426	62236	60315	58781	56938
28	60829	60897	61256	62024	61439	62892	64128	58399	62110	60257	58767	56876
29	60804	60911	61263	61881	---	63057	64295	59170	61984	60199	58753	56835
30	60780	60955	61256	61763	---	63222	64585	59940	61807	60142	58682	56793
31	60780	---	61248	61645	---	63342	---	60475	---	60098	58611	---
MAX	61453	60955	61263	62907	61689	63342	65954	64615	63961	61674	60055	58540
MIN	60780	60766	60970	61248	60941	61321	63493	48732	60853	60098	58611	56793
†	5880.41	5880.53	5880.73	5881.00	5880.86	5882.14	5882.96	5880.20	5881.11	5879.94	5878.90	5877.60
‡	-703	+175	+293	+397	-206	+1903	+1243	-4110	+1332	-1709	-1487	-1818

CAL YR 1978 ‡ -29203

WTR YR 1979 ‡ -4690

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

‡ Change in contents, in acre-feet.



## PYRAMID AND WINNEMUCCA LAKES BASIN

85

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 (Water and Power Resources Service 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).--47 years (water years 1904-10, 1940-79), 187 ft<sup>3</sup>/s (5.296 m<sup>3</sup>/s), 135,500 acre-ft/yr (167 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, 1,430 ft<sup>3</sup>/s (40.5 m<sup>3</sup>/s) May 13, gage height, 3.00 ft (0.914 m); minimum, 27 ft<sup>3</sup>/s (0.76 m<sup>3</sup>/s) Jan. 3, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	29	29	28	105	77	36	488	106	77	32	30
2	31	30	29	28	105	55	36	721	131	69	32	30
3	31	29	29	27	105	55	35	922	132	69	32	30
4	31	29	29	28	105	55	37	1030	121	69	32	30
5	31	29	29	28	62	56	38	1140	105	69	32	30
6	31	29	29	28	31	58	39	1140	91	67	32	30
7	31	29	29	27	30	46	37	1030	73	72	32	30
8	31	29	29	28	30	36	37	588	104	72	32	30
9	31	29	29	28	30	36	79	359	151	72	32	30
10	31	29	29	28	30	36	138	380	151	50	32	30
11	31	29	28	37	30	37	187	625	151	33	32	30
12	31	29	28	31	30	60	208	900	151	33	32	30
13	31	29	28	29	36	79	210	1260	166	32	33	30
14	31	29	29	29	38	80	233	1410	189	32	32	30
15	31	29	29	29	33	81	246	1370	171	33	32	30
16	31	29	29	28	45	97	268	991	151	32	32	30
17	31	29	29	28	56	110	298	652	151	32	32	30
18	31	29	28	28	56	110	269	441	151	32	31	30
19	31	29	28	44	56	110	250	208	151	34	31	30
20	31	29	28	56	56	110	250	177	142	33	31	30
21	31	30	28	56	66	111	295	37	131	35	31	30
22	29	29	28	84	74	110	297	35	120	34	31	30
23	29	29	28	105	74	91	299	35	105	33	31	30
24	29	29	28	105	73	77	334	34	105	32	31	30
25	29	29	28	105	73	78	359	34	105	32	31	30
26	29	29	28	105	73	78	375	33	105	32	31	30
27	29	29	28	105	73	81	341	33	105	32	30	30
28	29	29	28	105	92	57	273	33	94	32	30	30
29	29	29	28	105	---	37	223	32	86	32	30	30
30	29	29	28	105	---	37	263	54	86	32	30	30
31	29	---	28	105	---	37	---	87	---	32	30	---
TOTAL	941	872	882	1702	1667	2178	5990	16279	3781	1370	974	900
MEAN	30.4	29.1	28.5	54.9	59.5	70.3	200	525	126	44.2	31.4	30.0
MAX	31	30	29	105	105	111	375	1410	189	77	33	30
MIN	29	29	28	27	30	36	35	32	73	32	30	30
AC-FT	1870	1730	1750	3380	3310	4320	11880	32290	7500	2720	1930	1790

CAL YR 1978 TOTAL 54810 MEAN 150 MAX 1680 MIN 22 AC-FT 108700 MEAN ± 110 AC-FT ± 79500  
WTR YR 1979 TOTAL 37536 MEAN 103 MAX 1410 MIN 27 AC-FT 74450 MEAN ± 96.3 AC-FT ± 69760

‡ Adjusted for change in contents in Stampede Reservoir.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10344490 BOCA RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'20", long 120°05'45", in NE&NW¼ 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 6.5 mi (10.5 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 Water and Power Resources Service).

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.--Daily elevations furnished by Water and Power Resources Service, 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, 40,819 acre-ft (50.3 hm<sup>3</sup>) on many days during June, August, and September, elevation, 5,604.95 ft (1,708.389 m); minimum, 17,359 acre-ft (21.4 hm<sup>3</sup>) Jan. 11, elevation, 5,572.60 ft (1,699.565 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36266	31525	27407	20209	19831	23290	29428	34672	40722	40478	40673	40819
2	35899	31438	27164	19866	20071	23477	29554	34403	40722	40332	40722	40770
3	35624	31351	27003	19559	20209	23589	29723	34313	40770	40381	40722	40673
4	35215	31307	26883	19323	20347	23664	29808	34717	40770	40381	40722	40575
5	34853	31307	26883	18988	20382	23776	29892	35260	40770	40429	40722	40429
6	34492	31221	26563	18689	20486	23927	30062	35853	40819	40429	40722	40284
7	34045	31177	26444	18327	20382	24040	30147	36821	40819	40429	40722	40090
8	33644	31091	26166	18098	20520	24116	30275	37613	40770	40429	40722	39945
9	33335	31091	25969	17807	20520	24230	30403	38225	40770	40381	40722	39704
10	33158	30918	25734	17518	20660	24420	30488	38462	40770	40332	40722	39512
11	32982	30746	25538	17359	20695	24534	30574	38604	40819	40332	40770	39320
12	32894	30660	25382	17486	20730	24611	30832	38652	40819	40381	40770	39128
13	32719	30531	25188	17550	20835	24918	31004	38652	40819	40381	40770	38890
14	32675	30360	24956	17582	21046	25072	31134	38652	40819	40381	40770	38699
15	32675	30275	24802	17614	21187	25382	31264	38794	40819	40381	40770	38414
16	32632	30232	24496	17710	21258	25655	31438	38747	40819	40381	40819	38178
17	32632	30062	24268	17742	21399	25891	31612	38937	40819	40332	40819	37848
18	32632	29892	24078	17839	21542	26166	31763	39464	40819	40284	40819	37473
19	32632	29808	24116	17839	21613	26404	31979	39993	40819	40332	40819	37146
20	32632	29596	23439	17936	21757	26683	32240	40478	40819	40332	40819	36774
21	32632	29386	23179	17904	21900	26963	32370	40624	40819	40381	40819	36312
22	32632	29218	22920	17936	22117	27326	32632	40770	40819	40429	40819	35807
23	32544	29009	22663	18066	22262	27569	32851	40722	40819	40429	40819	35306
24	32544	28801	22407	18163	22480	27813	33158	40770	40819	40527	40819	34672
25	32544	28553	22189	18392	22626	28017	33423	40770	40722	40527	40819	34134
26	32544	28387	21972	18524	22736	28305	33778	40770	40673	40575	40819	33467
27	32544	28141	21757	18722	22920	28635	34134	40770	40673	40575	40819	32982
28	32544	27895	21506	18921	23031	28885	34313	40770	40624	40575	40819	32457
29	32414	27772	21258	19593	---	29051	34448	40770	40624	40624	40819	31850
30	32196	27528	20905	19390	---	29218	34627	40770	40575	40624	40819	31351
31	31936	---	20555	19593	---	29302	---	40722	---	40673	40819	---
MAX	36266	31525	27407	20209	23031	29302	34627	40770	40819	40673	40819	40819
MIN	31936	27528	20555	17359	19831	23290	29428	34313	40575	40284	40673	31351
†	5595.30	5590.05	5580.80	5579.40	5584.25	5592.20	5598.35	5604.85	5604.70	5604.80	5604.95	5594.60
‡	-4746	-4408	-6973	-962	+3438	+6271	+5325	+6095	-147	+98	+146	-9468

CAL YR 1978 † +9605  
WTR YR 1979 † -5331

† Elevation, in feet NGVD, at end of month.  
‡ 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>), revised.

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.--WSP 1564: 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).--44 years (water years 1912-15, 1940-79), 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, 1,480 ft<sup>3</sup>/s (41.9 m<sup>3</sup>/s) May 15, gage height, 5.04 ft (1.536 m); minimum, 0.32 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Jan. 28 to Feb. 1, Feb. 9-12, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	152	109	196	.32	.37	.85	615	99	133	7.8	58
2	194	80	106	195	22	.36	.81	887	126	80	7.4	71
3	195	59	105	187	47	.36	.74	802	125	50	14	78
4	205	46	105	174	47	.36	28	829	110	49	21	85
5	212	46	105	173	47	.39	17	882	93	49	21	108
6	228	55	109	172	47	.43	.51	740	80	59	21	115
7	234	68	113	172	32	.47	.51	574	70	69	21	115
8	197	68	138	171	.34	.45	.54	280	101	69	20	114
9	149	68	152	171	.32	.47	46	242	133	69	20	114
10	100	77	135	170	.32	.49	123	347	133	39	14	120
11	100	86	129	82	.32	.51	136	638	133	20	8.5	127
12	100	86	129	.52	.32	.53	136	991	143	20	8.5	134
13	75	93	128	.45	.52	.56	136	1250	161	28	8.5	142
14	40	100	128	.44	.50	.57	185	1320	176	36	8.5	154
15	30	99	134	.44	.37	.62	207	1390	161	35	8.5	162
16	30	99	162	.43	.36	.61	217	949	147	35	8.5	162
17	30	108	165	.43	.32	.56	227	459	146	28	8.5	167
18	30	116	162	.43	.34	.51	194	197	147	25	8.5	190
19	30	116	162	22	.34	.51	162	2.3	148	25	8.5	215
20	30	124	162	65	.35	.50	184	2.3	141	24	8.5	215
21	30	132	161	62	.37	.51	207	2.2	136	14	8.5	234
22	30	126	150	37	.36	.55	207	20	137	8.9	16	304
23	30	126	139	35	.36	.61	208	30	136	8.9	26	310
24	30	126	139	28	.34	.63	237	30	136	8.5	26	310
25	30	141	139	.37	.35	.70	252	30	128	8.5	26	309
26	30	140	139	16	.36	.70	252	30	116	8.5	26	308
27	30	147	138	19	.36	.76	252	30	117	8.1	26	307
28	77	155	138	.32	.38	.68	224	30	101	8.1	26	306
29	110	147	155	.32	---	.65	178	30	86	7.8	32	305
30	155	125	195	.32	---	.67	244	53	117	7.8	36	272
31	215	---	195	.32	---	.74	---	74	---	7.8	40	---
TOTAL	3191	3111	4326	2151.79	249.92	16.83	4262.96	13755.8	3783	1038.9	540.7	5611
MEAN	103	104	140	69.4	8.93	.54	142	444	126	33.5	17.4	187
MAX	234	155	195	196	47	.76	252	1390	176	133	40	310
MIN	30	46	105	.32	.32	.36	.51	2.2	70	7.8	7.4	58
AC-FT	6330	6170	8580	4270	496	33	8460	27280	7500	2060	1070	11130
CAL YR 1978 TOTAL	54648.11		MEAN 150	MAX 1400	MIN .05	AC-FT 108400						
WTR YR 1979 TOTAL	42038.90		MEAN 115	MAX 1390	MIN .32	AC-FT 83380						

## PYRAMID AND WINNEMUCCA LAKES BASIN

10346000 TRUCKEE RIVER AT FARAD, 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 Farad 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>).

## WATER-DISCHARGE RECORDS

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 (Water and Power Resources Service bench mark). See WSP 2127 for history of changes prior to Aug. 26, 1957.

REMARKS.--Records good. Flow regulated by Lake Tahoe (station 10337000), Martis Creek Lake (station 10339380), Prosser Creek (station 10340300), Stampede and Boca Reservoirs (stations 10343300 and 10344490), Donner and Independence Lakes, and by several powerplants.

AVERAGE DISCHARGE.--80 years (water years 1900-79), 788 ft<sup>3</sup>/s (22.32 m<sup>3</sup>/s), 570,900 acre-ft/yr (704 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/s (0.793 m<sup>3</sup>/s) Dec. 18, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,550 ft<sup>3</sup>/s (72.2 m<sup>3</sup>/s) May 15, gage height, 5.59 ft (1.704 m); minimum, 162 ft<sup>3</sup>/s (4.59 m<sup>3</sup>/s) Feb. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	472	421	295	315	190	297	341	1240	691	546	508	407
2	413	305	282	315	209	292	337	1520	711	593	509	410
3	396	295	272	313	230	293	339	1550	725	559	510	407
4	449	270	276	301	227	295	378	1640	757	554	514	407
5	462	268	280	292	223	313	441	1740	737	548	511	425
6	503	266	263	290	219	351	490	1600	732	553	509	432
7	534	282	255	285	208	321	452	1370	679	562	516	427
8	549	279	278	286	163	349	463	1040	629	553	518	421
9	566	277	307	293	163	365	519	898	631	556	514	413
10	574	275	297	294	165	377	558	973	625	552	519	410
11	569	289	271	703	164	396	541	1250	620	516	508	417
12	565	268	268	701	162	407	523	1590	634	508	508	417
13	548	273	270	633	190	443	583	1950	662	509	507	424
14	562	287	261	595	409	487	680	2170	642	516	502	428
15	599	271	261	514	382	566	730	2470	619	511	506	469
16	613	273	267	382	354	514	794	2180	635	506	491	460
17	616	272	285	365	267	457	823	1740	634	526	494	462
18	635	277	268	276	239	439	737	1470	571	518	487	464
19	642	272	294	246	241	410	617	1230	490	514	476	432
20	594	268	288	283	239	360	613	1230	520	537	462	429
21	535	294	297	309	239	347	650	1290	550	571	448	409
22	522	281	296	268	211	346	670	1320	549	564	445	431
23	502	277	279	257	194	330	641	1210	551	534	445	441
24	479	276	276	257	205	326	608	1130	552	526	437	443
25	461	285	276	213	226	353	619	1120	538	530	428	441
26	441	277	272	222	242	369	660	1160	528	524	423	440
27	424	277	275	255	238	399	893	1180	528	521	416	439
28	427	287	269	236	243	420	902	1080	555	517	412	436
29	415	294	271	220	---	423	806	922	537	514	431	434
30	401	303	305	222	---	403	862	717	528	513	407	440
31	448	---	312	210	---	377	---	695	---	509	403	---
TOTAL	15916	8539	8666	10351	6442	11825	18270	42675	18360	16560	14764	12915
MEAN	513	285	280	334	230	381	609	1377	612	534	476	431
MAX	642	421	312	703	409	566	902	2470	757	593	519	469
MIN	396	266	255	210	162	292	337	695	490	506	403	407
AC-FT	31570	16940	17190	20530	12780	23450	36240	84650	36420	32850	29280	25620
CAL YR 1978	TOTAL	231505	MEAN 634	MAX 3200	MIN 121	AC-FT 459200						
WTR YR 1979	TOTAL	185283	MEAN 508	MAX 2470	MIN 162	AC-FT 367500						

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-61, 1964 to current year. Published as Truckee River at Floriston (station 10345900) for period January 1964 to September 1971.

CHEMICAL ANALYSES: Water years 1951-61, 1964 to current year.

BIOLOGICAL DATA: Water years 1975 to current year.

SPECIFIC CONDUCTANCE: Water year 1964 to current year.

WATER TEMPERATURES: Water years 1964 to current year.

SEDIMENT RECORDS: Water years 1974-78.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: January 1964 to current year.

WATER TEMPERATURES: January 1964 to current year.

REMARKS.--Water-quality at this site is considered comparable with that of Truckee River at Floriston (station 10345900), which was operated 2.5 mi (4.0 km) upstream. Daily specific conductance and temperature data are collected at Farad powerplant, 0.7 mi (1.1 km) upstream from gage. Unpublished specific conductance records are included in extremes and are available in files of district office. This station is part of a National Water Quality Surveillance System.

COOPERATION.--Conductivity and temperature data furnished by Sierra Pacific Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily recorded, 190 micromhos Nov. 20, 1977; minimum daily recorded, 39 micromhos Dec. 23, 1964.

WATER TEMPERATURES: Maximum recorded, 21.0°C Aug. 2, 6, 1971; minimum recorded, 0.0°C on several days during winter periods of most years.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily recorded, 149 micromhos Feb. 13; minimum daily recorded, 58 micromhos June 4-7.

WATER TEMPERATURES: Maximum recorded, 18.5°C Aug. 16; minimum recorded, 0.0°C on several days during December to February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT											
04...	1200	450	51	7.8	13.5	2.0	--	55	--	--	--
17...	1040	620	75	8.0	12.0	1.3	9.1	66	--	--	--
NOV											
02...	1115	305	103	--	8.5	.90	9.2	--	--	--	--
DEC											
04...	1245	275	84	--	4.0	.20	11.2	--	--	--	--
14...	1030	259	75	--	2.0	1.9	11.6	--	--	--	--
JAN											
08...	0940	285	123	6.3	2.5	1.5	11.4	--	24	--	--
16...	0900	382	125	6.0	2.0	2.2	11.5	--	5	--	--
FEB											
05...	1230	230	128	8.0	1.0	.70	12.0	--	23	--	--
20...	0950	233	143	8.8	2.5	1.9	11.4	--	26	--	--
MAR											
02...	0930	289	136	8.5	1.5	3.6	12.5	--	22	--	--
23...	0830	342	116	8.2	4.5	1.5	11.0	--	22	>80	K2
APR											
04...	1030	360	101	7.8	6.5	--	11.0	--	--	200	K0
13...	1130	580	103	--	8.5	1.0	10.5	--	12	K35	K2
MAY											
04...	1115	1540	70	--	7.5	3.1	10.2	--	23	K510	K2
18...	1200	1400	72	8.1	9.0	3.4	9.8	--	35	70	K4
JUN											
01...	0920	682	74	--	8.0	2.4	10.3	--	19	220	10
19...	1100	490	85	--	11.0	1.9	9.8	--	10	K950	K2
JUL											
03...	1045	564	93	--	13.5	1.2	8.7	--	7	K480	13
19...	1130	516	104	--	17.5	3.5	8.2	--	9	K1000	K31
AUG											
03...	0930	510	103	--	16.5	1.6	8.5	--	16	>800	12
23...	1145	450	112	7.0	16.0	1.1	8.6	--	12	--	--
SEP											
07...	1045	430	113	7.9	14.5	2.3	8.7	--	4	K77	<1
21...	1210	430	98	7.3	12.5	1.8	9.2	--	22	K43	K2

See footnotes at end of table.

PYRAMID AND WINNEMUCCA LAKES BASIN  
10346000 TRUCKEE RIVER AT FARAD, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREP- TOCOCCL FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM TOTAL RECOV- ERABLE (MG/L AS CA)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, TOTAL RECOV- ERABLE (MG/L AS MG)	MAGNE- SIUM, SUS- PENDED TOTAL (MG/L AS MG)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV- ERABLE (MG/L AS NA)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
OCT											
04...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
23...	K3	46	3	12	12	3.5	.0	3.8	--	7.4	25
APR											
04...	K2	--	--	--	--	--	--	--	--	--	--
13...	K5	--	--	--	--	--	--	--	--	--	--
MAY											
04...	11	--	--	--	--	--	--	--	--	--	--
18...	15	--	--	--	--	--	--	--	--	--	--
JUN											
01...	24	35	--	9.4	10	1.7	.0	2.4	3.6	3.9	24
19...	42	--	--	--	--	--	--	--	--	--	--
JUL											
03...	K48	--	--	--	--	--	--	--	--	--	--
19...	25	--	--	--	--	--	--	--	--	--	--
AUG											
03...	39	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	K10	--	--	--	--	--	--	--	--	--	--
21...	170	36	5	9.5	9.3	3.2	.2	3.0	5.2	5.5	24

DATE	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, TOTAL RECOV- ERABLE (MG/L AS K)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
OCT											
04...	--	--	--	--	--	--	--	--	--	--	--
17...	--	--	--	--	--	--	--	--	--	--	--
NOV											
02...	--	--	--	--	--	--	--	--	--	--	--
DEC											
04...	--	--	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--	--	--
JAN											
08...	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--
FEB											
05...	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--
MAR											
02...	--	--	--	--	--	--	--	--	--	--	--
23...	.5	--	1.8	1.8	43	5.4	9.2	.0	17	83	84
APR											
04...	--	--	--	--	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--	--	--	--	--
MAY											
04...	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--
JUN											
01...	.3	5.1	1.2	1.2	--	13	3.3	.0	18	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
JUL											
03...	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--
AUG											
03...	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--
SEP											
07...	--	--	--	--	--	--	--	--	--	--	--
21...	.4	7.0	1.5	1.5	31	6.3	3.7	.1	16	66	65

See footnotes at end of table.

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C. SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)
OCT										
04...	--	0	.10	.01	.11	--	.02	--	.39	--
17...	--	21	.07	.01	.08	--	.01	--	.15	--
NOV										
02...	--	26	.93	.01	.94	--	.01	--	.25	--
DEC										
04...	--	1	.39	.01	.40	--	.01	--	.17	--
14...	--	12	.02	.00	.02	--	.00	--	.21	--
JAN										
08...	--	2	.20	.00	.20	--	.01	--	.15	--
16...	--	1	.10	.02	.12	--	.06	--	.20	--
FEB										
05...	--	1	.08	.02	.10	--	.01	--	.08	--
20...	--	1	.11	.02	.13	--	.01	--	.10	--
MAR										
02...	--	0	--	.04	--	--	.04	--	.12	--
23...	.11	3	--	.02	--	.21	.02	.01	.30	.25
APR										
04...	--	--	--	--	--	--	--	--	--	--
13...	--	7	.23	.02	.25	--	.01	--	.24	--
MAY										
04...	--	14	.07	.02	.09	--	.03	--	.15	--
18...	--	15	.16	.02	.18	--	.02	--	.21	--
JUN										
01...	--	7	.59	.02	.61	.06	.00	.00	.14	.07
19...	--	3	.03	.00	.03	--	.01	--	.10	--
JUL										
03...	--	5	.49	.02	.51	--	.02	--	.32	--
19...	--	14	.03	.02	.05	--	.02	--	.07	--
AUG										
03...	--	11	.42	.00	.42	--	.01	--	.06	--
23...	--	3	.01	.00	.01	--	.01	--	.11	--
SEP										
07...	--	5	.03	.00	.03	--	.01	--	.22	--
21...	.09	8	.04	.06	.10	.13	.02	.00	.33	.41

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, DIS- SOLVED (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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CHLOR-A PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTO- PLANK- TON CHROMO FLUOROM (UG/L)
OCT										
04...	.41	--	--	--	.52	.02	--	8.8	.000	.000
17...	.16	--	--	--	.24	.02	--	4.0	--	--
NOV										
02...	.26	--	--	--	1.2	.02	--	3.3	17.0	.000
DEC										
04...	.18	--	--	--	.58	.04	--	7.3	--	--
14...	.21	--	--	--	.23	.01	--	1.5	--	--
JAN										
08...	.16	--	--	--	.36	.03	--	1.5	--	--
16...	.26	--	--	--	.38	.04	--	1.5	--	--
FEB										
05...	.09	--	--	--	.19	.02	--	2.5	--	--
20...	.11	--	--	--	.24	.03	--	1.5	--	--
MAR										
02...	.16	--	--	--	--	.01	--	1.6	--	--
23...	.32	.06	.26	.47	--	.04	.02	1.7	--	--
APR										
04...	--	--	--	--	--	--	--	2.5	--	--
13...	.25	--	--	--	.50	.02	--	5.2	--	--
MAY										
04...	.18	--	--	--	.27	.01	--	2.2	--	--
18...	.23	--	--	--	.41	.01	--	2.7	--	--
JUN										
01...	.14	.07	.07	.13	.75	.01	.00	2.4	--	--
19...	.11	--	--	--	.14	.01	--	.7	--	--
JUL										
03...	.34	--	--	--	.85	.03	--	1.1	--	--
19...	.09	--	--	--	.14	.01	--	.9	--	--
AUG										
03...	.07	--	--	--	.49	.03	--	1.4	--	--
23...	.12	--	--	--	.13	.01	--	2.9	--	--
SEP										
07...	.23	--	--	--	.26	.02	--	4.1	--	--
21...	.35	.00	.41	.54	.45	.03	.01	1.7	--	--

PYRAMID AND WINNEMUCCA LAKES BASIN  
10346000 TRUCKEE RIVER AT FARAD, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)
OCT												
04...	1200	1	--	--	0	--	--	--	0	--	--	--
17...	1040	--	--	--	--	--	--	--	--	--	--	--
NOV												
02...	1115	2	--	--	0	--	--	--	0	--	--	--
JAN												
08...	0940	--	--	--	--	--	--	--	--	--	--	--
16...	0900	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	1230	--	--	--	--	--	--	--	--	--	--	--
20...	0950	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	0930	--	--	--	--	--	--	--	--	--	--	--
23...	0830	2	2	2	0	2	1	1	10	0	10	1
APR												
13...	1130	--	--	--	--	--	--	--	--	--	--	--
MAY												
04...	1115	--	--	--	--	--	--	--	--	--	--	--
18...	1200	--	--	--	--	--	--	--	--	--	--	--
JUN												
01...	0920	2	1	1	0	2	0	2	10	10	0	0
19...	1100	--	--	--	--	--	--	--	--	--	--	--
JUL												
03...	1045	--	--	--	--	--	--	--	--	--	--	--
19...	1130	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	0930	--	--	--	--	--	--	--	--	--	--	--
23...	1145	--	--	--	--	--	--	--	--	--	--	--
SEP												
07...	1045	--	--	--	--	--	--	--	--	--	--	--
21...	1210	2	0	2	0	3	0	3	0	0	10	0

DATE	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT												
04...	--	--	10	--	--	240	--	--	--	--	--	120
17...	--	--	--	--	--	150	--	--	--	--	--	--
NOV												
02...	--	--	5	--	--	--	--	--	--	--	--	40
JAN												
08...	--	--	--	--	--	120	--	--	--	--	--	--
16...	--	--	--	--	--	320	--	--	--	--	--	--
FEB												
05...	--	--	--	--	--	140	--	--	--	--	--	--
20...	--	--	--	--	--	200	--	--	--	--	--	--
MAR												
02...	--	--	--	--	--	670	--	--	--	--	--	--
23...	1	0	1	0	1	270	200	70	34	24	10	20
APR												
13...	--	--	--	--	--	460	--	--	--	--	--	--
MAY												
04...	--	--	--	--	--	470	--	--	--	--	--	--
18...	--	--	--	--	--	520	--	--	--	--	--	--
JUN												
01...	0	<3	7	6	1	250	220	30	74	67	7	30
19...	--	--	--	--	--	160	--	--	--	--	--	--
JUL												
03...	--	--	--	--	--	200	--	--	--	--	--	--
19...	--	--	--	--	--	240	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	680	--	--	--	--	--	--
23...	--	--	--	--	--	190	--	--	--	--	--	--
SEP												
07...	--	--	--	--	--	270	--	--	--	--	--	--
21...	0	<3	1	0	1	610	600	10	38	19	19	90

See footnotes at end of table.



## PYRAMID AND WINNEMUCCA LAKES BASIN

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10346000 TRUCKEE RIVER AT FARAD, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT												
04...	--	--	.1	--	--	0	--	--	0	150	--	--
17...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
02...	--	--	.1	--	--	0	--	--	0	10	--	--
JAN												
08...	--	--	--	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
05...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
02...	--	--	--	--	--	--	--	--	--	--	--	--
23...	0	20	.2	.0	.2	0	0	0	--	40	30	10
APR												
13...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
04...	--	--	--	--	--	--	--	--	--	--	--	--
18...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
01...	20	10	.5	.3	.2	0	0	0	--	90	40	50
19...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
03...	--	--	--	--	--	--	--	--	--	--	--	--
19...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
03...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
07...	--	--	--	--	--	--	--	--	--	--	--	--
21...	80	10	.1	.1	.0	0	0	0	--	20	20	<3

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

&gt; Actual value is known to be greater than the value shown.

K Results based on colony count outside the acceptable range (non-ideal colony count).

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	98	108	106	136	129	118	68	66	81	101	101
2	92	111	---	---	134	---	118	---	67	---	100	100
3	92	110	108	102	---	130	114	66	63	94	---	99
4	92	115	108	103	---	138	113	63	58	91	---	101
5	92	117	108	---	---	136	108	60	58	90	---	105
6	86	116	110	---	126	130	106	59	58	91	---	105
7	83	112	---	---	---	130	103	---	58	91	---	105
8	86	111	108	106	---	---	105	71	70	90	---	106
9	86	112	104	108	141	129	93	---	---	94	---	105
10	80	113	101	108	143	---	100	---	71	94	---	107
11	80	111	103	113	144	---	95	72	---	99	---	107
12	77	108	107	98	144	---	94	---	---	---	---	106
13	80	110	107	108	149	---	---	---	---	98	---	106
14	80	108	107	111	137	---	78	---	67	99	---	108
15	74	108	107	111	125	110	84	---	71	---	---	109
16	---	110	107	128	---	114	84	60	70	84	106	107
17	74	110	107	---	126	115	83	59	71	---	105	98
18	---	110	---	---	132	115	84	---	71	98	104	95
19	72	108	108	142	133	126	90	---	79	---	106	93
20	74	110	102	128	---	---	90	---	76	---	108	---
21	74	108	106	113	---	126	87	---	79	---	107	95
22	74	109	106	121	135	---	88	---	---	97	108	96
23	74	110	107	124	133	127	87	---	---	100	107	95
24	77	110	---	124	140	131	92	---	73	101	---	93
25	80	109	108	131	137	129	---	---	74	100	105	92
26	80	108	107	138	140	126	---	---	---	100	106	94
27	80	108	108	121	142	123	78	---	80	100	109	95
28	80	108	108	---	140	124	74	---	80	---	107	95
29	86	109	108	---	---	---	77	---	82	101	---	96
30	86	108	104	130	---	---	80	---	83	101	107	95
31	86	---	106	---	---	---	---	---	---	---	108	---
MONTH	82	110	107	---	---	---	93	---	---	---	---	100

## PYRAMID AND WINNEMUCCA LAKES BASIN

10346000 TRUCKEE RIVER AT FARAD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.5	6.0	4.5	1.0	0.5	2.0	7.5	7.5	10.0	14.0	16.0	15.0
2	11.0	8.0	---	---	0.0	---	7.5	---	11.0	---	16.0	16.0
3	10.0	7.5	1.0	3.0	---	4.0	4.0	5.5	10.0	12.5	---	15.0
4	11.0	6.0	2.0	3.5	---	4.5	9.5	7.0	9.0	16.0	---	15.0
5	11.0	5.5	3.0	3.0	---	5.0	5.5	6.5	9.0	15.0	---	12.5
6	11.5	6.0	0.5	2.5	1.5	5.0	6.0	5.5	11.0	12.0	---	15.0
7	10.0	6.0	---	---	---	4.5	5.0	---	9.0	12.0	---	16.0
8	11.0	8.0	2.5	2.5	---	---	6.0	5.0	8.0	15.0	---	16.0
9	10.5	6.0	3.0	2.5	2.5	---	7.0	---	---	14.0	---	15.0
10	11.0	5.0	2.5	3.0	2.0	---	5.0	---	8.0	12.5	---	14.0
11	10.0	4.0	3.0	3.0	2.0	---	7.0	7.0	---	15.0	---	11.5
12	12.0	2.0	2.5	1.5	3.0	---	8.0	---	---	---	---	12.0
13	10.0	3.0	2.5	3.0	4.0	---	---	---	---	---	---	15.0
14	10.0	2.0	1.0	3.0	1.5	---	9.5	---	12.0	17.0	---	12.5
15	11.0	2.0	1.0	2.0	0.5	5.0	8.0	---	13.0	---	---	12.0
16	---	4.0	1.0	2.0	---	4.5	6.0	9.0	16.0	18.0	18.5	11.5
17	8.0	3.5	1.0	---	1.0	4.0	6.0	7.5	9.0	---	17.5	11.5
18	---	3.5	---	---	1.0	5.0	5.0	---	10.0	16.0	18.0	13.0
19	13.0	4.0	2.0	0.0	2.0	4.0	5.0	---	11.0	---	17.5	10.0
20	12.5	5.5	0.0	0.0	---	3.5	5.0	---	13.5	---	15.0	---
21	12.0	3.5	0.5	0.5	---	6.5	7.0	---	14.0	---	14.5	10.0
22	10.0	4.0	1.0	2.0	1.5	---	6.0	---	---	16.5	16.0	10.0
23	10.0	3.0	0.5	0.5	0.5	4.5	5.5	---	---	18.0	16.5	10.0
24	8.5	3.0	---	1.5	0.5	4.0	8.0	---	11.5	16.0	---	14.0
25	11.0	2.0	1.0	1.5	1.5	5.5	---	---	12.0	16.0	14.0	13.5
26	8.0	3.0	0.5	1.0	3.5	6.5	---	---	---	16.0	15.5	10.5
27	8.0	2.0	1.5	0.0	1.0	6.0	6.0	---	14.0	16.0	14.5	11.5
28	9.0	2.5	0.5	---	3.0	3.0	7.5	---	12.0	---	15.0	14.5
29	8.0	5.0	0.0	---	---	---	6.5	---	12.0	17.0	---	11.5
30	7.0	4.0	0.0	0.0	---	---	5.5	---	11.0	16.0	13.5	14.5
31	7.5	---	0.0	---	---	---	---	---	---	---	12.0	---
MONTH	10.0	4.5	1.5	---	---	---	6.5	---	---	---	---	13.0

## 10348000 TRUCKEE RIVER AT RENO, NV

LOCATION.--Lat 39°31'53", long 119°47'07", in NW¼ sec.7, T.19 N., R.20 E., Washoe County, Hydrologic Unit 16050102, on left bank 400 ft (120 m) downstream from Kietzke Lane bridge, 0.5 mi (0.8 km) downstream from Scott Island, 1.5 mi (2.4 km) east of Reno Post Office, and 5 mi (8 km) upstream from Steamboat Creek.

DRAINAGE AREA.--1,067 mi<sup>2</sup> (2,764 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1906 to September 1921, June 1925 to September 1926, January 1930 to December 1935, January to December 1943, January 1946 to current year. Monthly discharge only for some periods, published in WSP 1314 and 1734.

REVISED RECORDS.--WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,431.97 ft (1,350.864 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). July 1906 to September 1946, nonrecording gage at site 1 mi (2 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by Lake Tahoe, Martis Creek Lake, Prosser Creek, Boca, and Stampede Reservoirs (stations 10337000, 10339380, 10340300, 10344300, and 10344490), Donner and Independence Lakes, and by several powerplants. Many diversions above station.

AVERAGE DISCHARGE.--53 years (water years 1907-21, 1926, 1931-34, 1947-79), 661 ft<sup>3</sup>/s (18.72 m<sup>3</sup>/s), 478,900 acre-ft/yr (590 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,800 ft<sup>3</sup>/s (589 m<sup>3</sup>/s) Dec. 23, 1955; maximum gage height, 13.83 ft (4.215 m) Nov. 21, 1950; no flow Sept. 12, 14-24, 26-30, 1926.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,320 ft<sup>3</sup>/s (65.7 m<sup>3</sup>/s) May 15, gage height, 5.40 ft (1.646 m); minimum, 102 ft<sup>3</sup>/s (2.89 m<sup>3</sup>/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	405	278	308	212	277	328	941	400	254	218	167
2	237	275	257	312	198	294	323	1320	432	288	221	181
3	165	270	257	332	228	292	319	1390	423	279	221	176
4	223	225	253	304	231	295	329	1450	475	285	235	179
5	218	229	253	292	238	299	421	1650	451	287	235	196
6	264	222	266	289	238	348	462	1580	451	256	228	192
7	292	235	261	285	228	360	461	1310	414	282	225	174
8	312	238	320	285	193	340	446	955	348	274	228	175
9	320	240	308	289	178	363	472	720	348	263	218	155
10	337	234	279	292	178	373	539	750	348	270	218	161
11	338	252	266	762	175	393	530	975	340	234	218	167
12	333	233	266	774	172	403	500	1370	336	222	228	170
13	312	258	256	624	208	443	516	1690	357	217	233	172
14	308	259	259	581	494	463	569	1900	361	216	235	162
15	377	245	254	555	427	558	647	2230	320	216	235	199
16	420	245	255	387	378	527	707	1990	358	256	217	201
17	410	247	279	369	324	454	773	1530	373	241	213	199
18	412	252	280	320	259	421	697	1280	371	223	213	206
19	426	244	271	249	259	414	549	941	248	221	210	187
20	396	266	294	259	256	328	499	955	234	251	206	178
21	333	270	301	328	274	317	539	975	275	382	186	173
22	326	252	303	274	238	310	569	1060	282	335	163	144
23	321	247	282	259	228	314	584	955	269	264	216	172
24	322	246	276	259	202	292	522	837	266	242	175	187
25	305	262	276	238	235	317	521	805	282	236	180	186
26	230	249	268	208	249	336	560	824	255	231	173	186
27	228	257	273	242	248	360	768	895	254	231	167	187
28	247	274	266	274	247	384	818	805	252	221	177	176
29	270	278	261	228	---	419	697	703	257	218	264	169
30	279	292	287	235	---	401	651	485	226	221	214	162
31	363	---	308	245	---	391	---	437	---	212	187	---
TOTAL	9587	7701	8513	10658	6995	11486	16316	35708	10006	7829	6557	5339
MEAN	309	257	275	344	250	371	544	1152	334	253	212	178
MAX	426	405	320	774	494	558	818	2230	475	382	264	206
MIN	165	222	253	208	172	277	319	437	226	212	163	144
AC-FT	19020	15270	16890	21140	13870	22780	32360	70830	19850	15530	13010	10590
CAL YR 1978 TOTAL	183969		MEAN 504	MAX 2860	MIN 130	AC-FT 364900						
WTR YR 1979 TOTAL	136695		MEAN 375	MAX 2230	MIN 144	AC-FT 271100						

PYRAMID AND WINNEMUCCA LAKES BASIN  
10348000 TRUCKEE RIVER AT RENO, NV--Continued  
WATER-QUALITY RECORDS

PERIOD OF RECORD.--  
CHEMICAL ANALYSES: Water years 1977 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	TEMPER- ATURE (DEG C)
OCT				
02...	1045	215	124	14.0
FEB				
26...	1040	243	127	4.5
APR				
13...	1030	530	119	9.0
MAY				
17...	0920	1660	94	10.5
JUN				
25...	1030	268	111	16.0
JUL				
26...	0945	226	136	18.5
AUG				
09...	1030	214	136	18.5
SEP				
26...	1140	184	131	14.5

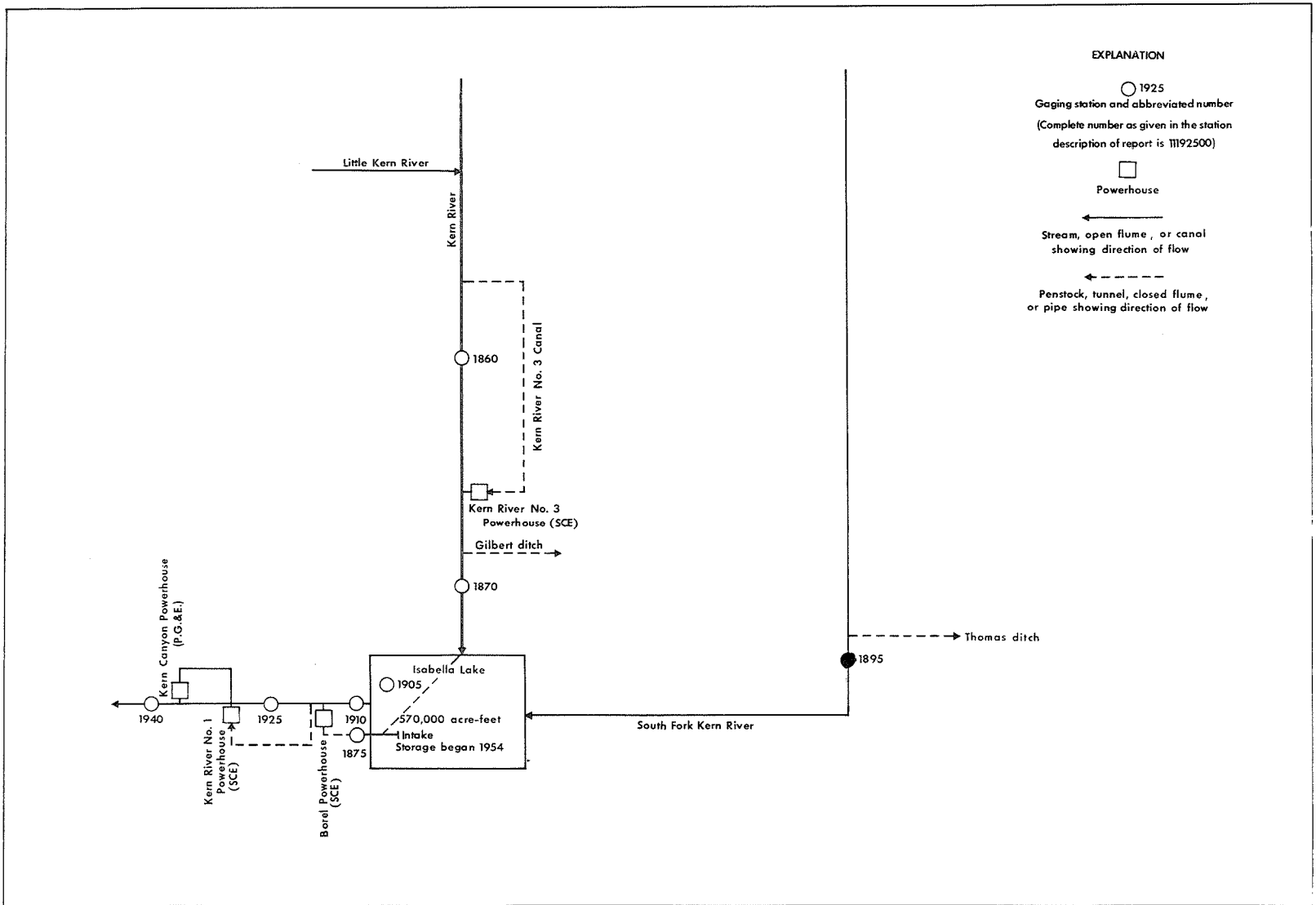


FIGURE 4.--Schematic diagram showing diversions and storage in Kern River basin.

## BUENA VISTA LAKE BASIN

11186000 KERN RIVER NEAR KERNVILLE, CA

LOCATION.--Lat 35°56'43", long 118°28'36", unsurveyed, Tulare County, Hydrologic Unit 18030001, on left bank at Packsaddle Canyon Creek, 30 ft (9 m) upstream from sand trap sluice gates, 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-line 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 15 discharge measurements for Kern River and gage-height record and 11 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); 52 years (water years 1921-53, 1961-79), 362 ft<sup>3</sup>/s (10.25 m<sup>3</sup>/s), 262,300 acre-ft/yr (323 hm<sup>3</sup>/yr).  
Combined river and diversion: 59 years (water years 1921-79), 712 ft<sup>3</sup>/s (20.16 m<sup>3</sup>/s), 515,800 acre-ft/yr (636 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, 3,100 ft<sup>3</sup>/s (87.8 m<sup>3</sup>/s) May 28, gage height, 7.73 ft (2.356 m); minimum daily, 34 ft<sup>3</sup>/s (0.96 m<sup>3</sup>/s) Dec. 8.

Combined river and diversion: Maximum discharge, 3,690 ft<sup>3</sup>/s (105 m<sup>3</sup>/s) May 28; minimum daily, 205 ft<sup>3</sup>/s (5.81 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	45	43	42	41	66	208	1100	1790	328	92	80
2	52	42	42	42	41	63	190	1060	1550	289	92	74
3	54	42	42	42	42	65	183	1060	1460	262	92	73
4	53	42	42	42	42	67	228	1200	1520	246	91	73
5	52	42	42	42	42	66	314	1370	1520	223	92	74
6	51	41	42	42	42	69	387	1270	1820	189	93	72
7	52	41	37	42	41	97	392	1150	2010	143	98	73
8	52	41	34	42	42	217	378	1020	1580	103	94	72
9	52	42	38	42	42	310	446	896	1240	82	92	72
10	52	41	43	41	42	373	414	806	1170	90	93	72
11	52	41	44	43	42	380	369	749	1240	92	95	72
12	52	41	44	52	42	346	377	807	1310	92	95	72
13	53	41	43	41	45	325	469	946	1330	92	96	72
14	51	41	42	42	523	282	578	1120	1280	99	95	72
15	51	41	42	42	108	322	672	1300	993	121	93	72
16	52	41	42	41	41	314	723	1430	845	100	92	72
17	52	41	43	42	40	219	725	1630	759	78	92	71
18	52	41	42	42	40	140	613	1720	619	80	94	71
19	52	41	42	41	40	116	540	2130	501	80	93	71
20	52	41	43	41	42	74	531	2460	461	95	93	71
21	52	41	43	42	45	66	546	2710	497	147	93	71
22	52	41	43	42	45	67	602	2700	532	151	93	71
23	52	41	42	42	44	66	637	2660	564	79	95	71
24	52	42	42	42	44	68	591	2390	581	84	95	70
25	52	42	42	41	44	85	608	2090	586	89	93	73
26	52	42	42	41	44	104	710	2110	524	92	93	73
27	52	43	42	42	43	358	890	2640	451	93	93	72
28	52	43	42	41	59	362	914	2720	432	92	92	73
29	52	43	42	41	---	272	945	2840	413	92	91	72
30	52	42	42	41	---	259	1040	2260	380	93	92	73
31	52	---	42	39	---	219	---	2110	---	93	93	---
TOTAL	1617	1249	1296	1300	1748	5837	16220	52454	29958	3989	2890	2170
MEAN	52.2	41.6	41.8	41.9	62.4	188	541	1692	999	129	93.2	72.3
MAX	56	45	44	52	523	380	1040	2840	2010	328	98	80
MIN	51	41	34	39	40	63	183	749	380	78	91	70
AC-FT	3210	2480	2570	2580	3470	11580	32170	104000	59420	7910	5730	4300
CAL YR 1978 TOTAL	409994			1123	MAX 6340	MIN 20	AC-FT 813200					
WTR YR 1979 TOTAL	120728			331	MAX 2840	MIN 34	AC-FT 239500					

## 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 1978 TO SEPTEMBER 1979

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	466	349	355	304	346	511	804	1690	2380	921	436	259
2	456	348	354	324	349	462	785	1650	2140	882	432	254
3	455	356	324	319	335	479	778	1650	2050	855	425	250
4	448	359	339	315	346	511	823	1790	2110	839	410	246
5	442	356	346	326	353	541	910	1960	2110	792	401	241
6	435	348	313	328	353	595	983	1860	2410	764	387	235
7	430	341	261	326	356	686	988	1740	2600	721	387	234
8	423	337	263	324	358	809	974	1610	2170	683	385	239
9	421	334	319	350	354	904	1040	1470	1830	632	379	225
10	415	332	334	332	364	964	1010	1400	1760	636	363	224
11	408	334	326	387	364	974	964	1340	1830	627	368	223
12	402	330	322	576	372	943	971	1400	1900	622	509	222
13	395	335	320	439	431	924	1070	1540	1920	632	477	225
14	387	336	319	434	1110	875	1170	1710	1870	659	418	229
15	382	329	316	414	670	916	1270	1890	1590	681	380	225
16	381	333	311	407	537	906	1320	2020	1440	695	357	218
17	379	346	346	397	484	811	1320	2220	1350	643	360	214
18	376	337	363	381	476	732	1210	2310	1210	585	412	211
19	371	333	338	357	465	709	1130	2720	1090	577	387	211
20	369	328	317	356	453	663	1130	3050	1050	655	355	212
21	375	330	342	375	497	638	1140	3300	1090	717	335	210
22	372	336	346	362	463	617	1200	3290	1120	731	319	208
23	363	343	334	353	494	614	1230	3250	1160	669	308	205
24	355	337	337	357	470	625	1180	2980	1170	604	298	210
25	355	333	336	352	499	663	1200	2680	1180	569	287	386
26	353	332	333	326	498	699	1300	2700	1120	547	280	390
27	349	330	334	312	454	954	1480	3230	1040	518	274	303
28	346	330	331	342	471	958	1510	3310	1030	492	270	272
29	344	336	316	307	---	867	1540	3070	1010	472	271	259
30	343	340	306	307	---	855	1630	2850	973	458	274	289
31	345	---	302	318	---	815	---	2700	---	446	271	---
TOTAL	12141	10148	10103	11107	12722	23220	34060	70380	47703	20324	11215	7329
MEAN	392	338	326	358	454	749	1135	2270	1590	656	362	244
MAX	466	359	363	576	1110	974	1630	3310	2600	921	509	390
MIN	343	328	261	304	335	462	778	1340	973	446	270	205
AC-FT	24080	20130	20040	22030	25230	46060	67560	139600	94620	40310	22240	14540
CAL YR 1978	TOTAL	590748	MEAN	1618	MAX	6950	MIN	261	AC-FT	1172000		
WTR YR 1979	TOTAL	270452	MEAN	741	MAX	3310	MIN	205	AC-FT	536400		

## BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 35°45'34", long 118°25'12", in NE¼NW¼ sec.15, T.25 S., R.33 E., Kern County, Hydrologic Unit 18030001, on left bank 0.5 mi (0.8 km) upstream from highway bridge at Kernville, 1.7 mi (2.7 km) upstream from Caldwell Creek, 9.5 mi (15.3 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.--Seven discharge measurements furnished by Southern California Edison Co.

AVERAGE DISCHARGE.--33 years, 847 ft<sup>3</sup>/s (23.99 m<sup>3</sup>/s), 613,700 acre-ft/yr (757 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, 19.32 ft (5.889 m) 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)
May 5	1200	2,120 60.0	7.10 2.164	May 28	1000	3,360 95.2	7.92 2.414
May 22	0945	*3,390 96.0	7.94 2.420	June 7	1230	2,770 78.4	7.51 2.289

Minimum daily, 201 ft<sup>3</sup>/s (5.69 m<sup>3</sup>/s) Sept. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	476	364	358	295	368	561	884	1920	2550	951	394	252
2	471	357	392	321	369	498	866	1860	2350	904	385	240
3	473	366	330	316	340	500	855	1830	2160	862	375	236
4	471	363	337	311	349	539	878	1970	2150	833	362	233
5	459	361	352	335	366	575	952	2130	2160	801	354	229
6	440	345	310	340	369	637	1050	2070	2310	780	346	223
7	437	333	278	327	373	736	1080	1950	2540	733	355	220
8	425	321	272	323	369	837	1060	1790	2280	696	355	229
9	425	318	315	361	368	932	1150	1650	1930	625	351	218
10	425	321	335	337	382	1010	1140	1540	1760	636	334	216
11	420	331	329	396	392	1030	1070	1480	1800	621	338	215
12	416	338	327	743	393	985	1060	1520	1840	625	481	215
13	420	344	330	554	439	972	1170	1660	1880	637	461	215
14	399	349	324	516	1160	924	1320	1830	1880	665	398	221
15	385	340	319	502	869	925	1460	2000	1620	685	359	218
16	387	342	311	484	617	993	1540	2110	1460	704	333	211
17	387	365	352	467	527	887	1560	2250	1360	648	331	207
18	388	354	405	432	515	818	1390	2410	1230	578	392	203
19	382	346	364	401	497	778	1270	2570	1110	576	370	205
20	382	336	325	382	472	766	1230	2810	1050	661	335	206
21	391	338	344	404	583	725	1270	3060	1090	721	312	203
22	378	355	362	390	527	691	1320	3150	1140	733	296	201
23	370	360	343	378	574	684	1390	3140	1180	667	283	201
24	362	347	343	379	515	696	1340	2950	1210	588	274	217
25	364	336	343	377	551	734	1340	2710	1220	566	265	367
26	354	336	341	334	543	779	1460	2670	1170	540	261	396
27	352	331	341	307	479	948	1700	3050	1070	511	256	306
28	348	330	338	365	487	1050	1750	3180	1040	480	252	273
29	346	340	320	311	---	976	1750	3020	1030	447	253	259
30	345	350	308	298	---	947	1830	2850	1000	423	256	304
31	350	---	301	328	---	899	---	2710	---	403	253	---
TOTAL	12428	10317	10349	12014	13793	25032	38135	71840	48570	20300	10370	7139
MEAN	401	344	334	388	493	807	1271	2317	1619	655	335	238
MAX	476	366	405	743	1160	1050	1830	3180	2550	951	481	396
MIN	345	318	272	295	340	498	855	1480	1000	403	252	201
AC-FT	24650	20460	20530	23830	27360	49650	75640	142500	96340	40270	20570	14160
CAL YR 1978 TOTAL	631469			1730	MAX 7210	MIN 272	AC-FT 1253000					
WTR YR 1979 TOTAL	280287			768	MAX 3180	MIN 201	AC-FT 555900					



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 to current year.  
 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.

COOPERATION.--The letter "A" following a date indicates chemical-quality records furnished by California Department of Water Resources.

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.

EXTREMES FOR CURRENT YEAR.--  
 WATER TEMPERATURES: Maximum recorded, 22.5°C Aug. 2, 3, 7; minimum recorded, 0.0°C on several days during December to February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (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)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 02...	1400	456	110	7.5	17.0	4.8	9.2	K9	15	33	0	10
NOV 20...	1400	330	123	7.5	5.5	.50	11.7	15	K10	36	0	11
DEC 07...	1200	252	135	6.6	1.0	.60	13.4	K3	K4	30	0	9.4
JAN 09...	1500	408	136	7.4	7.0	1.7	11.7	K0	K2	35	0	11
FEB 21...	1200	587	120	8.2	3.0	4.2	12.4	K3	14	43	0	14
MAR 07...	1400	746	109	8.0	8.5	2.3	11.6	K7	K4	39	0	12
21... A	0930	740	110	7.4	6.0	--	11.7	--	--	36	--	11
APR 12...	1300	1060	85	8.1	11.0	1.2	10.8	K1	K5	29	0	9.0
MAY 09...	1330	1660	56	7.1	9.5	1.2	12.2	K2	K2	18	9	5.8
JUN 05...	1400	2230	43	6.7	14.5	22	--	K6	10	12	0	4.0
JUL 11...	1430	616	68	7.5	18.5	1.1	9.5	K4	12	22	0	7.3
AUG 16...	1600	326	95	7.2	20.0	1.3	10.2	--	--	31	0	10
22... A	1230	298	105	8.0	19.0	--	8.3	--	--	36	--	11
SEP 24...	2030	206	118	8.2	18.0	.60	8.5	--	20	41	0	13

See footnotes at end of table.

## BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (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, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 02...	2.0	8.4	34	.6	1.2	37	7.5	3.3	.1	13	66	68
NOV 20...	2.0	11	39	.8	1.4	44	8.8	3.8	.2	15	80	80
DEC 07...	1.5	12	45	1.0	1.6	46	9.8	4.6	.2	13	83	77
JAN 09...	1.9	11	39	.8	1.4	38	9.2	4.6	.2	16	70	78
FEB 21... A	2.0	10	33	.7	.8	39	11	4.1	.2	17	82	77
MAR 07...	2.3	10	35	.7	1.1	43	12	3.4	.2	18	87	85
21... A	2.0	9.0	--	.7	--	44	6.0	3.0	--	--	80	--
APR 12...	1.5	7.6	34	.6	2.4	34	4.6	2.8	.2	19	70	68
MAY 09...	.9	5.2	37	.5	1.0	23	4.5	1.5	.1	18	47	49
JUN 05...	.6	4.5	42	.6	.7	14	8.0	1.0	.1	8.2	33	36
JUL 11...	.8	6.6	39	.6	1.0	25	5.8	2.1	.2	8.0	54	47
AUG 16...	1.5	9.2	43	.7	1.2	38	12	3.4	.2	3.3	64	64
22... A	2.0	10	--	.7	--	42	6.0	3.0	--	--	82	--
SEP 24...	2.0	13	40	.9	2.0	54	12	4.7	.2	15	101	92

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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, KJEL- DAHL, TOTAL (MG/L AS N)	NITRO- GEN+NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 02...	.09	.02	.00	.64	.64	.41	.23	.66	.02	.01	1.1
NOV 20...	.11	.01	.01	.19	.20	--	--	.21	--	--	1.0
DEC 07...	.11	.02	.01	.17	.18	.00	.18	.20	.14	.03	--
JAN 09...	.10	.01	.00	.19	.19	.11	.08	.20	.02	.02	--
FEB 21...	.11	.02	.03	.05	.08	.00	.09	.10	.04	.03	--
MAR 07...	.12	.01	.03	.18	.21	.10	.11	.22	.01	.02	--
21... A	.11	--	--	--	.20	--	--	--	.01	--	--
APR 12...	.10	.03	.03	--	--	.00	.18	--	.02	.01	--
MAY 09...	.06	.01	.01	.04	.05	.00	.05	.06	.02	.01	8.0
JUN 05...	.04	.02	.02	.25	.27	.20	.07	.29	.05	.04	--
JUL 11...	.07	.01	.01	.16	.17	.15	.02	.18	.00	.00	--
AUG 16...	.09	.04	.01	.07	.08	.00	.10	.12	.00	.00	.9
22... A	.11	--	.00	.20	.20	--	--	--	.01	--	--
SEP 24...	.14	.02	.60	.80	1.4	1.0	.39	1.4	.44	.03	1.5

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE- RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE- RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB 21...	1200	4	2	0	0	0	0	0	0	10
APR 12... A	1300	2	2	0	0	10	1	0	2	0
JUL 11...	1430	3	2	0	0	10	1	0	<1	0

See footnotes at end of table.

BUENA VISTA LAKE BASIN

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11187000 KERN RIVER AT KERNVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHROMIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
FEB 21...	10	0	0	0	0	7	7	0	400	250
APR 12...	0	0	0	0	<3	32	32	0	350	290
JUL 11...	0	0	0	0	<3	30	30	0	160	130

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGANESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MERCURY, TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY, SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY, DIS- SOLVED (UG/L AS HG)
FEB 21...	150	12	12	0	10	10	0	.1	.1	.0
APR 12...	60	45	23	22	20	20	5	.0	.0	.0
JUL 11...	30	15	0	38	10	7	3	.0	.0	.0

DATE	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SELENIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 21...	0	0	0	0	0	0	10	10	0
APR 12...	0	0	0	0	0	0	50	50	<3
JUL 11...	0	0	0	0	0	0	30	30	<3

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

11187000 KERN RIVER AT KERNVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PHYTOPLANKTON

DATE TIME	NOV 20,78 1400	DEC 7,78 1200	MAR 7,79 1400	MAY 9,79 1330
TOTAL CELLS/ML	130	43	100	600
DIVERSITY: DIVISION	0.0	0.9	0.0	0.7
..CLASS	0.0	0.9	0.0	0.7
...ORDER	0.0	0.9	0.0	0.7
....FAMILY	2.3	1.6	2.5	2.4
.....GENUS	2.6	1.6	2.5	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OCYSTACEAE								
.....ANKISTRODESMUS	--	-	--	-	--	-	--	-
....SCENEDESMACEAE								
.....SCENEDESMUS	--	-	--	-	--	-	--	-
...VOLVOCALES								
....CHLAMYDOMONADACEAE								
.....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
...ZYGNEATALES								
....DESMIDIACEAE								
.....CLOSTERIUM	--	-	14# 33		--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCAEAE								
.....CYCLOTELLA	--	-	--	-	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-
...PENNALES								
....ACHNANTHACEAE								
.....ACHNANTHES	22# 17		--	-	14 14		220# 37	
....COCCONEIS	--	-	--	-	--	-	--	-
.....RHOICOSPHENIA	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
.....CYMBELLA	--	-	--	-	--	-	42 7	
....EPITHEMIA	22# 17		--	-	--	-	--	-
...DIATOMACEAE								
.....DIATOMA	--	-	--	-	14 14		28 5	
...EUNOTIACEAE								
....CERATONEIS	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
.....FRAGILARIA	--	-	--	-	--	-	--	-
...SYNEDRA	22# 17		--	-	--	-	42 7	
...GOMPHONEMACEAE								
.....GOMPHONEIS	22# 17		--	-	--	-	28 5	
...GOMPHONEMA	22# 17		14# 33		29# 29		84 14	
...MERIDIONACEAE								
.....MERIDION	--	-	--	-	14 14		--	-
...NAVICULACEAE								
.....NAVICULA	22# 17		14# 33		14 14		--	-
...NITZSCHIAEAE								
.....NITZSCHIA	--	-	--	-	14 14		42 7	
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
.....CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	--	-	--	-	--	-	--	-
...HORMOGONALES								
....OSCILLATORIACEAE								
.....OSCILLATORIA	--	-	--	-	--	-	110# 19	

See footnotes at end of table.

11187000 KERN RIVER AT KERNVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PHYTOPLANKTON

DATE TIME	JUN 5,79 1400	JUL 11,79 1430	AUG 16,79 1600	SEP 24,79 2030
TOTAL CELLS/ML	490	320	210	860
DIVERSITY: DIVISION	0.4	0.3	1.4	0.3
..CLASS	0.4	0.3	1.4	0.3
..ORDER	0.4	0.4	2.0	0.3
...FAMILY	0.5	2.7	2.8	0.3
....GENUS	0.5	2.9	2.8	0.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	65#	31	26	3
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	26	13	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	13	6	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCAEAE								
....CYCLOTELLA	--	-	2	1	--	-	--	-
....MELOSIRA	--	-	--	-	26	13	--	-
...PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	13	3	14	4	--	-	13	1
....COCONEIS	--	-	7	2	--	-	--	-
....RHOICOSPHEA	--	-	10	3	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	46	14	--	-	--	-
....EPITHEMIA	--	-	--	-	13	6	--	-
...DIATOMACEAE								
....DIATOMA	--	-	12	4	--	-	--	-
...EUNOTIACEAE								
....CERATONEIS	--	-	5	1	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	13	3	--	-	--	-	--	-
....SYNEDRA	--	-	80#	25	13	6	--	-
...GOMPHONEMACEAE								
....GOMPHONEIS	--	-	--	-	--	-	--	-
....GOMPHONEMA	13	3	99#	31	26	13	--	-
...MERIDIONACEAE								
....MERIDION	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	--	-	22	7	--	-	--	-
...NITZSCHACEAE								
....NITZSCHIA	--	-	10	3	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	2	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	26	13	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	450#	92	14	4	--	-	820#	96

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%  
 \* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## SAN JOAQUIN RIVER BASIN

11187000 KERN RIVER AT KERNNVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
NOV 20...	50	45.6	43.6	7.08	1.21	282	Polyethylene strip
MAR 07...	15	111	105	13.9	.000	432	do
APR 12...	22	26.2	23.5	22.9	.300	118	do

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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. SIEVE DIAM. % FINER THAN .062 MM
OCT						
02...	1400	456	17.0	3	3.7	45
NOV						
20...	1400	330	5.5	1	.89	53
DEC						
07...	1200	252	1.0	4	2.7	38
JAN						
09...	1500	408	7.0	4	4.4	83
FEB						
21...	1200	587	3.0	8	13	86
MAR						
07...	1400	746	8.5	8	16	60
APR						
12...	1300	1060	11.0	7	20	75
MAY						
09...	1330	1660	9.5	6	27	74
JUN						
05...	1400	2230	14.5	21	126	33
JUL						
11...	1430	616	18.5	3	5.0	61
AUG						
16...	1600	326	20.0	4	3.5	69

## 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.

## WATER-DISCHARGE RECORDS

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 good. 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 hm<sup>3</sup>), 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.--Eleven discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--58 years, 373 ft<sup>3</sup>/s (10.56 m<sup>3</sup>/s), 270,200 acre-ft/yr (333 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 634 ft<sup>3</sup>/s (18.0 m<sup>3</sup>/s) Mar. 13, 14, 1952; no flow at times most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	588	589	519	437	452	555	590	545	528	521	572	572
2	586	587	517	410	450	560	590	545	528	523	570	570
3	586	590	500	385	450	524	590	546	529	521	573	570
4	590	589	489	375	450	525	594	544	527	521	573	573
5	589	586	470	397	450	566	589	545	528	526	570	568
6	587	590	451	412	450	586	584	544	528	524	572	571
7	585	588	492	413	451	592	582	543	525	524	571	556
8	589	590	522	412	448	592	583	544	521	525	574	525
9	588	588	521	412	457	594	583	544	522	522	575	548
10	588	589	521	413	475	593	582	542	522	525	582	551
11	589	584	520	412	476	594	580	544	523	175	581	554
12	592	578	520	413	475	592	582	545	522	529	579	554
13	595	586	520	500	451	593	578	544	522	540	578	556
14	589	587	487	586	514	593	574	550	522	535	581	555
15	585	589	440	579	580	577	573	551	521	539	579	535
16	584	588	438	577	585	570	579	554	523	540	580	529
17	588	547	438	585	586	568	586	554	520	538	572	533
18	586	445	438	586	586	566	586	550	523	559	561	502
19	587	590	438	585	586	575	586	541	523	564	565	475
20	588	588	438	586	539	590	585	541	521	570	575	462
21	586	580	438	585	543	586	586	543	522	572	574	470
22	591	568	438	586	569	585	585	540	522	569	575	501
23	589	579	438	585	580	586	586	537	524	569	574	495
24	587	590	438	585	587	585	586	534	520	573	576	477
25	589	590	438	581	585	584	584	529	523	573	573	421
26	588	589	438	560	571	590	581	528	524	571	576	409
27	586	589	438	527	542	585	576	527	521	574	574	396
28	590	591	437	527	521	572	576	528	522	571	572	362
29	588	590	437	524	---	578	575	535	524	571	570	347
30	583	559	437	482	---	587	576	541	523	571	573	347
31	583	---	437	451	---	589	---	540	---	570	569	---
TOTAL	18219	17393	14493	15468	14409	17932	17487	16798	15703	16605	17789	15084
MEAN	588	580	468	499	515	578	583	542	523	536	574	503
MAX	595	591	522	586	587	594	594	554	529	574	582	573
MIN	583	445	437	375	448	524	573	527	520	175	561	347
AC-FT	36140	34500	28750	30680	28580	35570	34690	33320	31150	32940	35280	29920
CAL YR 1978	TOTAL	191349.90	MEAN	524	MAX	598	MIN	175	AC-FT	379500		
WTR YR 1979	TOTAL	197380.00	MEAN	541	MAX	595	MIN	175	AC-FT	391500		



11187500 BOREL CANAL BELOW ISABELLA DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1958 to September 1979 (discontinued).

INSTRUMENTATION.--Temperature recorder from, October 1958 to September 1979.

COOPERATION.--Temperature recorder graph furnished by Southern California Edison Co.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 27.0°C Aug. 13, 1977; minimum recorded, 0.5°C Jan. 17, 18, 1960.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C July 20, Aug. 4, 10, 12; minimum recorded, 5.0°C Feb. 3.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	16.5	16.5	10.5	10.0	7.5	7.0	5.5	5.5	7.0	6.5
2	---	---	16.5	16.0	10.0	10.0	7.0	6.5	5.5	5.5	6.5	6.5
3	19.5	19.0	16.0	16.0	10.0	10.0	6.5	6.5	5.5	5.0	7.0	6.5
4	19.0	19.0	16.0	16.0	10.0	10.0	6.5	6.5	5.5	5.5	7.0	6.5
5	19.0	19.0	16.0	15.5	10.0	9.5	6.5	6.5	5.5	5.5	7.0	7.0
6	19.0	19.0	16.0	15.5	9.5	9.5	6.5	6.5	5.5	5.5	7.0	7.0
7	19.5	19.0	15.5	15.5	9.5	9.0	7.0	6.5	5.5	5.5	8.5	7.0
8	19.0	19.0	15.5	15.5	9.0	8.5	7.0	7.0	5.5	5.5	8.0	7.5
9	19.0	19.0	15.5	15.0	8.5	8.5	7.0	7.0	5.5	5.5	9.0	7.5
10	19.0	19.0	15.0	15.0	8.5	8.5	7.0	7.0	5.5	5.5	10.5	8.5
11	19.0	18.5	15.0	14.5	8.5	8.5	7.0	7.0	6.0	5.5	11.0	10.0
12	19.0	18.5	14.5	14.0	8.5	8.5	7.0	7.0	6.0	6.0	11.0	10.0
13	19.5	19.0	14.0	14.0	8.5	8.5	7.0	7.0	6.5	6.0	10.5	9.5
14	19.5	19.0	14.0	13.5	8.5	8.5	7.0	7.0	6.5	6.0	9.5	8.5
15	19.5	19.0	13.5	13.5	8.5	8.5	7.0	7.0	6.0	6.0	11.0	9.0
16	19.0	18.5	13.5	12.5	8.5	8.0	7.0	7.0	6.5	6.0	9.0	8.5
17	19.0	18.0	12.5	12.5	8.0	8.0	7.0	7.0	6.5	6.5	8.5	8.5
18	19.0	19.0	12.5	12.5	8.0	8.0	7.0	7.0	6.5	6.5	8.5	8.5
19	19.0	19.0	12.5	12.0	8.0	8.0	7.0	6.5	6.5	6.5	9.5	8.5
20	19.0	19.0	12.0	12.0	8.0	7.5	6.5	6.0	6.5	6.5	10.5	9.5
21	19.0	18.0	12.5	12.0	7.5	7.5	6.5	6.0	6.5	6.5	10.5	9.0
22	18.0	18.0	12.5	11.5	7.5	7.5	6.5	6.5	6.5	6.5	9.5	9.0
23	18.0	18.0	12.0	11.5	7.5	7.5	6.5	6.5	6.5	6.5	10.0	9.5
24	18.0	18.0	12.0	11.5	7.5	7.5	6.5	6.5	6.5	6.5	10.0	9.5
25	18.0	18.0	12.0	11.0	7.5	7.5	6.5	6.5	7.0	6.5	10.0	9.5
26	18.0	17.5	11.5	10.5	7.5	7.5	6.5	6.0	7.0	7.0	10.0	9.5
27	18.0	17.5	10.5	10.5	7.5	7.5	6.0	6.0	7.0	7.0	11.0	10.0
28	17.5	17.5	10.5	10.5	7.5	7.5	6.0	6.0	7.0	7.0	11.5	11.0
29	17.5	17.0	10.5	10.5	7.5	7.5	6.0	6.0	---	---	11.0	10.5
30	17.0	16.5	10.5	10.5	7.5	7.5	6.0	5.5	---	---	10.5	10.5
31	16.5	16.5	---	---	7.5	7.5	5.5	5.5	---	---	10.5	10.5
MONTH	19.5	16.5	16.5	10.5	10.5	7.5	7.5	5.5	7.0	5.0	11.5	6.5

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



## 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>).

## WATER-DISCHARGE RECORDS

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>). Surge flood control storage, 272,528 acre-ft (336 hm<sup>3</sup>) between ungrated spillway crest and elevation 2,627.0 ft (800.71 m), maximum design spillway flood pool. Capacity table revised Oct. 1, 1978. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 578,100 acre-ft (713 hm<sup>3</sup>) July 14, 1969, elevation, 2,606.21 ft (794.373 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, 442,038 acre-ft (545 hm<sup>3</sup>) June 11, elevation, 2,593.84 ft (790.602 m); minimum, 217,919 acre-ft (269 hm<sup>3</sup>) Sept. 28, elevation, 2,567.82 ft (782.672 m).

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

2,500	6,154	2,540	74,802
2,505	9,345	2,550	114,845
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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	361618	292164	248126	244757	245354	254867	279955	333208	429423	411665	320707	235609
2	359504	289945	247825	244458	245577	255173	280839	335507	431630	409410	317170	234806
3	357304	287654	247675	244607	245427	255479	281889	337904	433439	407259	313566	233934
4	355111	285454	247151	244906	245354	255938	282858	340578	435051	404918	309815	233062
5	352835	283587	247299	245205	245354	256398	284155	343263	436465	402873	306343	232266
6	350474	281646	247226	245130	245427	256856	285291	345959	438082	400642	302722	231543
7	348213	279794	246850	245205	245427	257470	286755	348484	440107	398707	299123	230748
8	345959	277707	246475	245205	245502	258240	287817	350837	441123	396487	295715	230173
9	343532	275549	246101	245354	245577	259394	289125	352744	441631	393792	292164	229454
10	341025	273560	245951	245055	245502	260475	290929	354564	441834	391106	288633	228737
11	338706	271816	245726	245652	245577	261480	292411	356206	442038	388812	285372	227948
12	336395	269683	245577	246251	245577	262178	293895	358219	441936	386238	282212	227091
13	334092	268268	245280	246625	246176	262876	295798	360237	441631	383863	278989	226234
14	331974	266541	245130	246925	247900	263420	297958	362538	440818	381306	275948	225451
15	329599	264978	245130	247599	249105	263966	300544	364846	439399	378665	273083	224812
16	327320	263343	244831	247675	249556	265134	302806	367441	437677	375655	270236	224102
17	324963	262178	245130	247750	249858	265838	305329	370231	435960	372564	267560	223325
18	322788	261713	245577	247675	249858	266386	307356	373500	434448	369208	265134	222547
19	320534	260243	245502	247599	250160	267168	309052	377158	432634	365587	262334	221841
20	318289	258700	245427	247449	250539	268032	310752	381211	430725	362446	259548	221209
21	316224	257394	245427	247299	251597	268738	312542	385574	428721	358769	256705	220576
22	314080	256168	245427	247000	252356	269366	314165	390342	427121	355385	253801	219876
23	311858	255096	245427	246850	252963	269920	315708	394947	425621	351925	251067	219316
24	309560	253801	245354	246475	253267	270550	317515	399288	424226	348753	248578	219036
25	307356	252660	245354	246251	253496	271182	319152	403360	422732	345508	246475	218686
26	305160	251446	245354	246101	253877	271895	320794	407356	421143	342008	244682	218546
27	302973	250387	245205	245502	254106	273321	323223	411763	419358	338350	242896	218337
28	300712	249254	245280	245652	254411	275310	325836	416193	417377	334800	241044	217919
29	298208	248352	245205	245427	---	276506	328109	420050	415502	331269	239347	218059
30	295964	247599	245055	245427	---	277787	330654	423529	413630	327846	237804	218268
31	294143	---	244906	245280	---	278909	---	426821	---	324352	236631	---
MAX	361618	292164	248126	247750	254411	278909	330654	426821	442038	411665	320707	235609
MIN	294143	247599	244831	244458	245354	254867	279955	413630	333208	324352	236631	217919
†	2577.82	2571.92	2571.56	2571.61	2572.82	2575.95	2582.10	2592.33	2591.00	2581.38	2570.44	2367.87
† a	-69501	-46544	-2693	+374	+9131	+24498	+51745	+96167	-13191	-89278	-87721	-18363
††	5193	2055	958	1065	952	1904	3696	6336	9084	9532	7246	5709

CAL YR 1978 a † +202272  
WTR YR 1979 a † -145376

† Elevation, in feet NGVD, at end of month.  
‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

a Computed on basis of revised Capacity Table placed into use Oct. 1, 1978.

## BUENA VISTA LAKE BASIN

11190500 ISABELLA LAKE NEAR LAKE ISABELLA, CA--Continued

## WATER-QUALITY RECORDS

NORTH ARM OF ISABELLA LAKE AT WOFFORD HEIGHTS, CA

LOCATION.--Lat 35°41'44", long 118°26'34", Kern County, Hydrologic Unit 18030001, 3.5 mi (5.6 km) north of  
 Isabella Lake main dam and 1.0 mi (1.6 km) south of Wofford Heights.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water year 1979.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
10...	1015	.50	109	9.2	21.9	8.7	110
10...	1016	1.0	109	9.2	21.8	8.7	110
10...	1017	2.0	110	9.0	21.4	8.4	105
10...	1018	3.0	110	8.9	21.2	8.2	102
10...	1019	4.0	111	8.7	21.0	7.9	98
10...	1020	5.0	112	8.7	20.7	7.8	96
10...	1021	6.0	112	8.6	20.6	7.6	93
10...	1022	7.0	113	8.4	20.3	7.5	92
10...	1023	8.0	113	8.4	20.3	7.4	90
10...	1024	9.0	112	8.3	20.3	7.3	89
10...	1025	10.0	114	8.2	20.2	7.2	88
10...	1026	11.0	112	8.1	20.2	7.0	85
10...	1027	12.0	112	8.1	20.2	6.9	84
10...	1028	13.0	111	8.0	19.9	6.6	80
10...	1029	14.0	110	7.8	19.8	6.5	79
10...	1030	15.0	104	7.8	19.0	6.8	81
10...	1031	16.0	100	7.1	18.6	6.6	78

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	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)
JUL							
10...	1035	9.8	9.8	.00	.02	.00	.32

DATE	TIME	NITRO- GEN,AM- ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, ORGANIC TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
JUL								
10...	.23	.34	.11	.23	.023	.01	.05	

1. To convert meters to feet, multiply by 3.281.

11190500 ISABELLA LAKE NEAR LAKE ISABELLA, CA--Continued

## ISABELLA LAKE AT MAIN DAM, CA

LOCATION.--Lat 35°38'52", long 118°28'50", Kern County, Hydrologic Unit 18030001, 500 ft (152 m) north of Isabella Lake main dam.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water year 1979.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) <u>1</u> /	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUL							
10...	1601	.50	112	8.0	20.0	6.9	84
10...	1602	1.0	112	8.0	20.0	6.9	84
10...	1603	2.0	112	8.0	20.0	7.0	85
10...	1604	3.0	112	8.0	19.9	6.9	84
10...	1605	4.0	112	8.0	19.9	6.9	84
10...	1606	5.0	112	7.9	19.9	6.9	84
10...	1607	6.0	113	7.9	19.7	6.7	81
10...	1608	7.0	112	7.8	19.5	6.5	78
10...	1609	8.0	112	7.8	19.5	6.5	78
10...	1610	9.0	112	7.8	19.4	6.5	78
10...	1611	10.0	111	7.7	19.4	6.3	76
10...	1612	11.0	112	7.7	19.2	6.0	72
10...	1613	12.0	111	7.6	19.1	5.7	68
10...	1614	13.0	111	7.6	19.0	5.6	67
10...	1615	14.0	111	7.6	19.0	5.6	67
10...	1616	15.0	111	7.6	19.0	5.6	67
10...	1617	16.0	111	7.5	19.0	5.6	67
10...	1618	17.0	111	7.5	19.0	5.6	67
10...	1619	18.0	111	7.5	19.0	5.6	67
10...	1620	19.0	110	7.5	18.9	5.4	64
10...	1621	20.0	109	7.4	18.2	4.5	53
10...	1622	21.0	108	7.4	17.9	4.2	49
10...	1623	22.0	108	7.3	17.6	3.8	44
10...	1624	23.0	107	7.2	17.3	3.5	41
10...	1625	24.0	106	7.2	17.1	3.1	36
10...	1626	25.0	106	7.2	17.1	3.1	36
10...	1627	26.0	105	7.2	16.9	2.8	32
10...	1628	27.0	105	7.1	16.9	2.6	30
10...	1629	28.0	105	7.1	16.8	2.6	30
10...	1630	29.0	105	7.1	16.8	2.6	30
10...	1631	30.0	104	7.1	16.8	2.5	29
10...	1632	31.0	104	7.1	16.8	2.5	29
10...	1633	32.0	104	7.1	16.8	2.6	30
10...	1634	34.0	105	7.1	16.7	2.4	28

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	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)
JUL							
10...	1640	9.8	9.8	.01	.03	.00	.22
10...	1645	82	65	.15	.03	.00	.31

DATE	TIME	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
JUL							
10...	.27	.25	.00	.27	.011	.01	.04
10...	.30	.34	.04	.30	.022	.03	.05

1. To convert meters to feet, multiply by 3.281.

## 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.--Records 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).--34 years, 886 ft<sup>3</sup>/s (25.09 m<sup>3</sup>/s), 641,900 acre-ft/yr (791 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, 1,910 ft<sup>3</sup>/s (54.1 m<sup>3</sup>/s) July 19, gage height, 9.64 ft (2.938 m); minimum daily, 0.60 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) Dec. 13, 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861	705	1.6	.90	1.4	.80	1.4	426	806	1300	1660	153
2	908	852	1.4	.80	1.3	.80	1.3	451	779	1370	1640	61
3	970	931	1.2	.80	1.3	.80	1.3	439	818	1340	1590	91
4	964	900	1.1	.90	1.3	.80	1.2	409	936	1320	1540	95
5	963	836	1.0	1.1	1.5	.80	1.1	326	1020	1300	1530	68
6	961	788	.90	1.0	1.0	60	11	351	1080	1270	1550	46
7	959	787	.80	.90	1.0	102	.61	382	1120	1170	1540	26
8	943	786	.80	.90	1.0	83	126	361	1210	1240	1510	4.6
9	953	775	.90	1.0	1.0	84	44	372	1260	1350	1520	4.2
10	1010	742	.90	.90	.80	118	1.0	352	1250	1360	1500	39
11	950	713	.70	.90	.80	202	77	285	1310	1640	1440	60
12	953	690	.70	.90	.80	290	52	226	1410	1270	1430	69
13	927	652	.60	.90	.90	352	20	273	1550	1330	1400	66
14	883	631	.70	1.0	.90	294	20	358	1720	1370	1290	35
15	896	586	.60	10	.80	228	107	407	1650	1480	1240	18
16	912	586	.60	15	.90	202	169	471	1630	1610	1220	16
17	910	490	.90	1.5	.80	221	210	471	1540	1640	1180	4.7
18	910	185	.90	1.4	.80	195	240	433	1500	1690	1110	3.9
19	880	539	.90	1.3	.80	70	230	368	1500	1760	1150	3.9
20	860	539	.80	1.6	.90	1.7	195	427	1500	1870	1200	3.8
21	842	472	.80	1.3	1.3	1.6	168	511	1500	1830	1160	3.6
22	827	432	.80	1.3	1.2	1.5	233	543	1440	1840	1160	3.5
23	853	423	.80	1.3	1.2	1.5	285	580	1360	1810	1140	3.3
24	868	409	.80	1.2	1.0	1.3	288	490	1410	1740	956	3.4
25	888	409	.90	7.1	.80	1.3	288	423	1390	1650	747	22
26	888	408	.90	10	.80	1.3	338	421	1370	1670	581	4.5
27	886	391	.90	1.4	.80	1.4	359	480	1420	1710	552	4.3
28	884	341	1.0	1.5	.80	2.2	322	631	1410	1620	558	4.2
29	885	250	1.0	1.3	---	1.8	361	704	1360	1560	552	3.7
30	860	90	1.0	1.3	---	1.7	401	735	1280	1600	405	3.4
31	740	---	.90	1.5	---	1.5	---	769	---	1600	289	---
TOTAL	27994	17338	27.80	72.90	27.90	2523.80	4612.3	13875	39529	47310	36340	924.0
MEAN	903	578	.90	2.35	1.00	81.4	154	448	1318	1526	1172	30.8
MAX	1010	931	1.6	15	1.5	352	401	769	1720	1870	1660	153
MIN	740	90	.60	.80	.80	.80	1.0	226	779	1170	289	3.3
AC-FT	55530	34390	55	145	55	5010	9150	27520	78410	93840	72080	1830
MEAN ‡	445	410	440	525	697	1089	1668	2656	1773	765	437	321
AC-FT ‡	27360	24400	27070	32260	38720	66980	99280	163300	105500	47030	26880	19100
CAL YR 1978 TOTAL	465884.30		MEAN 1276		MAX 4180	MIN .60	AC-FT 924100	MEAN ‡ 2155	AC-FT ‡ 1560000			
WTR YR 1979 TOTAL	190574.70		MEAN 522		MAX 1870	MIN .60	AC-FT 378000	MEAN ‡ 936	AC-FT ‡ 677900			

‡ Adjusted for change in contents in 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, 24.5°C Sept. 3, 1971, Sept. 17, 1975; minimum recorded, 4.0°C Jan. 4, 1972, Feb. 1, 1973, Jan. 30, 31, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C Sept. 8, minimum recorded, 4.0°C Jan. 30, 31.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	19.0	---	---	11.0	10.0	6.5	5.0	5.5	4.5	9.0	8.0
2	19.0	19.0	---	---	10.0	9.5	5.0	4.5	6.0	5.0	9.0	7.5
3	19.0	19.0	---	---	9.0	8.0	6.5	4.5	6.0	5.0	9.5	7.5
4	19.0	19.0	---	---	9.0	8.0	7.0	5.5	6.5	4.5	10.5	8.0
5	---	---	---	---	8.5	7.5	7.0	6.0	6.5	4.5	11.0	9.0
6	---	---	---	---	8.0	6.5	8.0	6.0	7.0	5.5	11.5	7.5
7	---	---	---	---	6.5	5.5	8.0	7.0	7.0	5.0	8.0	7.0
8	---	---	16.5	16.5	6.0	5.0	8.0	7.0	7.0	5.5	8.0	7.0
9	---	---	16.0	16.0	6.5	5.0	9.0	7.5	7.0	5.0	8.0	7.5
10	---	---	16.0	16.0	6.5	5.0	8.5	7.5	7.0	5.0	8.0	7.5
11	---	---	16.0	16.0	7.0	5.5	9.5	8.0	7.0	5.5	8.0	7.5
12	---	---	15.5	15.5	7.5	6.0	10.5	9.0	7.0	5.5	8.0	8.0
13	---	---	15.5	15.5	7.5	6.0	9.0	7.5	7.0	6.5	8.0	8.0
14	---	---	15.5	15.0	7.5	6.5	7.5	7.0	7.5	6.5	8.5	8.0
15	---	---	15.0	14.5	7.0	6.0	7.0	6.0	7.5	6.0	9.0	8.0
16	---	---	14.5	14.0	7.0	6.0	8.0	7.0	7.0	6.0	8.5	8.0
17	---	---	14.0	13.5	7.5	7.0	8.5	7.0	8.0	5.5	8.5	8.0
18	---	---	13.5	12.0	7.5	7.0	8.0	7.0	8.0	6.0	9.0	8.5
19	---	---	13.5	13.5	7.0	6.0	8.0	6.5	7.5	6.0	9.5	8.0
20	---	---	13.5	13.5	6.5	5.5	7.5	6.5	6.5	6.0	12.5	9.0
21	---	---	13.5	13.0	6.5	5.0	7.5	6.5	6.5	6.0	11.0	9.5
22	---	---	13.0	13.0	7.0	5.5	7.5	6.5	8.0	6.5	12.5	9.5
23	---	---	13.0	13.0	7.0	5.5	7.5	6.5	7.5	6.5	13.0	10.0
24	---	---	13.0	12.5	7.0	5.5	8.0	6.5	8.0	6.0	13.5	10.5
25	---	---	12.5	12.5	7.0	6.0	7.0	5.5	9.0	7.0	14.0	11.0
26	---	---	12.5	12.0	7.0	5.5	8.0	6.0	8.5	7.5	13.5	11.0
27	---	---	12.0	12.0	7.0	6.0	6.5	6.0	9.0	7.0	13.0	12.0
28	---	---	12.0	12.0	6.5	6.0	6.0	5.0	9.5	7.0	12.5	11.0
29	---	---	11.5	11.5	7.0	6.0	6.0	4.5	---	---	13.0	10.5
30	---	---	11.5	11.0	7.0	6.0	5.0	4.0	---	---	13.0	11.5
31	---	---	---	---	7.0	5.5	5.0	4.0	---	---	13.5	11.0
MONTH	---	---	---	---	11.0	5.0	10.5	4.0	9.5	4.5	14.0	7.0

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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



## 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 good. 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 11 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, 29 years, 570 ft<sup>3</sup>/s (16.14 m<sup>3</sup>/s), 413,000 acre-ft/yr (509 hm<sup>3</sup>/yr). Combined river and diversion, 29 years, 901 ft<sup>3</sup>/s (25.52 m<sup>3</sup>/s), 652,800 acre-ft/yr (805 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, 2,110 ft<sup>3</sup>/s (59.8 m<sup>3</sup>/s) July 20, gage height, 11.13 ft (3.392 m); minimum daily, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) Jan. 4. Combined flow: Maximum discharge, 2,490 ft<sup>3</sup>/s (70.5 m<sup>3</sup>/s) July 20; minimum daily, 366 ft<sup>3</sup>/s (10.4 m<sup>3</sup>/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	879	163	80	100	220	268	602	922	1400	1830	350
2	1080	1010	151	69	94	235	261	654	905	1510	1810	227
3	1170	1140	137	31	92	186	253	633	869	1480	1770	242
4	1170	1130	119	15	90	186	256	611	973	1460	1720	266
5	1170	1070	114	24	90	202	248	538	1060	1440	1700	242
6	1170	989	86	48	91	237	242	504	1120	1440	1730	221
7	1170	988	98	43	93	376	253	583	1160	1290	1720	216
8	1160	987	146	44	91	332	347	549	1240	1370	1690	167
9	1130	983	147	53	90	334	315	561	1360	1510	1700	166
10	1220	951	148	47	116	330	240	550	1310	1540	1680	182
11	1220	927	147	44	116	436	256	489	1370	1470	1630	224
12	1170	859	147	51	115	508	303	421	1450	1380	1590	222
13	1160	865	147	81	116	582	240	412	1550	1520	1610	237
14	1090	844	143	208	128	588	232	529	1830	1540	1470	211
15	1090	765	80	229	226	464	266	556	1740	1610	1410	185
16	1120	770	75	226	223	428	363	656	1770	1790	1380	167
17	1120	768	81	215	218	456	419	656	1680	1800	1360	172
18	1120	160	91	214	217	416	456	630	1610	1850	1240	148
19	1100	708	97	209	220	354	453	548	1610	1910	1260	113
20	1070	715	84	206	214	238	421	550	1620	2070	1360	118
21	1050	678	81	208	235	258	374	681	1620	2010	1300	111
22	1020	582	81	208	283	248	402	689	1560	2020	1300	142
23	1050	577	81	206	278	243	492	746	1500	1990	1300	124
24	1060	571	79	206	258	242	490	687	1530	1930	1150	122
25	1090	571	80	210	243	237	487	561	1530	1830	918	108
26	1090	569	80	205	246	237	508	578	1490	1830	706	78
27	1090	567	80	162	215	258	570	579	1560	1880	679	80
28	1090	515	80	163	182	313	525	737	1550	1830	661	54
29	1090	441	80	160	---	307	525	843	1510	1720	700	47
30	1070	338	80	142	---	285	594	874	1430	1770	575	47
31	962	---	80	92	---	278	---	896	---	1760	444	---
TOTAL	34412	22917	3283	4099	4680	10014	11059	19103	42429	51950	41393	4989
MEAN	1110	764	106	132	167	323	369	616	1414	1676	1335	166
MAX	1220	1140	163	229	283	588	594	896	1830	2070	1830	350
MIN	962	160	75	15	90	186	232	412	869	1290	444	47
AC-FT	68260	45460	6510	8130	9280	19860	21940	37890	84160	103000	82100	9900
CAL YR 1978	TOTAL	542298.47	MEAN	1486	MAX	4600	MIN	.30	AC-FT	1076000		
WTR YR 1979	TOTAL	250328.00	MEAN	686	MAX	2070	MIN	15	AC-FT	496500		

## BUENA VISTA LAKE BASIN

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 1978 TO SEPTEMBER 1979

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	1260	543	454	473	595	647	992	1320	1790	2210	729
2	1460	1390	530	441	467	609	640	1040	1300	1900	2190	606
3	1550	1520	516	398	465	561	535	1030	1260	1870	2140	620
4	1550	1510	498	383	463	561	632	1060	1370	1850	2090	643
5	1550	1450	493	396	463	577	624	931	1450	1830	2070	618
6	1550	1360	464	421	464	610	618	897	1510	1830	2100	596
7	1550	1360	476	415	464	749	630	976	1550	1680	2090	589
8	1540	1360	523	415	463	706	724	941	1630	1760	2060	539
9	1510	1360	524	426	462	709	692	953	1750	1900	2080	537
10	1600	1320	525	421	488	705	618	942	1700	1930	2060	551
11	1600	1300	525	418	487	807	634	881	1760	1860	2010	593
12	1550	1240	525	425	487	877	681	814	1840	1770	1970	591
13	1540	1240	525	455	488	953	620	805	1940	1910	1990	606
14	1470	1220	519	579	500	961	612	922	2220	1930	1850	580
15	1470	1140	457	601	594	838	647	949	2130	2000	1790	554
16	1500	1140	452	599	591	803	746	1050	2160	2180	1760	536
17	1500	1140	458	589	587	831	800	1050	2070	2190	1740	540
18	1500	527	468	588	586	791	839	1020	2000	2240	1620	515
19	1480	1090	473	583	589	729	839	941	2000	2290	1640	480
20	1440	1090	460	580	583	614	807	943	2010	2450	1740	485
21	1420	1060	457	582	603	633	763	1070	2010	2390	1680	475
22	1400	963	457	582	650	624	790	1080	1950	2400	1680	502
23	1430	961	456	580	646	619	880	1140	1890	2370	1680	484
24	1440	955	455	580	626	618	878	1080	1920	2310	1530	482
25	1470	954	456	583	612	613	875	955	1920	2210	1300	468
26	1470	952	455	578	612	612	897	972	1880	2210	1080	437
27	1470	949	455	535	589	632	958	973	1950	2260	1060	433
28	1470	897	454	536	557	686	915	1130	1940	2210	1040	401
29	1470	822	454	533	---	681	915	1240	1900	2100	1080	371
30	1450	718	455	515	---	662	984	1270	1820	2150	954	366
31	1340	---	454	465	---	655	---	1290	---	2140	823	---
TOTAL	46170	34248	14962	15656	15059	21621	22440	31277	54150	63910	53107	15927
MEAN	1489	1142	483	505	538	697	748	1009	1805	2062	1713	531
MAX	1600	1520	543	601	650	961	984	1290	2220	2450	2210	729
MIN	1340	527	452	383	462	561	535	805	1260	1680	823	366
AC-FT	91580	67930	29680	31050	29870	42890	44510	62040	107400	126800	105300	31590
CAL YR 1978 TOTAL	681674			1868	MAX 4990	MIN 284	AC-FT 1352000					
WTR YR 1979 TOTAL	388527			MEAN 1064	MAX 2450	MIN 366	AC-FT 770600					

LOCATION.--Lat 34°58'54", long 119°11'03", in San Emigdio Grant, Kern County, Hydrologic Unit 18030012, on left bank 50 ft (15 m) downstream from unnamed tributary, 0.8 mi (1.3 km) upstream from San Emigdio Ranchhouse, and 13 mi (21 km) west of Wheeler Ridge.

GAGE.--Water-stage recorder and sharp-crested weir with rectangular flume for flows below 7 ft<sup>3</sup>/s (0.2 m<sup>3</sup>/s). Datum of gage is 1,617.57 ft (493.035 m) National Geodetic Vertical Datum of 1929.

AVERAGE DISCHARGE.--20 years, 2.30 ft<sup>3</sup>/s (0.065 m<sup>3</sup>/s), 1,670 acre-ft/yr (2.06 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,690 ft<sup>3</sup>/s (189 m<sup>3</sup>/s) Aug. 5, 1961, gage height, 19.87 ft (6.056 m) from floodmarks, from rating curve extended above 20 ft<sup>3</sup>/s (0.57 m<sup>3</sup>/s) on basis of slope-area measurements at gage heights 10.94 ft (3.335 m) and 19.87 ft (6.056 m); minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Apr. 23, 24, 1962 and many days in 1965-66.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1938 (from information by local residents), that of Aug. 5, 1961.

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. 14	0300	*94	2.66	10.58	3.225	Mar. 28	0400	64	1.81	10.30	3.139
Feb. 21	0800	25	0.708	9.11	2.777	May 2	0700	32	0.906	9.83	2.996

Minimum daily, 3.8 ft<sup>3</sup>/s (0.108 m<sup>3</sup>/s) Mar. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	9.8	11	6.0	7.7	5.9	5.0	6.7	8.3	7.6	5.8	5.6
2	8.8	9.8	11	6.0	7.7	4.6	4.8	9.8	7.6	7.6	5.8	5.6
3	8.3	9.8	9.3	6.1	7.6	4.2	4.8	6.3	7.4	7.7	5.8	5.6
4	8.8	8.8	8.3	6.2	6.6	4.1	4.7	6.5	7.4	7.7	5.9	5.6
5	9.3	8.8	8.8	10	7.2	3.9	4.5	6.5	7.2	7.6	5.9	5.6
6	8.3	7.7	7.9	9.8	7.2	3.8	5.1	6.5	7.2	7.7	5.9	5.5
7	7.9	7.9	6.3	7.4	7.6	3.8	5.3	6.6	7.4	7.7	5.8	5.5
8	7.9	7.9	5.6	7.2	7.6	4.0	5.3	12	7.4	7.4	5.8	5.5
9	7.9	8.3	5.8	7.6	7.9	4.2	5.6	8.8	7.4	7.4	5.8	5.6
10	7.9	8.3	6.1	6.7	7.9	4.1	5.5	8.8	7.2	7.7	5.7	5.5
11	7.7	9.3	6.1	8.1	7.9	4.4	5.7	9.3	7.2	7.7	5.7	5.3
12	7.7	9.8	6.2	16	8.3	5.0	5.3	8.3	6.9	7.4	5.8	5.3
13	7.9	11	6.2	10	11	5.0	5.6	7.4	6.7	7.0	5.9	5.3
14	7.9	12	6.2	9.8	31	4.9	5.5	7.4	6.7	7.0	5.9	5.2
15	8.3	10	6.3	14	7.7	4.0	5.4	7.2	7.2	6.5	6.0	5.2
16	8.8	9.8	6.3	11	7.6	4.3	5.7	7.7	7.2	6.4	5.9	5.2
17	8.8	9.3	6.5	12	7.6	5.4	5.9	7.9	7.4	6.2	5.8	5.2
18	8.8	9.3	7.9	11	7.7	5.0	5.9	7.7	7.4	6.3	5.7	5.2
19	8.8	8.8	7.4	9.8	7.6	6.1	5.8	7.6	7.9	6.3	6.2	5.4
20	9.8	8.8	6.5	9.3	10	5.6	5.8	7.4	7.6	6.4	6.3	5.4
21	10	8.3	6.5	9.3	21	5.2	5.8	9.3	7.0	6.3	6.3	5.2
22	11	8.3	6.5	8.8	12	4.9	5.9	11	7.4	6.4	6.1	5.2
23	11	8.3	6.5	8.8	9.3	4.8	6.0	11	7.2	6.2	6.0	5.1
24	12	7.9	6.5	8.8	9.8	4.5	5.9	8.8	7.0	6.0	5.9	5.2
25	12	7.7	6.6	8.3	7.7	4.5	5.8	10	7.0	6.0	5.8	5.4
26	11	7.7	6.5	7.7	6.4	4.5	6.1	11	7.4	6.0	5.8	5.5
27	10	7.7	6.5	6.9	7.0	8.0	6.3	10	7.2	6.0	5.8	5.4
28	10	7.6	6.5	7.6	6.5	13	6.3	10	7.2	6.1	5.6	5.3
29	9.8	7.6	6.5	6.4	---	5.7	6.3	9.3	7.4	6.1	5.8	5.4
30	10	7.4	6.3	6.9	---	5.2	6.4	7.9	7.6	6.1	5.8	5.6
31	10	---	6.2	8.3	---	5.0	---	8.8	---	5.9	5.8	---
TOTAL	285.7	262.7	216.8	271.8	261.1	157.6	168.0	263.5	219.1	210.4	182.1	161.6
MEAN	9.22	8.76	6.99	8.77	9.33	5.08	5.60	8.50	7.30	6.79	5.87	5.39
MAX	12	12	11	16	31	13	6.4	12	8.3	7.7	6.3	5.6
MIN	7.7	7.4	5.6	6.0	6.4	3.8	4.5	6.3	6.7	5.9	5.6	5.1
AC-FT	567	521	430	539	518	313	333	523	435	417	361	321
CAL YR 1978	TOTAL	4257.33	MEAN	11.7	MAX	72	MIN	.84	AC-FT	8440		
WTR YR 1979	TOTAL	2660.40	MEAN	7.29	MAX	31	MIN	3.8	AC-FT	5280		

## BUENA VISTA LAKE BASIN

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. Small diversion above station for stock and domestic use.

AVERAGE DISCHARGE.--18 years, 4.11 ft<sup>3</sup>/s (0.116 m<sup>3</sup>/s), 2,980 acre-ft/yr (3.67 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.--Maximum discharge, 51 ft<sup>3</sup>/s (1.44 m<sup>3</sup>/s) Feb. 24 (0215 hrs), gage height, 2.10 ft (0.640 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); minimum daily, 1.0 ft<sup>3</sup>/s (0.029 m<sup>3</sup>/s) July 31 to Aug. 4, Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	2.4	3.7	2.5	5.5	19	21	6.2	2.4	1.3	1.0	1.7
2	2.0	2.5	3.8	2.5	5.9	18	19	6.5	2.4	1.3	1.0	1.6
3	2.1	2.5	3.1	2.5	5.6	16	17	6.2	2.3	1.4	1.0	1.5
4	2.1	2.4	3.1	2.7	5.6	14	17	5.7	1.8	1.5	1.0	1.4
5	2.1	2.6	3.5	3.1	5.6	13	16	5.6	2.0	2.0	1.1	1.4
6	2.1	2.5	3.4	2.8	5.9	12	15	5.6	2.0	1.8	1.1	1.3
7	2.2	2.4	3.5	2.6	6.6	13	13	5.8	2.2	1.6	1.1	1.2
8	2.2	2.5	3.4	2.6	6.7	13	12	6.1	2.3	1.5	1.1	1.2
9	2.2	2.6	3.5	4.2	6.4	13	12	5.7	2.0	1.4	1.1	1.2
10	2.3	2.6	3.2	3.3	6.0	12	11	5.4	1.8	1.4	1.1	1.2
11	2.3	2.7	3.0	3.8	5.6	12	11	5.2	1.7	1.6	1.2	1.2
12	2.2	2.7	3.1	3.9	5.3	11	10	4.9	1.6	1.6	1.3	1.2
13	1.9	2.8	2.6	3.7	5.7	11	9.6	4.6	1.5	1.4	1.3	1.1
14	1.9	2.6	2.8	4.0	11	10	9.3	4.5	1.5	1.3	1.4	1.1
15	1.9	2.6	2.9	6.4	9.6	11	8.8	4.4	1.6	1.3	1.5	1.1
16	2.1	2.6	2.8	6.0	7.3	12	8.5	4.3	1.7	1.2	1.5	1.0
17	2.3	2.6	2.7	5.5	6.5	13	9.1	4.3	1.8	1.2	1.4	1.1
18	2.3	2.6	3.1	6.7	5.9	12	8.5	4.3	1.9	1.1	1.5	1.1
19	2.2	2.6	3.8	5.7	6.5	11	8.1	4.1	1.8	1.1	1.4	1.1
20	2.3	2.7	3.4	4.9	6.2	11	7.8	3.9	1.7	1.2	1.3	1.2
21	2.5	2.8	3.4	4.3	16	12	7.6	4.3	1.6	1.4	1.5	1.2
22	2.4	2.8	3.7	4.2	18	12	7.3	4.5	1.4	1.4	1.5	1.2
23	2.3	2.7	3.3	4.0	32	12	6.9	4.3	1.4	1.3	1.5	1.1
24	2.2	2.8	2.8	4.1	36	12	6.8	4.1	1.2	1.2	1.7	1.2
25	2.2	2.8	2.6	4.8	24	11	6.9	4.0	1.2	1.1	1.6	1.2
26	2.2	2.8	2.6	4.0	19	11	6.8	3.6	1.3	1.1	1.5	1.5
27	2.3	2.7	2.6	3.8	16	12	6.7	3.4	1.3	1.1	1.5	1.5
28	2.3	2.6	2.6	4.4	14	24	6.7	3.1	1.3	1.1	1.5	1.2
29	2.5	2.7	2.6	4.2	---	40	6.6	2.4	1.3	1.1	1.7	1.2
30	2.6	2.7	2.6	4.9	---	35	6.1	3.1	1.3	1.1	1.6	1.7
31	2.6	---	2.6	5.0	---	25	---	2.6	---	1.0	1.8	---
TOTAL	68.7	78.9	95.8	127.1	304.4	463	312.1	142.7	51.3	41.1	41.8	37.9
MEAN	2.22	2.63	3.09	4.10	10.9	14.9	10.4	4.60	1.71	1.33	1.35	1.26
MAX	2.6	2.8	3.8	6.7	36	40	21	6.5	2.4	2.0	1.8	1.7
MIN	1.9	2.4	2.6	2.5	5.3	10	6.1	2.4	1.2	1.0	1.0	1.0
AC-FT	136	156	190	252	604	918	619	283	102	82	83	75

CAL YR 1978 TOTAL 12469.76 MEAN 34.2 MAX 1180 MIN .08 AC-FT 24730  
WTR YR 1979 TOTAL 1764.80 MEAN 4.84 MAX 40 MIN 1.0 AC-FT 3500

11196420 TEHACHAPI CREEK NEAR TEHACHAPI, CA

LOCATION.--Lat 35°10'26", long 118°28'43", in NE4SW4 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.--17 years, 0.45 ft<sup>3</sup>/s (0.013 m<sup>3</sup>/s), 326 acre-ft/yr (402,000 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)
Feb. 14	0345	12 0.34	0.64 0.194	Mar. 1	0945	*30 0.85	0.78 0.238
Feb. 21	1115	*30 .85	.78 .238	Mar. 28	1915	27 .76	.77 .235
Feb. 23	1145	22 .62	.72 .219				

Minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.01	.08	.02	.01	11	1.4	.51	.10	.05	.01	.02
2	.01	.01	.02	.02	.10	2.7	1.3	.46	.11	.04	.01	.02
3	.01	.01	.01	.02	.13	1.9	1.3	.38	.09	.04	.01	.02
4	.01	.01	.01	.03	.28	1.7	1.3	.38	.10	.05	.01	.03
5	.01	.01	.01	.32	.38	1.6	1.3	.34	.09	.05	.01	.02
6	.01	.02	.01	.01	.49	1.4	1.2	.31	.09	.05	.01	.03
7	.02	.02	.01	.01	.72	1.3	1.1	.36	.07	.05	.01	.03
8	.02	.02	.01	.02	.81	1.3	1.1	.49	.06	.04	.01	.03
9	.02	.03	.01	.04	1.2	1.2	1.1	.42	.06	.04	.01	.03
10	.02	.03	.01	.01	.74	.97	1.1	.38	.06	.05	.01	.03
11	.02	.04	.02	.06	.50	.91	1.1	.38	.05	.04	.01	.03
12	.02	.03	.02	.03	.42	.91	1.0	.38	.05	.05	.11	.03
13	.02	.05	.01	.02	1.0	.91	1.1	.38	.05	.04	.02	.03
14	.01	.02	.01	.02	3.1	.91	1.0	.38	.05	.03	.02	.02
15	.01	.02	.02	.91	1.3	.92	.97	.38	.06	.02	.02	.02
16	.01	.03	.02	1.5	.90	.91	1.1	.34	.06	.02	.02	.02
17	.01	.03	.03	.63	.44	1.8	1.1	.21	.06	.02	.02	.02
18	.01	.03	.03	.58	.38	1.3	1.1	.20	.06	.02	.02	.02
19	.02	.03	.02	.06	.80	2.5	1.0	.20	.06	.02	.02	.03
20	.02	.05	.02	.03	.90	1.6	.97	.19	.06	.02	.02	.03
21	.02	.06	.02	.02	16	1.6	.48	.18	.07	.02	.02	.02
22	.02	.02	.02	.02	3.1	1.4	.38	.19	.08	.02	.02	.02
23	.02	.02	.02	.02	8.7	1.3	.42	.19	.07	.02	.03	.02
24	.02	.02	.02	.02	2.1	1.1	.38	.18	.05	.02	.03	.02
25	.02	.03	.01	.21	1.7	.93	.38	.19	.05	.02	.03	.03
26	.02	.03	.01	.15	2.1	.91	.38	.17	.04	.01	.03	.03
27	.03	.03	.01	.09	1.7	2.4	.38	.16	.04	.01	.03	.03
28	.03	.03	.01	.02	1.6	13	.40	.17	.04	.01	.03	.03
29	.03	.03	.01	.01	---	3.1	.47	.19	.04	.01	.03	.16
30	.04	.03	.02	.01	---	1.9	.62	.18	.04	.01	.03	.03
31	.01	---	.02	.01	---	1.5	---	.14	---	.01	.02	---
TOTAL	.55	.80	.55	4.92	51.60	66.88	26.93	9.01	1.91	.89	.68	.90
MEAN	.018	.027	.018	.16	1.84	2.16	.90	.29	.064	.029	.022	.030
MAX	.04	.06	.08	1.5	16	13	1.4	.51	.11	.05	.11	.16
MIN	.01	.01	.01	.01	.01	.91	.38	.14	.04	.01	.01	.02
AC-FT	1.1	1.6	1.1	9.8	102	133	53	18	3.8	1.8	1.3	1.8

CAL YR 1978 TOTAL 814.15 MEAN 2.23 MAX 172 MIN 0 AC-FT 1610  
WTR YR 1979 TOTAL 165.62 MEAN .45 MAX 16 MIN .01 AC-FT 329

## TULARE LAKE BASIN

11197000 TULARE LAKE IN KINGS COUNTY, CA

LOCATION.--Lat 36°02'36", long 119°38'34", in SE $\frac{1}{4}$ NE $\frac{1}{4}$  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 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 elevation 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. 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.--Lake dry all year.

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 poor. Minor diversions for stock above station.

AVERAGE DISCHARGE.--18 years, 3.27 ft<sup>3</sup>/s (0.093 m<sup>3</sup>/s), 2,370 acre-ft/yr (2.92 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)
Feb. 14	0200	*204 5.78	3.08 0.939
Feb. 21	0115	121 3.43	2.86 0.872
Mar. 28	0645	135 3.82	2.90 0.884

Minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) Aug. 4, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.47	.62	.74	2.5	7.5	15	.92	.44	.18	.08	.07
2	.38	.47	.62	.76	2.8	6.4	10	.94	.40	.17	.07	.07
3	.40	.48	.58	.76	3.0	5.4	5.8	.84	.37	.20	.05	.07
4	.41	.49	.58	.76	1.9	4.5	3.3	.82	.35	.19	.01	.07
5	.38	.50	.56	.90	1.8	3.8	2.9	.88	.33	.19	.07	.07
6	.37	.51	.53	.78	1.7	3.3	3.0	.85	.31	.18	.08	.07
7	.41	.47	.68	.76	4.1	2.8	3.0	.88	.29	.17	.07	.07
8	.42	.49	.74	.79	3.1	2.5	2.9	.88	.30	.18	.01	.06
9	.39	.50	.73	2.6	2.5	2.4	2.9	.83	.31	.18	.06	.07
10	.41	.52	.63	.80	2.4	2.2	2.8	.78	.28	.17	.07	.07
11	.42	.67	.51	.76	2.1	2.1	2.7	.74	.26	.17	.06	.06
12	.43	.60	.51	.70	1.9	2.0	2.6	.72	.24	.17	.05	.06
13	.42	.68	.51	.76	2.5	2.0	2.5	.69	.23	.15	.06	.06
14	.39	.63	.51	1.2	55	2.2	2.3	.66	.23	.13	.08	.06
15	.37	.58	.58	2.9	15	2.4	2.2	.64	.24	.12	.08	.06
16	.42	.53	.62	1.7	10	3.0	1.7	.64	.23	.11	.07	.06
17	.44	.49	.63	1.1	8.1	5.0	2.1	.65	.25	.09	.07	.06
18	.44	.48	.86	1.5	6.7	4.4	2.3	.66	.25	.10	.07	.05
19	.44	.48	.92	1.0	6.1	4.0	1.9	.64	.25	.10	.06	.07
20	.41	.58	.67	.92	8.6	3.5	1.9	.63	.24	.07	.07	.08
21	.42	.70	.66	.86	52	3.3	1.6	.63	.22	.09	.07	.08
22	.44	.76	.64	.81	31	2.7	1.3	.66	.21	.12	.07	.07
23	.49	.67	.59	.77	30	2.3	1.2	.62	.21	.12	.07	.07
24	.46	.58	.58	.73	18	2.1	1.2	.60	.19	.11	.07	.08
25	.44	.58	.58	.70	14	2.1	1.1	.57	.17	.08	.07	.08
26	.46	.57	.58	.68	11	3.0	1.0	.54	.19	.04	.07	.09
27	.48	.58	.57	.66	9.5	73	1.0	.51	.20	.07	.06	.09
28	.48	.58	.57	.66	8.7	103	.97	.50	.19	.10	.06	.09
29	.43	.56	.56	.98	---	73	.93	.52	.18	.10	.07	.10
30	.43	.54	.60	1.3	---	40	.91	.49	.19	.10	.07	.10
31	.47	---	.66	2.8	---	24	---	.47	---	.09	.07	---
TOTAL	13.12	16.74	19.18	33.14	316.0	399.9	85.01	21.40	7.75	4.04	1.99	2.16
MEAN	.42	.56	.62	1.07	11.3	12.9	2.83	.69	.26	.13	.064	.072
MAX	.49	.76	.92	2.9	55	103	15	.94	.44	.20	.08	.10
MIN	.37	.47	.51	.66	1.7	2.0	.91	.47	.17	.04	.01	.05
AC-FT	26	33	38	66	627	793	169	42	15	8.0	3.9	4.3
CAL YR 1978 TOTAL	5972.31		MEAN 16.4	MAX 805	MIN .33	AC-FT 11850						
WTR YR 1979 TOTAL	920.43		MEAN 2.52	MAX 103	MIN .01	AC-FT 1830						

## TULARE LAKE BASIN

11197800 POSO CREEK NEAR OILDALE, CA

LOCATION.--Lat 35°30'50", 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 fair. Oilfield waste comprises most of low flow.

AVERAGE DISCHARGE.--20 years, 29.8 ft<sup>3</sup>/s (0.844 m<sup>3</sup>/s), 21,590 acre-ft/yr (26.6 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 1975-79.

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)
Feb. 22	1600	187 5.30	8.22 2.505	Mar. 22	0500	302 8.55	8.76 2.670
Mar. 2	0900	171 4.84	8.16 2.487	Mar. 29	1130	*492 13.9	9.20 2.804

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.51	4.5	14	15	26	96	205	61	18	1.9		
2	.61	4.7	31	15	27	153	178	59	17	1.4		
3	.90	4.7	27	15	23	103	152	58	16	1.4		
4	.90	4.7	18	16	18	88	132	56	16	2.2		
5	.64	4.5	16	18	23	86	121	55	15	4.2		
6	.47	4.7	18	22	23	90	116	54	15	3.3		
7	.67	4.9	15	20	23	103	99	53	13	1.6		
8	1.1	4.9	11	19	23	113	90	52	12	2.6		
9	.90	5.4	11	24	22	110	87	69	11	2.2		
10	.67	5.8	12	29	24	109	82	57	9.8	1.6		
11	1.1	5.4	14	25	23	107	74	49	8.2	1.2		
12	1.8	6.3	14	25	24	98	73	46	7.6	1.2		
13	1.4	8.0	13	41	24	87	70	44	6.2	.45		
14	.90	9.4	12	37	36	85	68	42	5.8	.23		
15	.22	9.8	14	42	57	82	73	38	5.4	.11		
16	1.6	9.8	13	51	46	116	68	36	6.2	.04		
17	2.2	9.4	14	41	41	128	69	34	6.7	0		
18	2.2	9.4	18	39	38	122	67	33	7.6	0		
19	2.2	8.5	30	37	38	110	59	31	8.7	0		
20	2.9	9.8	28	33	41	109	54	30	6.2	0		
21	3.4	10	20	31	77	139	53	29	5.0	0		
22	3.6	11	20	29	156	267	52	31	5.0	0		
23	3.4	12	20	28	156	189	54	31	5.4	0		
24	2.9	12	19	28	130	156	58	28	5.0	0		
25	2.7	11	18	28	90	141	53	27	4.2	0		
26	3.2	10	18	27	85	134	57	26	3.3	0		
27	3.2	9.8	18	26	94	149	65	23	3.7	0		
28	3.2	10	18	26	80	221	69	22	2.6	0		
29	2.9	11	17	27	---	420	64	22	3.3	0		
30	3.8	10	16	24	---	318	62	21	2.2	0		
31	4.0	---	17	25	---	241	---	21	---	0		---
TOTAL	60.19	241.4	544	863	1468	4470	2524	1238	251.1	25.63	0	0
MEAN	1.94	8.05	17.5	27.8	52.4	144	84.1	39.9	8.37	.83	0	0
MAX	4.0	12	31	51	156	420	205	69	18	4.2	0	0
MIN	.22	4.5	11	15	18	82	52	21	2.2	0	0	0
AC-FT	119	479	1080	1710	2910	8870	5010	2460	498	51	0	0
CAL YR 1978	TOTAL	25570.45	MEAN	70.1	MAX	2150	MIN	0	AC-FT	50720		
WTR YR 1979	TOTAL	11685.32	MEAN	32.0	MAX	420	MIN	0	AC-FT	23180		



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. Prior to Dec. 1, 1978, at site 4,000 ft (1,220 m) downstream.

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 and 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 poor to Nov. 30 and good thereafter. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--19 years (water years 1943-53, 1972-79), 9.64 ft<sup>3</sup>/s (0.273 m<sup>3</sup>/s), 6,980 acre-ft/yr (8.61 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 Water and Power Resources Service, 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)	
Feb. 21	1800	*126	3.57	2.32	0.707	Mar. 21	1100	87	2.46	2.10	.640
Mar. 1	1430	90	2.55	2.12	.646	Mar. 28	1700	121	3.43	2.29	.698
Mar. 16	0730	69	1.95	1.99	.607						

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	1.5	5.0	5.0	8.8	49	35	12	4.8	.79		
2	.54	1.6	12	4.8	7.0	42	31	12	4.5	.71		
3	.52	1.6	8.1	5.3	7.4	25	27	12	4.3	.79		
4	.51	1.6	5.8	5.3	6.7	21	23	12	3.8	.88		
5	.23	1.6	5.8	5.5	6.7	18	21	12	3.6	.88		
6	.17	1.6	6.4	5.8	6.4	17	20	12	3.2	.79		
7	.24	1.7	5.5	5.8	6.4	16	19	12	3.2	.79		
8	.38	1.7	4.3	5.5	6.4	16	16	12	3.0	.71		
9	.30	1.9	4.3	7.0	6.4	15	16	13	2.7	.71		
10	.24	2.0	4.8	7.7	6.4	14	16	11	2.4	.64		
11	.40	1.9	5.0	7.0	6.1	13	14	10	2.2	.57		
12	.61	2.2	5.0	8.1	6.1	12	14	10	2.0	.57		
13	.50	2.7	5.0	10	6.4	11	13	10	1.9	.51		
14	.47	3.1	5.0	9.2	12	12	13	10	1.8	.34		
15	.10	3.4	5.0	15	16	16	14	9.6	1.8	.26		
16	.56	3.5	5.3	12	10	40	13	9.2	1.8	.19		
17	.77	3.4	5.5	9.2	9.2	24	13	9.2	1.8	.10		
18	.76	3.3	8.1	11	8.8	20	13	9.2	1.8	.08		
19	.76	3.0	16	9.6	9.2	17	11	8.8	1.6	.07		
20	.98	3.4	13	8.1	11	18	10	8.8	1.5	.07		
21	1.2	3.6	8.4	7.4	57	49	10	9.2	1.4	.06		
22	1.3	3.9	7.4	7.4	70	35	10	9.2	1.4	.06		
23	1.2	4.2	7.0	7.0	57	24	10	8.8	1.2	.04		
24	1.0	4.1	6.4	6.7	33	19	11	8.4	1.1	.01		
25	.94	3.9	6.4	7.0	24	17	10	7.7	.97	0		
26	1.1	3.6	6.1	7.4	21	15	10	7.0	.97	0		
27	1.1	3.4	6.1	6.4	23	30	12	6.7	.88	0		
28	1.1	3.5	6.1	7.4	19	66	13	6.7	.88	0		
29	1.0	3.7	5.8	7.4	---	76	12	6.7	.71	0		
30	1.3	3.4	5.8	6.7	---	48	12	6.1	.79	0		
31	1.4	---	5.3	8.4	---	40	---	5.5	---	0		---
TOTAL	22.24	84.0	205.7	236.1	467.4	835	462	296.8	64.00	10.62	0	0
MEAN	.72	2.80	6.64	7.62	16.7	26.9	15.4	9.57	2.13	.34	0	0
MAX	1.4	4.2	16	15	70	76	35	13	4.8	.88	0	0
MIN	.10	1.5	4.3	4.8	6.1	11	10	5.5	.71	0	0	0
AC-FT	44	167	408	468	927	1660	916	589	127	21	0	0
CAL YR 1978	TOTAL	8490.95	MEAN	23.3	MAX	624	MIN	0	AC-FT	16840		
WTR YR 1979	TOTAL	2683.86	MEAN	7.35	MAX	76	MIN	0	AC-FT	5320		

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.

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, and 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)	
Feb. 22	0215	164	4.64	4.05	1.234	Mar. 16	0415	*184	5.21	4.16	1.268
Mar. 1	1145	120	3.40	3.76	1.146	Mar. 28	1600	183	5.18	4.15	1.265

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	7.3	14	13	20	73	94	42	23	7.7	1.7	4.1
2	5.7	7.5	28	13	20	57	85	41	22	7.9	1.6	3.5
3	5.7	7.8	15	13	18	47	76	40	21	7.8	1.5	2.8
4	5.7	7.9	13	13	17	46	71	38	20	8.0	1.7	2.3
5	5.5	7.7	13	14	17	46	71	39	20	8.3	1.7	2.1
6	5.7	7.5	14	17	17	50	72	38	19	8.4	1.7	1.8
7	5.8	7.2	11	15	17	57	69	37	18	7.8	1.6	1.4
8	5.8	7.0	10	15	17	60	63	38	18	7.4	1.5	1.2
9	5.9	7.2	11	19	18	61	64	40	18	7.2	1.8	1.5
10	5.9	7.5	11	20	18	60	61	37	17	6.7	1.9	2.0
11	6.1	8.4	11	17	18	58	57	35	15	7.1	2.1	1.7
12	6.2	10	11	28	18	52	54	34	13	6.9	2.5	1.2
13	6.0	12	11	26	19	49	53	34	12	6.0	2.6	.97
14	5.5	12	11	22	50	45	53	34	12	5.1	2.2	.98
15	5.1	10	11	30	39	54	54	33	13	4.7	2.4	1.3
16	5.4	10	11	26	31	111	54	33	12	4.6	2.9	1.1
17	5.8	10	11	21	29	74	56	32	13	4.3	2.9	.80
18	6.3	10	23	26	26	65	52	32	14	3.9	3.0	.71
19	6.1	10	27	22	27	62	48	32	15	3.3	3.0	.72
20	6.0	9.9	19	19	27	62	46	33	13	2.9	3.0	1.0
21	6.7	10	17	18	90	73	45	33	12	4.2	3.5	1.5
22	7.2	13	17	18	93	66	43	33	12	4.9	3.6	1.2
23	7.0	12	16	17	77	59	43	33	11	4.9	3.3	.65
24	6.4	11	15	17	54	56	42	32	11	4.5	3.1	.71
25	5.9	10	15	18	48	56	41	31	9.9	4.1	3.1	6.2
26	6.0	10	15	18	51	55	41	30	9.2	3.6	3.0	5.4
27	6.0	10	15	16	48	86	44	29	9.8	3.1	3.1	4.7
28	6.0	10	15	17	41	129	44	29	8.8	3.1	3.2	4.4
29	6.2	9.9	14	16	---	142	43	29	8.2	2.7	3.3	3.9
30	6.6	10	14	15	---	122	43	28	7.7	2.2	3.8	5.0
31	7.1	---	13	19	---	107	---	24	---	2.0	4.2	---
TOTAL	186.8	282.8	452	578	965	2140	1682	1053	427.6	165.3	80.5	66.84
MEAN	6.03	9.43	14.6	18.6	34.5	69.0	56.1	34.0	14.3	5.33	2.60	2.23
MAX	7.2	13	28	30	93	142	94	42	23	8.4	4.2	6.2
MIN	5.1	7.0	10	13	17	45	41	24	7.7	2.0	1.5	.65
AC-FT	371	561	897	1150	1910	4240	3340	2090	848	328	160	133
WTR YR 1978	TOTAL	18340.40	MEAN	50.2	MAX	957	MIN	4.0	AC-FT	36380		
WTR YR 1979	TOTAL	8079.84	MEAN	22.1	MAX	142	MIN	.65	AC-FT	16030		

## 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.--9 years, 1.23 ft<sup>3</sup>/s (0.035 m<sup>3</sup>/s), 891 acre-ft/yr (1.10 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; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	9.4	6.9	8.8	6.6	.37	.23	0	.12		
2		0	10	7.6	3.0	.60	.15	.26	0	.08		
3		0	5.7	7.5	1.4	.18	.01	.42	0	.06		
4		0	5.1	7.6	.60	.08	5.9	.34	0	.05		
5		.15	5.2	8.0	3.2	3.3	14	.24	0	.12		
6		.49	5.4	8.3	7.6	9.9	12	.11	1.7	.18		
7		1.3	5.0	8.3	7.6	10	3.9	.15	3.1	.13		
8		1.3	4.9	8.3	7.6	12	2.6	.42	3.6	.14		
9		1.4	5.1	9.4	7.7	11	1.3	.23	3.8	.06		
10		1.5	5.3	9.4	7.7	.39	1.1	.06	4.4	.05		
11		2.8	6.6	8.4	7.8	.18	.96	.14	4.9	.02		
12		5.7	6.8	8.6	7.9	.08	.89	.15	2.7	0		
13		6.5	6.8	11	8.3	.02	.29	.05	2.2	0		
14		6.8	6.7	10	10	0	.44	.03	1.7	0		
15		6.4	6.7	10	12	0	.12	.02	1.8	0		
16		5.8	7.0	11	11	2.1	3.3	.01	1.7	0		
17		5.9	7.6	9.4	10	.89	7.0	0	1.7	0		
18		6.2	8.7	10	9.7	.20	1.0	0	1.7	0		
19		6.2	11	9.6	9.5	.10	.37	0	2.2	0		
20		6.2	9.1	9.0	.83	6.3	.34	0	1.7	0		
21		6.5	8.3	8.6	7.1	14	.09	0	1.4	0		
22		6.7	7.3	8.2	8.1	9.4	.29	0	1.4	0		
23		8.9	4.8	8.0	5.8	6.0	.39	0	1.2	0		
24		8.3	3.3	7.9	3.8	4.0	.30	0	1.1	0		
25		7.3	1.4	7.6	1.9	2.2	.08	0	1.1	0		
26		7.0	.16	7.7	4.2	8.0	.02	0	1.5	0		
27		6.7	.03	7.6	8.6	14	.08	0	1.5	0		
28		6.4	.02	8.0	7.8	10	.14	0	1.6	0		
29		6.4	.76	7.9	---	7.3	.10	0	.80	0		
30		6.5	3.7	7.6	---	1.5	.13	0	.20	0		
31		---	5.8	8.5	---	.34	---	0	---	0		---
TOTAL	0	135.34	173.67	265.9	189.53	140.66	57.66	2.86	50.70	1.01	0	0
MEAN	0	4.51	5.60	8.58	6.77	4.54	1.92	.092	1.69	.033	0	0
MAX	0	8.9	11	11	12	14	14	.42	4.9	.18	0	0
MIN	0	0	.02	6.9	.60	0	.01	0	0	0	0	0
AC-FT	0	268	344	527	376	279	114	5.7	101	2.0	0	0

CAL YR 1978 TOTAL 1182.40 MEAN 3.24 MAX 12 MIN 0 AC-FT 2350  
WTR YR 1979 TOTAL 1017.33 MEAN 2.79 MAX 14 MIN 0 AC-FT 2020

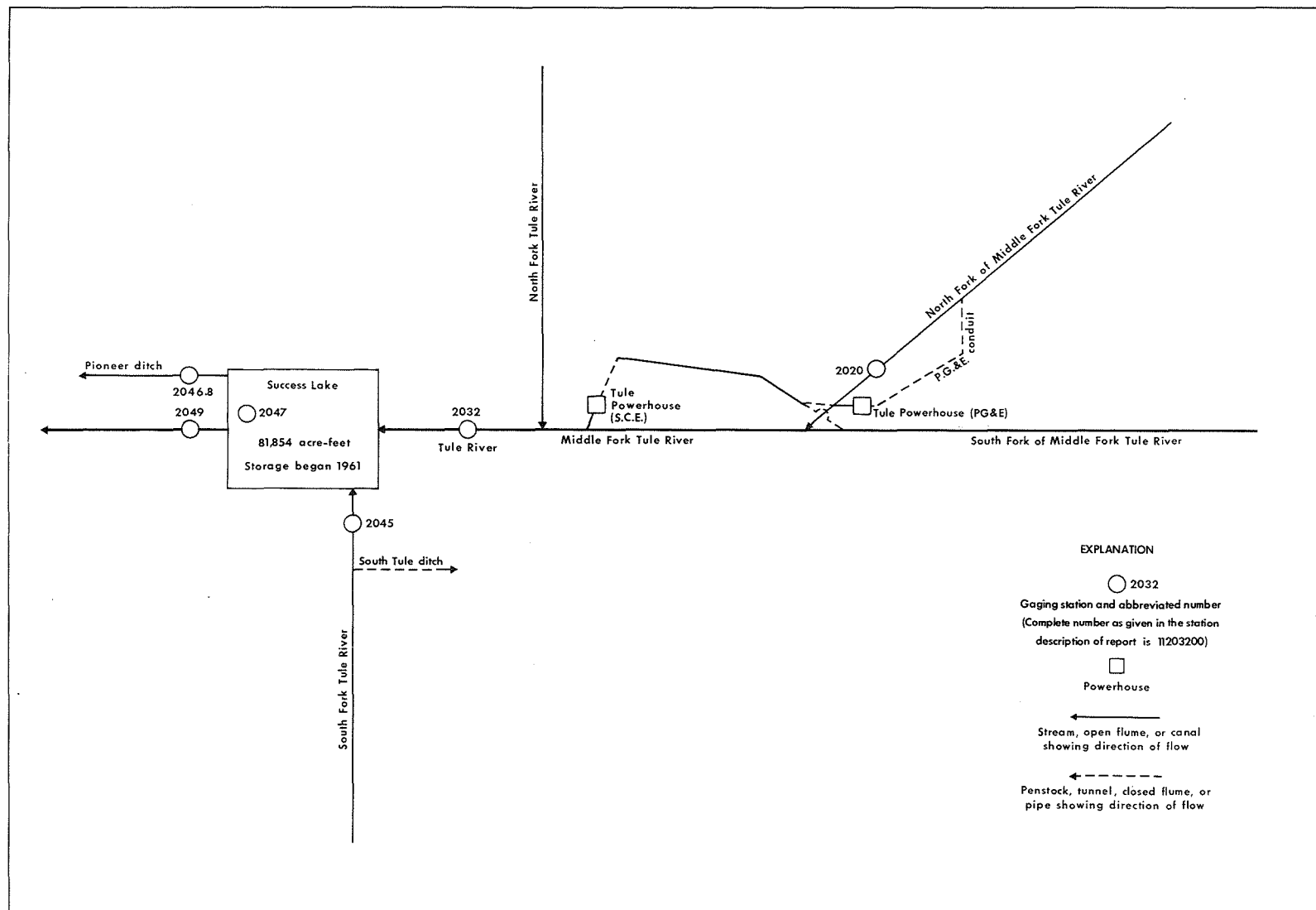


FIGURE 5.--Schematic diagram showing diversions and storage in Tule River basin.

## 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: 40 years, 25.3 ft<sup>3</sup>/s (0.716 m<sup>3</sup>/s), 18,330 acre-ft/yr (22.6 hm<sup>3</sup>/yr).  
Combined river and diversion: 40 years, 56.5 ft<sup>3</sup>/s (1.600 m<sup>3</sup>/s), 40,930 acre-ft/yr (50.5 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, 158 ft<sup>3</sup>/s (4.47 m<sup>3</sup>/s) May 21, gage height, 4.06 ft (1.237 m); minimum daily, 1.0 ft<sup>3</sup>/s (0.028 m<sup>3</sup>/s) Sept. 21-23.

Combined flow, maximum discharge, 226 ft<sup>3</sup>/s (6.40 m<sup>3</sup>/s) May 21; minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Sept. 13, 16, 18, 20-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	3.1	4.2	2.1	3.0	9.3	9.8	73	62	3.0	1.4	1.6
2	2.0	3.0	4.1	2.1	3.0	7.1	8.7	62	51	3.1	1.3	1.6
3	1.8	3.2	2.8	2.1	2.9	6.9	7.8	67	47	3.1	1.2	1.6
4	1.8	2.5	2.5	2.6	2.9	6.9	7.3	86	46	3.2	2.4	1.5
5	2.3	2.6	2.8	2.6	3.0	7.1	7.2	96	42	3.1	2.3	1.5
6	2.5	3.2	2.5	2.6	3.1	7.8	9.1	86	44	3.1	2.3	1.5
7	2.5	2.8	2.2	2.4	3.2	8.2	12	74	41	3.0	2.2	1.4
8	2.5	3.1	2.2	2.4	3.4	13	12	61	31	3.0	2.1	1.5
9	11	2.6	2.1	3.9	3.7	23	14	47	23	2.8	2.0	1.6
10	21	4.2	2.2	2.9	4.2	28	11	38	18	2.6	1.9	1.6
11	21	3.2	2.2	4.1	3.6	26	11	35	14	4.8	2.2	1.6
12	21	4.3	2.2	11	3.5	20	8.1	43	11	2.6	2.2	1.5
13	19	2.9	2.0	3.8	4.3	15	6.8	58	9.4	2.3	9.1	1.2
14	17	2.6	2.0	3.6	37	10	18	76	7.2	2.1	19	1.8
15	19	3.3	3.0	3.9	8.9	14	36	89	5.2	2.0	19	1.9
16	20	2.5	2.1	3.6	6.0	14	45	98	3.0	1.9	18	1.3
17	21	2.4	2.7	4.0	4.2	10	47	104	3.7	1.6	14	1.1
18	20	2.4	3.8	3.8	3.8	7.1	29	113	3.4	1.6	2.1	1.1
19	20	2.3	6.5	3.3	5.1	7.6	20	125	3.0	1.6	1.6	1.1
20	15	2.3	6.1	3.1	7.3	8.7	19	134	2.5	1.6	1.4	1.1
21	3.6	2.7	3.0	2.9	19	8.7	24	139	2.3	1.9	1.5	1.0
22	3.3	3.0	2.9	2.8	12	8.1	31	136	2.5	2.0	2.1	1.0
23	3.1	2.5	2.8	2.6	11	7.2	33	127	2.5	2.0	1.9	1.0
24	3.0	2.4	2.7	2.5	8.7	6.8	26	120	4.3	1.7	1.4	1.2
25	3.1	2.7	2.7	2.9	8.6	6.7	27	107	4.3	1.6	1.3	1.8
26	2.7	2.7	2.7	2.6	8.5	6.4	38	105	3.6	1.9	1.3	1.5
27	2.7	2.6	2.6	2.5	7.1	11	59	112	2.2	2.7	1.3	1.4
28	2.8	2.4	2.5	2.7	6.4	17	67	106	2.0	2.7	1.6	1.4
29	2.6	2.3	2.4	2.6	---	19	74	94	3.0	2.4	2.4	1.4
30	3.6	2.3	2.3	2.5	---	13	79	83	3.1	1.5	1.8	1.9
31	2.8	---	2.2	2.8	---	11	---	74	---	1.4	1.7	---
TOTAL	275.8	84.1	89.0	99.3	197.4	364.6	796.8	2768	497.2	73.9	126.0	42.7
MEAN	8.90	2.80	2.87	3.20	7.05	11.8	26.6	89.3	16.6	2.38	4.06	1.42
MAX	21	4.3	6.5	11	37	28	79	139	62	4.8	19	1.9
MIN	1.8	2.3	2.0	2.1	2.9	6.4	6.8	35	2.0	1.4	1.2	1.0
AC-FT	547	167	177	197	392	723	1580	5490	986	147	250	85
CAL YR 1978	TOTAL	16724.5	MEAN 45.8	MAX 288	MIN 1.8	AC-FT 33170						
WTR YR 1979	TOTAL	5414.8	MEAN 14.8	MAX 139	MIN 1.0	AC-FT 10740						

## TULARE LAKE BASIN

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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	27	22	27	43	62	141	129	40	24	19
2	25	22	26	22	26	38	59	130	118	40	24	19
3	25	22	24	22	25	38	57	135	114	39	23	19
4	24	22	24	23	25	41	60	155	113	39	24	19
5	24	22	25	24	26	45	69	165	109	38	24	19
6	25	21	23	24	26	54	78	154	111	38	24	19
7	25	21	21	23	27	66	79	141	107	37	23	17
8	25	21	22	23	28	79	75	129	97	36	23	18
9	21	21	22	28	28	90	81	115	89	35	23	18
10	22	21	22	25	29	96	74	106	84	34	23	18
11	22	21	22	47	31	94	70	103	79	35	24	17
12	22	22	22	68	32	88	69	111	76	34	24	18
13	21	23	22	39	36	82	75	127	74	32	19	16
14	20	22	22	36	103	73	87	144	70	31	20	17
15	20	22	21	34	56	77	104	157	67	31	20	17
16	21	23	22	31	46	73	114	166	64	30	19	16
17	22	22	27	30	40	66	115	172	63	30	22	17
18	21	21	29	30	38	60	96	181	60	29	22	16
19	21	21	25	28	39	59	86	193	58	29	22	17
20	24	21	25	28	41	58	86	202	56	29	21	16
21	24	23	26	28	56	57	92	207	53	30	21	16
22	23	23	26	28	46	54	99	204	53	29	20	16
23	22	23	26	27	44	52	101	195	50	29	20	16
24	22	22	26	27	41	54	94	187	48	28	20	17
25	22	22	26	27	43	57	95	174	47	28	19	22
26	22	22	26	26	42	57	107	172	47	26	19	19
27	22	22	26	26	39	74	128	179	45	26	19	17
28	22	21	25	26	38	79	136	173	43	26	19	17
29	22	21	23	25	---	71	143	161	42	25	19	17
30	22	21	23	26	---	69	148	150	41	26	20	20
31	22	---	22	26	---	64	---	141	---	24	20	---
TOTAL	700	653	748	899	1078	2008	2739	4870	2207	983	664	529
MEAN	22.6	21.8	24.1	29.0	38.5	64.8	91.3	157	73.6	31.7	21.4	17.6
MAX	25	23	29	68	103	96	148	207	129	40	24	22
MIN	20	21	21	22	25	38	57	103	41	24	19	16
AC-FT	1390	1300	1480	1780	2140	3980	5430	9660	4380	1950	1320	1050
CAL YR 1978	TOTAL	33044	MEAN 90.5	MAX 350	MIN 20	AC-FT 65540						
WTR YR 1979	TOTAL	18078	MEAN 49.5	MAX 207	MIN 16	AC-FT 35860						

## 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 fair. 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.--22 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).

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 discharge 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)
Feb. 14	1215	760 21.5	Mar. 16	0245	634 18.0
Feb. 21	1830	665 18.8	Mar. 28	1445	*1,070 30.3
Mar. 1	1145	509 14.4	May 5	0315	418 11.8
Mar. 11	0315	399 11.3	May 21	0545	506 14.3

Minimum daily, 3.8 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	29	60	58	127	336	344	353	267	52	14	13
2	37	35	112	55	138	254	300	321	243	51	14	10
3	37	36	65	53	115	204	260	309	230	50	12	12
4	34	35	57	54	104	198	244	336	218	48	12	13
5	31	34	62	58	97	198	266	348	208	48	12	12
6	29	33	69	67	92	214	296	358	197	48	11	13
7	27	31	58	65	91	266	305	324	184	47	11	13
8	27	28	51	64	90	317	283	295	174	44	9.8	14
9	26	26	52	92	91	354	293	282	162	39	15	12
10	22	28	53	88	92	370	274	249	151	36	11	11
11	26	32	54	83	94	374	252	234	132	38	13	8.6
12	27	45	53	223	97	343	226	248	129	35	18	8.5
13	26	44	54	162	102	324	229	276	125	32	17	6.7
14	25	45	55	129	436	288	248	317	122	30	11	6.5
15	25	40	53	132	316	304	294	352	114	29	12	6.3
16	22	39	53	122	223	458	332	371	108	30	12	6.0
17	26	38	56	112	180	339	353	377	105	27	14	5.6
18	27	41	101	132	155	311	317	394	106	27	15	8.0
19	27	42	133	116	155	302	280	427	99	25	14	8.2
20	27	39	100	104	151	312	265	454	91	23	13	7.3
21	28	39	82	101	530	310	264	470	85	26	13	6.6
22	28	49	81	100	416	292	275	466	78	23	14	4.1
23	29	46	75	94	336	272	283	445	74	22	14	3.8
24	29	48	71	91	257	265	260	422	69	20	13	4.9
25	28	43	71	100	233	273	252	390	67	18	12	12
26	26	42	70	101	224	275	265	364	67	17	14	15
27	27	42	70	90	203	420	318	375	63	14	10	13
28	28	40	69	91	177	729	344	368	60	15	11	11
29	28	39	66	89	---	602	345	343	57	14	7.2	11
30	28	40	63	81	---	485	363	313	55	13	15	17
31	29	---	60	103	---	404	---	293	---	14	12	---
TOTAL	873	1148	2129	3010	5322	10393	8630	10914	3840	955	396.0	293.1
MEAN	28.2	38.3	68.7	97.1	190	335	288	352	128	30.8	12.8	9.77
MAX	37	49	133	223	530	729	363	470	267	52	18	17
MIN	22	26	51	53	90	198	226	234	55	13	7.2	3.8
AC-FT	1730	2280	4220	5970	10560	20610	17120	21650	7620	1890	785	581

CAL YR 1978	TOTAL	103652.0	MEAN 284	MAX 4760	MIN 20	AC-FT 205600
WTR YR 1979	TOTAL	47903.1	MEAN 131	MAX 729	MIN 3.8	AC-FT 95020

## 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 since October 1965.

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, 31.5°C on Aug. 3; minimum recorded, 3.0°C Dec. 11.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.0	18.5	14.0	12.5	9.5	8.5	6.5	4.5	7.0	6.0	10.0	8.5
2	23.5	19.5	13.5	11.0	10.0	8.5	6.5	4.0	7.0	5.5	9.5	6.5
3	23.0	18.5	13.5	11.0	9.0	7.5	7.5	5.0	7.5	4.5	11.0	7.5
4	23.0	18.5	14.0	11.0	9.5	7.0	8.5	6.5	7.5	4.5	12.0	9.5
5	22.5	18.5	14.5	12.0	8.5	7.5	9.5	7.5	8.0	5.0	13.0	10.0
6	22.5	18.5	14.5	11.5	7.5	6.5	10.5	8.5	8.5	5.5	13.5	10.0
7	22.0	18.0	15.0	12.0	6.5	4.5	9.5	8.5	9.5	6.0	14.0	10.5
8	21.5	17.5	15.5	12.0	5.5	4.0	10.0	8.0	9.5	6.5	13.5	11.0
9	21.5	17.5	15.0	12.0	5.5	3.5	10.0	9.5	9.5	6.5	13.5	11.0
10	21.5	17.0	14.0	12.0	6.0	4.0	10.5	8.5	10.0	7.5	14.0	11.5
11	21.0	17.0	12.0	11.0	7.0	3.0	11.0	10.0	10.0	7.0	13.0	11.0
12	21.5	17.0	12.0	10.0	7.5	5.5	11.0	9.5	11.0	7.5	13.5	11.5
13	21.5	17.5	11.5	10.5	8.0	6.0	9.5	8.0	10.5	9.5	12.5	11.0
14	21.5	17.5	12.0	10.5	8.5	6.5	9.0	8.0	10.0	8.5	11.5	11.0
15	21.0	17.5	11.5	9.0	8.5	6.5	8.5	7.5	8.5	7.0	11.0	10.0
16	20.5	17.5	11.0	8.5	8.0	6.0	8.5	7.5	9.0	6.5	11.0	8.5
17	20.0	16.0	11.5	9.5	9.0	8.0	9.5	8.5	10.0	7.0	10.5	8.5
18	20.0	15.5	11.0	9.0	9.0	8.0	8.5	7.0	9.5	7.0	11.5	9.0
19	20.5	17.0	11.5	8.5	8.0	6.5	9.0	6.0	10.5	8.0	9.5	9.0
20	18.5	17.5	11.0	8.5	7.0	5.5	8.0	6.0	9.0	8.0	10.0	8.0
21	18.0	15.0	10.5	9.0	6.5	4.5	9.0	6.0	8.5	8.0	10.5	8.5
22	19.0	15.0	11.0	9.5	7.5	6.5	9.0	7.0	9.5	7.0	11.0	9.0
23	18.5	14.5	11.0	9.0	7.5	6.0	8.0	6.0	10.0	8.0	12.5	8.5
24	17.5	14.0	11.0	10.0	7.5	6.5	7.5	7.0	10.0	7.0	13.5	10.0
25	17.5	13.5	10.5	9.0	7.0	6.5	7.5	6.0	11.5	8.5	14.5	11.0
26	17.5	13.5	10.0	8.0	7.5	6.5	7.5	5.5	10.0	9.0	13.5	11.0
27	17.0	13.0	10.0	8.0	8.5	6.5	7.0	4.5	10.5	8.0	12.5	11.0
28	17.5	14.0	9.5	7.5	8.0	7.5	6.5	4.5	10.5	8.0	11.5	10.0
29	16.5	13.0	10.0	7.5	7.0	6.5	6.5	4.0	---	---	11.0	9.0
30	15.5	13.5	10.5	8.0	7.0	6.5	6.0	4.0	---	---	10.5	9.5
31	14.5	12.0	---	---	7.5	6.0	7.0	5.5	---	---	12.5	8.5
MONTH	23.5	12.0	15.5	7.5	10.0	3.0	11.0	4.0	11.5	4.5	14.5	6.5



11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	10.5	13.5	12.0	19.0	16.0	25.5	20.0	31.0	23.5	28.0	21.5
2	13.0	9.5	13.5	11.0	19.5	14.5	24.5	20.0	31.0	23.5	28.0	21.5
3	13.0	9.5	16.0	11.0	20.5	16.0	24.5	18.5	31.5	24.0	28.5	21.0
4	14.5	10.5	16.5	13.5	20.0	16.5	25.0	19.5	31.0	23.5	28.0	21.0
5	15.5	12.0	16.5	14.0	21.5	17.0	25.0	20.0	30.5	23.5	28.0	21.0
6	14.0	10.5	15.0	12.0	22.5	18.5	25.0	19.0	30.0	23.5	28.5	20.5
7	12.5	9.5	12.0	10.5	21.0	18.0	25.5	20.5	30.5	24.0	29.5	22.0
8	13.5	9.5	11.0	10.0	20.5	17.0	25.5	20.5	30.0	23.5	29.0	22.5
9	13.0	10.5	12.5	9.0	20.5	16.5	26.5	20.5	29.5	23.0	29.0	22.5
10	12.5	9.5	15.0	10.0	21.5	17.0	26.5	20.0	30.0	23.0	29.0	22.5
11	11.0	8.5	16.5	12.0	22.5	18.0	26.5	20.0	28.0	23.5	30.0	22.5
12	13.0	9.5	17.5	13.0	23.0	18.5	27.0	21.5	27.5	23.0	29.5	23.0
13	15.0	11.0	18.0	14.0	22.5	18.5	28.5	22.5	28.0	20.5	30.0	23.5
14	16.5	12.5	18.0	14.5	21.5	17.5	29.5	23.5	28.0	21.0	29.5	23.0
15	16.0	13.5	17.5	14.0	21.0	16.0	30.0	24.0	28.5	21.5	29.0	22.0
16	15.0	12.5	17.0	13.5	21.0	17.0	30.5	23.5	29.0	22.5	29.5	21.0
17	14.0	10.5	17.5	14.0	20.0	16.0	30.0	23.5	27.5	23.0	29.5	22.0
18	10.5	8.5	18.0	14.5	19.5	14.5	30.0	24.0	26.0	23.0	27.5	21.0
19	12.5	8.5	17.5	14.0	20.5	15.5	30.5	23.5	28.0	21.5	27.5	20.5
20	14.0	9.5	18.0	14.0	22.0	17.0	28.0	24.5	28.0	21.5	27.0	20.5
21	14.5	11.0	18.0	14.5	22.5	18.0	29.5	24.0	28.0	21.5	27.5	19.0
22	15.0	11.5	18.0	16.0	23.0	18.0	29.5	24.0	28.0	20.5	27.5	20.0
23	14.5	12.0	18.5	15.0	24.0	18.5	30.5	23.5	28.0	23.0	27.5	19.0
24	14.5	11.0	18.5	14.0	25.0	19.0	31.0	25.0	27.0	22.0	27.0	20.5
25	14.5	11.5	18.5	14.5	24.5	19.5	31.0	25.5	28.5	20.5	25.5	18.5
26	15.5	13.0	19.5	14.5	25.0	20.0	30.5	25.0	28.0	20.5	23.0	19.0
27	15.5	13.5	19.5	15.0	25.5	20.5	30.0	23.5	28.5	20.5	23.5	18.5
28	14.5	13.0	18.5	14.5	26.0	21.0	29.5	23.0	29.0	22.5	24.5	18.5
29	15.0	12.0	18.5	15.0	25.5	20.0	29.5	23.0	27.5	22.5	22.5	19.0
30	16.0	13.0	18.5	14.0	25.0	19.0	30.0	23.0	27.0	20.5	23.0	19.5
31	---	---	19.0	14.0	---	---	31.0	24.0	27.5	20.5	---	---
MONTH	16.5	8.5	19.5	9.0	26.0	14.5	31.0	18.5	31.5	20.5	30.0	18.5

## TULARE LAKE BASIN

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 (92.59 km<sup>2</sup>) above station.

AVERAGE DISCHARGE.--47 years, 41.1 ft<sup>3</sup>/s (1,164 m<sup>3</sup>/s), 29,780 acre-ft/yr (36.7 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 well, 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)
Feb. 14	1045	217 6.15	3.50 1.067	Mar. 16	0230	228 6.46	3.59 1.094
Feb. 21	1845	244 6.91	3.65 1.113	Mar. 28	1215	*285 8.07	3.79 1.155

Minimum daily, 1.3 ft<sup>3</sup>/s (0.037 m<sup>3</sup>/s) Sept. 16-19, 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	6.6	20	13	28	98	117	85	45	13	3.3	2.5
2	6.1	7.4	36	15	26	73	103	80	44	13	3.2	2.1
3	6.2	7.2	20	15	21	63	94	78	42	13	3.1	2.1
4	6.0	7.0	16	15	21	62	89	81	39	13	2.8	2.2
5	6.0	6.4	17	18	22	62	92	86	38	13	2.9	2.3
6	5.4	6.4	17	21	21	68	95	83	36	13	2.9	2.2
7	5.2	6.1	12	16	22	80	92	78	35	12	3.0	2.0
8	5.2	6.2	11	15	23	88	84	76	34	11	2.5	1.9
9	4.6	6.0	13	21	23	94	90	74	32	10	3.0	2.2
10	4.7	6.6	13	28	24	96	83	68	31	9.6	3.0	2.4
11	4.8	8.9	12	19	24	92	76	65	28	10	2.4	2.1
12	5.0	14	13	64	25	81	72	65	27	10	3.1	1.8
13	5.1	13	13	36	27	75	75	67	25	9.4	3.6	1.8
14	5.4	12	12	28	122	67	80	68	25	8.4	3.3	1.8
15	4.9	10	12	30	69	84	88	69	24	8.1	2.8	1.5
16	5.5	10	13	28	49	140	91	70	24	7.9	2.7	1.3
17	5.5	11	15	24	41	96	96	69	24	6.4	2.4	1.3
18	5.5	10	36	32	37	84	82	71	24	5.9	2.1	1.3
19	5.3	10	32	28	39	82	74	71	23	6.1	3.2	1.3
20	5.5	9.6	23	23	39	81	71	72	22	6.5	2.2	1.4
21	5.8	11	20	22	153	88	71	72	21	7.7	2.2	1.4
22	6.2	16	20	21	131	79	74	71	20	9.1	2.3	1.3
23	6.0	15	18	20	104	72	75	69	19	8.1	2.2	1.3
24	5.7	14	18	19	73	70	71	65	18	6.4	2.1	1.4
25	5.7	13	17	22	66	73	71	63	17	5.5	2.2	7.8
26	5.6	13	18	21	67	72	76	59	16	4.8	2.0	5.8
27	5.5	13	17	19	59	123	86	56	15	4.6	1.9	3.0
28	5.6	13	17	22	51	207	87	55	14	4.4	2.0	2.6
29	6.9	12	16	19	---	189	84	53	14	4.3	2.1	2.4
30	6.7	13	14	19	---	156	88	51	14	4.8	2.4	4.0
31	6.4	---	13	25	---	131	---	48	---	4.2	2.6	---
TOTAL	174.8	307.4	544	718	1407	2926	2527	2138	790	263.2	81.5	68.5
MEAN	5.64	10.2	17.5	23.2	50.3	94.4	84.2	69.0	26.3	8.49	2.63	2.28
MAX	6.9	16	36	64	153	207	117	86	45	13	3.6	7.8
MIN	4.6	6.0	11	13	21	62	71	48	14	4.2	1.9	1.3
AC-FT	347	610	1080	1420	2790	5800	5010	4240	1570	522	162	136

CAL YR 1978	TOTAL	32283.8	MEAN	88.4	MAX	1860	MIN	4.3	AC-FT	64030
WTR YR 1979	TOTAL	11945.4	MEAN	32.7	MAX	207	MIN	1.3	AC-FT	23690

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.

AVERAGE DISCHARGE.--20 years, 6.93 ft<sup>3</sup>/s (0.196 m<sup>3</sup>/s), 5,020 acre-ft/yr (6.19 hm<sup>3</sup>/yr).

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.0	2.9	6.4	1.7	0	0	12	16	16	12	13
2	11	8.0	1.0	6.4	2.1	0	0	12	13	12	15	11
3	10	8.0	1.0	6.4	2.1	0	0	13	11	10	15	10
4	10	8.0	.90	4.5	2.1	0	0	13	11	8.9	15	11
5	14	8.0	.70	.80	1.7	0	0	13	14	13	11	12
6	16	8.5	.80	.80	.40	0	0	9.7	16	15	10	13
7	16	9.7	.80	.80	0	0	0	8.0	15	12	11	14
8	11	10	4.0	.80	0	0	1.6	8.6	14	10	14	13
9	9.7	13	5.7	.80	0	0	4.9	8.9	14	10	16	10
10	11	11	5.8	.80	0	0	5.4	8.9	11	10	16	9.3
11	11	10	5.8	.80	0	0	2.4	12	8.9	10	13	8.9
12	11	10	5.8	2.7	1.6	0	1.1	10	10	12	11	12
13	12	5.9	5.8	2.8	2.2	0	1.1	5.4	15	13	11	14
14	13	3.8	5.8	.90	2.2	1.5	1.1	7.9	16	15	13	13
15	12	5.3	5.8	.90	2.2	2.1	1.1	9.9	15	15	14	9.8
16	12	6.7	5.9	.90	2.2	5.6	1.2	13	15	14	14	8.7
17	14	7.1	6.0	.90	2.2	6.9	3.7	15	11	14	14	9.2
18	15	7.1	4.3	.90	2.2	2.7	3.7	13	9.6	15	11	11
19	14	7.1	.90	.90	2.2	1.0	2.0	11	9.1	14	10	15
20	11	7.0	.90	.90	.60	1.0	1.9	10	11	13	12	16
21	8.7	6.9	4.4	.90	0	1.0	1.8	6.5	12	14	13	16
22	8.0	6.9	6.2	.90	0	1.0	2.7	5.7	12	13	15	12
23	9.3	6.9	6.2	.90	0	1.0	6.4	9.3	9.0	15	15	10
24	10	6.9	6.2	.90	0	1.2	8.7	11	6.9	17	15	10
25	8.8	6.9	6.2	.90	0	1.2	8.9	7.6	8.2	16	12	11
26	8.0	6.9	6.2	.90	0	1.1	7.7	6.0	10	14	10	14
27	8.0	6.9	6.2	.90	0	.40	8.3	7.3	11	14	10	13
28	8.0	6.9	6.2	.90	0	.10	8.9	12	12	14	10	12
29	8.0	6.8	6.2	.90	---	0	9.6	15	15	11	10	12
30	8.0	6.7	6.3	.90	---	0	11	16	16	8.6	12	10
31	8.0	---	6.4	.90	---	0	---	16	---	7.9	13	---
TOTAL	337.5	230.9	137.30	51.00	27.70	27.80	105.2	326.7	367.7	396.4	393	353.9
MEAN	10.9	7.70	4.43	1.65	.99	.90	3.51	10.5	12.3	12.8	12.7	11.8
MAX	16	13	6.4	6.4	2.2	6.9	11	16	16	17	16	16
MIN	8.0	3.8	.70	.80	0	0	0	5.4	6.9	7.9	10	8.7
AC-FT	669	458	272	101	55	55	209	648	729	786	780	702
CAL YR 1978	TOTAL	2441.50	MEAN	6.69	MAX	17	MIN	0	AC-FT	4840		
WTR YR 1979	TOTAL	2755.10	MEAN	7.55	MAX	17	MIN	0	AC-FT	5460		

## 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>). Capacity table revised Oct. 1, 1978. 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, 79,485 acre-ft (98.0 hm<sup>3</sup>) June 5, 6, elevation, 651.35 ft (198.531 m); minimum, 9,277 acre-ft (11.4 hm<sup>3</sup>) Dec. 6, elevation, 593.35 ft (180.853 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24093	18221	11002	11546	15900	26192	47408	64472	78838	73337	47124	23147
2	23730	18237	10715	11580	16040	26724	48072	64891	79029	73002	46207	22460
3	23388	18244	10282	11620	16111	27185	48667	65292	79197	72580	45306	21820
4	23023	18237	9826	11665	16167	27641	49237	65796	79365	72160	44420	21175
5	22670	18229	9374	11734	16203	28122	49845	66447	79485	71283	43548	20484
6	22286	18221	9277	11831	16245	28629	50507	67084	79485	70330	42692	19759
7	21914	18198	9306	11923	16309	29245	51162	67601	79413	69366	41835	19020
8	21547	18160	9335	12016	16388	29944	51759	68039	79341	68458	40967	18298
9	21191	18099	9374	12185	16603	30707	52395	68415	79293	67497	40074	17594
10	20832	18038	9413	12332	16776	31440	52988	68753	79197	66488	39235	16907
11	20476	17993	9457	12451	16958	32152	53537	69048	79125	65554	38435	16238
12	20115	17985	9502	12593	17149	32796	54041	69366	79005	64711	37685	15566
13	19759	17978	9561	13209	17356	33393	54567	69729	78767	63878	36922	14892
14	19391	17872	9615	13427	18214	33941	55114	70136	78528	63056	36159	14606
15	19020	17639	9670	13654	18800	35450	55753	70588	78268	62186	35396	14401
16	18879	17437	9725	13838	19201	35479	56434	71065	77960	61326	34645	14173
17	18832	17186	9795	14018	19519	36171	57140	71567	77653	60422	33929	13973
18	18769	16914	9988	14225	19800	36776	57729	72116	77418	59474	33246	13781
19	18715	16596	10256	14395	20075	37401	58251	72691	77160	58559	32562	13641
20	18660	16345	10423	14507	20402	37996	58741	73292	76879	57675	31833	13515
21	18622	16090	10545	14619	21496	38624	59199	73943	76577	56803	31083	13415
22	18598	15628	10678	14725	22433	39184	59659	74622	76275	55944	30334	13383
23	18560	15108	10753	14832	23174	39698	60123	75215	75997	55097	29588	13309
24	18521	14546	10850	14986	23703	40191	60553	75766	75697	54244	28844	13259
25	18475	14037	10937	15088	24184	40702	60967	76275	75376	53404	28122	13191
26	18436	13528	11030	15210	24644	41219	61440	76716	75055	52526	27422	13080
27	18390	13012	11117	15312	25063	42051	62013	77137	74736	51629	26705	12976
28	18344	12457	11206	15442	25420	43590	62648	77559	74395	50730	26000	12866
29	18313	11935	11283	15559	---	44804	63251	77912	74034	49861	25288	12775
30	18267	11423	11456	15656	---	45813	63918	78268	73696	48959	24570	12738
31	18229	---	11518	15753	---	46634	---	78576	---	48056	23838	---
MAX	24093	18244	11518	15753	25420	46634	63918	78576	79485	73337	47124	23147
MIN	18229	11423	9277	11546	15900	26192	47408	64472	73696	48056	23838	12738
†	607.76	597.47	597.64	604.37	616.19	634.12	644.22	650.97	648.86	635.07	614.48	599.73
‡	a-6304	-6806	+95	+4235	+9667	+21214	+17284	+14658	-4880	-25640	-24218	-11100
††	371	121	33	49	80	203	549	1220	1659	1472	835	444

CAL YR 1979 at -417

WTR YR 1979 at -11795

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

a Computed on basis of revised capacity table placed into use Oct. 1, 1978.

## 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).--26 years, 175 ft<sup>3</sup>/s (4.956 m<sup>3</sup>/s), 126,800 acre-ft/yr (156 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, 593 ft<sup>3</sup>/s (16.8 m<sup>3</sup>/s) July 5, gage height, 6.19 ft (1.887 m); minimum daily, 0.80 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	252	17	313	40	84	33	16	102	102	201	477	368
2	219	.80	307	40	90	34	22	137	101	196	481	361
3	202	33	308	41	96	20	24	130	101	230	468	349
4	204	50	310	41	99	11	27	110	101	246	454	351
5	193	50	305	41	100	10	31	85	115	477	452	369
6	202	49	132	41	89	10	31	70	173	531	451	388
7	201	50	48	41	84	11	32	83	188	525	450	392
8	202	51	44	41	64	11	32	108	173	513	450	390
9	203	52	39	41	40	10	24	119	161	531	461	379
10	202	52	39	41	33	33	20	115	159	547	443	370
11	201	52	39	41	30	45	20	111	154	520	423	368
12	201	52	39	42	30	39	20	111	174	459	410	352
13	202	52	39	42	31	31	26	111	207	458	405	342
14	203	121	39	42	31	30	35	111	202	450	403	149
15	203	155	39	42	32	30	38	111	212	456	399	106
16	100	152	39	42	32	30	38	107	218	466	394	106
17	49	178	39	42	32	17	42	102	214	483	383	106
18	50	187	39	43	32	11	44	101	205	495	376	101
19	50	186	39	43	32	14	42	101	206	478	374	70
20	50	185	39	43	32	15	40	101	210	466	379	54
21	50	183	39	43	33	16	62	97	210	470	395	37
22	50	289	40	43	33	12	74	94	206	463	395	26
23	50	338	40	43	33	9.0	74	94	205	454	393	26
24	50	340	40	44	33	9.1	72	94	206	448	390	26
25	50	329	40	44	33	13	70	94	206	445	386	37
26	50	322	40	44	33	17	69	99	206	457	377	49
27	50	329	40	44	33	22	66	101	206	463	373	49
28	50	338	40	44	33	21	65	101	206	463	373	49
29	50	327	40	44	---	16	65	101	203	469	373	49
30	50	322	40	64	---	16	65	81	201	470	384	49
31	50	---	40	75	---	16	---	89	---	485	385	---
TOTAL	3939	4841.80	2674	1362	1357	612.1	1286	3171	5431	13815	12757	5868
MEAN	127	161	86.3	43.9	48.5	19.7	42.9	102	181	446	412	196
MAX	252	340	313	75	100	45	74	137	218	547	481	392
MIN	49	.80	39	40	30	9.0	16	70	101	196	373	26
AC-FT	7810	9600	5300	2700	2690	1210	2550	6290	10770	27400	25300	11640
CAL YR 1978 TOTAL	132887.00			MEAN 364	MAX 801	MIN .20	AC-FT 263600	MEAN ‡ 381	AC-FT ‡ 276000			
WTR YR 1979 TOTAL	57113.90			MEAN 156	MAX 547	MIN .80	AC-FT 113300	MEAN ‡ 158	AC-FT ‡ 114500			

‡ Adjusted for change in contents in and evaporation from Success Lake and for diversion to Pioneer ditch.

## TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.

CHEMICAL ANALYSES: Water years 1962-69, 1970 to current year.

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.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

EXTREMES FOR 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, 27.0°C Sept. 11, 13, 14, 21; minimum recorded, 6.0°C Jan. 1.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAR 19...	1630	17	317	8.4	9.5	15.0	110	33	6.0
SEP 25...	1205	43	215	7.4	25.0	8.6	88	27	5.0

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
MAR 19...	16	24	.7	120	8.0	8.0	175	.24	.29
SEP 25...	12	22	.6	100	5.0	5.0	147	.20	.20

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	9.0	11.0	10.5	12.5	11.5	14.5	11.0	18.5	15.5	26.0	25.0
2	11.0	8.5	11.0	10.5	12.5	11.5	15.0	11.0	19.0	17.0	26.0	25.0
3	12.0	8.5	11.5	10.5	12.5	12.0	14.5	11.5	19.5	18.5	26.0	24.5
4	11.5	9.0	11.5	9.5	13.0	11.5	15.0	11.5	19.5	19.0	26.0	24.5
5	11.5	9.5	11.5	10.0	13.0	11.5	14.5	12.0	20.0	19.0	26.0	24.5
6	11.0	9.5	11.5	8.5	12.5	11.5	14.5	12.5	20.5	19.5	26.5	24.0
7	11.5	9.5	11.5	8.5	12.5	12.0	15.5	12.0	20.5	19.5	26.0	24.5
8	12.0	9.0	12.0	9.0	13.0	11.5	15.0	12.0	21.0	19.5	26.5	24.0
9	11.0	9.0	12.0	10.0	13.0	12.0	14.5	12.5	21.0	20.0	26.5	24.0
10	12.0	9.0	12.0	9.5	13.0	11.5	15.5	12.0	21.5	20.5	26.5	23.5
11	11.5	9.0	12.0	8.5	13.0	11.5	15.0	13.0	21.5	20.5	27.0	24.5
12	12.0	9.5	12.0	9.5	13.0	12.0	15.0	12.5	22.5	20.5	26.5	24.0
13	12.0	9.0	12.0	9.0	13.0	12.0	15.5	13.5	22.5	20.0	27.0	23.5
14	11.5	9.5	12.0	9.0	14.0	11.5	15.5	13.5	23.5	20.0	27.0	24.0
15	11.5	9.5	12.0	9.5	13.5	11.0	15.5	13.5	23.5	20.0	26.0	24.5
16	11.5	9.5	12.0	10.0	13.5	11.5	15.5	14.0	24.0	21.0	26.0	24.0
17	11.5	9.5	12.0	9.5	14.0	11.5	15.5	14.0	23.5	22.0	26.5	24.0
18	11.5	9.5	12.0	9.5	13.5	11.0	16.0	14.0	24.0	22.5	26.5	23.5
19	11.5	8.5	12.5	10.0	13.5	11.0	16.0	14.5	24.0	23.5	26.5	24.0
20	11.5	9.0	12.5	10.0	14.0	11.0	16.0	14.0	24.5	24.0	26.5	24.0
21	11.5	9.5	12.5	10.0	14.0	12.0	16.5	15.0	24.5	24.0	27.0	24.5
22	11.5	9.5	12.5	10.0	14.0	11.0	16.5	13.5	25.0	24.5	26.5	24.0
23	11.0	10.0	12.5	11.0	14.5	11.0	16.5	14.0	25.0	24.5	26.5	24.0
24	11.0	9.5	12.5	10.5	14.0	11.0	16.5	15.0	25.0	24.5	25.5	24.0
25	11.5	9.0	12.5	11.5	14.0	11.5	17.0	16.0	25.0	24.5	26.0	24.0
26	11.5	9.0	12.5	10.5	14.5	11.0	17.0	16.0	25.5	24.5	25.0	23.5
27	11.5	9.0	12.5	11.0	14.0	11.0	18.0	15.5	25.5	25.0	25.5	24.0
28	11.5	9.0	12.5	11.5	14.5	11.5	18.0	15.0	25.5	25.0	25.0	23.5
29	11.5	9.5	12.5	11.5	14.0	11.0	18.0	14.5	26.0	25.0	24.5	23.5
30	11.5	9.0	13.0	12.0	15.0	11.0	18.5	16.5	26.0	25.5	24.5	23.5
31	---	---	12.5	11.5	---	---	19.5	15.5	26.0	25.0	---	---
MONTH	12.5	8.5	13.0	8.5	15.0	11.0	19.5	11.0	26.0	15.5	27.0	23.5

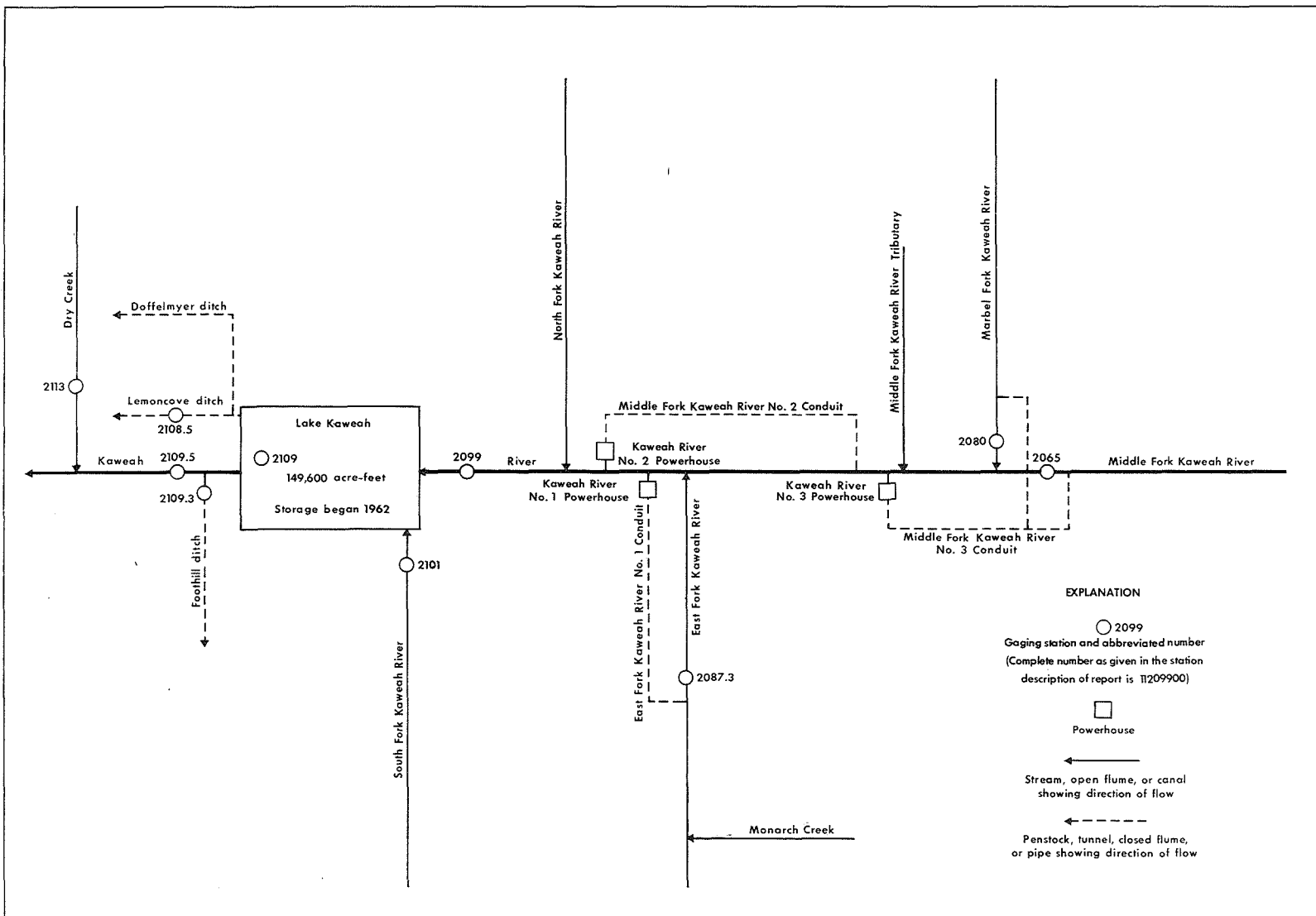


FIGURE 6.--Schematic diagram showing diversions and storage in Kaweah River basin.



## 11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA

LOCATION.--Lat 36°30'46", long 118°47'25", in NW¼NW¼ sec.25, T.16 S., R.29 E., unsurveyed, Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on right bank 0.7 mi (1.1 km) southeast of Potwisha Camp, and 0.9 mi (1.4 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, 0.5 mi (0.8 km) upstream from station in NE¼ sec.26, T.16 S., R.29 E. 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 12 discharge measurements for river and gage-height record and 15 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 30 years, 131 ft<sup>3</sup>/s (3,710 m<sup>3</sup>/s), 94,910 acre-ft/yr (117 hm<sup>3</sup>/yr).  
Combined river and diversion: 30 years, 172 ft<sup>3</sup>/s (4,871 m<sup>3</sup>/s), 124,600 acre-ft/yr (154 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, 1,120 ft<sup>3</sup>/s (31.7 m<sup>3</sup>/s) May 21, gage height, 7.23 ft (2.204 m); minimum daily, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s) Nov. 8-10, Sept. 8-10, 18.  
Combined flow, maximum discharge, 1,190 ft<sup>3</sup>/s (33.7 m<sup>3</sup>/s) May 21; minimum daily, 17 ft<sup>3</sup>/s (0.48 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	11	13	13	18	74	119	405	478	125	17	15
2	14	12	15	14	18	57	108	350	436	117	21	14
3	14	11	14	15	17	58	104	365	448	107	16	13
4	13	11	14	15	17	63	122	464	460	100	20	12
5	12	11	13	15	17	80	147	505	457	92	30	11
6	12	11	11	15	17	110	163	419	565	80	21	11
7	12	11	11	15	18	139	162	392	542	74	15	11
8	12	10	12	15	17	167	157	304	422	67	15	10
9	12	10	11	17	16	185	173	266	370	60	29	10
10	11	10	12	16	18	197	147	239	368	57	31	10
11	11	11	11	192	19	183	128	245	384	59	15	11
12	11	11	11	297	20	165	125	306	389	60	17	12
13	11	11	11	111	35	153	148	414	397	63	20	12
14	11	11	11	79	279	139	195	501	313	63	19	12
15	11	11	11	60	104	150	249	561	273	60	17	12
16	11	11	11	47	78	144	275	613	252	54	15	11
17	11	11	12	37	57	123	268	642	221	44	14	11
18	11	11	14	32	46	108	202	710	160	39	15	10
19	12	11	13	24	53	100	171	797	141	34	14	11
20	12	11	12	21	52	99	171	831	165	37	14	11
21	12	11	13	20	103	96	192	876	181	54	14	11
22	12	11	13	20	73	83	229	840	188	60	14	11
23	12	11	13	18	77	78	239	797	192	41	15	11
24	11	11	13	18	67	86	214	706	193	32	16	12
25	11	11	13	18	72	97	227	637	195	26	15	30
26	11	11	14	17	68	99	293	726	170	23	14	14
27	11	11	13	17	53	168	378	788	162	19	13	14
28	11	11	13	17	51	162	386	722	157	19	15	13
29	11	11	12	16	---	142	405	642	150	20	17	13
30	11	11	12	17	---	135	422	588	141	19	16	14
31	11	---	12	18	---	120	---	549	---	17	16	---
TOTAL	362	328	384	1246	1480	3760	6319	17200	8970	1722	540	373
MEAN	11.7	10.9	12.4	40.2	52.9	121	211	555	299	55.5	17.4	12.4
MAX	14	12	15	297	279	197	422	876	565	125	31	30
MIN	11	10	11	13	16	57	104	239	141	17	13	10
AC-FT	718	651	762	2470	2940	7460	12530	34120	17790	3420	1070	740
CAL YR 1978 TOTAL	91408.0		MEAN 250	MAX 1340	MIN 9.5	AC-FT 181300						
WTR YR 1979 TOTAL	42684.0		MEAN 117	MAX 876	MIN 10	AC-FT 84660						

## TULARE LAKE BASIN

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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	36	51	45	72	141	180	469	542	189	60	30
2	53	37	52	43	75	124	169	414	500	180	60	28
3	52	35	45	44	71	125	165	429	513	170	58	28
4	50	35	48	43	71	130	183	528	524	163	55	29
5	49	33	52	45	71	147	209	569	522	155	57	28
6	48	32	41	45	73	178	226	483	630	143	52	27
7	47	32	42	43	77	208	225	456	606	138	49	24
8	46	30	44	44	78	236	220	368	486	130	47	23
9	45	30	47	58	81	255	236	330	433	123	41	22
10	43	30	48	51	84	267	209	303	431	120	46	21
11	43	33	45	246	85	253	190	309	447	122	51	21
12	42	36	45	357	86	235	188	370	452	123	59	21
13	40	37	44	169	101	223	211	479	460	126	59	21
14	39	36	43	137	349	209	258	566	376	126	55	21
15	39	34	41	117	173	220	313	626	335	123	50	21
16	39	35	40	105	146	213	339	677	314	117	45	19
17	40	37	48	97	124	191	332	707	283	107	43	19
18	38	35	61	95	113	176	266	775	222	102	44	18
19	37	33	56	87	121	167	234	854	204	98	41	19
20	38	32	52	83	120	166	234	882	229	103	38	19
21	39	36	59	80	172	162	255	942	245	120	38	18
22	39	40	60	78	141	149	293	906	252	125	35	18
23	37	39	58	75	145	143	303	862	256	105	34	17
24	35	38	58	72	134	151	278	771	257	96	34	18
25	33	37	59	72	139	162	291	702	259	91	33	74
26	33	37	60	67	135	163	357	792	234	87	31	34
27	33	37	59	65	120	233	442	854	226	82	30	31
28	32	36	56	67	118	225	450	788	221	78	30	28
29	32	37	52	60	---	203	469	707	214	67	30	26
30	32	39	49	62	---	196	486	653	205	62	33	30
31	32	---	47	71	---	181	---	614	---	61	33	---
TOTAL	1258	1054	1562	2723	3275	5832	8211	19185	10878	3632	1371	753
MEAN	40.6	35.1	50.4	87.8	117	188	274	619	363	117	44.2	25.1
MAX	53	40	61	357	349	267	486	942	630	189	60	74
MIN	32	30	40	43	71	124	165	303	204	61	30	17
AC-FT	2500	2090	3100	5400	6500	11570	16290	38050	21580	7200	2720	1490
CAL YR 1978	TOTAL	111901	MEAN 307	MAX 1390	MIN 30	AC-FT 222000						
WTR YR 1979	TOTAL	59734	MEAN 164	MAX 942	MIN 17	AC-FT 118500						

LOCATION.--Lat 36°31'08", long 118°48'03", in SE¼ sec.23, T.16 S., R.29 E., unsurveyed, 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.

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.

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.

AVERAGE DISCHARGE.--River only: 29 years, 73.6 ft<sup>3</sup>/s (2.084 m<sup>3</sup>/s), 53,320 acre-ft/yr (65.7 hm<sup>3</sup>/yr).  
Combined river and diversion: 29 years, 97.6 ft<sup>3</sup>/s (2.764 m<sup>3</sup>/s), 70,710 acre-ft/yr (87.2 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, 806 ft<sup>3</sup>/s (22.8 m<sup>3</sup>/s) May 21, gage height, 6.13 ft (1.868 m), from rating curve extended as explained above; minimum daily, 0.88 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Sept. 26.  
Combined flow, maximum discharge, 848 ft<sup>3</sup>/s (24.0 m<sup>3</sup>/s) May 21, minimum daily, 8.7 ft<sup>3</sup>/s (0.25 m<sup>3</sup>/s) Sept. 12.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	1.4	3.7	7.6	7.2	21	46	297	310	70	7.7	7.0
2	1.4	1.4	1.7	7.6	7.2	16	45	251	306	66	7.7	.94
3	1.4	1.4	2.4	7.6	6.8	15	44	295	322	62	7.2	.96
4	1.5	1.3	1.5	7.6	6.4	19	55	373	325	57	6.4	.99
5	1.6	1.3	1.5	7.6	6.4	23	78	360	333	53	6.4	1.0
6	1.6	1.4	1.6	7.2	6.4	32	97	298	388	51	6.4	4.1
7	1.6	1.5	3.0	6.8	6.4	52	92	263	347	47	6.4	4.1
8	1.5	1.4	3.8	6.4	6.4	71	90	201	275	41	7.2	4.1
9	1.5	1.5	3.5	6.8	6.4	82	107	166	248	34	7.7	9.6
10	1.5	1.5	1.3	6.4	6.4	92	87	147	250	33	7.7	6.4
11	1.4	1.8	1.3	82	6.4	92	71	151	256	33	11	3.1
12	1.4	1.9	1.4	148	6.4	82	68	217	259	33	19	2.3
13	1.4	2.0	1.5	48	8.4	80	97	314	257	30	14	3.1
14	1.4	1.9	1.5	29	125	74	153	376	182	27	8.9	4.6
15	1.5	2.0	1.4	25	49	72	195	407	166	25	8.3	5.1
16	1.4	4.7	1.4	23	35	61	199	430	155	18	13	5.7
17	1.4	1.2	3.0	18	25	53	171	446	137	12	26	5.7
18	1.4	1.2	4.1	14	22	46	122	444	91	7.7	44	7.2
19	1.4	1.2	2.0	9.5	24	43	103	516	80	8.3	39	8.3
20	1.6	1.3	3.8	7.6	21	40	107	559	111	12	28	8.3
21	1.9	1.5	2.7	7.2	29	39	128	602	123	35	24	8.3
22	1.8	1.4	1.6	6.8	25	41	169	576	123	54	23	8.3
23	1.5	1.3	1.5	6.8	23	33	183	528	125	19	23	10
24	1.5	1.4	1.5	6.8	19	35	163	477	123	10	23	11
25	1.5	1.4	1.5	6.8	21	44	177	433	113	7.7	23	42
26	1.4	1.4	1.5	9.5	18	49	222	448	93	6.4	25	.88
27	1.4	2.2	1.4	10	14	69	278	506	89	6.4	23	.93
28	1.4	2.3	1.4	11	14	65	286	491	88	7.2	19	.94
29	1.4	1.9	1.3	9.0	---	54	305	457	84	7.2	15	.95
30	1.4	1.6	1.3	8.0	---	49	317	425	74	7.7	16	1.0
31	1.4	---	3.3	7.6	---	46	---	369	---	7.7	16	---
TOTAL	45.9	49.7	64.4	565.2	551.2	1590	4255	11823	5833	888.3	512.0	176.89
MEAN	1.48	1.66	2.08	18.2	19.7	51.3	142	381	194	28.7	16.5	5.90
MAX	1.9	4.7	4.1	148	125	92	317	602	388	70	44	42
MIN	1.4	1.2	1.3	6.4	6.4	15	44	147	74	6.4	6.4	.88
AC=FT	91	99	128	1120	1090	3150	8440	23450	11570	1760	1020	355

CAL	YR 1978	TOTAL	61416.50	MEAN	168	MAX	1410	MIN	1.2	AC-FT	121800
WTR	YR 1979	TOTAL	26354.59	MEAN	72.2	MAX	602	MIN	.88	AC-FT	52270

## TULARE LAKE BASIN

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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	18	25	23	34	52	79	328	343	99	22	16
2	27	17	22	23	34	47	78	285	338	95	21	11
3	26	18	20	23	33	46	76	329	355	92	19	11
4	26	18	22	23	30	50	87	407	358	87	17	10
5	26	18	23	24	30	54	111	393	365	82	17	10
6	25	17	17	23	30	62	129	330	417	80	16	12
7	24	17	19	23	31	80	123	295	380	76	16	12
8	23	15	20	23	32	100	122	233	307	70	17	11
9	23	16	22	25	32	113	138	199	280	63	17	16
10	23	16	19	23	34	126	117	181	281	62	16	13
11	21	17	19	117	35	126	100	184	288	63	18	10
12	20	17	19	192	36	116	98	251	291	63	26	8.7
13	20	18	19	85	39	111	128	347	290	60	22	9.2
14	19	18	19	63	161	103	183	409	215	56	19	11
15	20	17	18	56	79	100	225	440	198	55	18	11
16	19	18	17	50	61	89	228	465	187	48	22	12
17	19	18	20	44	53	82	200	481	167	43	34	12
18	19	17	23	42	51	76	151	479	120	38	52	13
19	18	17	22	38	52	73	134	550	113	37	47	14
20	19	16	25	38	49	70	139	590	147	40	38	14
21	19	18	26	37	56	68	160	631	157	66	35	14
22	19	18	25	36	52	69	202	615	154	87	33	14
23	18	19	24	35	53	63	215	565	154	49	32	16
24	18	18	24	34	50	66	195	510	152	39	31	17
25	17	18	25	34	52	75	209	466	144	35	31	63
26	16	18	26	37	49	80	254	484	124	31	32	17
27	16	18	25	36	45	98	310	542	120	29	30	13
28	15	18	24	37	45	92	318	526	118	28	25	11
29	15	19	22	35	---	82	338	489	113	26	21	10
30	15	21	22	33	---	80	348	457	104	25	23	11
31	16	---	21	33	---	78	---	402	---	23	23	---
TOTAL	629	528	674	1345	1338	2527	5195	12863	6780	1747	790	422.9
MEAN	20.3	17.6	21.7	43.4	47.8	81.5	173	415	226	56.4	25.5	14.1
MAX	28	21	26	192	161	126	348	631	417	99	52	63
MIN	15	15	17	23	30	46	76	181	104	23	16	8.7
AC-FT	1250	1050	1340	2670	2650	5010	10300	25510	13450	3470	1570	839
CAL YR 1978	TOTAL	70287.0	MEAN	193	MAX	1440	MIN	15	AC-FT	139400		
WTR YR 1979	TOTAL	34838.9	MEAN	95.4	MAX	631	MIN	8.7	AC-FT	69100		

## TULARE LAKE BASIN

145

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 of 200 acres (80.9 hm<sup>2</sup>) above station. Power is developed on the Middle and East Fork Kaweah River.

AVERAGE DISCHARGE.--21 years, 502 ft<sup>3</sup>/s (14.22 m<sup>3</sup>/s), 363,700 acre-ft/yr (448 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)
Jan. 12	0115	1,910 54.1	6.37 1.942	May 21	2330	*3,620 103	7.42 2.262
Feb. 14	0715	2,350 66.6	6.68 2.036	May 27	2245	3,020 85.5	7.10 2.164
Apr. 30	0045	1,940 54.9	6.39 1.948	June 6	2230	2,250 63.7	6.61 2.015
May 4	2400	2,370 67.1	6.69 2.039				

Minimum daily, 39 ft<sup>3</sup>/s (1.10 m<sup>3</sup>/s) Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	143	102	147	123	229	546	650	1620	1620	423	121	60
2	141	108	170	132	227	437	615	1410	1520	402	118	59
3	137	105	143	131	205	397	583	1500	1540	377	114	58
4	133	106	138	128	201	408	607	1810	1580	357	108	58
5	130	103	141	130	196	441	690	1990	1530	341	105	58
6	126	97	140	141	198	501	771	1730	1760	322	104	57
7	123	97	107	135	204	614	762	1600	1700	304	99	55
8	121	91	108	135	210	719	710	1340	1390	283	97	53
9	120	91	122	170	215	796	812	1170	1230	261	91	52
10	118	90	124	159	221	864	706	1050	1200	250	92	53
11	115	96	124	404	224	871	646	1030	1210	251	89	52
12	113	107	124	1200	230	781	612	1240	1200	250	108	50
13	110	106	120	517	249	745	693	1570	1230	247	105	48
14	107	109	117	390	1230	682	889	1870	991	241	99	46
15	104	103	114	337	618	725	1060	2010	882	232	97	43
16	105	104	110	296	459	782	1160	2120	816	219	91	40
17	107	108	118	266	372	649	1150	2210	759	200	88	39
18	106	108	187	266	338	614	899	2380	615	189	96	41
19	103	103	180	238	368	591	761	2620	560	180	94	41
20	102	100	151	227	350	566	757	2740	608	193	88	42
21	105	104	158	220	821	556	818	2900	638	219	84	43
22	106	124	161	212	600	520	937	2840	641	252	81	43
23	103	119	155	202	588	483	1000	2630	640	203	80	42
24	97	115	153	199	479	488	966	2420	634	184	79	42
25	95	113	155	203	472	526	990	2190	628	173	76	121
26	93	112	157	186	447	551	1100	2300	565	163	72	88
27	93	113	157	177	387	923	1540	2510	535	154	67	68
28	85	119	154	185	366	1130	1550	2340	519	149	65	57
29	91	120	139	156	---	848	1600	2180	493	141	63	57
30	91	121	138	165	---	737	1680	2030	460	134	62	63
31	100	---	130	200	---	675	---	1890	---	128	61	---
TOTAL	3423	3194	4342	7630	10704	20166	27714	61280	29694	7422	2794	1629
MEAN	110	106	140	246	382	651	924	1977	990	239	90.1	54.3
MAX	143	124	187	1200	1230	1130	1680	2900	1760	423	121	121
MIN	85	90	107	123	196	397	583	1030	460	128	61	39
AC-FT	6790	6340	8610	15130	21230	40600	54970	121500	58900	14720	5540	3230
CAL YR 1978 TOTAL	377733			1035	6300	MIN 85	AC-FT	749200				
WTR YR 1979 TOTAL	179992			493	2900	MIN 39	AC-FT	357000				

## TULARE LAKE BASIN

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 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, 27.5°C July 24, 25; minimum recorded, 1.5°C Dec. 7, 9, 10.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	9.0	11.5	9.5	15.0	12.0	21.5	16.0	27.0	21.5	23.5	17.5
2	12.5	8.0	10.5	9.0	15.5	12.0	21.0	16.0	27.0	21.5	23.5	17.5
3	12.5	8.0	13.5	9.5	16.0	12.0	20.5	15.5	27.0	21.0	24.0	18.0
4	14.0	9.0	14.0	11.0	16.0	13.0	21.0	16.0	26.5	21.0	24.0	18.5
5	14.5	10.0	13.0	11.0	17.5	13.0	21.0	17.0	26.0	20.5	24.0	18.5
6	11.5	9.5	11.5	9.0	18.0	14.5	21.5	16.0	26.0	21.0	24.5	18.0
7	13.0	9.0	10.0	8.5	16.5	13.5	22.0	16.5	26.0	21.0	25.0	18.5
8	13.0	8.5	8.5	7.0	15.5	13.0	22.0	17.0	25.5	20.0	24.5	19.0
9	11.0	9.0	10.0	6.0	16.0	12.5	23.0	16.5	25.5	20.0	24.5	19.0
10	11.5	7.5	12.5	7.5	17.5	13.5	23.0	17.5	26.0	20.0	25.0	19.0
11	10.0	7.0	14.0	9.5	18.0	14.0	23.5	18.0	22.5	20.0	25.0	19.0
12	13.0	8.0	15.0	11.5	18.0	14.5	24.0	18.5	23.5	19.0	26.0	19.5
13	14.0	9.5	15.0	11.5	17.0	15.0	25.0	19.5	23.0	18.0	26.0	20.0
14	14.5	11.0	14.5	11.5	16.5	13.5	26.0	20.5	23.0	17.5	25.5	20.0
15	14.0	11.0	14.0	10.5	16.5	13.0	26.5	21.5	23.5	17.5	25.0	19.0
16	13.0	10.5	14.0	10.0	17.0	13.0	26.5	21.0	23.5	17.5	25.0	18.5
17	11.0	7.5	14.5	10.5	15.5	12.5	26.0	20.0	21.5	18.0	25.0	19.5
18	9.5	6.5	15.0	11.5	15.5	11.0	26.0	20.5	23.0	17.0	24.5	19.0
19	11.5	6.5	15.5	12.0	17.5	11.5	26.5	21.5	22.5	17.5	24.0	18.5
20	13.0	8.0	16.0	12.0	18.5	13.5	23.5	21.5	21.5	16.0	23.5	18.0
21	13.5	9.0	16.0	12.0	19.0	14.5	25.0	21.0	21.5	16.0	23.0	17.5
22	13.5	10.0	15.5	12.0	19.0	14.5	25.5	20.0	22.5	15.5	23.0	17.5
23	13.0	10.0	15.0	12.5	20.0	15.0	26.5	21.0	22.5	15.5	23.5	17.5
24	13.0	9.0	14.5	11.0	20.5	16.0	27.5	22.0	22.0	16.5	22.5	17.5
25	12.5	10.0	15.0	11.5	20.0	17.0	27.5	22.5	22.0	15.5	21.0	17.5
26	13.5	11.0	16.0	12.0	21.0	16.5	26.5	21.5	22.0	15.0	19.0	16.0
27	13.5	10.5	15.5	12.0	21.0	16.5	25.5	20.0	24.5	15.5	19.0	15.0
28	12.0	11.0	14.5	11.5	22.0	17.0	25.5	20.0	25.0	18.0	20.5	15.0
29	13.0	10.0	14.5	11.5	21.5	17.0	25.5	19.5	22.0	17.5	18.0	16.5
30	13.0	10.5	15.0	11.0	21.5	16.5	26.0	20.0	22.0	17.0	21.0	16.5
31	---	---	15.0	12.0	---	---	27.0	21.0	22.5	16.5	---	---
MONTH	14.5	6.5	16.0	6.0	22.0	11.0	27.5	15.5	27.0	15.0	26.0	15.0

## 11210100 SOUTH FORK KAWEAH 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.--21 years, 65.8 ft<sup>3</sup>/s (1.863 m<sup>3</sup>/s), 47,670 acre-ft/yr (58.8 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)	
May 21	2300	*669	18.9	3.91	1.192
May 26	2300	607	17.2	3.81	1.161

Minimum daily, 0.60 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	18	15	31	86	94	202	243	28	3.8	2.0
2	11	11	24	15	30	65	86	163	223	26	3.7	1.8
3	10	10	17	15	27	62	77	184	226	25	3.4	1.8
4	10	11	16	15	26	64	74	242	230	24	3.6	1.7
5	9.9	11	17	15	25	65	80	269	219	24	3.5	1.6
6	9.5	11	16	16	26	70	89	236	240	23	3.5	1.6
7	9.1	9.7	13	15	27	82	87	206	231	21	2.7	1.5
8	9.3	9.3	13	15	28	92	80	159	181	19	2.7	1.5
9	9.1	9.2	14	20	29	96	85	135	153	18	2.6	1.5
10	8.5	9.5	15	18	29	95	78	118	141	16	2.2	1.5
11	8.4	10	14	24	30	89	71	112	133	16	2.3	1.4
12	8.4	13	14	83	30	83	67	138	121	15	3.1	1.3
13	8.0	12	14	57	34	77	71	201	113	13	3.8	1.2
14	7.7	12	14	51	140	70	86	261	98	12	3.2	1.2
15	7.8	12	14	44	77	81	102	298	86	11	3.1	.82
16	8.2	12	14	38	55	111	113	323	78	10	2.6	.64
17	8.8	12	15	34	45	88	115	345	75	9.2	2.5	.60
18	8.9	12	26	35	41	78	97	376	69	8.2	2.7	.66
19	8.5	12	26	31	47	76	85	436	63	7.6	2.4	.66
20	8.4	12	20	30	80	75	83	475	59	7.5	2.6	.71
21	8.9	12	20	28	115	72	86	491	55	8.5	2.8	.79
22	9.3	14	19	27	78	68	98	473	52	9.2	2.8	.71
23	9.1	13	18	26	73	63	104	446	48	8.8	2.9	.77
24	8.5	13	17	25	62	62	97	420	44	8.0	2.7	.87
25	8.0	12	17	27	61	65	101	376	41	7.5	2.6	2.0
26	7.6	13	17	25	60	66	121	400	39	6.8	2.3	4.2
27	7.6	13	17	24	53	124	163	454	36	6.2	2.1	2.6
28	7.8	14	17	26	51	199	179	414	33	6.0	1.9	2.0
29	7.9	14	16	24	---	144	186	373	32	6.0	1.9	1.8
30	8.5	14	15	22	---	123	202	338	30	5.1	1.9	2.7
31	8.7	---	15	26	---	104	---	305	---	4.3	2.1	---
TOTAL	272.4	352.7	522	866	1410	2695	3057	9369	3392	409.9	86.0	44.13
MEAN	8.79	11.8	16.8	27.9	50.4	86.9	102	302	113	13.2	2.77	1.47
MAX	11	14	26	83	140	199	202	491	243	28	3.8	4.2
MIN	7.6	9.2	13	15	25	62	67	112	30	4.3	1.9	.60
AC-FT	540	700	1040	1720	2800	5350	6060	18580	6730	813	171	88

CAL YR 1978	TOTAL	50701.70	MEAN	139	MAX	1500	MIN	6.2	AC-FT	100600
WTR YR 1979	TOTAL	22476.13	MEAN	61.6	MAX	491	MIN	.60	AC-FT	44580



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.

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).

AVERAGE DISCHARGE.--17 years, 4.95 ft<sup>3</sup>/s (0.140 m<sup>3</sup>/s), 3,590 acre-ft/yr (4.43 hm<sup>3</sup>/yr).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.1	1.9	1.0	.90	.80	.80	8.1	8.0	8.0	7.9	8.2
2	7.1	7.1	1.8	1.0	.90	.70	.90	8.1	8.0	8.0	8.0	8.2
3	7.1	7.1	1.8	1.0	.90	.70	.90	8.1	8.0	8.0	8.0	8.2
4	7.1	7.1	1.9	1.0	.90	.70	.90	8.1	8.0	8.0	8.0	8.2
5	7.1	7.1	2.1	1.0	.90	.70	1.0	8.1	8.0	8.0	8.0	8.2
6	7.1	5.6	2.1	1.0	.90	.70	1.0	8.1	8.0	8.0	8.0	8.2
7	7.1	5.0	2.1	1.0	.90	.70	1.0	8.1	8.0	8.0	8.0	8.2
8	7.1	5.0	2.1	1.0	1.0	.70	1.1	8.1	8.0	8.0	8.0	8.2
9	7.0	5.0	2.1	1.0	1.0	.70	1.4	8.1	8.0	8.0	8.0	8.2
10	7.0	5.0	2.1	.90	.90	.70	2.0	8.1	8.0	8.0	8.0	8.2
11	7.0	5.0	2.1	.90	.90	.70	2.0	8.1	8.0	8.0	8.0	8.2
12	7.0	5.0	2.1	.90	1.0	.70	2.0	8.1	8.0	8.0	8.0	8.2
13	7.0	5.0	2.1	.80	1.0	.70	2.0	8.1	8.0	8.0	8.0	8.2
14	7.0	5.0	2.1	.80	.40	.70	2.0	8.1	8.0	8.0	7.9	8.2
15	7.0	4.1	2.1	.80	.10	.70	2.0	8.1	8.0	8.0	8.0	8.2
16	7.0	2.7	2.1	.80	.10	.70	2.8	8.1	8.0	8.0	8.0	8.2
17	7.0	2.9	2.1	.80	.10	.70	4.0	8.1	8.0	8.0	8.0	8.2
18	7.0	2.9	2.1	.80	.10	.80	4.0	8.0	8.0	8.0	8.0	8.2
19	7.0	2.9	2.1	.80	.10	.80	4.0	8.0	8.0	8.0	8.0	8.2
20	7.0	2.9	2.1	.80	.10	.80	4.0	8.0	8.0	8.0	8.0	8.2
21	7.0	2.9	2.1	.90	.10	.80	4.0	8.0	8.0	7.9	8.1	8.2
22	7.0	2.9	1.5	.90	.10	.80	4.0	8.0	7.9	7.8	8.1	8.2
23	7.0	2.9	1.0	1.0	.10	.80	4.0	8.0	7.9	7.7	8.1	8.2
24	6.9	2.9	1.0	1.0	.10	.80	4.0	8.0	8.0	7.8	8.1	8.2
25	6.9	2.9	1.0	1.0	.10	.80	4.0	8.0	8.0	8.0	8.1	8.2
26	7.1	2.9	1.0	.90	.70	.80	4.0	8.0	8.0	8.0	8.1	8.2
27	7.1	2.4	1.0	.90	1.0	.80	4.0	8.0	8.0	8.0	8.1	8.2
28	7.1	2.0	1.0	.90	.90	.70	4.0	8.0	8.0	7.9	8.1	8.2
29	7.1	2.0	1.0	.90	---	.70	4.0	8.0	8.0	7.9	8.1	8.2
30	7.1	2.0	1.0	.90	---	.80	5.9	8.0	8.0	8.0	8.1	8.2
31	7.1	---	1.0	.90	---	.80	---	8.0	---	7.8	8.2	---
TOTAL	218.1	125.3	53.6	28.30	16.20	23.00	81.70	249.7	239.8	246.8	249.0	246.0
MEAN	7.04	4.18	1.73	.91	.58	.74	2.72	8.05	7.99	7.96	8.03	8.20
MAX	7.1	7.1	2.1	1.0	1.0	.80	5.9	8.1	8.0	8.0	8.2	8.2
MIN	6.9	2.0	1.0	.80	.10	.70	.80	8.0	7.9	7.7	7.9	8.2
AC-FT	433	249	106	56	32	46	162	495	476	490	494	488
CAL YR 1978	TOTAL	1509.00	MEAN	4.13	MAX	8.1	MIN	.80	AC-FT	2990		
WTR YR 1979	TOTAL	1777.50	MEAN	4.87	MAX	8.2	MIN	.10	AC-FT	3530		

## 11210900 LAKE KAWEAH NEAR LEMONCOVE, CA

LOCATION.--Lat 36°24'53", long 119°00'07", in SE4SW4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 1803007, 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>). Capacity table revised October 1978. 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, 7,559 acre-ft (9.32 hm<sup>3</sup>) Oct. 20, 1970, elevation, 568.38 ft (173.242 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 143,730 acre-ft (177 hm<sup>3</sup>) June 7, elevation, 694.40 ft (211.653 m); minimum, 8,326 acre-ft (10.3 hm<sup>3</sup>) Aug. 17, elevation, 574.80 ft (175.199 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19032	11281	14910	14596	13482	21327	56121	90805	141914	110659	32673	8857
2	18707	11415	15067	14581	13251	21853	57348	92338	141532	108957	30102	8900
3	18350	11538	15118	14571	12808	22292	58451	94074	141894	107368	27549	8913
4	17981	11670	15174	14566	12350	22737	59591	96417	142716	105806	25192	8930
5	17607	11800	15240	14556	11896	23350	60908	99209	143194	103773	22799	8950
6	17283	11917	15287	14566	11456	24090	62396	101413	143692	101561	20394	8967
7	17059	12036	15276	14571	11041	25022	63837	103342	143730	99355	18063	9004
8	16942	12143	15271	14596	10903	26200	65111	104654	143156	97059	16135	9014
9	16820	12250	15307	14680	11109	27494	66518	105622	142391	94708	14656	9018
10	16688	12350	15348	14715	11440	28896	67671	106107	141742	92181	13566	9021
11	16464	12472	15389	14951	11550	30320	68631	106409	141076	89516	12652	9021
12	16200	12608	15436	17037	11563	31573	69488	107082	140050	86872	11791	9014
13	15922	12745	15472	17779	11629	32735	70282	108465	138820	84313	10962	9004
14	15649	12893	15482	18268	13362	33753	71371	110389	136994	81775	9863	8998
15	15374	13023	15477	17819	13968	34837	72902	112546	135028	79203	8777	8991
16	15098	13146	15451	16853	14228	36244	74463	114949	133223	76542	8367	8981
17	14835	13293	15467	15938	14335	37272	75841	117394	131540	73744	8326	8954
18	14566	13436	15675	15225	14338	38201	76585	120092	129701	70929	8367	8934
19	14297	13566	15680	14680	14680	39134	77045	123354	127909	68062	8441	8917
20	14031	13698	15514	14209	14931	39950	77405	126909	126311	65177	8502	8900
21	13768	13840	15348	13731	16508	40716	77867	130748	124846	62267	8557	8843
22	13178	14021	15266	13510	17578	41542	78562	134171	123426	59453	8602	8807
23	12113	14185	15215	13478	18480	42367	79393	136468	121976	56549	8645	8787
24	10895	14350	15154	13482	19111	43192	79787	138103	120535	53605	8678	8783
25	10504	14497	15098	13524	19639	44112	80286	139122	119260	50749	8704	8920
26	10607	14646	15042	13524	20096	45074	81317	140278	118009	47936	8724	9031
27	10715	14795	14996	13492	20419	47026	83009	141894	116746	45128	8737	9092
28	10813	14820	14941	13487	20624	49763	84825	142792	115384	42503	8754	9140
29	10875	14810	14855	13422	---	51745	86674	142964	113875	40040	8780	9185
30	11013	14825	14765	13367	---	53368	88790	142888	112304	37628	8813	9237
31	11141	---	14656	13413	---	54789	---	142658	---	35197	8837	---
MAX	19032	14825	15680	18268	20624	54789	88790	142964	143730	110659	32673	9237
MIN	10504	11281	14656	13367	10903	21327	56121	90805	112304	35197	8326	8783
†	582.67	590.87	590.53	587.94	601.03	638.01	662.72	693.84	677.13	619.63	576.37	577.55
‡	-8220	+3684	-169	-1243	+7211	+34165	+34001	+53868	-30354	-77107	-26360	+400
††	264	84	44	32	60	182	480	1114	1532	1266	399	268

CAL YR 1978 †a -1792  
WTR YR 1979 †a -10124

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

a Computed on basis of revised capacity table put into use Oct. 1, 1978.

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.--18 years, 18.9 ft<sup>3</sup>/s (0.535 m<sup>3</sup>/s), 13,690 acre-ft/yr (16.9 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, 1978-79.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	13	12	6.8	7.1	6.5	0	15	16	13	16	21
2	16	14	12	6.7	7.5	4.1	0	15	16	13	17	21
3	16	13	12	6.7	7.8	0	0	15	15	13	17	22
4	17	13	12	6.7	7.8	0	16	15	15	13	17	22
5	16	13	8.5	6.7	7.8	0	46	15	15	13	17	22
6	16	13	6.5	6.7	7.8	0	48	15	15	13	17	22
7	15	12	6.3	6.6	7.7	0	50	15	15	13	17	21
8	14	12	6.1	6.5	7.3	0	41	16	15	14	16	20
9	14	12	6.1	6.6	6.5	0	36	15	15	14	15	20
10	14	12	6.0	6.8	6.0	0	38	16	15	14	14	20
11	15	13	6.0	6.8	6.7	0	38	16	15	14	14	20
12	15	13	6.0	7.1	7.2	0	39	16	15	14	15	20
13	15	11	6.0	7.1	7.0	0	42	16	15	13	15	20
14	15	8.3	6.0	7.1	7.0	0	44	16	15	13	18	21
15	15	8.2	6.2	8.2	7.2	0	43	16	15	13	19	21
16	15	8.1	6.3	8.6	7.1	0	46	16	15	13	15	21
17	15	7.8	6.3	8.5	6.9	0	28	16	15	13	11	22
18	15	7.8	6.5	8.3	6.9	0	14	16	15	12	10	22
19	15	7.7	7.2	8.0	6.7	0	14	16	14	13	9.7	21
20	15	7.8	7.4	7.9	6.7	0	14	16	14	13	18	21
21	14	8.5	7.3	7.9	6.2	0	14	16	14	14	21	21
22	16	9.8	7.2	7.5	6.2	0	15	16	14	14	21	21
23	17	10	7.1	7.2	6.2	0	15	16	14	14	20	21
24	17	10	7.0	7.1	6.2	0	15	16	14	14	21	20
25	16	10	6.9	7.1	6.3	0	15	16	13	14	21	19
26	15	9.8	6.9	7.1	6.3	0	15	16	13	14	22	19
27	15	9.7	6.9	7.1	6.4	0	15	16	13	15	22	20
28	14	11	7.1	7.1	6.4	0	15	16	13	15	22	19
29	14	12	7.1	7.1	---	0	15	16	13	15	22	20
30	14	12	7.2	7.1	---	0	15	16	13	15	21	20
31	14	---	7.1	7.1	---	0	---	16	---	16	21	---
TOTAL	470	322.5	229.2	223.8	192.9	10.6	746	488	434	424	541.7	620
MEAN	15.2	10.8	7.39	7.22	6.89	3.4	24.9	15.7	14.5	13.7	17.5	20.7
MAX	17	14	12	8.6	7.8	6.5	50	16	16	16	22	22
MIN	14	7.7	6.0	6.5	6.0	0	0	15	13	12	9.7	19
AC=FT	932	640	455	444	383	21	1480	968	861	841	1070	1230

CAL YR 1978	TOTAL	4817.50	MEAN	13.2	MAX	36	MIN	0	AC-FT	9560
WTR YR 1979	TOTAL	4702.70	MEAN	12.9	MAX	50	MIN	0	AC-FT	9330

## 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 excellent. 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).--18 years, 625 ft<sup>3</sup>/s (17.70 m<sup>3</sup>/s), 452,800 acre-ft/yr (558 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, 2,350 ft<sup>3</sup>/s (66.6 m<sup>3</sup>/s) May 30, gage height, 6.38 ft (1.945 m); minimum daily, 4.8 ft<sup>3</sup>/s (0.14 m<sup>3</sup>/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	310	30	104	169	263	330	83	722	2160	1310	1490	24
2	317	33	104	145	416	284	85	716	1890	1320	1510	25
3	321	32	104	144	499	274	92	702	1510	1250	1490	26
4	319	33	105	144	494	274	89	705	1330	1210	1370	25
5	318	33	107	143	489	220	64	739	1410	1420	1370	22
6	290	31	108	144	483	199	72	757	1630	1530	1390	22
7	246	31	106	145	480	214	90	744	1840	1490	1350	22
8	176	31	106	144	341	221	109	782	1840	1520	1160	21
9	175	31	106	144	158	233	145	800	1740	1530	934	21
10	177	31	106	160	86	234	179	898	1640	1600	711	20
11	214	31	106	177	193	232	188	975	1640	1690	594	20
12	245	33	107	199	267	234	206	973	1800	1670	585	19
13	243	33	108	220	263	234	298	979	1970	1630	567	19
14	242	35	116	222	323	237	360	1040	2030	1610	687	16
15	240	35	123	633	406	244	331	1070	1980	1630	697	14
16	240	37	123	884	402	213	376	1100	1820	1650	336	14
17	242	37	123	834	386	217	489	1170	1730	1700	94	19
18	240	37	124	737	353	233	600	1220	1640	1710	66	25
19	239	37	217	598	307	208	642	1210	1560	1710	45	23
20	237	37	270	530	295	214	684	1210	1500	1730	41	23
21	236	38	268	526	185	244	719	1230	1460	1750	38	24
22	492	38	234	385	217	179	722	1380	1450	1750	37	23
23	752	38	205	258	250	126	738	1740	1440	1750	37	23
24	741	38	205	234	253	122	859	1890	1440	1740	37	14
25	46	38	205	229	283	118	858	1920	1350	1690	38	4.8
26	30	38	204	229	301	122	718	1960	1260	1650	37	9.0
27	30	37	204	229	301	82	745	1990	1230	1650	37	11
28	30	86	204	229	342	11	727	2190	1260	1550	35	8.6
29	30	115	204	228	---	34	693	2330	1310	1470	31	10
30	31	103	204	228	---	74	712	2280	1320	1440	28	11
31	16	---	204	236	---	83	---	2230	---	1450	29	---
TOTAL	7465	1237	4814	9527	9036	5944	12673	39652	48180	48800	16871	558.4
MEAN	241	41.2	155	307	323	192	422	1279	1606	1574	544	18.6
MAX	752	115	270	884	499	330	859	2330	2160	1750	1510	26
MIN	16	30	104	143	86	11	64	702	1230	1210	28	4.8
AC-FT	14810	2450	9550	18900	17920	11790	25140	78650	95570	96790	33460	1110
MEAN ‡	134	119	162	296	461	751	1030	2197	1144	362	147	58.8
AC-FT ‡	8220	7110	9990	18190	25610	46200	61260	135100	68080	22280	9060	3500

CAL YR 1978 TOTAL 412099.2 MEAN 1129 MAX 3300 MIN 6.4 AC-FT 817400 MEAN ‡ 1152 AC-FT ‡ 834100  
WTR YR 1979 TOTAL 204757.4 MEAN 561 MAX 2330 MIN 4.8 AC-FT 406100 MEAN ‡ 573 AC-FT ‡ 414600

‡ Adjusted for change in contents and evaporation in 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 to current year.

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.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

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, 28.0°C on several days during August; minimum recorded, 6.5°C Jan. 6.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
MAR 19...	1345	195	100	7.2	9.0	11.0	36	11	2.0	5.0
SEP 25...	0930	4.8	103	7.1	23.5	6.6	46	15	2.0	6.0

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	ALKA- LINIT- Y (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	BORON, DIS- SOLVED (UG/L AS B)
MAR 19...	23	.4	38	5.0	2.0	69	.09	.02	0
SEP 25...	21	.4	49	4.0	3.0	69	.09	.29	0

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.5	18.0			---	---	8.0	7.0	7.5	7.0	10.0	8.5
2	19.5	18.0			---	---	8.0	7.0	7.5	7.0	10.0	8.5
3	19.5	18.0			---	---	7.5	7.0	7.5	7.0	10.0	8.5
4	---	---			---	---	8.0	7.0	7.5	7.0	10.0	9.0
5	---	---			---	---	8.0	7.0	7.5	7.0	11.0	9.0
6	---	---			---	---	8.0	6.5	7.5	7.0	10.5	8.5
7	---	---			10.5	8.5	7.5	7.0	8.0	7.0	10.5	9.0
8	---	---			10.0	8.5	8.0	7.0	8.5	7.0	10.5	9.0
9	---	---			9.5	8.0	8.5	7.0	9.5	7.0	10.5	9.5
10	---	---			9.5	8.0	8.5	7.0	10.0	7.0	10.5	9.5
11	---	---			9.5	7.5	7.5	7.0	9.0	7.0	10.5	9.5
12	---	---			9.0	7.5	8.0	7.0	8.5	7.5	11.0	9.5
13	---	---			9.0	7.5	9.0	7.5	9.0	8.0	10.5	9.5
14	---	---			9.0	7.5	8.5	8.0	9.5	8.5	10.0	9.5
15	---	---			9.0	7.5	8.5	8.0	9.5	8.5	10.0	9.5
16	---	---			9.0	7.5	8.5	8.5	9.5	8.5	11.5	9.5
17	---	---			8.5	8.0	8.5	8.0	9.5	8.5	10.5	10.0
18	---	---			8.5	8.0	8.5	8.0	9.5	8.5	11.5	10.0
19	---	---			8.5	8.0	8.5	8.0	9.5	8.5	10.0	10.0
20	---	---			8.5	7.5	8.5	8.0	9.5	8.5	11.5	10.0
21	---	---			8.5	7.5	8.5	8.0	10.5	8.5	11.0	10.0
22	---	---			8.0	7.5	8.0	7.5	10.0	8.5	11.5	10.0
23	---	---			8.5	7.5	8.0	7.5	9.5	8.5	12.5	10.0
24	---	---			8.0	7.5	8.0	7.5	10.0	8.0	13.0	10.0
25	---	---			8.0	7.5	8.5	7.0	9.5	8.5	12.5	10.0
26	---	---			8.0	7.5	8.5	7.5	9.5	8.5	12.0	10.0
27	---	---			8.0	7.5	8.5	7.5	9.5	8.5	12.5	10.5
28	---	---			7.5	7.5	8.0	7.5	9.5	8.5	13.5	11.5
29	---	---			7.5	7.0	8.5	7.0	---	---	14.5	10.5
30	---	---			8.0	7.0	7.5	7.0	---	---	12.0	10.0
31	---	---			7.5	7.0	9.0	7.0	---	---	13.0	10.0
MONTH	---	---			10.5	7.0	9.0	6.5	10.5	7.0	14.5	8.5

## TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.1	6.5	4.8	45	103	81	24	7.5	.97		
2	1.1	2.5	13	4.5	56	92	72	24	7.1	.88		
3	1.1	3.3	7.1	4.4	38	68	62	23	6.4	.87		
4	1.0	3.1	4.7	4.4	25	57	57	21	5.9	.88		
5	1.0	3.0	4.4	4.5	21	51	53	20	5.6	.96		
6	.96	2.7	4.7	4.8	21	48	50	19	5.3	.98		
7	.95	2.6	4.6	4.9	22	46	48	20	4.9	.97		
8	1.0	2.4	4.1	4.9	22	45	45	22	4.6	.92		
9	1.1	2.4	3.8	16	21	42	43	23	4.2	.84		
10	1.1	2.4	3.8	15	21	38	42	20	3.9	.76		
11	1.0	3.2	3.8	11	19	36	40	19	3.6	.71		
12	1.1	3.9	3.8	38	17	35	37	18	3.1	.67		
13	1.1	4.5	3.8	27	18	33	36	17	2.8	.61		
14	1.0	4.4	3.8	17	81	32	35	16	2.6	.53		
15	.92	4.2	3.8	39	54	35	34	15	2.6	.41		
16	.93	3.9	3.8	30	30	76	33	15	2.5	.30		
17	1.1	3.8	4.4	17	21	50	32	15	2.7	.22		
18	1.2	3.8	14	22	16	61	38	14	3.0	.15		
19	1.3	4.1	44	21	21	59	31	13	3.0	.04		
20	1.4	3.8	25	14	26	57	30	13	2.7	0		
21	1.6	4.8	9.7	11	233	53	29	13	2.4	0		
22	1.6	6.0	7.6	9.8	170	49	28	13	2.2	0		
23	1.7	6.3	7.1	8.6	129	44	28	12	2.0	0		
24	1.8	5.8	6.6	7.9	101	41	27	12	1.8	0		
25	1.6	5.3	6.2	9.6	76	39	27	12	1.6	0		
26	1.4	5.0	6.1	9.7	65	38	26	11	1.4	0		
27	1.3	4.6	5.9	7.5	61	136	28	9.9	1.3	0		
28	1.4	4.4	5.9	7.6	52	322	27	9.5	1.2	0		
29	1.5	4.4	5.8	7.4	---	178	26	9.3	1.1	0		
30	1.6	4.4	5.5	6.7	---	113	25	9.0	.99	0		
31	1.8	---	5.2	16	---	96	---	8.4	---	0		---
TOTAL	38.76	117.1	238.5	406.0	1482	2173	1164	490.1	99.99	12.67	0	0
MEAN	1.25	3.90	7.69	13.1	52.9	70.1	38.8	15.8	3.33	.41	0	0
MAX	1.8	6.3	44	39	233	322	81	24	7.5	.98	0	0
MIN	.92	2.1	3.8	4.4	16	32	25	8.4	.99	0	0	0
AC-FT	77	232	473	805	2940	4310	2310	972	198	25	0	0
CAL YR 1978	TOTAL	21517.67	MEAN	59.0	MAX	1800	MIN	.33	AC-FT	42680		
WTR YR 1979	TOTAL	6222.12	MEAN	17.0	MAX	322	MIN	0	AC-FT	12340		

## 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.--8 years, 11.4 ft<sup>3</sup>/s (0.323 m<sup>3</sup>/s), 8,260 acre-ft/yr (10.2 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); no flow for several months in each year.

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)	
Feb. 2	1900	75	2.12	3.14	0.957	Mar. 16	0645	57	1.61	2.87	.875
Feb. 21	1815	262	7.42	4.15	1.265	Mar. 27	1345	131	3.71	3.42	1.042
Mar. 1	1100	196	5.55	3.81	1.161	Mar. 28	1545	*502	14.2	4.96	1.512

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	5.2	7.0	10	48	110	63	9.7	4.9	.58	1.9	.33
2	3.3	5.8	10	9.6	60	64	56	9.6	4.3	.97	3.4	.60
3	2.6	4.9	7.3	10	42	46	47	9.6	3.6	1.8	3.8	.33
4	2.2	5.1	6.5	10	25	36	42	9.0	3.5	3.2	3.1	.18
5	1.8	5.5	7.1	10	21	30	38	8.3	3.4	3.8	.89	.10
6	1.6	5.7	7.4	9.6	18	26	33	7.9	2.8	2.4	.39	.05
7	1.1	5.7	6.7	9.1	15	24	29	8.6	2.5	1.3	.46	.05
8	1.2	5.4	5.9	9.1	15	23	25	8.8	2.3	.79	.55	0
9	1.6	6.0	5.4	12	14	20	24	8.8	2.2	.60	.53	0
10	3.6	5.7	5.3	11	13	19	22	7.7	1.8	.94	.37	0
11	4.7	6.3	6.2	10	12	18	21	7.0	1.6	.90	.08	0
12	4.6	6.6	6.6	15	12	17	20	6.9	1.3	1.4	0	0
13	4.0	5.7	5.8	14	11	17	19	6.0	1.1	1.9	0	0
14	4.8	5.6	5.8	13	18	16	17	6.3	.79	2.9	0	0
15	4.4	5.8	5.9	19	17	17	17	6.3	.76	2.7	0	0
16	4.1	5.3	5.6	17	14	40	17	6.2	1.1	2.2	0	0
17	5.1	5.0	5.3	13	13	26	16	6.3	1.5	2.4	0	0
18	5.8	5.2	7.8	17	12	26	15	6.0	2.2	3.1	.45	0
19	6.1	5.4	15	14	12	26	17	6.0	2.1	3.3	1.7	0
20	6.2	5.4	13	11	13	23	17	6.0	1.8	3.2	1.8	0
21	6.4	5.6	12	11	181	22	16	5.9	1.5	1.9	1.4	.08
22	6.1	6.3	12	10	115	20	15	6.1	.86	.91	1.5	.10
23	5.5	5.5	11	9.6	99	18	14	6.2	.79	.39	.28	.18
24	4.8	5.0	10	9.1	66	17	13	6.3	.78	.06	0	.10
25	4.2	5.1	10	10	49	16	13	6.2	.69	.03	.05	.08
26	4.7	5.3	11	9.1	39	15	11	5.9	.52	0	.05	.08
27	5.3	5.6	11	8.2	38	60	12	5.7	.58	0	.10	.10
28	4.9	5.9	10	8.7	29	222	13	5.4	.60	.13	.08	.08
29	4.8	5.4	10	7.8	---	138	11	5.4	.33	1.7	.14	.08
30	4.9	5.4	10	7.8	---	87	10	5.4	.39	2.3	.09	.05
31	5.5	---	9.6	14	---	71	---	5.3	---	2.7	.18	---
TOTAL	128.8	166.4	262.2	348.7	1021	1310	683	214.8	52.59	50.50	23.29	2.57
MEAN	4.15	5.55	8.46	11.2	36.5	42.3	22.8	6.93	1.75	1.63	.75	.086
MAX	6.4	6.6	15	19	181	222	63	9.7	4.9	3.8	3.8	.60
MIN	1.1	4.9	5.3	7.8	11	15	10	5.3	.33	0	0	0
AC-FT	255	330	520	692	2030	2600	1350	426	104	100	46	5.1
CAL YR 1978	TOTAL	14079.59	MEAN 38.6	MAX 682	MIN 0	AC-FT 27930						
WTR YR 1979	TOTAL	4263.85	MEAN 11.7	MAX 222	MIN 0	AC-FT 8460						



## 11212000 SAND CREEK NEAR ORANGE COVE, CA

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.

DRAINAGE AREA.--31.6 mi<sup>2</sup> (81.8 km<sup>2</sup>).

PERIOD OF RECORD.--October 1944 to September 1954, annual maximum, water years 1956, 1967, 1969, February 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 490 ft (149 m), from topographic map.

REMARKS.--Records fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--18 years (water years 1945-54, 1972-79), 2.96 ft<sup>3</sup>/s (0.084 m<sup>3</sup>/s), 2,140 acre-ft/yr (2.64 hm<sup>3</sup>/yr).

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<sup>3</sup>/s (4.53 m<sup>3</sup>/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.--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)
Jan. 9	0745	28 0.79	2.72 0.829	Feb. 21	1600	*308 8.72	4.47 1.362
Jan. 15	1300	20 .57	2.59 .789	Mar. 1	1145	86 2.44	3.36 1.024
Jan. 18	0830	22 .62	2.63 .802	Mar. 28	1345	282 7.99	4.38 1.335
Feb. 2	1500	36 1.02	2.84 .866				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.91	2.9	7.4	2.0	24	48	16	3.6	.64	.07		
2	.89	3.8	10	2.1	29	21	14	3.7	.53	.06		
3	.95	2.6	4.2	2.3	19	14	13	3.8	.46	.06		
4	.86	2.4	3.0	2.2	12	12	12	3.9	.41	.06		
5	.82	2.4	3.3	2.6	9.2	11	11	3.5	.37	.06		
6	.79	2.2	3.3	2.8	6.9	10	10	3.2	.34	.06		
7	.81	2.1	2.6	2.4	5.3	9.6	9.9	3.6	.30	.05		
8	.99	2.0	2.0	3.2	4.5	9.1	9.3	4.4	.25	.04		
9	1.1	2.4	2.0	17	3.6	7.9	9.0	4.4	.22	.03		
10	1.0	2.8	2.3	7.4	3.3	6.0	8.7	3.4	.20	.03		
11	1.0	4.2	2.5	6.5	3.0	5.2	8.2	2.7	.14	.03		
12	1.2	5.1	2.7	13	2.7	5.1	7.9	2.3	.12	.05		
13	1.3	4.0	2.8	8.4	2.8	4.6	7.1	1.9	.12	.04		
14	1.1	3.8	2.7	8.7	8.3	3.9	6.7	1.7	.11	.04		
15	1.1	3.6	2.9	17	5.6	5.4	6.0	1.6	.12	.04		
16	1.3	3.5	3.2	15	3.7	12	5.9	1.5	.12	.03		
17	1.5	3.7	3.9	9.8	3.3	10	5.3	1.5	.14	.01		
18	1.5	3.7	11	16	2.9	9.4	5.2	1.5	.18	.02		
19	1.3	3.8	17	11	6.9	10	5.0	1.4	.18	.01		
20	1.4	3.9	9.4	7.9	6.5	9.6	4.8	1.3	.16	0		
21	1.6	5.3	4.8	6.3	100	7.8	4.5	1.3	.13	.01		
22	1.8	8.2	3.8	5.2	54	4.8	4.4	1.3	.11	.03		
23	1.7	5.9	3.3	4.4	44	3.9	4.2	1.3	.10	.02		
24	1.5	4.6	2.9	4.0	24	3.3	4.0	1.4	.08	.02		
25	1.4	4.2	2.8	5.2	17	3.2	4.0	1.2	.08	.02		
26	1.3	3.6	2.6	4.1	14	3.3	4.2	1.1	.08	0		
27	1.4	3.6	2.5	3.3	13	22	4.5	.93	.08	0		
28	1.6	3.3	2.5	3.4	11	142	4.4	.88	.07	0		
29	1.8	3.3	2.3	3.0	---	45	4.2	.88	.07	0		
30	1.8	3.5	2.3	2.8	---	22	3.8	.83	.07	0		
31	1.8	---	2.2	16	---	18	---	.75	---	0		---
TOTAL	39.52	110.4	130.2	215.0	439.5	499.1	217.2	66.77	5.98	.89	0	0
MEAN	1.27	3.68	4.20	6.94	15.7	16.1	7.24	2.15	.20	.029	0	0
MAX	1.8	8.2	17	17	100	142	16	4.4	.64	.07	0	0
MIN	.79	2.0	2.0	2.0	2.7	3.2	3.8	.75	.07	0	0	0
AC-FT	78	219	258	426	872	.990	431	132	12	1.8	0	0
CAL YR 1978 TOTAL	5961.49		MEAN 16.3	MAX 642	MIN 0	AC-FT 11820						
WTR YR 1979 TOTAL	1724.56		MEAN 4.72	MAX 142	MIN 0	AC-FT 3420						

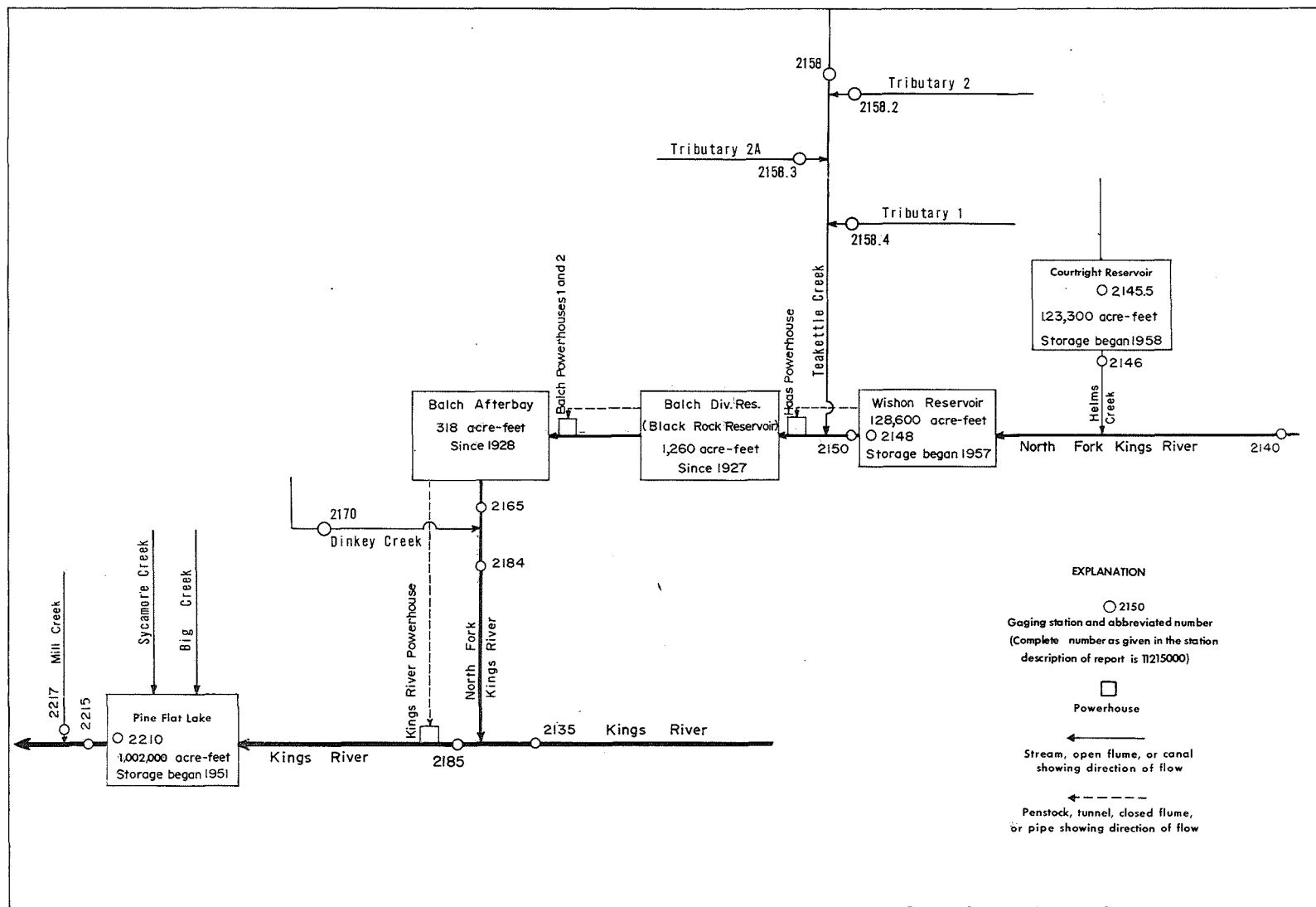


FIGURE 7.--Schematic diagram showing diversions and storage in Kings River basin.

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>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1926 to December 1928, October 1931 to current year. 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.--50 years, 1,423 ft<sup>3</sup>/s (40.30 m<sup>3</sup>/s), 1,031,000 acre-ft/yr (1.27 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)
May 22	0215	9,580 271	8.58 2.615
May 28	0145	*9,760 276	8.64 2.633
June 7	0315	7,490 212	7.88 2.402

Minimum daily, 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s) Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	554	322	321	271	493	1020	1210	3840	5270	2300	800	333
2	544	320	331	287	490	863	1150	3570	4970	2150	774	321
3	534	318	298	294	452	842	1110	3760	5020	2030	754	312
4	524	327	319	281	456	853	1160	4420	5390	1960	727	304
5	513	325	326	283	457	901	1300	4820	5170	1910	691	298
6	496	318	296	293	446	982	1480	4150	6080	1800	662	288
7	484	303	249	285	458	1120	1510	3820	6280	1700	644	280
8	467	298	236	294	455	1260	1480	3210	4970	1570	631	274
9	460	300	270	411	466	1390	1640	2740	4100	1450	601	269
10	448	298	299	353	456	1510	1540	2480	4280	1390	562	265
11	438	301	303	1520	456	1530	1370	2520	4680	1430	549	261
12	426	294	293	2410	467	1450	1350	3060	4970	1480	767	258
13	412	308	273	1190	496	1400	1570	3860	5180	1570	703	256
14	400	304	264	1000	1690	1330	1900	4690	4920	1650	631	255
15	389	291	256	884	1020	1390	2220	5170	3950	1710	570	250
16	383	298	251	785	879	1410	2380	5440	3440	1630	541	243
17	382	311	275	727	764	1240	2320	5770	3170	1490	537	240
18	379	304	372	675	716	1150	1970	6160	2480	1340	701	235
19	365	294	366	595	734	1060	1750	6890	2140	1260	654	229
20	356	285	335	574	731	1000	1750	7500	2380	1200	578	225
21	355	291	361	556	1200	969	1900	8010	2630	1520	517	218
22	355	301	375	523	1020	907	2110	8210	2810	1850	474	210
23	338	308	360	483	1040	870	2210	7920	3000	1510	443	205
24	321	308	350	482	925	874	2110	7000	3120	1320	417	200
25	314	298	348	474	938	916	2160	6200	3220	1300	395	336
26	311	294	337	451	928	963	2400	6770	2960	1240	377	415
27	303	294	336	429	828	1580	3100	7950	2720	1140	365	346
28	299	291	336	447	807	1860	3080	8140	2690	1030	355	312
29	295	294	323	384	---	1490	3250	7450	2650	940	353	286
30	291	301	302	401	---	1350	3590	6870	2550	873	356	299
31	292	---	283	468	---	1250	---	6340	---	828	350	---
TOTAL	12428	9099	9644	18510	20268	36730	58070	168730	117190	46571	17479	8223
MEAN	401	303	311	597	724	1185	1936	5443	3906	1502	564	274
MAX	554	327	375	2410	1690	1860	3590	8210	6280	2300	800	415
MIN	291	285	236	271	446	842	1110	2480	2140	828	350	200
AC-FT	24650	18050	19130	36710	40200	72850	115200	334700	232400	92370	34670	16310

CAL YR 1978	TOTAL	1025033	MEAN	2808	MAX	14800	MIN	236	AC-FT	2033000
WTR YR 1979	TOTAL	522942	MEAN	1433	MAX	8210	MIN	200	AC-FT	1037000

11213500 KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-55, 1966 to current year.

CHEMICAL ANALYSES: Water years 1951-55, 1977.

WATER TEMPERATURES: Water years 1966 to May 1979 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1965 to May 1979 (discontinued).

INSTRUMENTATION.--Temperature recorder from December 1965 to May 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.0°C Aug. 13, 14, 1977; minimum recorded, 0.0°C Dec. 14, 15, 1967.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 17.5°C Oct. 1-4; minimum recorded, 1.0°C Dec. 8, 9.

## TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO MAY 1979

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

11213500 KINGS RIVER ABOVE NORTH FORK, NEAR TRIMMER, CA--Continued

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO MAY 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.5	9.0	11.5	9.0								
2	11.0	8.0	11.0	9.0								
3	12.0	8.5	12.5	9.5								
4	12.5	9.0	13.0	10.0								
5	13.0	9.5	12.5	9.5								
6	12.0	10.0	10.5	8.5								
7	12.0	9.5	10.0	8.0								
8	12.5	9.0	8.0	6.5								
9	12.0	10.0	9.0	6.0								
10	10.0	8.5	11.0	8.0								
11	9.5	8.0	12.5	9.5								
12	12.5	9.0	12.5	10.5								
13	13.0	10.0	13.0	10.0								
14	13.0	10.5	12.5	10.0								
15	12.5	10.0	---	---								
16	12.0	9.5	---	---								
17	11.0	8.5	---	---								
18	9.5	7.5	---	---								
19	10.5	7.5	---	---								
20	11.0	8.5	---	---								
21	12.0	9.0	---	---								
22	12.0	9.5	---	---								
23	11.5	9.5	---	---								
24	11.5	9.0	---	---								
25	11.0	9.0	---	---								
26	12.0	10.5	---	---								
27	12.0	9.5	---	---								
28	12.0	9.5	---	---								
29	12.0	9.5	---	---								
30	12.0	9.5	---	---								
31	---	---	---	---								
MONTH	13.0	7.5	---	---								

## 11214000 NORTH FORK KINGS RIVER BELOW MEADOW BROOK, CA

LOCATION.--Lat 37°04'53", long 118°51'43", in NE¼NE¼ sec.12, T.10 S., R.28 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 800 ft (244 m) downstream from Nichols Canyon, 0.6 mi (1.0 km) downstream from Meadow Brook, 3.9 mi (6.3 km) west of Blackcap Mountain, 5.9 mi (9.5 km) east of Courtright Dam, and 23 mi (37 km) southeast of town of Huntington Lake.

DRAINAGE AREA.--37.7 mi<sup>2</sup> (97.6 km<sup>2</sup>).

PERIOD OF RECORD.--October 1921 to September 1935, October 1956 to current year. Monthly discharge only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Records for Jan. 1-23, and Dec. 1-21, 1934, published in WSP 551 and 766, respectively, have been found to be unreliable and should not be used.

REVISED RECORDS.--WSP 1315-A: 1922(M). WSP 1515: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 8,144.66 ft (2,482.492 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--No regulation or 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.--37 years, 72.7 ft<sup>3</sup>/s (2.059 m<sup>3</sup>/s), 52,670 acre-ft/yr (64.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,000 ft<sup>3</sup>/s (85.0 m<sup>3</sup>/s) Sept. 5, 1978, gage height, 6.50 ft (1.981 m), from rating curve extended above 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s); minimum recorded, 0.28 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Dec. 30, 1976, to Jan. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 5.85 ft (1.783 m), from floodmarks, discharge, 2,000 ft<sup>3</sup>/s (56.6 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s (11 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)
May 21	1930	857 24.3	4.67 1.423	June 3	2115	606 17.2	4.32 1.317
May 27	1945	*920 26.1	4.75 1.448	June 6	2045	702 19.9	4.46 1.359

Minimum daily discharge, 1.9 ft<sup>3</sup>/s (0.054 m<sup>3</sup>/s) Sept. 21-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	6.8	10	14	18	17	25	186	422	82	17	4.2
2	18	8.1	12	13	18	18	23	182	425	72	16	4.0
3	17	9.8	13	11	18	16	24	237	454	65	15	3.9
4	16	11	13	9.2	18	16	31	302	482	61	14	3.7
5	16	10	12	8.7	17	17	43	289	485	58	14	3.4
6	15	8.8	11	8.8	15	20	51	248	544	54	13	3.1
7	14	8.3	12	8.7	14	25	49	209	511	48	12	2.9
8	14	7.8	12	8.9	14	33	51	154	371	43	12	2.8
9	13	7.3	12	10	13	40	60	123	332	38	12	2.7
10	13	6.8	11	11	14	44	46	115	373	36	11	2.5
11	12	5.7	9.6	29	14	41	40	154	402	37	12	2.4
12	12	6.2	8.7	40	14	34	50	231	408	39	15	2.3
13	11	8.2	8.1	65	13	32	80	322	424	40	13	2.3
14	11	8.0	7.3	37	16	31	102	395	325	41	12	3.0
15	10	7.3	6.8	32	19	29	112	441	256	41	10	2.6
16	9.7	7.7	6.7	31	19	27	105	473	224	39	10	2.4
17	9.5	7.8	8.6	29	19	25	80	511	190	35	15	2.3
18	9.1	7.1	12	27	17	24	63	572	132	31	21	2.2
19	8.7	6.6	14	22	16	22	63	619	125	33	17	2.1
20	8.7	6.1	16	20	16	21	69	645	153	37	14	2.1
21	8.8	5.5	21	19	16	21	81	666	169	92	12	1.9
22	8.7	6.2	23	17	17	21	98	651	179	75	9.9	1.9
23	8.1	7.5	20	16	17	20	93	608	184	53	8.4	1.9
24	7.5	9.4	15	16	18	20	90	558	186	40	7.2	2.2
25	7.3	12	14	15	18	24	89	548	175	34	6.4	15
26	7.0	13	14	15	18	24	102	610	146	31	5.9	7.6
27	6.7	12	13	15	17	26	129	697	130	28	5.3	7.1
28	6.5	11	12	16	15	26	149	640	119	24	5.0	6.6
29	6.3	11	12	16	---	25	167	593	111	21	4.9	6.1
30	6.2	11	12	17	---	26	194	543	98	19	4.9	7.0
31	6.0	---	13	17	---	26	---	469	---	18	4.6	---
TOTAL	334.8	254.0	384.8	614.3	458	791	2359	12991	8535	1365	349.5	114.2
MEAN	10.8	8.47	12.4	19.8	16.4	25.5	78.6	419	285	44.0	11.3	3.81
MAX	18	13	23	60	19	44	194	697	544	92	21	15
MIN	6.0	5.5	6.7	8.7	13	16	23	115	98	18	4.6	1.9
AC-FT	664	504	763	1220	908	1570	4680	25770	16930	2710	693	227
CAL YR 1978	TOTAL	58716.6	MEAN	161	MAX	1730	MIN	5.5	AC-FT	116500		
WTR YR 1979	TOTAL	28550.6	MEAN	78.2	MAX	697	MIN	1.9	AC-FT	56630		

## 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, 124,200 acre-ft (153 hm<sup>3</sup>) July 13, 1967, elevation, 8,184.55 ft (2,494.651 m); no contents in 1961-62, 1968, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 71,500 acre-ft (88.2 hm<sup>3</sup>) Oct. 6, elevation, 8,146.16 ft (2,482.950 m); minimum, 178 acre-ft (219,000 m<sup>3</sup>) Sept. 24, elevation, 7,943.79 ft (2,421.267 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 10, elevation, 6,548.77 ft (1,996.065 m); minimum, 9,580 acre-ft (11.8 hm<sup>3</sup>) Apr. 13, elevation, 6,380.14 ft (1,944.667 m).

## MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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.....	8,146.1	71,500	--	6,520.7	100,400	--
Oct. 31.....	8,146.0	71,400	-100	6,458.4	50,800	-49,600
Nov. 30.....	8,139.3	64,100	-7,300	6,414.4	25,400	-25,400
Dec. 31.....	8,125.9	51,200	-12,900	6,403.8	20,200	-5,200
CAL YR 1978.....	--	--	+50,700	--	--	-48,000
Jan. 31.....	8,097.0	29,500	-21,700	6,407.3	21,900	+1,700
Feb. 28.....	8,035.2	6,310	-23,200	6,410.2	23,300	+1,400
Mar. 31.....	7,966.5	631	-5,680	6,395.5	16,300	-7,000
Apr. 30.....	8,021.8	4,340	+3,710	6,393.0	15,100	-1,200
May 31.....	8,111.9	39,700	+35,400	6,516.5	96,700	+81,600
June 30.....	8,091.1	25,900	-13,800	6,547.1	125,600	+28,900
July 31.....	7,947.4	228	-25,700	6,527.3	106,500	-19,100
Aug. 31.....	7,946.2	210	-18	6,464.6	55,000	-51,500
Sept. 30.....	7,944.6	188	-22	6,412.8	24,600	-30,400
WTR YR 1979.....	--	--	-71,300	--	--	-75,800

## 11214600 HELMS CREEK BELOW COURTRIGHT DAM, CA

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.

DRAINAGE AREA.--39.7 mi<sup>2</sup> (102.8 km<sup>2</sup>).

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

REVISED RECORDS.--WSP 1715: 1959. WSP 2130: 1959.

GAGE.--Water-stage recorder and broad-crested weir with trapezoidal-notch. Altitude of gage is 7,840 ft (2,390 m), from Pacific Gas and Electric Co. 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).--21 years, 74.6 ft<sup>3</sup>/s (2.113 m<sup>3</sup>/s), 54,050 acre-ft/yr (66.6 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 Nov. 21-24, Dec. 1, 3-6, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 798 ft<sup>3</sup>/s (22.6 m<sup>3</sup>/s) June 23, gage height, 7.10 ft (2.164 m); minimum daily, 0.60 ft<sup>3</sup>/s (0.017 m<sup>3</sup>/s) June 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	6.2	215	208	559	328	25	2.0	16	708	4.7	4.7
2	5.8	6.1	214	207	557	325	26	2.0	16	696	4.7	4.7
3	5.7	5.5	214	207	554	321	26	2.0	16	685	4.7	4.7
4	5.7	6.0	214	208	552	318	26	3.0	16	674	4.7	4.7
5	5.7	6.0	214	208	550	216	26	3.0	16	663	4.7	4.7
6	5.7	6.0	214	208	548	123	26	3.0	16	652	4.7	3.6
7	5.7	6.0	214	207	461	119	111	3.0	16	641	4.7	3.0
8	5.8	6.0	213	375	398	115	196	3.0	7.0	630	4.7	3.0
9	5.9	6.0	213	523	394	111	180	3.0	.60	619	4.7	3.0
10	5.9	6.0	213	520	391	107	106	3.0	.60	608	4.7	3.0
11	5.9	6.0	213	522	388	103	23	7.6	159	597	4.7	3.0
12	5.9	6.0	212	252	384	48	24	12	396	586	4.7	3.0
13	5.9	117	212	6.9	381	4.0	25	12	392	575	4.7	3.0
14	5.9	217	212	6.9	378	4.0	81	12	389	564	4.7	3.0
15	5.9	217	212	6.7	374	31	124	12	386	553	4.7	3.0
16	5.9	217	212	6.7	371	75	167	13	383	541	4.7	3.0
17	5.9	217	212	6.7	368	75	239	13	380	448	4.7	3.0
18	5.9	217	212	356	364	74	208	13	488	210	4.7	3.0
19	6.0	217	211	592	361	74	148	13	596	75	4.7	3.0
20	6.0	216	211	591	358	73	105	13	593	32	4.7	3.0
21	6.1	216	211	589	354	73	73	14	590	24	4.7	3.0
22	6.2	216	210	584	351	72	76	14	630	26	4.7	3.0
23	6.2	216	210	580	348	72	111	14	796	21	4.7	3.0
24	6.0	216	209	578	344	71	198	14	785	40	4.7	3.0
25	6.0	216	209	576	341	71	84	14	774	26	4.7	3.0
26	6.0	216	209	575	338	44	2.0	15	763	4.7	4.7	3.0
27	6.0	215	209	573	334	25	2.0	15	752	4.7	4.7	3.0
28	6.0	215	209	572	331	25	2.0	15	741	4.7	4.7	3.0
29	6.0	215	208	571	---	25	2.0	15	730	4.7	4.7	3.0
30	6.1	215	208	569	---	25	2.0	15	719	4.7	4.7	3.0
31	6.2	---	208	568	---	25	---	15	---	4.7	4.7	---
TOTAL	184.0	3862.8	6557	11552.9	11432	3172.0	2444.0	307.6	11562.20	10922.2	145.7	99.1
MEAN	5.94	129	212	373	408	102	81.5	9.92	385	352	4.70	3.30
MAX	6.2	217	215	592	559	328	239	15	796	708	4.7	4.7
MIN	5.7	5.5	208	6.7	331	4.0	2.0	2.0	.60	4.7	4.7	3.0
AC-FT	365	7660	13010	22920	22680	6290	4850	610	22930	21660	289	197
CAL YR 1978	TOTAL	33318.50	MEAN	91.3	MAX	954	MIN	4.0	AC-FT	66090		
WTR YR 1979	TOTAL	62241.50	MEAN	171	MAX	796	MIN	.60	AC-FT	123500		



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.

PERIOD OF RECORD.--August 1921 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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.

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 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, 181 ft<sup>3</sup>/s (5.13 m<sup>3</sup>/s) Feb. 14, gage height, 4.33 ft (1.320 m); minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Dec. 8-16, 20.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	16	16	12	14	17	20	32	25	27	24	18
2	21	16	13	12	13	16	20	30	25	27	24	18
3	21	16	12	12	13	16	24	32	25	27	23	17
4	21	15	12	12	13	19	29	34	26	27	23	17
5	20	15	13	12	13	20	34	32	26	27	23	17
6	20	15	12	12	13	23	36	28	26	27	23	17
7	20	14	12	12	14	27	34	27	26	27	23	16
8	20	14	11	13	14	30	38	27	26	26	23	16
9	20	14	11	13	15	34	33	26	26	26	22	16
10	20	14	11	13	15	37	26	25	26	26	22	15
11	20	14	11	85	15	35	21	25	25	26	22	15
12	19	13	11	45	16	34	24	26	26	26	22	15
13	19	13	11	22	26	30	35	28	26	26	22	16
14	19	13	11	19	73	29	43	28	26	26	22	16
15	19	13	11	17	27	27	43	27	26	26	21	15
16	19	13	11	16	22	25	46	26	26	26	21	15
17	19	16	12	15	20	22	36	26	26	26	21	15
18	18	16	12	15	19	21	27	27	26	26	21	15
19	18	16	12	14	19	20	25	27	26	26	20	15
20	18	15	11	14	17	19	28	27	26	26	20	15
21	18	16	12	14	17	18	32	27	26	26	20	15
22	18	16	12	14	17	17	37	26	26	26	20	15
23	17	16	12	14	17	19	35	26	26	26	20	15
24	17	16	12	14	16	23	34	27	26	26	20	16
25	17	16	12	14	16	27	32	26	26	26	19	15
26	17	16	12	14	16	25	44	25	26	26	19	15
27	17	16	12	14	16	26	44	26	26	26	19	15
28	17	16	12	14	16	22	38	26	26	25	19	15
29	16	16	12	13	---	20	37	26	26	25	19	15
30	16	16	12	14	---	20	36	26	26	24	19	15
31	16	---	12	14	---	20	---	26	---	24	18	---
TOTAL	578	451	368	538	522	738	991	847	776	807	654	470
MEAN	18.6	15.0	11.9	17.4	18.6	23.8	33.0	27.3	25.9	26.0	21.1	15.7
MAX	21	16	16	85	73	37	46	34	26	27	24	18
MIN	16	13	11	12	13	16	20	25	25	24	18	15
AC-FT	1150	895	730	1070	1040	1460	1970	1680	1540	1600	1300	932
CAL YR 1978	TOTAL	44697	MEAN	122	MAX	841	MIN	11	AC-FT	88660		
WTR YR 1979	TOTAL	7740	MEAN	21.2	MAX	85	MIN	11	AC-FT	15350		

## 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. 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 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.--14 years (water years 1958-69, 1978-79), 1.60 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s), 1,160 acre-ft/yr (1.43 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) May 21, gage height, 1.80 ft (0.549 m) maximum gage height, 2.04 ft (0.622 m) Feb. 14, (backwater from debris); minimum daily 0.49 ft<sup>3</sup>/s (0.014 m<sup>3</sup>/s) Sept. 21-23, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	.89	.92	.76	.72	.96	1.1	4.7	5.9	1.9	.99	.73
2	.89	.92	.86	.76	.77	.92	1.1	4.8	5.5	1.9	.96	.70
3	.86	1.0	.86	.76	.82	.96	1.1	5.2	5.3	1.8	.92	.73
4	.86	1.0	.89	.76	.82	.96	1.2	5.7	5.2	1.8	.89	.67
5	.82	.92	.86	.76	.82	1.0	1.4	5.5	4.9	1.8	.89	.64
6	.82	.86	.79	.73	.82	1.1	1.5	5.0	4.7	1.8	.89	.64
7	.79	.82	.73	.73	.82	1.2	1.5	4.5	4.4	1.7	.86	.62
8	.79	.79	.64	.70	.82	1.3	1.7	4.1	4.1	1.6	.86	.62
9	.79	.76	.61	.70	.82	1.4	1.7	3.8	3.9	1.6	.82	.62
10	.79	.82	.59	.76	.82	1.6	1.6	3.7	3.7	1.6	.79	.59
11	.76	.89	.64	1.0	.82	1.7	1.5	3.9	3.5	1.5	.79	.59
12	.76	.86	.73	3.4	.82	1.7	1.5	4.3	3.3	1.5	.79	.54
13	.73	.89	.79	1.7	.89	1.7	1.8	5.0	3.3	1.4	.82	.54
14	.73	.86	.79	1.4	2.4	1.7	2.1	5.8	3.2	1.4	.82	.54
15	.73	.86	.79	1.2	1.3	1.6	2.4	6.3	3.0	1.4	.76	.54
16	.73	.92	.76	1.2	1.2	1.5	2.5	6.6	2.9	1.3	.73	.54
17	.73	.96	.79	1.1	1.1	1.4	2.4	7.0	2.9	1.3	.74	.54
18	.70	.89	.79	1.1	1.0	1.3	2.2	7.7	2.8	1.3	.73	.54
19	.70	.86	.76	1.0	.95	1.3	2.1	8.6	2.7	1.2	.76	.54
20	.73	.82	.74	1.0	.99	1.3	2.2	9.0	2.6	1.3	.76	.52
21	.73	.82	.74	.99	1.0	1.2	2.5	9.2	2.4	1.6	.76	.49
22	.70	.92	.82	.96	1.0	1.2	2.6	9.2	2.4	1.4	.76	.49
23	.70	.89	.82	.92	.96	1.2	2.8	8.8	2.3	1.3	.76	.49
24	.67	.89	.82	.92	.96	1.3	2.9	8.5	2.2	1.2	.76	.52
25	.67	.86	.79	.89	.96	1.3	2.9	8.2	2.2	1.2	.79	.54
26	.64	.86	.79	.82	.92	1.3	3.4	8.2	2.1	1.1	.82	.52
27	.62	.86	.79	.77	.92	1.3	4.2	8.1	2.1	1.1	.76	.52
28	.70	.89	.79	.73	.92	1.3	4.3	7.6	2.0	1.1	.76	.49
29	.70	.92	.76	.70	---	1.2	4.7	7.3	2.0	1.1	.76	.52
30	.79	.92	.76	.70	---	1.1	4.8	6.7	2.0	1.0	.76	.54
31	.82	---	.76	.74	---	1.1	---	6.4	---	.99	.76	---
TOTAL	23.34	26.42	23.97	30.66	27.16	40.10	69.7	199.4	99.5	44.19	25.02	17.11
MEAN	.75	.88	.77	.99	.97	1.29	2.32	6.43	3.32	1.43	.81	.57
MAX	.89	1.0	.92	3.4	2.4	1.7	4.8	9.2	5.9	1.9	.99	.73
MIN	.62	.76	.59	.70	.72	.92	1.1	3.7	2.0	.99	.73	.49
AC-FT	46	52	48	61	54	80	138	396	197	88	50	34
CAL YR 1978	TOTAL	1343.48	MEAN	3.68	MAX	18	MIN	.42	AC-FT	2660		
WTR YR 1979	TOTAL	626.57	MEAN	1.72	MAX	9.2	MIN	.49	AC-FT	1240		

## 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. 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 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.--14 years (water years 1958-69, 1978-79), 1.35 ft<sup>3</sup>/s (0.038 m<sup>3</sup>/s), 978 acre-ft/yr (1.21 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft<sup>3</sup>/s (0.34 m<sup>3</sup>/s) May 26, gage height, 1.87 ft (0.570 m); minimum daily, 0.38 ft<sup>3</sup>/s (0.011 m<sup>3</sup>/s) Sept. 27-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	.59	.54	.45	.50	.64	.76	2.5	8.1	2.1	.99	.56
2	.76	.59	.49	.45	.52	.62	.76	2.6	7.9	2.0	.96	.56
3	.73	.64	.49	.45	.54	.64	.76	3.1	7.6	2.0	.92	.56
4	.73	.67	.49	.45	.54	.64	.79	3.4	7.4	1.9	.89	.56
5	.70	.62	.49	.45	.54	.67	.96	3.5	7.3	1.9	.89	.54
6	.70	.56	.52	.45	.54	.73	1.0	2.7	7.0	1.9	.89	.52
7	.67	.54	.49	.45	.52	.79	1.0	3.0	6.5	1.8	.86	.49
8	.67	.52	.47	.45	.52	.89	1.1	2.7	5.8	1.7	.86	.49
9	.67	.52	.47	.47	.52	.99	1.1	2.4	5.4	1.7	.82	.49
10	.67	.54	.47	.52	.52	1.1	1.0	2.4	5.2	1.6	.82	.47
11	.64	.54	.47	.59	.52	1.1	.96	2.9	4.9	1.6	.82	.47
12	.64	.56	.47	1.6	.52	1.1	.99	3.2	4.6	1.5	.82	.47
13	.62	.56	.47	.99	.56	1.1	1.3	3.8	4.3	1.4	.79	.45
14	.62	.54	.47	.79	1.6	1.1	1.5	4.2	4.1	1.4	.79	.45
15	.62	.54	.47	.70	.89	1.1	1.6	4.6	4.0	1.3	.76	.45
16	.62	.56	.47	.79	.76	.96	1.6	5.0	3.7	1.3	.76	.42
17	.62	.56	.45	.73	.70	.89	1.5	5.4	3.5	1.3	.76	.42
18	.62	.54	.42	.67	.70	.86	1.3	6.2	3.4	1.2	.76	.42
19	.59	.54	.42	.64	.70	.86	1.2	7.2	3.3	1.2	.76	.42
20	.59	.52	.42	.64	.67	.82	1.2	8.0	3.2	1.2	.70	.40
21	.59	.49	.42	.64	.67	.79	1.4	8.8	3.0	1.5	.70	.40
22	.59	.59	.52	.62	.67	.79	1.5	9.0	2.9	1.3	.67	.40
23	.56	.54	.49	.62	.64	.79	1.5	9.0	2.7	1.3	.67	.40
24	.54	.52	.49	.62	.64	.79	1.6	8.9	2.6	1.2	.64	.42
25	.52	.52	.49	.59	.64	.86	1.6	9.2	2.5	1.1	.64	.42
26	.52	.49	.49	.56	.62	.89	2.0	10	2.4	1.1	.62	.40
27	.52	.49	.49	.54	.62	.76	2.4	10	2.3	1.1	.62	.38
28	.52	.49	.47	.50	.62	.79	2.4	10	2.2	1.1	.59	.36
29	.52	.52	.47	.46	---	.79	2.5	9.6	2.2	1.0	.62	.38
30	.52	.52	.47	.46	---	.76	2.6	9.0	2.1	.99	.62	.40
31	.52	---	.47	.48	---	.76	---	8.6	---	.99	.62	---
TOTAL	19.16	16.42	14.72	18.82	18.00	26.37	41.88	180.9	132.1	44.60	23.63	13.59
MEAN	.62	.55	.47	.61	.64	.85	1.40	5.84	4.40	1.44	.76	.45
MAX	.76	.67	.54	1.6	1.6	1.1	2.6	10	8.1	2.1	.99	.56
MIN	.52	.49	.42	.45	.50	.62	.76	2.4	2.1	.99	.59	.38
AC-FT	38	33	29	37	36	52	83	359	262	89	47	27

CAL YR 1978 TOTAL 919.06 MEAN 2.52 MAX 17 MIN .24 AC-FT 1820  
WTR YR 1979 TOTAL 550.27 MEAN 1.51 MAX 10 MIN .38 AC-FT 1090

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.

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Published as "near Patterson Mountain" October 1957 to September 1969.

REMARKS.--Records good except those for winter periods, 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.

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 Sept. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3.6 ft<sup>3</sup>/s (0.10 m<sup>3</sup>/s) May 21, gage height, 1.16 ft (0.354 m); minimum daily, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) on several days during September.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.20	.20	.16	.17	.26	.31	1.3	2.2	.62	.24	.13
2	.21	.21	.18	.16	.18	.23	.31	1.3	2.1	.62	.23	.13
3	.21	.24	.17	.16	.18	.23	.29	1.5	2.0	.59	.23	.13
4	.20	.24	.17	.16	.18	.24	.34	1.7	1.9	.59	.23	.13
5	.20	.23	.18	.16	.18	.24	.40	1.5	1.8	.59	.23	.12
6	.21	.18	.17	.17	.18	.29	.49	1.4	1.7	.56	.21	.11
7	.21	.17	.16	.17	.18	.32	.47	1.2	1.6	.54	.21	.11
8	.20	.17	.16	.17	.18	.38	.54	1.1	1.5	.52	.21	.10
9	.20	.16	.16	.17	.18	.45	.54	.99	1.4	.49	.20	.10
10	.18	.17	.16	.18	.18	.49	.47	1.0	1.3	.49	.18	.09
11	.18	.20	.16	1.7	.18	.52	.49	1.2	1.3	.47	.20	.09
12	.18	.18	.16	.79	.18	.52	.42	1.4	1.2	.47	.20	.09
13	.18	.18	.16	.42	.30	.54	.59	1.6	1.1	.45	.20	.08
14	.17	.18	.16	.34	.98	.53	.79	1.8	1.1	.45	.18	.08
15	.17	.18	.16	.31	.40	.45	.82	1.9	1.1	.42	.18	.08
16	.18	.21	.16	.27	.34	.40	.82	1.9	1.0	.40	.17	.08
17	.18	.21	.16	.27	.31	.36	.67	2.1	1.0	.38	.20	.08
18	.17	.18	.16	.26	.29	.36	.59	2.4	.99	.36	.18	.08
19	.17	.17	.16	.24	.27	.34	.56	2.9	.92	.37	.17	.08
20	.17	.17	.16	.24	.27	.32	.64	3.1	.89	.36	.16	.07
21	.17	.17	.17	.23	.27	.31	.73	3.2	.89	.54	.16	.07
22	.17	.20	.18	.23	.26	.31	.79	3.3	.86	.40	.15	.07
23	.16	.20	.17	.23	.26	.31	.76	3.3	.82	.36	.15	.07
24	.16	.18	.17	.23	.24	.34	.86	3.2	.79	.32	.15	.09
25	.16	.18	.17	.21	.24	.38	.79	3.2	.76	.31	.15	.10
26	.16	.18	.17	.20	.24	.40	1.1	3.2	.73	.31	.14	.08
27	.16	.18	.17	.20	.24	.36	1.2	3.2	.70	.29	.14	.07
28	.16	.17	.17	.19	.24	.34	1.2	3.2	.70	.27	.14	.07
29	.15	.20	.17	.17	---	.32	1.3	2.9	.67	.27	.15	.07
30	.16	.20	.16	.16	---	.31	1.3	2.6	.64	.26	.15	.08
31	.16	---	.16	.16	---	.31	---	2.4	---	.24	.14	---
TOTAL	5.55	5.69	5.17	8.71	7.30	11.16	20.58	66.99	35.66	13.27	5.63	2.73
MEAN	.18	.19	.17	.28	.26	.36	.69	2.16	1.19	.43	.18	.091
MAX	.21	.24	.20	1.7	.98	.54	1.3	3.3	2.2	.62	.24	.13
MIN	.15	.16	.16	.16	.17	.23	.29	.99	.64	.24	.14	.07
AC-FT	11	11	10	17	14	22	41	133	71	26	11	5.4
WTR YR 1978	TOTAL	323.68	MEAN .89	MAX 6.7	MIN .11	AC-FT 642						
CAL YR 1979	TOTAL	188.44	MEAN .52	MAX 3.3	MIN .07	AC-FT 374						

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.

PERIOD OF RECORD.--October 1957 to September 1969, May 1977 to current year. Published as "near Patterson Mountain", October 1957 to September 1969.

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.

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10 ft<sup>3</sup>/s (0.28 m<sup>3</sup>/s), May 21, gage height, 1.82 ft (0.555 m); minimum daily, 0.42 ft<sup>3</sup>/s (0.012 m<sup>3</sup>/s) on several days during September.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.79	.67	.82	.54	.60	.86	.92	3.7	5.5	1.6	.86	.62
2	.79	.67	.79	.54	.62	.73	.92	3.8	5.2	1.6	.82	.62
3	.76	.70	.76	.54	.64	.76	.92	4.0	4.9	1.6	.82	.59
4	.76	.76	.76	.54	.64	.76	1.0	4.4	4.7	1.6	.79	.59
5	.76	.79	.79	.56	.64	.79	1.3	4.5	4.4	1.5	.79	.56
6	.76	.79	.76	.56	.64	.86	1.3	4.2	4.2	1.5	.76	.54
7	.73	.76	.86	.54	.64	.96	1.4	3.8	3.9	1.4	.76	.52
8	.73	.76	.57	.56	.64	1.1	1.4	3.4	3.7	1.4	.76	.52
9	.73	.73	.52	.59	.64	1.2	1.4	3.2	3.4	1.3	.73	.52
10	.73	.76	.54	.64	.64	1.3	1.3	3.2	3.3	1.3	.70	.49
11	.70	.79	.56	3.8	.64	1.4	1.1	3.5	3.2	1.3	.70	.49
12	.70	.79	.54	1.9	.64	1.4	1.2	4.0	3.0	1.3	.73	.49
13	.67	.79	.56	1.2	.76	1.4	1.4	4.3	2.9	1.3	.73	.47
14	.67	.79	.56	.99	2.2	1.5	1.6	5.2	2.8	1.2	.70	.47
15	.67	.79	.56	.96	1.1	1.3	2.1	5.5	2.7	1.2	.70	.47
16	.67	.82	.54	.92	.96	1.2	2.0	5.8	2.6	1.1	.67	.47
17	.67	.82	.56	.86	.89	1.1	2.0	6.3	2.5	1.1	.70	.45
18	.67	.79	.52	.82	.86	1.1	1.7	7.2	2.4	1.1	.70	.45
19	.64	.79	.52	.79	.86	1.1	1.6	8.0	2.3	1.1	.64	.45
20	.62	.76	.52	.79	.76	1.0	1.7	8.5	2.2	1.1	.64	.45
21	.62	.79	.62	.79	.92	.99	2.0	8.6	2.1	1.5	.64	.42
22	.62	.82	.59	.76	.82	.96	2.1	8.6	2.1	1.2	.62	.42
23	.59	.79	.59	.76	.82	.96	2.5	8.4	2.0	1.1	.64	.42
24	.59	.79	.56	.76	.82	1.0	2.5	8.1	1.9	1.0	.67	.47
25	.59	.79	.56	.73	.79	1.1	2.4	8.0	1.9	.99	.67	.49
26	.59	.79	.55	.70	.79	1.1	3.1	8.0	1.8	.96	.67	.45
27	.59	.79	.56	.68	.76	1.1	3.3	7.9	1.8	.96	.64	.42
28	.56	.79	.56	.66	.76	.99	3.4	7.4	1.7	.92	.64	.42
29	.56	.79	.56	.60	.76	.99	3.6	6.8	1.7	.92	.67	.42
30	.59	.79	.56	.55	---	.96	3.8	6.4	1.7	.89	.70	.45
31	.59	---	.54	.55	---	.92	---	5.9	---	.86	.64	---
TOTAL	20.71	23.25	18.86	26.18	22.49	32.89	56.96	180.6	88.5	37.90	21.90	14.61
MEAN	.67	.78	.61	.84	.80	1.06	1.90	5.83	2.95	1.22	.71	.49
MAX	.79	.82	.86	3.8	2.2	1.5	3.8	8.6	5.5	1.6	.86	.62
MIN	.56	.67	.52	.54	.60	.73	.92	3.2	1.7	.86	.62	.42
AC-FT	41	46	37	52	45	65	113	358	176	75	43	29
CAL YR 1978	TOTAL	1366.18	MEAN	3.74	MAX	17	MIN	.52	AC-FT	2710		
WTR YR 1979	TOTAL	544.85	MEAN	1.49	MAX	8.6	MIN	.42	AC-FT	1080		

## TULARE LAKE BASIN

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA

LOCATION.--Lat 36°54'12", long 119°07'14", in SE&NE& 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.

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

## WATER-DISCHARGE RECORDS

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.

REVISÉD RECORDS.--WSP 1930: Drainage area.

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.

REMARKS.--Flow regulated by Courtright Reservoir (station 11214550) and 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.

AVERAGE DISCHARGE (prior to storage and diversion), --11 years (water years 1920-30), 387 ft<sup>3</sup>/s (10.96 m<sup>3</sup>/s),  
280,200 acre-ft/yr (345 hm<sup>3</sup>/yr).

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 Dinkey 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, 314 ft<sup>3</sup>/s (8.89 m<sup>3</sup>/s) Mar. 6, gage height, 2.35 ft (0.716 m); minimum daily, 6.9 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Apr. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	15	8.1	19	19	12	12	8.1	16	15	15
2	16	16	15	8.1	19	14	11	10	11	16	15	15
3	16	16	15	7.9	16	12	11	9.6	13	16	15	15
4	16	16	15	7.9	11	11	10	8.9	15	16	15	15
5	17	16	15	8.2	12	9.6	9.5	8.8	21	16	15	15
6	23	16	15	8.3	12	36	9.3	8.7	16	16	15	15
7	16	16	15	8.1	12	63	9.0	8.7	16	16	15	15
8	16	16	15	8.0	12	10	8.8	8.7	16	16	15	15
9	16	16	15	8.4	11	8.8	8.7	8.5	16	16	15	15
10	16	17	15	7.2	10	8.5	8.5	8.4	16	16	15	15
11	16	16	15	11	10	8.2	8.5	8.3	16	16	15	15
12	16	16	12	11	10	7.9	8.3	8.2	20	16	15	15
13	16	16	8.1	8.5	9.5	7.9	8.1	7.9	16	16	15	15
14	16	16	8.1	8.3	13	7.2	8.0	7.9	16	16	15	15
15	16	16	8.1	9.5	10	8.4	7.7	7.9	16	16	15	15
16	16	16	8.1	8.4	9.4	9.5	7.7	7.9	16	15	15	15
17	16	16	8.5	8.1	9.1	9.0	7.5	7.9	16	15	15	15
18	16	16	9.9	8.4	8.8	8.9	7.5	8.0	16	15	15	15
19	16	16	9.8	8.1	10	8.6	7.5	8.0	15	15	15	15
20	16	16	8.7	7.9	13	8.5	7.3	7.9	14	15	15	15
21	16	16	8.5	7.7	37	8.2	7.1	7.8	16	15	15	15
22	16	16	8.5	7.5	25	8.0	6.9	7.8	16	15	15	14
23	16	16	8.3	7.4	19	7.7	8.6	7.5	16	15	15	15
24	16	16	8.3	7.3	15	7.7	9.6	7.5	16	15	15	16
25	16	16	8.3	7.3	13	7.7	9.0	7.4	16	15	15	16
26	16	16	8.3	7.1	11	7.8	18	7.1	16	15	15	16
27	16	15	8.3	7.1	10	14	18	7.1	16	15	15	16
28	16	15	8.3	7.2	9.6	34	18	7.1	16	15	15	16
29	16	15	8.2	7.0	---	18	18	7.1	16	15	15	15
30	16	15	8.1	8.3	---	14	17	7.1	16	15	15	15
31	16	---	8.1	15	---	13	---	7.1	---	15	15	---
TOTAL	504	478	337.5	258.3	376.4	416.1	306.1	252.8	469.1	480	465	453
MEAN	16.3	15.9	10.9	8.33	13.4	13.4	10.2	8.15	15.6	15.5	15.0	15.1
MAX	23	17	15	15	37	63	18	12	21	16	15	16
MIN	16	15	8.1	7.0	8.8	7.2	6.9	7.1	8.1	15	15	14
AC-FT	1000	948	669	512	747	825	607	501	930	952	922	899
WTR YR 1978	TOTAL	75377.8	MEAN	207	MAX	1570	MIN	4.0	AC-FT	149500		
CAL YR 1979	TOTAL	4796.3	MEAN	13.1	MAX	63	MIN	6.9	AC-FT	9510		

11216500 NORTH FORK KINGS RIVER ABOVE DINKEY CREEK, AT BALCH CAMP, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: September 1967 to January 1979 (discontinued).

INSTRUMENTATION.--Temperature recorder from September 1967 to January 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.5°C June 2, 1977; minimum recorded, 0.0°C Dec. 14-16, 21, 1967.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 18.0°C Oct. 5; minimum recorded, 1.0°C Jan. 1, 2, 29.

## TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO JANUARY 1979

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

## 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.--16 years (water years 1922-35, 1978-79) 99.5 ft<sup>3</sup>/s (2.818 m<sup>3</sup>/s), 72,090 acre-ft/yr (88.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,660 ft<sup>3</sup>/s (75.3 m<sup>3</sup>/s) Nov. 26, 1926, gage height, 7.62 ft (2.323 m); minimum recorded, 0.2 ft<sup>3</sup>/s (0.006 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)
Jan. 11	1545	-- --	a7.83 2.387	Apr. 15	1745	641 18.2	4.73 1.442
Jan. 11	1715	*2,290 64.9	7.35 2.240	May 4	1645	1,150 32.6	5.92 1.804
Feb. 14	0315	737 20.9	5.13 1.564	May 21	--	1,490 42.2	6.42 1.957

a Backwater from debris.

Minimum daily, 3.0 ft<sup>3</sup>/s (0.08 m<sup>3</sup>/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	13	29	14	51	60	110	558	477	51	11	5.1
2	16	13	26	20	54	58	109	549	442	48	10	4.9
3	16	13	23	24	57	61	121	675	453	46	9.5	4.8
4	15	15	23	23	55	74	159	788	462	44	9.1	4.8
5	14	15	24	28	54	86	209	697	450	42	8.8	4.6
6	13	13	19	26	58	110	227	593	446	40	8.8	4.4
7	13	11	17	25	58	144	210	504	382	38	8.6	4.2
8	13	11	12	25	61	169	251	384	302	35	8.4	4.0
9	12	10	13	29	62	196	245	313	262	32	7.9	3.9
10	12	11	17	31	61	236	185	304	252	30	7.5	3.8
11	12	15	19	919	58	232	156	409	240	29	7.5	3.6
12	11	16	19	535	57	219	185	510	222	28	7.8	3.5
13	11	18	16	212	76	208	292	620	212	26	7.8	3.4
14	11	15	17	145	351	192	383	670	183	24	7.6	3.4
15	10	14	17	114	130	174	420	720	158	24	7.2	3.4
16	10	15	16	105	99	144	398	760	140	22	6.9	3.3
17	10	19	17	90	82	124	312	820	131	20	12	3.3
18	10	16	19	81	74	112	225	870	117	19	9.6	3.2
19	9.6	15	18	75	72	102	214	910	105	18	7.4	3.2
20	9.6	14	15	71	65	95	245	910	101	18	6.8	3.1
21	9.7	13	15	68	65	90	311	1000	100	33	6.6	3.1
22	9.8	16	16	65	75	86	354	850	96	27	6.4	3.1
23	9.1	20	17	63	64	90	336	700	91	22	6.0	3.1
24	8.8	21	20	60	67	108	351	660	86	19	5.8	3.1
25	8.7	19	26	58	63	131	339	814	81	17	5.6	3.1
26	8.6	19	32	53	59	137	443	851	74	16	5.4	3.1
27	8.4	19	33	53	57	143	535	838	68	15	5.3	3.0
28	8.4	20	29	50	59	117	557	741	63	14	5.1	3.1
29	8.3	23	25	41	---	112	603	658	59	13	5.2	3.0
30	8.5	27	20	40	---	110	632	607	55	12	5.6	3.7
31	8.6	---	17	46	---	107	---	546	---	11	5.5	---
TOTAL	342.1	479	626	3189	2144	4027	9117	20829	6310	833	232.7	109.3
MEAN	11.0	16.0	20.2	103	76.6	130	304	672	210	26.9	7.51	3.64
MAX	17	27	33	919	351	236	632	1000	477	51	12	5.1
MIN	8.3	10	12	14	51	58	109	304	55	11	5.1	3.0
AC-FT	679	950	1240	6330	4250	7990	18080	41310	12520	1650	462	217
CAL YR 1978 TOTAL	83145.6			MEAN 228	MAX 1150	MIN 8.3	AC-FT 164900					
WTR YR 1979 TOTAL	48238.1			MEAN 132	MAX 1000	MIN 3.0	AC-FT 95680					



## 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, 3,120 ft<sup>3</sup>/s (88.4 m<sup>3</sup>/s) Jan. 11, gage height, 8.12 ft (2.475 m); minimum daily, 35 ft<sup>3</sup>/s (0.99 m<sup>3</sup>/s) Sept. 19-23, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	54	90	66	145	246	298	1030	784	223	66	46
2	65	60	80	66	142	193	285	868	729	204	65	45
3	63	58	68	65	127	182	283	1040	682	204	64	44
4	61	60	68	64	120	199	320	1240	713	194	63	44
5	60	61	72	72	121	213	390	1320	700	182	61	44
6	63	58	57	77	122	263	444	1070	580	172	60	43
7	57	54	53	72	125	340	423	976	463	163	60	42
8	56	52	52	77	126	361	432	760	500	144	59	41
9	55	51	56	99	126	389	499	624	1300	125	58	40
10	55	51	59	85	130	449	399	561	1100	125	56	40
11	54	68	58	1020	130	469	344	592	900	115	55	40
12	53	59	58	1040	132	440	332	809	950	115	56	39
13	52	68	56	401	149	426	450	1060	1200	115	56	38
14	51	62	57	294	634	399	613	1300	1000	115	56	37
15	50	60	54	247	309	399	698	1360	720	125	56	37
16	50	59	53	216	238	357	686	1370	500	106	55	36
17	50	69	61	190	197	309	605	1430	416	76	54	36
18	50	65	82	178	182	288	454	1550	364	76	65	36
19	49	62	74	159	190	266	408	1700	323	76	59	35
20	48	58	67	154	196	249	435	1680	314	73	55	35
21	49	65	75	150	281	235	506	1680	314	104	54	35
22	50	69	77	142	247	223	597	1700	314	110	53	35
23	49	70	75	137	235	219	603	1490	304	89	51	35
24	47	69	75	134	201	241	602	1350	304	82	48	36
25	46	69	77	132	198	278	609	1350	295	77	48	36
26	46	66	79	118	190	307	677	1320	281	77	47	37
27	46	66	80	118	170	474	896	1430	272	76	46	37
28	45	67	76	122	170	499	928	1240	262	74	45	36
29	45	71	71	106	---	361	989	1110	252	71	45	35
30	45	80	69	115	---	333	1060	1000	233	67	46	35
31	46	---	66	132	---	302	---	948	---	68	47	---
TOTAL	1622	1881	2095	6048	5333	9909	16265	36958	17069	3623	1709	1155
MEAN	52.3	62.7	67.6	195	190	320	542	1192	569	117	55.1	38.5
MAX	66	80	90	1040	634	499	1060	1700	1300	223	66	46
MIN	45	51	52	64	120	182	283	561	233	67	45	35
AC-FT	3220	3730	4160	12000	10580	19650	32260	73310	33860	7190	3390	2290
CAL YR 1978 TOTAL	255955			MEAN 701	MAX 3840	MIN 45	AC-FT 507700					
WTR YR 1979 TOTAL	103667			MEAN 284	MAX 1700	MIN 35	AC-FT 205600					

## TULARE LAKE BASIN

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).--28 years, 2,150 ft<sup>3</sup>/s (60.89 m<sup>3</sup>/s), 1,558,000 acre-ft/yr (1,921 hm<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 discharge, 13,300 ft<sup>3</sup>/s (377 m<sup>3</sup>/s) May 22; minimum daily, 265 ft<sup>3</sup>/s (7.50 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1570	1320	864	649	1370	2120	2530	5810	7020	3370	1740	1260
2	1560	1340	907	846	1390	1830	2440	5360	6500	3200	1720	1250
3	1550	1320	906	831	1430	1730	2390	5740	6600	3090	1680	1260
4	1540	1330	755	630	908	1750	2430	6580	6940	3000	1640	1220
5	1520	1340	829	667	1120	1270	2620	7130	6690	2960	1600	1140
6	1510	1350	983	770	1130	1320	2950	6180	7410	2820	1580	1170
7	1500	1240	1120	660	1080	1680	2940	5720	7640	2720	1560	1220
8	1480	1290	1060	727	1090	2450	2920	4960	6360	2580	1550	1190
9	1460	1290	748	1240	1150	2540	3160	4380	6280	2450	1530	1200
10	1450	1300	734	1150	1380	2780	2830	3950	6220	2370	1490	1190
11	1440	1320	796	3240	1400	2830	2450	4060	6400	2400	1490	1170
12	1420	1300	738	4510	1250	2650	2340	4820	6770	2460	1720	1180
13	1420	1320	735	2490	966	2530	2780	5800	7220	2540	1640	1170
14	1400	1090	773	2220	2970	2550	3440	6800	6740	2640	1560	1170
15	1390	1110	808	1880	1980	2460	3900	7440	5510	2700	1500	1180
16	1330	1180	665	1720	1780	2680	4060	7820	4770	2630	1470	1160
17	1370	1120	858	1520	1720	2230	3900	8270	4410	2400	1460	532
18	1380	1320	1010	1540	1480	2230	3430	8900	3680	2190	1650	315
19	1360	1300	966	1460	1570	2130	3190	9930	3280	2210	1570	286
20	1340	714	771	1370	1600	2050	3220	10600	3460	2140	1490	281
21	1340	726	755	1360	2280	1990	3400	11300	3770	2510	1450	275
22	1110	719	788	1320	1920	1780	3700	11400	3960	2910	1390	268
23	1320	453	770	1260	2290	1750	3790	10900	4130	2470	1380	265
24	1310	512	669	1240	2080	1780	3680	9790	4260	2270	1340	299
25	1300	442	745	1220	2060	1900	3740	8690	4350	2240	1320	760
26	1310	493	719	1210	1780	2070	3060	9340	4080	2180	1300	1120
27	1300	837	624	1160	1670	2840	5000	10800	3830	2080	1300	951
28	1300	703	770	1190	1700	3160	5000	10900	3790	1960	1280	416
29	1320	791	718	1200	---	2570	5160	10000	3740	1880	1260	341
30	1280	909	652	1200	---	2680	5590	9250	3620	1820	1280	349
31	1280	---	786	1300	---	2560	---	8680	---	1770	1280	---
TOTAL	43160	31479	25022	43780	44544	68890	102040	241300	159430	76960	46220	25588
MEAN	1392	1049	807	1412	1591	2222	3401	7784	5314	2483	1491	853
MAX	1570	1350	1120	4510	2970	3160	5590	11400	7640	3370	1740	1260
MIN	1110	442	624	630	908	1270	2340	3950	3280	1770	1260	265
AC-FT	85610	62440	49630	86840	88350	136600	202400	478600	316200	152700	91680	50750
MEAN ‡	584	500	513	1087	1198	2015	3444	9725	5527	1755	653	342
AC-FT ‡	85910	29750	31540	66840	66530	123900	204900	598000	328900	107900	40150	20350

CAL YR 1978 TOTAL 1605731 MEAN 4399 MAX 18300 MIN 442 AC-FT 3185000 MEAN ‡ 4403 AC-FT ‡ 3188000  
WTR YR 1979 TOTAL 908413 MEAN 2489 MAX 11400 MIN 265 AC-FT 1802000 MEAN ‡ 2286 AC-FT ‡ 1655000

‡ Adjusted for change in contents in Courtright and Wishon 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 to current year.

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 Feb. 6 to July 22.

COOPERATION.--The letter "A" following a date indicates chemical-quality records furnished by California Department of Water Resources.

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, 21.5°C Sept. 23; minimum recorded, 2.5°C Jan. 1.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (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)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT												
25...	1100	426	50	7.2	11.0	--	10.2	--	--	15	--	4.6
NOV												
21...	1100	426	50	--	6.0	.10	12.0	K6	K1	16	0	5.0
DEC												
06...	1200	417	53	--	4.0	.90	13.1	<1	<1	16	0	5.2
JAN												
10...	1200	488	50	8.0	7.0	1.3	12.6	12	14	17	0	5.6
FEB												
20...	1500	909	54	8.0	5.0	1.1	12.1	<1	K1	20	3	6.7
21...A	1000	1360	54	7.2	5.0	--	11.3	--	--	20	--	6.0
MAR												
08...	1130	1700	47	7.8	9.5	.50	11.7	K7	K5	19	0	6.0
APR												
13...	1300	2130	38	8.0	12.0	.60	10.0	<1	K3	14	0	4.3
MAY												
10...	1100	3100	--	7.6	11.0	1.5	12.4	K3	K2	6	0	1.9
JUN												
06...	1100	6650	--	7.1	15.0	2.8	10.4	K7	12	6	0	2.0
JUL												
12...	1130	1700	28	6.9	20.0	1.0	9.7	K4	22	8	0	2.7
25...A	0900	1410	31	7.2	20.0	--	8.8	--	--	8	--	3.0
AUG												
17...	1030	599	33	7.0	20.0	.60	10.1	--	--	11	1	3.7
SEP												
25...	1600	342	49	7.4	19.0	.40	8.7	--	K2	17	2	5.8

See footnotes at end of table.

## TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 25...	.8	3.2	31	.4	.6	18	3.6	1.9	--	--	49	--
NOV 21...	.8	3.6	32	.4	.9	18	3.3	1.4	.1	12	42	38
DEC 06...	.7	3.6	31	.4	1.1	20	4.2	1.9	.1	12	41	41
JAN 10...	.8	3.8	30	.4	1.8	17	5.9	2.8	.2	13	46	44
FEB 20...	.8	3.1	25	.3	.3	17	6.0	1.5	.1	14	42	43
21... A	1.0	4.0	30	.4	1.1	20	4.0	1.0	--	--	48	--
MAR 08...	.9	3.1	25	.3	.9	19	6.0	1.2	.1	13	38	43
APR 13...	.7	2.9	30	.3	1.0	15	2.1	.9	.1	14	30	35
MAY 10...	.4	2.1	46	.4	.5	10	2.1	.4	.3	--	17	--
JUN 06...	.2	2.1	42	.4	.3	6	1.4	.4	.1	4.1	12	14
JUL 12...	.4	1.3	23	.2	.8	9	2.8	.5	.0	6.2	22	20
25... A	.0	2.0	35	.3	.6	9	2.0	.0	--	--	21	--
AUG 17...	.4	2.1	28	.3	.8	10	6.9	.9	.1	.6	28	22
SEP 25...	.6	3.7	34	.4	1.0	19	3.6	1.7	.1	10	39	36

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 25...	.07	--	.01	.10	--	--	--	--	.02	--	--
NOV 21...	.06	.01	.01	.22	.23	.00	.23	.24	--	.01	1.1
DEC 06...	.06	.02	.01	.16	.17	.03	.14	.19	.09	.08	--
JAN 10...	.06	.03	.00	.27	.27	.13	.14	.30	.02	.03	--
FEB 20...	.06	.02	.03	--	--	.00	.07	--	.02	.01	--
21... A	.07	--	--	--	--	--	--	--	--	--	--
MAR 08...	.05	.03	.02	.20	.22	.09	.13	.25	.00	.00	--
APR 13...	.04	.25	.05	.25	.30	.16	.14	.55	.01	.01	--
MAY 10...	.02	.02	.01	.05	.06	.00	.10	.08	.01	.01	1.9
JUN 06...	.02	.03	.01	--	--	.74	.14	--	.06	.02	--
JUL 12...	.03	.02	.01	--	--	.00	--	--	.01	.01	--
25... A	.03	--	--	--	--	--	--	--	--	--	--
AUG 17...	.04	.02	.01	.05	.06	.02	.04	.08	.01	.01	.7
SEP 25...	.05	.00	.01	.33	.34	.13	.21	.34	.04	.00	5.8

See footnotes at end of table.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS HA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB 20...	1500	1	1	0	0	0	0	0	1	0
APR 13...	1300	1	0	0	0	8	1	0	1	0
JUL 12...	1130	1	1	0	0	20	1	0	3	0

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
FEB 20...	0	0	0	0	0	8	4	4	80	50
APR 13...	0	0	0	0	<3	8	6	2	140	120
JUL 12...	0	0	0	0	<3	4	4	0	70	60

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
FEB 20...	30	57	36	21	0	0	0	.0	.0	.0
APR 13...	20	--	--	--	20	0	20	.1	.1	.0
JUL 12...	10	28	0	35	0	0	2	.1	.1	.0

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 20...	0	0	0	0	0	0	10	0	10
APR 13...	0	0	0	0	0	0	10	3	7
JUL 12...	0	0	0	0	0	0	20	20	4

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

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PHYTOPLANKTON

DATE TIME	NOV 21,78 1100	DEC 6,78 1200	MAR 8,79 1130	MAY 10,79 1100
TOTAL CELLS/ML	420	58	160	250
DIVERSITY: DIVISION	0.5	0.8	0.0	0.0
..CLASS	0.5	0.8	0.0	0.0
...ORDER	0.8	0.8	0.0	0.0
...FAMILY	1.8	2.0	0.7	1.2
...GENUS	1.8	2.0	0.7	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	--	-
....OOCYSTIS	44	11	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	14#	25	--	-	--	-
....STAUSTRUM	--	-	--	-	--	-	--	-
CHRYSPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	22	5	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	270#	63	14#	25	130#	82	170#	67
....COCCONEIS	--	-	--	-	--	-	28	11
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	--	-	14	6
...EUNOTIACEAE								
....CERATONEIS	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....HANNAEA	22	5	--	-	29#	18	--	-
....SYNEDRA	--	-	14#	25	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	44	11	14#	25	--	-	14	6
...NAVICULACEAE								
....NAVICULA	--	-	--	-	--	-	14	6
...NITZSCHACEAE								
....HANTZSCHIA	22	5	--	-	--	-	--	-
....NITZSCHIA	--	-	--	-	--	-	14	6
...TABELLARIACEAE								
....TABELLARIA	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	--	-	--	-
...HORMOGONALES								
...OSCILLATORIA								
....LYNGBYA	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	--	-	--	-

See footnotes at end of table.

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PHYTOPLANKTON

DATE TIME	JUN 6,79 1100	JUL 12,79 1130	AUG 17,79 1030	SEP 25,79 1600
TOTAL CELLS/ML	130	250	0	52
DIVERSITY: DIVISION	1.0	1.1	0.0	0.8
..CLASS	1.0	1.1	0.0	0.8
..ORDER	1.0	1.1	0.0	1.5
...FAMILY	1.4	2.5	0.0	1.5
....GENUS	1.4	2.9	0.0	1.5

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
...ANKISTRODESMUS	--	-	--	-	--	-	13#	25
....OOCYSTIS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	3	1	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	26#	50
...ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	--	-
....STAUSTRUM	--	-	1	1	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCEAE								
....CYCLOTELLA	--	-	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	37	15	--	-	--	-
....COCONEIS	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	25	10	--	-	--	-
...EUNOTIACEAE								
....CERATONEIS	--	-	7	3	--	-	--	-
...FRAGILARIACEAE								
....HANNAEA	--	-	--	-	--	-	--	-
....SYNEDRA	--	-	38#	15	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	15	6	--	-	--	-
...NAVICULACEAE								
....NAVICULA	13	10	25	10	--	-	--	-
...NITZSCHIACEAE								
....HANTZSCHIA	--	-	--	-	--	-	--	-
....NITZSCHIA	--	-	--	-	--	-	--	-
...TABELLARIACEAE								
....TABELLARIA	52#	40	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
...ANACYSTIS	65#	50	--	-	--	-	13#	25
...HORMOGONALES								
...OSCILLATORIACEAE								
....LYNGBYA	--	-	67#	26	--	-	--	-
....OSCILLATORIA	--	-	34	13	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B BERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
NOV 21...	61	1.57	1.02	.290	.030	1896	Polyethylene strip

## TULARE LAKE BASIN

11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 197A TO SEPTEMBER 1979

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

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



11218500 KINGS RIVER BELOW NORTH FORK, NEAR TRIMMER, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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. SIEVE DIAM. % FINER THAN .062 MM
NOV 21...	1100	426	6.0	1	1.2	52
DEC 06...	1200	417	4.0	1	1.1	78
JAN 10...	1200	488	7.0	4	5.3	74
FEB 20...	1500	909	5.0	2	4.9	75
MAR 08...	1130	1700	9.5	6	28	88
APR 13...	1300	2130	12.0	3	17	66
MAY 10...	1100	3100	11.0	4	33	64
JUN 06...	1100	6650	15.0	17	305	73
JUL 12...	1130	1700	20.0	6	28	66
AUG 17...	1030	599	20.0	1	1.6	69
SEP 25...	1600	342	19.0	1	.92	82

## TULARE LAKE BASIN

## 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, 993,092 acre-ft (1.22 km<sup>3</sup>) June 8, elevation, 950.16 ft (289.609 m); minimum, 484,045 acre-ft (597 hm<sup>3</sup>) Sept. 30, elevation, 846.74 ft (258.086 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	734318	646668	646344	657732	713480	793260	860876	845222	985406	880336	648669	523255
2	732129	644811	647552	657356	716079	795289	864038	847810	985111	873785	642725	522464
3	730293	642957	648762	657356	718388	796849	867043	850566	986941	866715	637088	521799
4	727666	641290	649553	657029	719520	798622	869670	854356	986771	859951	632164	521051
5	725142	639626	650625	656888	721441	799405	872192	859190	988712	854030	627352	520387
6	722081	638056	651651	657029	723710	799613	875379	862238	989637	847486	622424	519640
7	718979	636395	652665	656842	725883	800031	878296	864421	991730	841724	617152	519019
8	716030	635290	653986	656842	728062	801442	880446	865239	993092	836145	611815	518562
9	712893	633819	654595	657873	730243	803115	882434	865185	992579	831014	608322	518107
10	709518	632440	654641	658952	732726	805052	881716	864530	991020	822236	600541	517652
11	706201	631338	654782	664927	734466	806940	878681	864311	989896	814884	594834	517403
12	702261	630100	654874	673825	735613	808305	874553	865622	988712	807569	589466	516990
13	697848	629321	654874	678060	738110	809408	870986	868740	987235	800292	584387	516535
14	693645	628313	654641	682021	741303	810512	868192	873455	984285	793104	580515	516039
15	689887	629779	654548	685517	744008	812407	865622	879122	979517	785747	576920	515336
16	686188	631796	654080	688156	746316	814409	863166	885697	973649	778170	573293	514594
17	682404	633773	654220	690512	748275	815517	860005	892912	967393	770022	569504	512615
18	679157	635797	655155	693065	749633	816784	856201	900275	959942	761007	565857	510147
19	676013	637640	656373	695093	751599	817736	851485	908459	952235	751649	562224	507604
20	673018	638379	657169	696978	754930	818900	846732	917535	945141	742104	558817	505148
21	670125	639395	658107	698769	761820	820646	842369	926493	938596	733272	555550	502740
22	666862	640273	659187	700659	767062	821760	838717	933331	932190	725982	551950	500419
23	664126	640597	659938	702359	772784	821865	836413	939053	926493	718585	548619	497981
24	661583	641151	660173	703525	777349	823297	835075	942842	920930	711032	545340	495591
25	659514	641568	660361	704643	781207	824890	833577	945660	915953	703233	541859	493489
26	657732	641985	660455	705617	784352	826645	832882	950791	910877	694948	538517	492721
27	655811	642957	660220	706347	786780	831600	834325	958839	905145	686572	535311	491512
28	654080	643559	659891	707196	788903	840703	836198	967568	899325	677965	522442	488976
29	652445	644162	659469	707858	---	847002	838610	974997	893525	668801	528847	486407
30	650812	645136	659093	709030	---	852298	841563	980752	887248	660032	525963	484045
31	648622	---	658623	711032	---	856797	---	984639	---	654501	524254	---
MAX	734318	646668	660455	711032	788903	856797	882434	984639	993092	880336	648669	523255
MIN	648622	628313	646344	656842	713480	793260	832882	845222	887248	654501	524254	484045
†	884.80	884.05	886.94	897.88	913.35	926.15	923.33	948.73	931.70	886.06	856.59	846.74
‡	-88226	-3486	+13487	+52409	+77871	+67894	-15234	+143076	-97391	-232747	-130247	-40209
††	2047	647	294	357	388	780	1680	2925	4172	3759	3056	2728

CAL YR 1978 † +505959

WTR YR 1979 † -252803

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

## 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 3,200 ft (975 m) 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 excellent. 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).--26 years, 2,214 ft<sup>3</sup>/s (62.70 m<sup>3</sup>/s), 1,604,000 acre-ft/yr (1.98 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 (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, 9,430 ft<sup>3</sup>/s (267 m<sup>3</sup>/s) June 5, gage height, 8.43 ft (2.569 m); minimum daily, 40 ft<sup>3</sup>/s (1.13 m<sup>3</sup>/s) Feb. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2770	2140	349	1000	401	889	809	4040	6830	6920	4600	1630
2	2570	2140	310	972	424	1100	1050	4080	6830	6670	4690	1550
3	2370	2110	322	805	399	1070	1070	4350	5860	6390	4490	1470
4	2660	2080	324	741	467	1070	1240	4690	6340	6360	4080	1440
5	2760	2050	361	741	291	1220	1430	4710	6980	6150	3980	1400
6	2770	2040	391	741	99	1330	1480	4740	7380	5870	4010	1440
7	2820	2020	415	757	98	1490	1550	4800	7310	5680	4100	1420
8	2940	1700	428	837	98	1730	1840	4680	5980	5590	4170	1330
9	2970	1900	426	781	108	1730	2220	4470	5800	5640	4260	1330
10	3060	1870	679	634	222	1770	3140	4340	6550	5720	4350	1330
11	3060	1810	691	521	576	1900	4110	4220	6720	6050	4270	1210
12	3290	1780	665	472	741	2000	4520	4230	7010	6120	4340	1250
13	3550	1650	706	484	918	2080	4700	4260	7460	6160	4180	1310
14	3460	1510	801	467	805	1980	4930	4390	7930	6230	3420	1330
15	3170	305	821	420	756	1960	5300	4660	7750	6360	3220	1400
16	3110	114	821	443	726	1860	5340	4570	7670	6390	3190	1440
17	3130	120	789	470	769	1800	5620	4680	7640	6500	3270	1490
18	2900	256	694	463	911	1740	5500	5200	7520	6770	3400	1460
19	2800	340	481	513	743	1700	5620	5670	7230	6940	3290	1480
20	2820	349	395	527	470	1450	5720	5840	7050	6980	3140	1420
21	2710	338	322	515	62	1300	5650	6480	7090	6950	3000	1380
22	2640	309	322	509	53	1350	5580	7780	7200	6570	3080	1330
23	2620	277	429	495	40	1760	5080	7960	7100	6180	2960	1360
24	2470	257	578	695	119	1120	4450	7950	7060	6040	2930	1410
25	2210	256	681	779	253	1170	4540	7450	6920	6130	2950	1410
26	2110	256	684	734	496	1260	4570	6850	6660	6280	2880	1430
27	2080	296	756	805	597	1060	4330	6630	6730	6230	2750	1480
28	2030	389	913	848	861	339	4090	6370	6720	6290	2750	1610
29	1960	423	914	845	---	261	4020	6180	6660	6500	2840	1490
30	1980	423	910	759	---	524	4060	6270	6790	6190	2640	1490
31	2230	---	923	540	---	670	---	6600	---	4500	2060	---
TOTAL	84020	31508	18301	20313	12503	42683	113559	169140	208770	193350	109290	42520
MEAN	2710	1050	590	655	447	1377	3785	5456	6959	6237	3525	1417
MAX	3550	2140	923	1000	918	2080	5720	7960	7930	6980	4690	1630
MIN	1960	114	310	420	40	261	809	4040	5800	4500	2060	1210
AC-FT	166700	62500	36300	40290	24800	84660	225200	335500	414100	383500	216800	84340
MEAN ‡	501	454	520	1187	1415	2287	3600	9732	5648	1784	619	278
AC-FT ‡	30800	27040	31950	72970	81380	140600	214200	598400	336100	109700	38090	16540
CAL YR 1978 TOTAL	1429171			3916	MAX 9760	MIN 23	AC-FT 2835000	MEAN ‡ 4645	AC-FT ‡ 3363000			
WTR YR 1979 TOTAL	1045957			2866	MAX 7960	MIN 40	AC-FT 2075000	MEAN ‡ 2339	AC-FT ‡ 1698000			

‡ Adjusted for change in contents in Wishon and Courtright Reservoirs, Pine Flat Lake, and evaporation from Pine Flat Lake.

## TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1970 to current year.

CHEMICAL 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, 7.0°C Dec. 23, 24, 26, 1970, Jan. 4, 1971, Feb. 6-9, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 18.5°C May 14; minimum recorded, 7.0°C Feb. 6-9.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	13.5	14.5	14.0	13.0	12.5	11.0	10.5	8.5	8.0	8.5	7.5
2	14.0	13.5	14.5	14.0	13.5	12.5	10.5	10.5	8.0	8.0	8.5	7.5
3	14.0	13.5	14.5	14.0	13.5	12.0	11.0	10.5	8.0	8.0	8.5	8.0
4	14.0	13.5	14.5	14.0	13.5	12.0	11.0	10.5	8.0	8.0	8.5	8.0
5	14.0	13.5	14.5	14.0	12.5	12.0	11.0	10.5	8.5	8.0	8.5	8.0
6	14.0	13.5	14.5	14.0	12.5	11.5	11.0	10.5	9.0	7.0	9.0	8.5
7	14.0	13.5	14.5	14.0	12.5	11.5	10.5	10.5	9.5	7.0	9.0	8.5
8	14.5	13.5	15.0	14.0	12.5	11.5	10.5	10.5	10.5	7.0	9.0	8.5
9	14.0	14.0	14.5	13.5	12.5	11.5	11.0	10.5	10.0	7.0	9.0	8.5
10	14.0	13.5	14.0	13.5	12.0	11.5	11.0	10.5	10.5	7.5	9.0	8.5
11	14.5	13.5	15.0	13.5	12.5	11.5	10.5	10.5	8.5	7.5	9.0	9.0
12	14.0	14.0	14.0	13.5	12.5	12.0	11.0	10.0	8.0	8.0	9.0	9.0
13	14.5	14.0	14.0	14.0	12.5	12.0	10.5	9.5	8.5	8.0	9.0	9.0
14	14.5	14.0	14.0	13.5	12.0	12.0	9.5	9.5	8.5	8.0	9.0	8.5
15	14.5	14.0	14.5	12.5	12.0	11.5	9.5	9.5	8.0	8.0	9.0	8.0
16	14.5	14.0	15.0	12.0	12.0	11.5	9.5	9.0	8.5	8.0	8.5	8.0
17	14.5	14.0	15.5	12.5	12.0	12.0	9.5	9.5	8.0	8.0	8.5	8.0
18	14.5	14.0	14.5	12.5	12.0	11.5	9.5	9.0	8.5	8.0	9.0	8.0
19	14.0	14.0	14.5	13.0	11.5	11.0	9.5	9.0	9.0	8.0	9.0	8.5
20	14.5	14.0	14.0	13.0	12.0	11.0	10.0	9.0	8.5	8.0	9.0	8.5
21	14.5	14.0	13.5	13.0	12.0	10.5	9.0	9.0	9.5	8.0	9.0	8.5
22	14.0	14.0	13.5	13.0	11.0	11.0	9.0	8.5	11.0	7.5	9.0	8.5
23	14.0	14.0	14.5	13.0	11.0	11.0	9.0	8.5	13.0	8.0	9.0	8.5
24	14.5	13.5	13.5	12.5	11.0	11.0	9.0	8.5	11.0	7.5	9.5	8.5
25	14.5	14.0	14.0	12.5	11.0	11.0	9.0	8.5	9.5	8.5	9.5	8.5
26	14.5	14.0	14.0	12.5	11.0	10.5	9.0	8.5	8.5	8.0	9.0	8.5
27	14.5	14.0	14.0	12.5	11.0	10.5	8.5	8.5	8.5	8.0	9.0	8.5
28	14.5	14.0	13.5	12.5	11.0	11.0	8.5	8.5	8.0	8.0	10.0	9.0
29	14.5	14.0	14.0	12.5	11.0	10.5	8.5	8.0	---	---	11.5	9.0
30	14.0	13.5	13.5	12.5	10.5	10.5	8.5	8.0	---	---	14.5	9.0
31	14.5	14.0	---	---	10.5	10.5	8.5	8.5	---	---	15.5	14.0
MONTH	14.5	13.5	15.5	12.0	13.5	10.5	11.0	8.0	13.0	7.0	15.5	7.5

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.5	13.5	9.0	8.5	16.5	14.0	17.5	15.5	10.5	10.0	13.5	12.5
2	15.0	14.0	16.0	8.5	17.5	14.0	17.5	14.5	10.5	10.0	13.5	12.0
3	15.5	14.0	17.0	15.0	16.0	14.0	16.5	15.0	11.0	10.0	14.0	12.5
4	15.5	14.5	16.0	15.0	15.5	14.0	16.5	15.5	10.5	10.0	14.0	12.5
5	15.5	14.5	16.0	13.5	16.0	13.5	16.5	15.0	10.5	10.0	14.0	12.5
6	15.0	13.5	15.0	12.0	15.5	13.5	17.5	9.0	10.5	10.0	14.0	13.0
7	15.5	14.0	15.5	12.5	15.5	13.5	9.5	9.0	10.5	10.0	14.5	13.0
8	16.0	14.5	16.0	13.0	16.5	13.0	9.5	9.0	11.0	10.0	14.0	13.0
9	15.5	13.5	15.5	14.0	17.0	14.0	9.5	9.0	11.0	10.0	14.5	13.0
10	14.0	12.5	16.5	14.0	17.0	14.0	9.5	9.0	11.0	10.5	14.5	13.5
11	14.5	13.5	16.0	14.5	17.0	14.5	9.5	9.0	11.0	10.5	14.5	13.5
12	14.0	12.5	16.5	15.0	16.5	15.0	9.5	9.5	11.0	10.5	14.5	13.5
13	14.0	12.5	17.5	15.0	16.0	14.5	10.0	9.5	11.0	10.5	14.5	13.5
14	14.0	13.5	18.5	15.0	15.5	14.0	10.0	9.5	11.5	10.5	14.5	14.0
15	14.5	13.5	16.0	14.5	16.0	14.5	10.0	9.5	11.5	10.5	14.5	14.0
16	15.0	13.0	16.0	14.5	16.0	14.5	10.0	9.5	11.5	10.5	14.5	13.5
17	12.5	10.5	16.5	14.0	15.0	14.0	10.0	9.5	11.5	11.0	14.5	13.5
18	12.5	10.5	17.0	14.5	16.0	14.5	10.0	9.5	11.5	11.0	14.5	13.5
19	13.0	12.0	15.5	13.5	16.5	15.0	10.0	9.5	12.0	11.0	14.5	13.5
20	13.0	8.0	15.0	13.5	17.0	15.0	10.0	9.5	12.0	11.0	14.5	13.5
21	8.5	8.5	14.5	12.5	16.5	15.0	10.0	9.5	12.0	11.0	14.5	13.5
22	8.5	8.5	14.0	13.0	16.5	15.0	10.5	9.5	12.0	11.0	14.5	13.5
23	8.5	8.5	15.0	13.5	17.0	15.5	10.5	10.0	12.0	11.5	14.5	14.0
24	8.5	8.0	15.5	13.5	17.5	15.5	10.5	9.5	12.5	11.5	15.0	14.0
25	8.5	8.5	16.5	14.0	17.5	15.0	10.5	10.0	12.5	11.5	14.5	14.0
26	9.0	8.5	16.5	14.5	17.5	15.0	10.0	9.5	12.5	11.5	14.5	14.0
27	9.0	8.5	16.0	14.0	17.5	15.5	10.0	9.5	12.5	12.0	14.5	14.0
28	9.0	8.5	14.5	13.0	17.5	15.5	10.5	9.5	13.0	12.0	15.0	14.0
29	9.0	8.5	14.5	13.5	17.5	15.0	10.5	9.5	13.0	12.0	15.0	14.0
30	9.0	8.5	16.0	13.5	17.0	15.0	10.5	9.5	13.0	12.0	15.0	14.5
31	---	---	16.0	14.0	---	---	10.5	10.0	13.5	12.0	---	---
MONTH	16.0	8.0	18.5	8.5	17.5	13.0	17.5	9.0	13.5	10.0	15.0	12.0

## TULARE LAKE BASIN

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.--22 years (water year 1958-79), 40.3 ft<sup>3</sup>/s (1.141 m<sup>3</sup>/s), 29,200 acre-ft/yr (36.0 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)
Feb. 21	1530	*1,620 45.9	4.86 1.481
Mar. 1	0930	615 17.4	3.91 1.192
Mar. 28	1230	1,370 38.8	4.67 1.423

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.5	4.7	12	13	95	370	161	44	12	1.7		
2	2.3	6.4	16	13	105	203	141	44	10	1.6		
3	2.1	6.8	14	13	75	140	124	43	9.2	1.6		
4	2.2	6.5	12	13	58	121	113	41	8.4	1.5		
5	2.2	6.5	12	13	50	109	105	39	8.1	1.5		
6	2.1	6.5	12	14	47	101	98	38	7.6	1.6		
7	2.1	6.3	11	14	45	97	94	39	6.8	1.5		
8	2.2	6.0	11	15	45	94	89	44	6.2	1.3		
9	2.3	6.1	10	46	44	89	84	43	5.5	1.2		
10	2.4	6.5	10	35	44	84	83	37	5.0	1.0		
11	2.4	7.7	10	35	42	80	80	34	5.3	.74		
12	2.4	11	11	72	41	76	77	31	4.5	.36		
13	2.4	9.6	11	50	43	72	72	29	4.1	.26		
14	2.3	8.7	10	43	108	70	70	27	3.9	.14		
15	2.0	8.7	10	76	89	73	67	26	3.9	0		
16	2.0	8.7	11	58	64	150	66	25	3.9	0		
17	2.0	8.5	12	43	55	109	66	24	4.0	0		
18	2.4	8.6	21	59	48	102	65	23	4.7	0		
19	2.6	8.7	47	49	61	99	61	21	5.0	0		
20	3.1	8.4	30	38	72	95	59	20	4.6	0		
21	3.1	9.6	21	34	799	89	57	20	4.1	0		
22	3.4	13	18	31	425	86	55	19	3.7	0		
23	3.5	13	17	29	304	79	53	19	3.5	.04		
24	3.7	11	16	27	178	75	50	18	3.2	0		
25	3.6	11	15	27	132	72	50	17	3.2	0		
26	3.3	10	15	27	122	70	50	15	3.0	0		
27	3.1	9.9	15	24	120	209	54	14	2.9	0		
28	3.1	9.4	14	23	101	836	51	13	2.8	0		
29	3.5	9.4	14	23	---	440	46	14	2.3	0		
30	3.8	9.4	14	22	---	256	46	13	2.0	0		
31	3.9	---	14	46	---	193	---	13	---	0		---
TOTAL	84.0	256.6	466	1025	3412	4739	2288	847	153.4	16.04	0	0
MEAN	2.71	8.55	15.0	33.1	122	153	76.3	27.3	5.11	.52	0	0
MAX	3.9	13	47	76	799	836	161	44	12	1.7	0	0
MIN	2.0	4.7	10	13	41	70	46	13	2.0	0	0	0
AC-FT	167	509	924	2030	6770	9400	4540	1680	304	32	0	0

CAL YR 1978 TOTAL 44672.46 MEAN 122 MAX 3090 MIN 0 AC-FT 88610  
WTR YR 1979 TOTAL 13287.04 MEAN 36.4 MAX 836 MIN 0 AC-FT 26350

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.--34 years, 4.96 ft<sup>3</sup>/s (0.140 m<sup>3</sup>/s), 3,590 acre-ft/yr (4.43 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)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Nov. 22	1745	66 1.87	2.82 0.860	Feb. 20	2245	540 15.3	4.21 1.283
Jan. 15	0400	*949 26.9	4.97 1.515	Mar. 28	0415	146 4.13	3.19 .972
Feb. 14	0100	355 10.1	3.81 1.161				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.23	1.0	.63	7.1	13	11	3.7	.50	.11		
2	.08	.25	1.0	.63	6.5	11	9.7	3.7	.46	.10		
3	.07	.25	.52	.62	5.6	9.7	8.8	3.3	.42	.12		
4	.07	.27	.46	.56	5.1	9.2	8.3	3.0	.40	.12		
5	.07	.27	1.8	.80	4.6	8.8	7.5	2.9	.49	.11		
6	.07	.26	2.0	.75	4.6	8.3	7.5	3.1	.44	.10		
7	.07	.25	.95	.70	5.7	7.9	7.5	3.2	.34	.10		
8	.07	.27	.76	1.3	5.9	7.9	7.1	3.2	.39	.09		
9	.07	.27	.67	8.0	5.4	7.5	6.8	3.0	.39	.09		
10	.07	.32	.63	3.9	5.1	7.1	6.8	2.6	.34	.07		
11	.06	.57	.61	2.9	4.8	6.7	6.8	2.4	.34	.06		
12	.06	.56	.57	2.5	4.6	6.9	6.4	2.2	.24	.06		
13	.06	.70	.56	2.3	17	6.8	6.1	2.0	.24	.05		
14	.05	.72	.56	7.0	77	6.9	6.0	1.8	.25	.05		
15	.05	.60	.56	155	12	7.4	5.7	1.5	.26	.04		
16	.06	.56	.57	26	14	8.5	5.5	1.5	.27	.03		
17	.07	.53	.64	10	9.7	10	5.7	1.5	.26	.02		
18	.08	.51	.81	10	7.9	8.2	5.7	1.3	.19	.02		
19	.08	.51	1.0	7.6	8.8	8.5	5.7	1.1	.23	.01		
20	.08	.66	.82	5.9	46	7.9	5.5	1.0	.22	0		
21	.08	15	.79	5.2	81	7.9	5.2	1.0	.21	0		
22	.10	30	.76	4.7	39	7.1	4.9	1.1	.21	.02		
23	.15	17	.70	4.3	31	6.4	4.6	1.1	.18	0		
24	.18	6.9	.70	4.1	23	6.4	4.6	.98	.15	0		
25	.17	5.3	.70	3.9	17	6.1	4.4	.91	.13	0		
26	.18	4.4	.70	3.5	14	6.8	4.4	.72	.14	0		
27	.19	3.3	.68	3.2	13	30	4.7	.64	.14	0		
28	.20	1.4	.68	3.0	12	46	4.0	.69	.14	0		
29	.19	.83	.67	2.9	---	26	3.9	.70	.11	0		
30	.21	.64	.65	3.2	---	16	3.7	.69	.11	0		
31	.22	---	.64	6.0	---	12	---	.61	---	0		---
TOTAL	3.25	93.33	24.16	291.09	487.4	338.9	184.5	57.14	8.19	1.37	0	0
MEAN	.10	3.11	.78	9.39	17.4	10.9	6.15	1.84	.27	.044	0	0
MAX	.22	30	2.0	155	81	46	11	3.7	.50	.12	0	0
MIN	.05	.23	.46	.56	4.6	6.1	3.7	.61	.11	0	0	0
AC-FT	6.4	185	48	577	967	672	366	113	16	2.7	0	0
CAL YR 1978 TOTAL		14540.37		MEAN 39.8	MAX 1430	MIN .04	AC-FT 28840					
WTR YR 1979 TOTAL		1489.33		MEAN 4.08	MAX 155	MIN 0	AC-FT 2950					

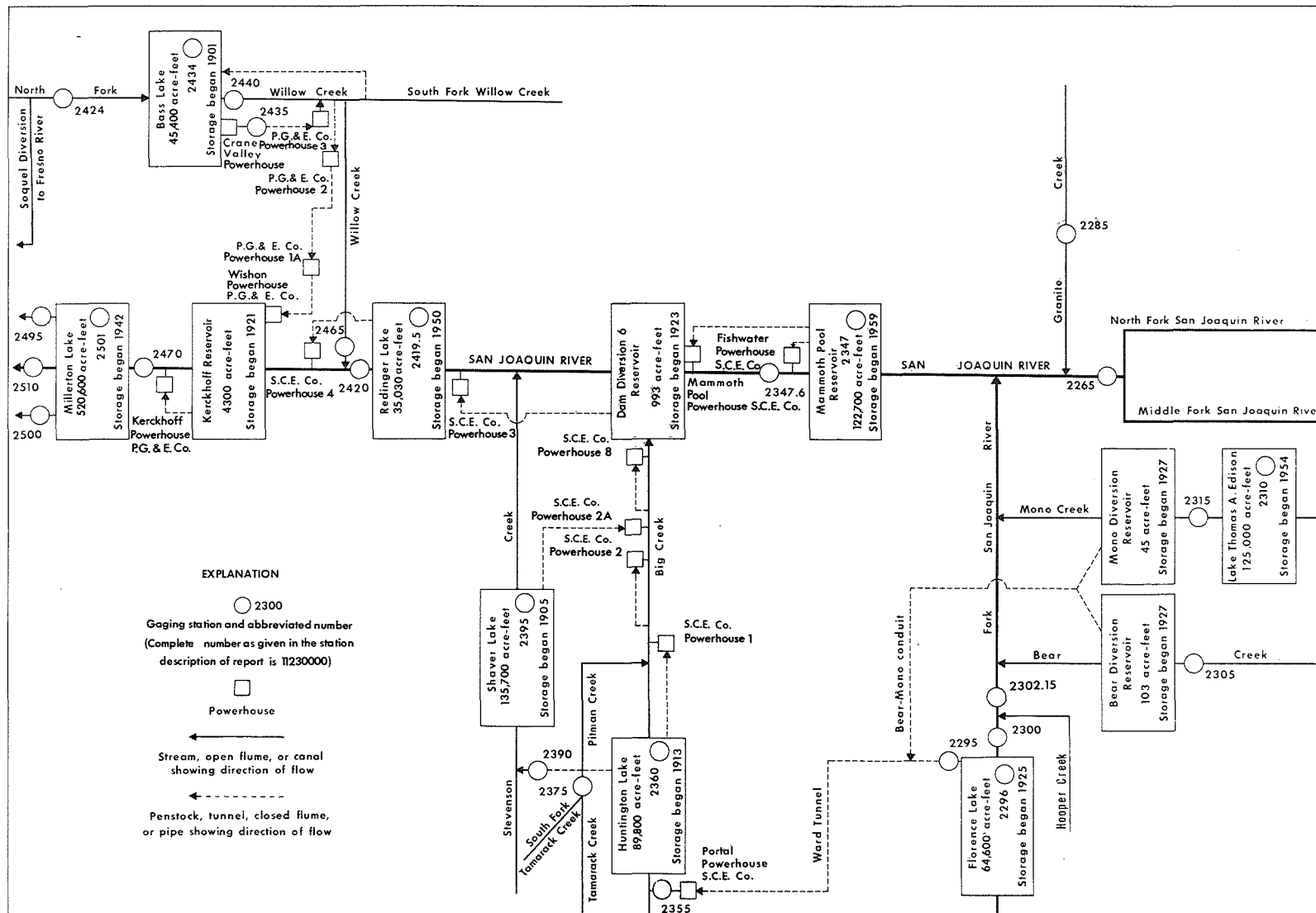


FIGURE 8.-- Schematic diagram showing diversions and storage in San Joaquin River basin.



## SAN JOAQUIN RIVER BASIN

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## 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 fair. No regulation or 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.--35 years, 589 ft<sup>3</sup>/s (16.68 m<sup>3</sup>/s), 426,700 acre-ft/yr (526 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 m<sup>3</sup>/s) and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Discharge (m <sup>3</sup> /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft <sup>3</sup> /s)	Discharge (m <sup>3</sup> /s)	Gage height (ft)	Gage height (m)
Jan. 11	1845	2,880	81.6	15.03	4.581	May 26	2115	4,900	139	16.53	5.038
May 4	2145	2,620	74.2	14.79	4.508	June 6	2115	3,500	99.1	15.54	4.737
May 21	2045	*5,040	143	16.62	5.066	June 13	2015	2,700	76.5	14.93	4.551

Minimum daily discharge, 67 ft<sup>3</sup>/s (1.90 m<sup>3</sup>/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	210	99	144	145	190	227	371	1460	2300	905	301	109
2	211	98	130	135	185	208	370	1330	2290	839	303	106
3	208	102	116	140	180	215	386	1600	2420	797	291	105
4	197	106	129	150	170	234	461	2000	2750	776	279	106
5	189	102	126	158	165	266	597	1970	2880	758	266	106
6	180	97	93	126	162	358	658	1490	2960	722	263	102
7	172	94	111	110	162	428	565	1290	2660	659	243	103
8	164	92	129	115	161	482	583	1050	1980	573	233	105
9	159	90	168	133	162	523	709	881	1780	541	226	104
10	155	91	200	136	165	577	566	806	1950	535	219	102
11	151	97	220	1280	168	602	501	933	2110	561	219	100
12	146	84	215	881	170	573	545	1320	2220	584	206	99
13	141	111	200	424	267	550	783	1790	2510	648	198	98
14	137	108	175	356	439	530	1010	2250	2140	682	183	100
15	135	99	190	300	255	530	1140	2560	1570	673	171	97
16	133	113	195	308	246	448	1040	2670	1470	643	163	96
17	130	115	180	303	227	376	833	2930	1320	565	165	94
18	126	104	170	276	211	341	628	3390	1040	504	190	91
19	122	106	180	248	211	311	551	3610	941	487	166	87
20	120	100	185	231	204	285	568	3690	1110	485	153	83
21	119	103	180	223	195	273	670	3910	1210	561	145	79
22	115	105	170	208	213	269	794	3860	1280	632	139	76
23	108	129	165	200	215	271	722	3700	1340	531	133	73
24	103	128	160	195	225	288	619	3330	1400	479	128	72
25	101	123	155	188	227	333	653	3270	1410	460	124	80
26	99	120	165	177	221	386	930	3720	1270	462	122	76
27	97	119	160	167	208	444	1160	3980	1200	411	118	73
28	96	114	160	150	209	408	1220	3630	1120	358	120	70
29	95	129	155	160	---	431	1380	3190	1030	330	125	68
30	94	141	155	175	---	414	1530	2790	989	305	125	67
31	92	---	150	180	---	365	---	2410	---	300	116	---
TOTAL	4305	3219	5031	7978	5813	11946	22543	76810	52650	17766	5833	2727
MEAN	139	107	162	257	208	385	751	2478	1755	573	188	90.9
MAX	211	141	220	1280	439	602	1530	3980	2960	905	303	109
MIN	92	84	93	110	161	208	370	806	941	300	116	67
AC-FT	8540	6380	9980	15820	11530	23690	44710	152400	104400	35240	11570	5410
CAL YR 1978 TOTAL	375028			MEAN 1027	MAX 5310	MIN 84	AC-FT 743900					
WTR YR 1979 TOTAL	216621			MEAN 593	MAX 3980	MIN 67	AC-FT 429700					

## SAN JOAQUIN RIVER BASIN

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.

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 below 3 ft<sup>3</sup>/s (0.08 m<sup>3</sup>/s) and good above. 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 four 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, 3,140 ft<sup>3</sup>/s (88.9 m<sup>3</sup>/s) Dec. 23, 1964, gage height, 9.49 ft (2.893 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, 1,890 ft<sup>3</sup>/s (53.5 m<sup>3</sup>/s) May 21, gage height, 8.66 ft (2.640 m); minimum daily, 0.05 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 19-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	4.3	88					---	708	83	4.3	.42
2	13	4.7	85					---	521	77	3.7	.42
3	12	5.1	81					---	764	69	3.3	.42
4	11	5.5	80					---	892	65	2.8	.33
5	10	5.1	83					---	864	60	2.5	.33
6	9.8	4.7	65					---	844	56	2.3	.33
7	8.9	4.3	50					---	631	48	2.3	.24
8	8.5	4.0	43					---	454	40	2.1	.18
9	7.6	3.7	35					---	460	35	1.9	.12
10	7.2	4.0	30					---	514	32	1.7	.12
11	6.4	4.7	23					---	514	32	1.6	.12
12	5.9	7.2	21					---	522	32	1.3	.10
13	5.5	8.9	19					---	545	33	1.3	.10
14	5.1	9.8	17					---	402	32	1.3	.12
15	4.7	15	17					---	306	29	1.1	.07
16	4.7	15	17					---	256	27	1.1	.07
17	4.7	10	17					1200	216	25	.99	.07
18	4.7	14	29					1260	148	20	1.1	.07
19	4.3	13	---					1250	150	19	1.1	.05
20	4.3	11	---					1240	204	17	1.1	.05
21	4.3	5.1	---					1290	211	21	.86	.05
22	4.3	11	---					1190	206	33	.74	.33
23	4.3	28	---					1140	213	26	.63	1.6
24	4.0	45	---					1000	213	19	.63	1.7
25	3.7	46	---					1020	186	16	.53	1.9
26	3.7	31	---					1220	154	13	.53	1.9
27	3.3	37	---					1180	139	11	.53	1.9
28	3.0	49	---					995	118	9.4	.42	1.9
29	3.0	62	---					872	101	8.1	.42	1.9
30	3.0	83	---					775	95	6.4	.42	1.9
31	3.3	---	---					706	---	5.1	.42	---
TOTAL	192.2	551.1	---					---	11551	999.0	45.02	18.81
MEAN	6.20	18.4	---					---	385	32.2	1.45	.63
MAX	14	83	---					---	892	83	4.3	1.9
MIN	3.0	3.7	---					---	95	5.1	.42	.05
AC-FT	381	1090	---					---	22910	1980	89	37

## 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.--54 years, 278 ft<sup>3</sup>/s (7.873 m<sup>3</sup>/s), 201,400 acre-ft/yr (248 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,990 ft<sup>3</sup>/s (56.4 m<sup>3</sup>/s) Apr. 30, 1926; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	468	483	41	66	89	150	541	541	833	532	569
2	473	465	503	40	70	86	143	528	374	849	531	584
3	525	361	545	40	70	90	140	540	103	799	528	594
4	574	164	610	38	68	94	152	624	105	743	527	586
5	592	348	491	37	66	100	207	682	128	743	526	578
6	588	475	105	37	64	107	245	680	427	743	524	572
7	583	538	41	37	63	130	229	654	657	633	522	567
8	552	585	41	52	63	166	211	595	828	436	519	563
9	500	578	46	44	63	179	240	489	786	338	515	559
10	373	574	48	32	63	198	213	337	708	315	513	325
11	525	570	48	137	64	199	209	316	678	375	511	220
12	520	482	45	278	64	184	219	414	678	415	509	219
13	539	374	43	175	71	174	264	552	825	422	523	218
14	549	371	41	153	135	164	304	661	877	422	529	218
15	545	367	38	137	115	154	354	744	903	422	526	216
16	542	363	37	122	112	144	373	820	844	434	547	216
17	537	451	37	122	105	135	325	954	896	453	557	216
18	533	505	39	122	98	125	254	1050	760	437	554	215
19	530	498	42	112	93	116	223	1090	853	414	551	215
20	494	492	44	109	87	118	249	751	766	415	548	215
21	486	486	54	103	84	101	265	1080	784	415	544	214
22	496	479	62	96	92	99	290	1130	716	508	540	213
23	492	472	63	86	107	99	297	1140	763	574	536	213
24	488	465	59	83	105	99	272	1120	588	508	533	212
25	485	456	57	78	104	106	268	1170	656	364	531	447
26	481	446	54	69	100	118	307	1130	813	318	527	578
27	478	437	52	64	89	125	421	1100	837	388	523	571
28	476	426	51	65	89	126	427	1120	896	417	520	563
29	474	415	47	57	---	134	457	1140	884	446	517	558
30	473	402	45	58	---	150	503	741	870	490	514	552
31	471	---	42	63	---	150	---	529	---	525	537	---
TOTAL	15824	13513	3913	2687	2370	4059	8211	24422	20544	15594	16414	11786
MEAN	510	450	126	86.7	84.6	131	274	788	685	503	529	393
MAX	592	585	610	278	135	199	503	1170	903	849	557	594
MIN	373	164	37	32	63	86	140	316	103	315	509	212
AC-FT	31390	26800	7760	5330	4700	8050	16290	48440	40750	30930	32560	23380
CAL YR 1978 TOTAL	151553.9		MEAN 415	MAX 1390	MIN 1.1	AC-FT 300600						
WTR YR 1979 TOTAL	139337.0		MEAN 382	MAX 1170	MIN 32	AC-FT 276400						

## 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, 64,700 acre-ft (79.8 hm<sup>3</sup>) June 27, elevation, 7,327.79 ft (2,233.510 m); minimum, 1,040 acre-ft (1.28 hm<sup>3</sup>) Dec. 5, elevation, 7,231.00 ft (2,204.009 m).

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

7,220.94	0	7,235	1,770	7,260	11,600	7,290	32,000
7,222	63	7,240	2,980	7,265	14,600	7,300	39,900
7,224	201	7,245	4,670	7,270	17,800	7,310	48,300
7,227	495	7,250	6,650	7,275	21,100	7,320	57,300
7,230	887	7,255	8,950	7,280	24,600	7,330	66,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57396	29984	5077	1147	1175	1170	1260	1590	34287	64137	61948	38660
2	56692	29125	4074	1147	1178	1168	1257	1580	36462	63772	61407	37647
3	55851	28480	2967	1147	1176	1170	1264	1609	39372	63417	60848	36604
4	54932	28228	1855	1130	1176	1170	1298	1668	42538	63130	60271	35578
5	53998	27625	1042	1130	1176	1216	1373	1700	45899	62805	59668	34529
6	53052	26763	1147	1130	1168	1226	1352	1682	48994	62414	59067	33519
7	52104	25778	1147	1130	1168	1266	1334	1656	51602	62138	58458	32502
8	51199	24702	1147	1130	1168	1305	1346	1603	52716	62138	57815	31480
9	50371	23640	1147	1095	1168	1302	1346	1488	53587	62271	57182	30473
10	49795	22575	1147	1125	1168	1307	1319	1417	55033	62433	56534	29902
11	48906	21495	1147	1413	1168	1293	1336	1445	56905	62567	55916	29557
12	48006	20573	1147	1328	1170	1275	1359	1552	58982	62662	55335	29222
13	47086	19891	1147	1267	1170	1275	1410	1774	61245	62824	54656	28880
14	46139	19208	1147	1248	1170	1267	1408	2212	62786	63044	53934	28546
15	45199	18510	1147	1233	1170	1275	1456	3011	63513	63321	53179	28213
16	44266	17840	1147	1239	1170	1262	1434	3980	64012	63494	52446	27868
17	43315	16985	1147	1239	1170	1248	1375	4889	64098	63542	51610	27529
18	42371	16033	1147	1235	1170	1239	1328	5975	63954	63532	50887	27171
19	41434	15088	1147	1226	1170	1232	1321	7051	63503	63571	50086	26799
20	40554	14153	1147	1221	1170	1223	1389	9475	63398	63590	49248	26429
21	39697	13273	1147	1210	1170	1216	1386	11620	63551	63944	48450	26059
22	38813	12395	1147	1198	1170	1209	1404	13759	63954	64089	47597	25684
23	37920	11525	1147	1178	1170	1210	1393	15867	64339	63954	46706	25302
24	37018	10677	1147	1188	1170	1217	1377	17463	64455	63810	45822	24952
25	36146	9850	1147	1181	1170	1235	1378	18795	64397	63868	44943	24234
26	35264	9026	1147	1173	1170	1246	1481	20743	64561	63992	44054	23211
27	34396	8226	1147	1171	1170	1242	1511	23408	64657	63944	43172	22186
28	33526	7452	1147	1166	1170	1253	1490	25749	64570	63733	42304	21138
29	32655	6709	1147	1163	---	1271	1556	27713	64503	63427	41426	20147
30	31768	5995	1147	1170	---	1267	1582	30037	64368	62996	40570	19174
31	30888	---	1147	1170	---	1264	---	32357	---	62491	39656	---
MAX	57396	29984	5077	1413	1178	1307	1582	32357	64657	64137	61948	38660
MIN	30888	5995	1042	1095	1168	1168	1257	1417	34287	62138	39656	19174
(+)	7288.58	7248.43	7231.62	7231.75	7231.75	7232.29	7234.02	7290.51	7327.46	7325.50	7299.76	7272.15
(+)	-27200	-24900	-4850	+23	0	+94	+318	+30800	+32000	-1880	-22800	-20500

CAL YR 1978 † +818  
WTR YR 1979 † -38900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

## 11230000 SOUTH FORK SAN JOAQUIN RIVER NEAR FLORENCE LAKE, CA

LOCATION.--Lat 37°16'24", long 118°57'54", in SE¼ sec.36, T.7 S., R.27 E., Fresno County, Hydrologic Unit 18040006, Sierra National Forest, on left bank 0.1 mi (0.2 km) downstream from spillway of Florence Lake Dam, 6 mi (10 km) upstream from Bear Creek, and 14.7 mi (23.7 km) east of Big Creek.

DRAINAGE AREA.--171 mi<sup>2</sup> (443 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 1925, published as "near Lake Florence."

GAGE.--Water-stage recorder, Parshall flume, and concrete control. Altitude of gage is 7,200 ft (2,195 m), from topographic map.

REMARKS.--Records good. Beginning in 1925, flow regulated by Florence Lake (station 11229600) 0.1 mi (0.2 km) upstream and by diversion into Ward tunnel (station 11229500). 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 (combined flow of South Fork San Joaquin River and Ward tunnel at intake).--58 years, 318 ft<sup>3</sup>/s (9.006 m<sup>3</sup>/s), 230,400 acre-ft/yr (284 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,800 ft<sup>3</sup>/s (193 m<sup>3</sup>/s) Sept. 5, 1978, gage height, 17.55 ft (5.349 m); no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 680 ft<sup>3</sup>/s (19.3 m<sup>3</sup>/s) June 24, gage height, 11.38 ft (3.469 m); minimum daily, 4.5 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Sept. 10-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	8.2	6.2	5.0	5.2	5.1	5.3	5.0	7.6	8.9	8.6	7.0
2	11	8.1	6.0	5.0	5.2	6.7	5.3	5.1	7.7	8.6	8.4	6.9
3	10	8.0	5.7	5.0	5.2	5.1	5.3	5.1	7.7	8.9	8.2	6.9
4	10	7.9	5.6	5.1	5.2	5.1	5.3	5.1	7.8	9.5	8.1	6.9
5	10	7.9	5.3	5.1	5.2	5.2	5.3	5.2	7.7	9.5	8.1	6.8
6	10	7.9	5.1	5.1	5.2	5.3	5.3	5.2	8.1	9.5	8.1	6.6
7	9.6	7.9	5.1	5.1	5.2	5.3	5.2	5.2	8.1	9.5	8.0	6.5
8	9.5	7.8	5.1	5.1	5.2	5.3	5.3	5.2	9.0	9.5	8.0	6.5
9	9.5	7.7	5.1	5.0	5.2	5.3	5.3	5.0	9.1	9.5	8.0	5.6
10	9.4	7.7	5.1	5.1	5.2	5.3	5.2	5.0	9.6	9.4	7.9	4.5
11	9.4	7.6	5.1	6.8	5.2	5.3	5.3	5.0	9.3	9.4	7.9	4.5
12	9.3	7.4	5.0	5.5	5.1	5.3	5.5	5.0	7.4	9.4	7.8	4.5
13	9.0	7.3	4.8	5.2	5.7	5.3	5.5	5.0	8.7	9.3	7.8	4.5
14	9.0	7.3	4.8	5.2	5.6	5.3	5.3	5.1	8.8	9.3	7.9	4.5
15	8.8	7.3	4.8	5.2	5.3	5.3	5.3	5.2	8.9	9.3	7.8	4.5
16	8.8	7.3	4.8	5.2	5.3	5.3	5.3	5.5	8.9	9.3	7.4	4.5
17	8.8	7.2	4.8	5.2	5.3	5.3	5.2	5.5	24	9.4	7.7	4.8
18	8.6	7.1	4.8	5.2	5.2	5.2	5.2	5.7	10	9.4	7.3	6.2
19	8.8	7.1	4.9	5.2	5.2	5.2	5.2	5.9	8.3	9.4	7.2	6.2
20	8.6	7.0	4.9	5.2	5.2	5.2	5.2	6.1	8.2	9.4	7.1	6.2
21	8.4	7.0	4.8	5.2	5.2	5.2	5.1	6.3	8.2	9.5	7.0	6.2
22	8.4	6.9	4.8	5.2	5.1	5.2	5.1	6.5	8.2	9.5	7.0	6.1
23	8.3	6.8	4.8	5.2	5.1	5.2	5.1	6.6	75	9.5	7.0	6.1
24	8.3	6.8	4.8	5.2	5.1	5.2	5.1	6.7	386	9.4	7.0	6.1
25	8.3	6.7	4.8	5.2	5.1	5.3	5.2	6.7	425	9.4	7.0	6.1
26	8.2	6.7	4.9	5.2	5.1	5.3	5.2	6.8	48	9.5	7.0	6.0
27	8.2	6.6	4.9	5.2	6.8	5.3	5.1	6.9	28	9.3	7.0	5.7
28	8.2	6.5	4.9	5.2	5.1	5.3	5.1	7.1	28	9.1	7.0	5.9
29	8.2	6.4	4.9	5.2	---	5.3	5.0	7.2	16	9.0	7.0	5.9
30	8.1	6.3	5.0	5.2	---	5.3	5.0	7.3	13	8.9	7.0	5.9
31	8.1	---	5.0	5.2	---	5.3	---	7.4	---	8.7	7.0	---
TOTAL	281.8	218.4	156.6	161.7	147.7	164.3	156.8	180.6	1220.3	288.2	234.3	174.6
MEAN	9.09	7.28	5.05	5.22	5.28	5.30	5.23	5.83	40.7	9.30	7.56	5.82
MAX	13	8.2	6.2	6.8	6.8	6.7	5.5	7.4	425	9.5	8.6	7.0
MIN	8.1	6.3	4.8	5.0	5.1	5.1	5.0	5.0	7.4	8.6	7.0	4.5
AC-FT	559	433	311	321	293	326	311	358	2420	572	465	346
CAL YR 1978	TOTAL	82950.4	MEAN	227	MAX	2850	MIN	3.2	AC-FT	164500		
WTR YR 1979	TOTAL	3385.3	MEAN	9.27	MAX	425	MIN	4.5	AC-FT	6710		

## 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 September 1979. 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) above mean sea level (levels by Southern California Edison Co.).

REMARKS.--Records fair. 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 eight discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft<sup>3</sup>/s (3.26 m<sup>3</sup>/s) June 23, gage height, 3.00 ft (0.914 m); minimum daily, 5.5 ft<sup>3</sup>/s (0.16 m<sup>3</sup>/s) Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	14	10	8.8	8.9	11	22	17	35	27	16	9.9
2	29	13	9.9	8.8	8.8	11	22	16	36	25	17	9.7
3	29	18	9.8	8.8	8.6	11	24	22	35	25	15	9.5
4	29	14	9.5	8.8	8.6	12	29	24	34	24	15	9.3
5	25	12	9.2	8.8	8.6	13	34	26	30	23	14	9.0
6	16	12	9.3	8.9	8.5	17	35	30	29	23	14	8.8
7	19	12	10	8.9	8.5	23	32	28	28	23	14	8.6
8	24	13	9.8	9.0	8.8	26	33	29	29	22	16	8.4
9	26	12	9.5	10	8.7	27	35	28	29	21	13	8.2
10	25	12	9.3	9.0	8.7	30	29	27	28	21	14	8.0
11	26	12	9.0	28	8.9	29	28	28	26	21	14	7.7
12	22	12	8.8	33	9.6	27	33	28	23	21	23	7.5
13	15	13	8.5	15	14	27	36	28	23	20	12	7.3
14	15	12	8.5	12	52	27	35	29	24	20	12	7.1
15	14	12	8.5	11	24	27	33	28	22	21	13	6.9
16	14	13	8.5	11	16	26	31	29	21	24	12	6.7
17	14	12	8.5	11	14	25	28	31	38	24	15	6.4
18	14	11	8.5	9.9	12	20	24	33	36	23	14	6.2
19	14	11	8.5	13	12	18	21	35	20	23	13	6.0
20	14	11	8.6	10	11	16	20	33	23	25	12	5.7
21	15	11	8.6	9.4	11	15	20	31	22	25	12	5.8
22	14	11	8.6	9.4	11	14	21	30	22	25	9.2	6.4
23	13	11	8.6	9.3	11	15	20	30	41	24	12	5.9
24	12	11	8.6	9.2	11	17	18	31	115	24	11	5.5
25	16	10	8.6	9.2	11	22	17	30	115	23	11	6.1
26	13	10	8.6	11	11	23	21	30	89	22	11	5.7
27	18	10	8.6	21	11	23	21	31	85	21	11	5.7
28	14	10	8.6	9.1	11	22	19	29	84	20	11	5.7
29	12	10	8.6	18	---	19	18	29	60	19	11	5.7
30	12	10	8.6	9.0	---	20	18	29	42	17	10	6.4
31	13	---	8.6	9.2	---	21	---	29	---	17	10	---
TOTAL	565	355	276.8	367.5	348.2	634	777	878	1244	693	407.2	215.8
MEAN	18.2	11.8	8.93	11.9	12.4	20.5	25.9	28.3	41.5	22.4	13.1	7.19
MAX	29	18	10	33	52	30	36	35	115	27	23	9.9
MIN	12	10	8.5	8.8	8.5	11	17	16	20	17	9.2	5.5
AC-FT	1120	704	549	729	691	1260	1540	1740	2470	1370	808	428
WTR YR 1979	TOTAL	6761.5	MEAN	18.5	MAX	115	MIN	5.5	AC-FT	13410		

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.

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. Datum of gage is 7,366.94 ft (2,245.443 m) National Geodetic Vertical Datum of 1929 (levels by Southern California Edison Co.).

COOPERATION.--Gage-height record and six discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,520 ft<sup>3</sup>/s (99.7 m<sup>3</sup>/s) Sept. 5, 1978, gage height, 7.90 ft (2.408 m), from rating curve extended above 570 ft<sup>3</sup>/s (16.1 m<sup>3</sup>/s); minimum recorded, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) Sept. 29 to Oct. 5, 1924.

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. 11	1730	544	15.4	5.18	1.579	June 6	2230	726	20.6	5.51	1.679
May 21	2045	863	24.4	5.73	1.747	June 13	0015	623	17.6	5.33	1.625
May 27	2115	*889	25.2	5.77	1.759						

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	19	18	26	25	27	40	168	387	218	63	19
2	37	18	28	24	26	55	37	145	400	203	62	18
3	36	21	36	27	25	30	38	190	440	188	60	17
4	36	20	24	17	23	27	46	246	481	175	57	17
5	36	19	19	16	23	27	61	224	495	174	54	17
6	35	18	37	15	22	32	66	165	589	167	52	17
7	34	17	73	14	20	42	53	145	552	157	50	16
8	33	16	102	14	18	48	56	115	397	138	49	16
9	32	16	64	15	18	52	65	98	352	125	46	15
10	31	14	53	16	18	58	50	87	416	119	44	14
11	30	13	45	231	18	56	48	102	479	131	44	14
12	29	14	35	214	18	48	59	159	513	140	46	14
13	27	17	32	147	22	46	85	227	573	153	43	14
14	26	15	31	134	44	43	103	287	485	165	39	15
15	26	17	45	133	82	44	114	335	384	163	36	14
16	26	21	46	103	66	39	104	345	324	154	35	14
17	25	18	25	93	50	35	81	364	279	138	35	14
18	24	16	27	82	34	33	65	458	201	124	41	14
19	22	15	41	77	27	31	62	535	172	123	37	13
20	22	14	42	72	25	29	67	595	205	122	34	12
21	23	13	40	66	31	28	78	641	238	159	31	12
22	22	15	40	61	46	27	87	658	273	160	28	11
23	20	16	39	54	45	26	80	587	319	139	26	11
24	19	19	38	50	43	29	74	503	338	121	24	10
25	19	24	37	46	31	33	77	533	335	110	22	15
26	18	30	36	40	25	36	96	595	291	103	22	15
27	17	34	35	36	35	34	124	671	283	94	21	14
28	17	30	34	32	26	37	128	644	271	82	21	13
29	17	19	32	28	---	44	152	582	253	74	21	12
30	17	18	30	25	---	44	172	550	238	68	20	12
31	16	---	28	23	---	41	---	484	---	65	20	---
TOTAL	809	556	1212	1931	886	1181	2368	11438	10963	4252	1183	429
MEAN	26.1	18.5	39.1	62.3	31.6	38.1	78.9	369	365	137	38.2	14.3
MAX	37	34	102	231	82	58	172	671	589	218	63	19
MIN	16	13	18	14	18	26	37	87	172	65	20	10
AC-FT	1600	1100	2400	3830	1760	2340	4700	22690	21750	8430	2350	851
CAL YR 1978	TOTAL	65990	MEAN 181	MAX 1830	MIN 13	AC-FT 130900						
WTR YR 1979	TOTAL	37208	MEAN 102	MAX 671	MIN 10	AC-FT 73800						

## 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, 125,900 acre-ft (155 hm<sup>3</sup>) Aug. 18, 1958, elevation, 7,642.95 ft (2,329.571 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, 123,800 acre-ft (153 hm<sup>3</sup>) Oct. 12, 13, elevation, 7,641.84 ft (2,329.233 m); minimum, 27,100 acre-ft (33.4 hm<sup>3</sup>) Apr. 6, elevation, 7,578.72 ft (2,309.994 m)..

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

7,508.9	0	7,535	513	7,560	9,520	7,610	68,600
7,515	18	7,540	928	7,570	18,100	7,620	85,000
7,520	64	7,545	1,830	7,580	28,500	7,630	102,400
7,525	156	7,550	3,570	7,590	40,500	7,640	120,400
7,530	297	7,555	6,150	7,600	53,800	7,643	126,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123629	123075	122097	101500	77196	54122	30079	34966	71934	100774	110379	112456
2	123592	123001	122042	100668	76260	53253	29333	35582	73236	101270	110505	112474
3	123518	122983	121987	99804	75328	52430	28582	36107	74564	101517	110613	112492
4	123555	122983	121987	98957	74418	51574	27895	36889	75884	102084	110721	112510
5	123611	122983	121969	98114	73510	50736	27211	37641	77327	102527	110793	112510
6	123629	122964	121895	97149	72609	49931	27190	38261	78946	102953	110956	112510
7	123666	122946	121840	96328	71869	49118	27364	38871	80461	103309	111010	112510
8	123703	122928	121675	95542	71024	48349	27552	39371	81648	103718	111118	112510
9	123721	122872	120884	94654	70148	47586	27773	39799	82893	104020	111226	112510
10	123740	122817	120094	93819	69263	46838	27939	40177	83855	104180	111298	111895
11	123795	122725	119288	93645	68194	46150	28116	40581	85108	104501	111352	111316
12	123814	122632	118445	93177	67366	45436	28327	41077	86452	104858	111605	110649
13	123814	122614	117586	92710	66713	44676	28616	41752	87921	105250	111642	110073
14	123795	122595	116690	91930	65972	43946	28952	42600	89173	105625	111678	109460
15	123777	122521	115797	91222	65157	43232	29300	43660	90187	106053	111823	108849
16	123740	122503	114832	90446	64347	42471	29659	44742	91050	106465	111841	108149
17	123721	122485	114124	89688	63528	41624	29966	45977	91775	106823	111877	107432
18	123684	122485	113488	88881	62729	40836	30205	47425	92363	106913	112003	106698
19	123648	122429	112727	88075	61920	40026	30443	49159	92900	107181	112058	105982
20	123629	122374	111931	87220	61234	39195	30705	50886	93472	107450	112112	105268
21	123611	122355	111136	86435	60524	38398	31027	52765	94132	107862	112130	104679
22	123537	122355	110307	85584	59743	37604	31362	54616	94828	108149	112166	102900
23	123444	122318	109460	84701	59011	36779	31685	56450	95559	108490	112184	102634
24	123426	122245	108634	83839	58166	35985	31951	58020	96363	108796	112202	102367
25	123389	122226	107754	82944	57371	35196	32268	59640	97132	109101	112202	101801
26	123352	122208	106895	82052	56564	34496	32667	61488	97816	109334	112221	101801
27	123334	122134	106000	81180	55722	33839	33054	63589	98430	109532	112221	101801
28	123297	122116	105125	80260	54870	33149	33446	65585	99046	109694	112239	101801
29	123241	122116	104215	79345	---	32397	33851	67538	99698	109856	112257	101801
30	123149	122097	103327	78448	---	31685	34387	69484	100280	110019	112257	101801
31	123075	---	102403	77558	---	30842	---	70625	---	110199	112275	---
MAX	123814	123075	122097	101500	77196	54122	34387	70625	100280	110199	112275	112510
MIN	123075	122097	102403	77558	54870	30842	27190	34966	71934	100774	110379	101801
(†)	7641.44	7640.91	7630.02	7615.55	7600.78	7582.06	7585.08	7611.27	7628.82	7634.38	7635.53	7629.68
(‡)	-665	-978	-19700	-24800	-22700	-24000	+3540	+36200	+29700	+9920	+2080	-10500

CAL YR 1978 ‡ +95700

WTR YR 1979 ‡ -21900

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.



LOCATION.--Lat 37°21'40", long 118°59'26", in SW<sup>1</sup>/<sub>4</sub> 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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 465 ft<sup>3</sup>/s (13.2 m<sup>3</sup>/s) Jan. 28, gage height, 6.61 ft (2.015 m); minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Apr. 7-12.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	50	52	440	445	444	438	20	17	17	18	18
2	90	50	52	447	444	442	436	20	17	17	18	18
3	90	50	52	444	444	445	436	20	17	17	18	18
4	59	50	52	444	443	448	437	22	17	17	18	18
5	23	50	38	444	441	448	436	22	17	17	18	18
6	32	51	19	441	440	448	79	20	17	17	18	18
7	32	52	19	436	440	444	16	20	17	17	18	18
8	32	52	111	440	440	440	16	19	17	18	18	18
9	32	52	393	440	438	440	16	18	17	18	18	18
10	32	52	395	440	436	434	16	18	17	18	18	171
11	36	52	400	380	436	431	16	18	17	18	18	309
12	45	52	410	331	436	431	16	19	17	18	22	309
13	52	52	423	378	436	440	17	20	17	18	19	309
14	52	52	433	416	436	441	18	20	17	18	19	319
15	52	52	441	432	433	444	18	20	17	18	18	349
16	52	52	444	428	431	446	18	20	17	18	18	349
17	52	52	409	419	432	448	18	20	17	18	18	349
18	51	52	406	426	436	453	18	20	17	18	18	349
19	50	52	407	434	436	452	18	19	17	18	18	349
20	50	52	403	443	436	452	18	19	17	18	18	349
21	50	52	403	448	436	452	18	18	17	18	18	349
22	50	52	403	450	435	452	18	18	17	18	18	349
23	50	52	427	452	434	452	18	18	17	18	18	349
24	50	52	436	452	437	448	18	18	17	18	18	349
25	50	52	436	452	436	448	18	18	17	18	18	144
26	50	52	437	455	436	445	20	18	17	18	18	17
27	50	52	435	455	436	444	21	17	17	18	18	17
28	50	52	429	460	443	444	21	17	17	18	18	17
29	50	52	427	464	---	443	23	17	17	18	18	17
30	50	52	435	460	---	440	22	17	17	18	18	17
31	50	---	440	451	---	440	---	17	---	18	18	---
TOTAL	1554	1549	10067	13502	12252	13779	2698	587	510	551	564	5298
MEAN	50.1	51.6	325	436	438	444	89.9	18.9	17.0	17.8	18.2	177
MAX	90	52	444	464	445	453	438	22	17	18	22	349
MIN	23	50	19	331	431	431	16	17	17	17	18	17
AC-FT	3080	3070	19970	26780	24300	27330	5350	1160	1010	1090	1120	10510
WTR YR 1978	TOTAL	49295	MEAN 135	MAX 1130	MIN 13	AC-FT 97780						
CAL YR 1979	TOTAL	62911	MEAN 172	MAX 464	MIN 16	AC-FT 124800						

## 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, 4,580 acre-ft (5.65 hm<sup>3</sup>) Apr. 5, 1973, elevation, 3,139.87 ft (957.032 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 123,100 acre-ft (152 hm<sup>3</sup>) May 27, elevation, 3,332.84 ft (1,015.850 m); minimum, 5,300 acre-ft (6.53 hm<sup>3</sup>) Apr. 12, elevation, 3,144.11 ft (958.325 m).

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

3,100	0	3,130	3,110	3,180	14,100	3,260	56,400
3,105	417	3,140	4,600	3,190	17,400	3,280	72,100
3,110	861	3,150	6,400	3,200	21,400	3,300	89,800
3,115	1,360	3,160	8,620	3,220	31,100	3,320	109,300
3,120	1,900	3,170	11,200	3,240	42,800	3,335	125,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79396	46830	26016	18050	18195	10145	5467	26854	121459	119438	102390	55197
2	77246	46327	25734	17614	17591	10391	5389	28971	121448	119416	101374	53664
3	75088	46125	25374	17425	16629	10786	5501	33384	121570	119154	100443	52625
4	72815	46529	25065	17196	15070	11198	6106	38119	121826	118653	99457	51663
5	70976	46679	24732	16772	13649	11858	6329	43473	121815	118535	97901	50882
6	69046	45734	24326	16605	12697	12978	6563	46960	121837	117951	96125	50369
7	68115	44485	23844	16157	12533	14637	6429	49577	121403	117286	94442	49907
8	66089	43232	23346	15897	12277	16262	6152	50854	120859	116410	92749	49242
9	64025	41947	22932	15847	11567	17291	6700	51355	120660	115601	90994	48593
10	62743	40665	22744	15639	11343	18269	6528	51488	120837	115199	88993	48030
11	61496	39482	22585	22937	11098	19605	5917	52020	120848	114447	87234	47539
12	60357	38208	22434	28837	10577	20709	5304	54162	120958	113855	85664	47019
13	59480	37018	22492	31109	10498	21315	6484	58302	121147	113391	84014	46457
14	58743	35945	22545	31597	13375	21500	7942	63922	120737	113001	82358	45741
15	58063	34891	22478	31651	13758	21400	9974	70603	120294	112506	80724	45001
16	57178	33746	22901	31744	13585	20684	11628	78637	119962	111888	79029	44177
17	56462	32615	23111	31820	13234	19358	12507	86767	119580	111249	77315	43428
18	55623	31450	23026	31891	12599	17806	12378	96145	118513	110477	75703	42819
19	54857	30493	22722	31848	11793	16269	11843	106318	117093	110093	74033	42197
20	54027	29254	22398	30975	11098	14608	11371	116804	116005	109678	72252	41591
21	53295	28650	22187	29773	10287	12639	11261	123256	116325	109295	70503	40996
22	52512	28042	21920	28448	9380	10543	11813	123066	116591	110488	68727	40364
23	51719	27537	21443	27629	8315	9565	12098	122876	116729	109720	66953	39548
24	50778	27557	21061	26628	8339	9179	11908	122495	117264	109305	64934	38997
25	49811	27547	20609	25652	8712	8800	11936	122607	117681	108585	63139	38484
26	48992	27435	20087	24639	9000	8386	12812	122931	118610	107939	61534	37975
27	48144	27298	19505	23359	9233	9189	15012	122898	119307	107243	60751	37439
28	47804	26764	19104	21947	9462	8804	17247	122495	119372	106348	59752	36941
29	47924	26398	18782	20872	---	7820	19930	122104	119045	105187	58638	36448
30	47857	26125	18536	19744	---	6766	23414	121859	119252	104353	57475	35985
31	47539	---	18307	18559	---	5467	---	121559	---	103359	56388	---
MAX	79396	46830	26016	31891	18195	21500	23414	123256	121837	119438	102390	55197
MIN	47539	26125	18307	15639	8315	5467	5304	26854	116005	103359	56388	35985
(+)	3247.35	3210.36	3192.35	3193.00	3163.44	3145.03	3204.56	3331.46	3329.37	3314.11	3260.01	3228.77
(-)	-34100	-21400	-7820	+252	-9100	-4000	+17900	+98100	-2310	-15900	-47000	-20400

CAL YR 1978 † -18900

WTR YR 1979 † -45600

+ Elevation, in feet, at end of month.

† Change in contents, in acre-feet, rounded to Geological Survey standards.

## 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 19 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, 6,990 ft<sup>3</sup>/s (198 m<sup>3</sup>/s) May 22, gage height, 13.03 ft (3.972 m); minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) Nov. 2, 3, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	12	13	12	13	16	13	27	2140	26	26	27
2	31	11	13	12	13	15	13	26	2010	26	26	26
3	30	11	13	12	13	17	12	27	2040	26	26	26
4	30	12	13	12	13	17	12	27	2480	26	26	26
5	30	11	13	13	13	17	12	27	2760	26	26	26
6	30	12	13	13	13	17	12	28	2930	26	26	26
7	30	12	13	13	13	17	12	29	2710	26	26	26
8	30	12	13	14	12	17	12	28	1530	26	26	27
9	30	12	13	15	12	17	12	28	835	26	26	27
10	28	12	13	14	12	17	12	32	873	26	26	27
11	28	13	13	26	12	17	12	40	1050	25	26	27
12	28	12	13	18	12	17	12	40	1060	26	26	27
13	28	12	13	15	18	17	12	41	1420	26	25	27
14	28	12	13	15	19	17	12	41	1350	26	25	28
15	28	12	13	17	14	16	17	42	639	26	25	27
16	28	14	13	15	14	14	24	43	219	26	25	27
17	28	16	14	14	14	14	24	43	55	26	25	27
18	27	14	15	14	14	14	24	43	47	26	25	28
19	27	14	14	14	14	14	24	43	47	26	25	28
20	27	14	13	14	17	13	24	44	46	26	25	29
21	27	15	13	14	22	13	23	2470	46	27	25	30
22	27	15	13	14	17	13	25	5800	47	26	25	30
23	27	14	13	14	17	13	25	5330	47	26	25	30
24	27	13	13	14	15	13	25	4730	47	26	24	31
25	27	13	13	13	14	13	25	4110	47	26	24	30
26	27	13	13	13	14	14	26	4720	47	26	24	30
27	27	13	13	13	14	18	26	5300	47	26	24	30
28	27	13	13	13	14	20	26	4860	36	26	24	30
29	27	13	13	13	---	15	26	4010	33	26	24	30
30	27	12	13	13	---	14	27	3330	27	26	25	30
31	27	---	13	13	---	14	---	2640	---	26	27	---
TOTAL	874	384	407	439	402	480	561	47999	26665	806	783	840
MEAN	28.2	12.8	13.1	14.2	14.4	15.5	18.7	1548	889	26.0	25.3	28.0
MAX	31	16	15	26	22	20	27	5800	2930	27	27	31
MIN	27	11	13	12	12	13	12	26	27	25	24	26
AC-FT	1730	762	807	871	797	952	1110	95210	52890	1600	1550	1670
CAL YR 1978	TOTAL	412080.2	MEAN	1129	MAX	10100	MIN	9.6	AC-FT	817400		
WTR YR 1979	TOTAL	80640.0	MEAN	221	MAX	5800	MIN	11	AC-FT	159900		

## 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.--52 years, 482 ft<sup>3</sup>/s (13.65 m<sup>3</sup>/s), 349,200 acre-ft/yr (431 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	524	532	564	598	601	690	866	956	977	533	577
2	604	513	579	559	596	633	681	759	800	1020	523	594
3	614	488	632	581	594	642	683	832	536	949	534	603
4	638	122	723	558	581	644	710	1100	575	910	573	599
5	603	297	661	558	573	649	744	916	570	777	559	595
6	622	563	66	458	574	673	430	1000	893	858	555	587
7	633	585	10	664	576	716	382	930	1130	799	551	586
8	595	669	129	567	572	738	268	756	1280	487	552	581
9	540	657	501	558	572	739	334	716	1140	428	545	577
10	387	650	515	550	573	746	321	491	1140	431	538	509
11	546	656	527	650	575	829	304	492	1030	499	540	543
12	574	550	514	739	572	732	314	670	995	552	542	558
13	623	430	564	716	577	731	388	943	1360	566	551	555
14	583	431	537	692	684	722	489	1010	1390	582	555	554
15	586	436	546	665	665	736	534	1340	1330	543	543	603
16	592	415	560	677	662	720	528	1410	1190	536	568	605
17	586	508	517	665	642	692	441	1570	1160	550	571	600
18	589	580	509	664	636	679	338	1680	972	506	563	630
19	584	586	520	660	618	680	364	1730	990	491	571	604
20	558	569	518	656	618	663	384	1360	1050	488	567	600
21	540	564	526	648	618	647	389	1700	966	583	560	600
22	560	581	554	647	636	644	442	1740	996	612	547	596
23	558	552	584	629	655	637	398	1730	972	633	552	561
24	550	551	574	634	653	641	392	1730	1000	522	555	592
25	545	526	573	620	643	662	431	1730	1000	438	544	603
26	536	534	582	629	631	674	418	1740	1020	371	530	594
27	533	524	570	623	620	680	704	1730	1100	418	536	589
28	535	568	517	616	624	689	663	1720	1100	433	525	580
29	534	437	555	593	---	701	703	1720	1100	467	526	561
30	525	472	561	611	---	707	742	1310	1060	494	522	577
31	529	---	557	602	---	696	---	1050	---	524	542	---
TOTAL	17513	15538	15813	19253	17138	21343	14609	38471	30801	18444	16973	17513
MEAN	565	518	510	621	612	688	487	1241	1027	595	548	584
MAX	638	669	723	739	684	829	744	1740	1390	1020	573	630
MIN	387	122	10	458	572	601	268	491	536	371	522	509
AC-FT	34740	30820	31370	38190	33990	42330	28980	76310	61090	36580	33670	34740
CAL YR 1978	TOTAL	230192	MEAN	631	MAX	1700	MIN	10	AC-FT	456600		
WTR YR 1979	TOTAL	243409	MEAN	667	MAX	1740	MIN	10	AC-FT	482800		

## 11236000 HUNTINGTON LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°14'03", long 119°12'41", in SW<sup>1</sup> 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, 89,220 acre-ft (110 hm<sup>3</sup>) June 23, elevation, 6,950.04 ft (2,118.372 m); minimum, 33,560 acre-ft (41.4 hm<sup>3</sup>) Apr. 29, elevation, 6,903.03 ft (2,104.044 m).

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

6,819.90	0	6,835	1,550	6,870	11,300	6,920	50,800
6,820	8	6,840	2,350	6,880	16,400	6,930	62,600
6,822	142	6,845	3,320	6,890	22,900	6,940	75,300
6,825	382	6,850	4,480	6,900	30,900	6,950	89,200
6,830	899	6,860	7,430	6,910	40,200	6,951	90,610

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88365	87651	86643	82887	83749	79927	63011	33959	82235	89095	88394	87779
2	88408	87537	86643	82818	83847	78825	62445	34123	84140	89123	88437	87808
3	88451	87594	86700	82790	83847	78052	61907	34463	85529	89080	88480	87836
4	88537	88151	86885	82748	83833	77258	61442	35525	86558	88952	88508	87836
5	88551	88136	87126	82720	83930	76479	60859	36661	87140	88551	88523	87879
6	88608	88108	86176	82554	84154	75785	59326	37399	87679	88380	88523	87908
7	88680	88122	85134	82665	84448	75159	57797	37941	87622	88408	88523	88022
8	88680	88251	84308	82734	84685	74615	56043	37902	87495	88237	88537	88036
9	88608	88380	84238	82762	84867	74138	54543	37641	87651	87993	88523	88036
10	88222	88523	84084	82707	85050	73743	52868	36958	87936	87836	88508	87936
11	88151	88708	83972	83763	85303	73519	51250	36327	88094	87793	88465	87893
12	88122	88680	83833	84462	85289	73112	49722	36327	88079	87865	88437	87879
13	88165	88451	83777	84867	85247	72678	48403	37139	88222	87979	88408	87850
14	88151	88208	83693	85261	85430	72260	47381	38545	87951	88108	88408	87822
15	88122	87951	83609	85655	85430	71973	46497	40387	87965	88279	88365	87822
16	88136	87637	83525	85866	85430	71556	45633	42467	88508	88408	88365	87936
17	88194	87523	83511	86106	85402	71011	44702	44892	88851	88523	88380	87979
18	88237	87523	83581	86303	85317	70441	43447	48000	89080	88565	88408	88079
19	88265	87495	83595	86516	85219	69874	42240	51576	89123	88565	88408	88122
20	88251	87452	83497	86572	85106	69283	41051	54335	89137	88551	88408	88122
21	88194	87537	83400	86501	85247	68681	39659	57976	89137	88809	88408	88165
22	88165	87537	83331	86416	84923	68057	38575	61356	89209	88994	88394	88208
23	88122	87523	83331	85993	84713	67383	37341	64472	89166	88994	88351	88136
24	88065	87452	83303	85683	84336	66764	36185	67105	89109	88809	88308	88151
25	88008	87353	83275	85416	84252	66209	35132	69463	89052	88637	88265	88222
26	87936	87239	83275	85092	83916	65720	34261	71895	89080	88408	88179	88237
27	87850	87112	83206	84755	82498	65432	33968	74364	89152	88265	88122	88222
28	87736	87069	83123	84420	81146	65094	33693	76492	89166	88322	88036	88222
29	87879	86842	83053	84070	---	64584	33583	78364	89195	88265	87936	88194
30	87736	86658	82998	83791	---	64086	33675	79340	89180	88265	87865	88279
31	87665	---	82928	83679	---	63541	---	80419	---	88322	87793	---
MAX	88680	88708	87126	86572	85430	79927	63011	80419	89209	89123	88537	88279
MIN	87665	86658	82928	82554	81146	63541	33583	33959	82235	87793	87793	87779
(+)	6948.95	6948.24	6945.58	6946.12	6944.29	6930.80	6903.16	6943.76	6950.01	6949.41	6949.04	6949.38
(±)	-815	-1010	-3730	+751	-2530	-17600	-29900	+46700	+8760	-858	-529	+486

CAL YR 1978 ‡ +23300

WTR YR 1979 ‡ -201

‡ Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

## 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 five discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--52 years, 39.8 ft<sup>3</sup>/s (1.127 m<sup>3</sup>/s), 28,840 acre-ft/yr (35.6 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)
Jan. 11	2200	292 8.27	5.61 1.710	May 19	1815	*837 23.7	7.34 2.237
Apr. 30	2015	319 9.03	5.74 1.750	May 26	1915	579 16.4	6.67 2.033
May 4	2000	465 13.2	6.31 1.923	June 3	2115	252 7.14	5.40 1.646

Minimum daily discharge, 0.55 ft<sup>3</sup>/s (0.016 m<sup>3</sup>/s) Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	3.6	5.8	6.0	29	25	32	220	231	21	4.7	1.6
2	7.0	3.9	5.8	6.0	31	24	31	204	215	20	4.3	1.5
3	6.8	4.3	5.6	6.0	29	22	31	272	212	19	3.9	1.4
4	6.4	4.9	5.5	5.8	26	23	36	323	207	18	3.6	1.4
5	6.2	5.1	5.6	6.0	25	24	45	326	192	18	3.4	1.3
6	5.9	4.9	5.5	6.0	22	27	55	282	176	16	3.2	1.3
7	5.6	4.4	5.1	6.0	21	31	55	231	148	15	3.3	1.2
8	5.1	4.2	4.9	6.0	20	37	56	173	121	14	3.0	1.1
9	5.0	4.0	4.9	6.0	20	40	67	148	109	13	2.7	1.0
10	4.7	4.0	5.1	6.0	20	40	54	143	104	12	2.6	.93
11	4.6	4.0	5.1	4.4	20	41	52	187	97	12	2.5	.87
12	4.3	4.8	5.1	137	20	43	49	270	88	11	2.7	.81
13	5.8	5.1	5.1	108	20	43	65	351	82	11	2.7	.75
14	3.9	5.2	5.1	63	40	44	94	398	71	10	2.7	.72
15	3.8	5.1	5.1	43	41	44	113	414	63	9.9	2.5	.67
16	3.8	5.2	5.1	42	33	44	117	422	58	9.2	2.3	.68
17	3.9	4.9	5.1	40	29	43	102	462	56	8.6	2.3	.69
18	3.8	4.7	4.9	34	26	42	78	522	52	8.2	2.5	.61
19	3.6	4.7	4.9	35	25	41	68	555	47	7.8	2.4	.61
20	3.6	4.6	5.3	32	24	39	73	532	44	7.8	2.3	.62
21	3.7	4.3	5.5	29	27	38	91	548	41	13	2.1	.60
22	3.7	4.2	6.0	27	32	36	116	488	38	12	2.0	.61
23	3.4	4.6	6.0	26	31	33	124	433	35	9.5	1.9	.65
24	3.3	5.0	5.8	25	28	31	124	411	33	8.3	1.8	.61
25	3.3	5.0	5.8	24	25	33	125	411	31	7.3	1.7	.60
26	3.2	5.0	5.8	26	23	36	142	425	29	6.8	1.7	.57
27	3.1	5.1	5.8	26	22	33	192	409	27	6.3	1.6	.55
28	3.1	5.3	6.0	25	21	32	205	363	25	6.2	1.5	.58
29	3.0	5.7	6.0	21	---	34	221	332	24	5.9	1.6	.64
30	3.0	5.6	6.0	20	---	33	245	304	22	5.5	1.7	.84
31	3.0	---	6.0	23	---	32	---	272	---	4.9	1.7	---
TOTAL	136.8	141.4	169.3	909.8	730	1088	2858	10831	2678	347.2	78.9	26.01
MEAN	4.41	4.71	5.46	29.3	26.1	35.1	95.3	349	89.3	11.2	2.55	.87
MAX	7.2	5.7	6.0	137	41	44	245	555	231	21	4.7	1.6
MIN	3.0	3.6	4.9	5.8	20	22	31	143	22	4.9	1.5	.55
AC-FT	271	280	336	1800	1450	2160	5670	21480	5310	689	156	52

CAL YR 1978 TOTAL 31680.10 MEAN 86.8 MAX 670 MIN 2.8 AC-FT 62840  
WTR YR 1979 TOTAL 19994.41 MEAN 54.8 MAX 555 MIN .55 AC-FT 39660

## 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 good. 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 3 discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--51 years, 221 ft<sup>3</sup>/s (6.259 m<sup>3</sup>/s), 160,100 acre-ft/yr (197 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	3.1	4.6	4.8	245	782	431	823	516	633	5.5	3.7
2	34	3.6	4.6	4.8	245	598	429	812	273	594	5.3	3.5
3	34	4.0	4.4	4.8	245	472	427	885	276	558	5.0	3.5
4	34	4.5	4.3	4.6	219	470	429	959	476	557	5.0	3.5
5	34	4.7	4.4	4.8	62	470	545	967	648	540	4.8	3.5
6	33	4.5	4.3	4.8	61	470	732	946	936	528	4.8	3.3
7	33	4.0	3.9	4.8	60	474	719	915	1340	341	4.8	3.3
8	33	3.8	3.7	4.8	60	477	706	865	1370	167	4.3	3.3
9	33	3.6	3.7	4.8	92	477	703	834	1090	104	4.3	3.3
10	33	3.5	3.9	4.8	64	480	679	821	947	15	4.3	3.3
11	32	3.4	3.9	35	64	485	662	847	959	15	3.9	3.1
12	32	3.9	3.9	135	183	485	648	924	1040	13	3.9	3.0
13	32	4.2	3.9	107	276	482	653	1000	1130	12	4.1	2.9
14	32	4.0	3.9	84	289	478	669	1070	1320	11	4.1	2.9
15	32	3.6	3.9	69	290	477	672	1110	1040	10	3.9	2.9
16	16	3.7	3.9	64	287	472	668	1160	664	9.4	3.9	2.9
17	2.9	4.1	3.9	58	283	466	649	1220	627	8.6	3.7	2.9
18	.90	3.9	3.7	58	282	461	618	1310	625	8.3	3.9	2.9
19	0	3.8	3.7	54	281	458	570	1370	621	8.0	3.9	2.9
20	1.6	3.7	4.1	159	280	455	620	1390	618	8.0	3.7	2.9
21	2.9	3.6	4.3	254	280	451	826	1420	615	13	3.7	2.9
22	2.9	3.5	4.8	252	281	447	825	1420	612	67	3.7	2.9
23	2.8	3.9	4.8	250	279	445	809	1410	674	162	3.5	2.9
24	2.7	4.3	4.6	249	278	443	783	1410	603	161	3.5	2.9
25	2.7	4.2	4.6	248	137	444	760	1500	600	66	3.3	2.9
26	2.7	4.1	4.6	246	261	445	753	1540	607	7.3	3.3	2.9
27	2.7	4.1	4.6	245	796	440	797	1540	655	7.0	3.3	2.9
28	2.6	4.0	4.8	245	788	439	804	1530	663	6.7	3.3	2.9
29	2.6	4.2	4.8	245	---	440	817	1520	635	6.4	1.6	2.9
30	2.6	4.4	4.8	245	---	436	843	1510	620	6.1	1.3	2.9
31	2.6	---	4.8	245	---	433	---	1090	---	5.8	3.7	---
TOTAL	546.20	117.9	132.1	3594.8	6968	14752	20246	36118	22800	4648.6	121.3	92.5
MEAN	17.6	3.93	4.26	116	249	476	675	1165	760	150	3.91	3.08
MAX	34	4.7	4.8	254	796	782	843	1540	1370	633	5.5	3.7
MIN	0	3.1	3.7	4.6	60	433	427	812	273	5.8	1.3	2.9
AC-FT	1080	234	262	7130	13820	29260	40160	71640	45220	9220	241	183
CAL YR 1978	TOTAL	140946.10	MEAN 386	MAX 1570	MIN 0	AC-FT 279600						
WTR YR 1979	TOTAL	110137.40	MEAN 302	MAX 1540	MIN 0	AC-FT 218500						

## SAN JOAQUIN RIVER BASIN

11239500 SHAVER LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°08'40", long 119°18'08", in SE¼ 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, 135,550 acre-ft (167 hm<sup>3</sup>) June 29, elevation, 5,370.12 ft (1,636.813 m); minimum, 51,900 acre-ft (64.0 hm<sup>3</sup>) Feb. 26, elevation, 5,323.74 ft (1,622.676 m).

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

5,225	0	5,250	700	5,280	9,190	5,330	60,900
5,230	42	5,255	1,250	5,290	15,600	5,340	76,700
5,235	97	5,260	2,070	5,300	24,000	5,350	94,600
5,240	191	5,265	3,210	5,310	34,500	5,360	114,200
5,245	379	5,270	4,750	5,320	46,800	5,371	137,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127602	111988	89218	74710	64750	53761	60584	75340	126329	135502	118963	99157
2	127028	111585	88180	73655	64415	53918	60346	76241	125780	135524	118156	99138
3	126413	111222	87109	72592	64125	53704	60197	77381	125210	135502	117354	98580
4	125822	111262	86410	71568	63988	53493	60033	78767	124914	135502	116592	98023
5	125231	111262	85800	70602	63821	53283	60063	80234	125041	135458	116572	97487
6	124766	110697	85211	69547	63079	53101	60525	81596	125822	135371	115773	96913
7	124303	109832	84521	68673	62323	52947	60972	82938	127198	134935	114935	96473
8	123841	109110	83813	67873	61257	52835	61392	84079	128749	134109	114119	96073
9	123422	108328	83287	67340	60257	52835	61828	85105	129711	133239	113307	95635
10	122876	107671	83112	66440	59245	52947	62143	86141	130417	132612	112495	95178
11	122289	107134	82745	66672	58196	53073	62413	87308	131103	131836	111746	94701
12	121831	106398	82431	66502	57343	53171	62534	88579	131987	131060	111746	94285
13	121393	105646	82187	65992	57035	53437	62973	89972	133086	130310	111121	93813
14	120955	104778	81942	65421	57020	54132	63367	91488	134478	129562	110334	93379
15	120496	103893	81683	64735	56536	55319	63821	93209	135371	129562	109572	92963
16	120040	103150	81717	63896	56043	56377	64277	94968	135480	128834	108749	92531
17	119564	102447	81907	63018	55464	57475	64659	96894	135480	128027	107929	92102
18	119046	101708	81527	62218	54887	58506	64872	99022	135480	127262	107174	91655
19	118549	101029	81027	61287	54374	59289	64918	101282	135480	126477	107174	91208
20	118033	100312	80372	61257	53947	59289	65269	103365	135458	125716	106557	90836
21	117560	99715	79671	61783	53521	59260	66131	105863	135458	125125	105765	90413
22	117045	98926	78682	62293	53451	59201	66965	108128	135415	125188	104936	90137
23	116551	97851	78308	62443	53409	59112	67811	110355	135480	124745	104128	89659
24	116059	96779	78342	62776	52975	59289	68769	112271	135480	124240	103326	89273
25	115548	95673	78375	62988	52317	59512	69547	114343	135437	123568	102564	88925
26	115119	94530	78409	63261	51876	59705	70425	116819	135393	122771	102193	88561
27	114567	93435	78426	63760	52429	60495	71374	119149	135415	121977	101669	88180
28	114017	92345	78325	64262	53115	60942	72315	121330	135502	121226	101146	87799
29	113510	91264	77870	64445	---	60763	73261	123317	135546	121163	100622	87780
30	112982	90174	76842	64689	---	60689	74281	125315	135524	120538	100081	87780
31	112474	---	75757	64948	---	60704	---	126371	---	119750	99638	---
MAX	127602	111988	89218	74710	64750	60942	74281	126371	135546	135524	118963	99157
MIN	112474	90174	75757	61257	51876	52835	60033	75340	124914	119750	99638	87780
(*)	5359.14	5347.65	5339.41	5332.65	5324.63	5329.84	5338.52	5365.85	5370.11	5362.69	5352.65	5346.34
(†)	-15700	-22300	-14400	-10800	-11800	+7590	+13600	+52100	+9150	-15800	-20100	-11900

CAL YR 1978 † +42800

WTR YR 1979 † -40400

\* Elevation, in feet, at end of month.

† Change in contents, in acre-feet, rounded to Geological Survey standards.



## SAN JOAQUIN RIVER BASIN

145

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 180400006, Sierra National Forest, on upstream face of dam No. 7 on San Joaquin River, 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.--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, 6,280 acre-ft (7.74 hm<sup>3</sup>) Mar. 3, 1956, elevation, 1,347.98 ft (410.864 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,100 acre-ft (32.2 hm<sup>3</sup>) July 28, elevation, 1,402.90 ft (427.604 m); minimum, 9,320 acre-ft (11.5 hm<sup>3</sup>) Oct. 1, elevation, 1,358.88 ft (414.187 m).

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

1,320	0	1,330	2,010	1,355	8,200	1,380	16,500
1,322	384	1,335	3,120	1,360	9,650	1,385	18,400
1,324	778	1,340	4,280	1,365	11,200	1,390	20,400
1,326	1,180	1,345	5,520	1,370	12,900	1,400	24,700
1,328	1,590	1,350	6,810	1,375	14,600	1,405	27,060

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12838	21575	24582	24238	22763	23539	25195	25323	25456	24793	25182	25515
2	14931	21324	24712	24349	22529	23442	24425	25406	25419	24879	25046	25488
3	16474	20802	24681	24114	22719	23263	23654	25502	25419	25055	24942	25483
4	17962	18206	24676	23923	22923	23311	22784	25529	25250	25227	25241	25451
5	19085	15194	24726	24003	22931	23517	22667	25520	25250	25346	24739	25191
6	19973	15161	24537	23931	22962	23706	23359	25488	25492	25360	25155	25078
7	20415	15720	24784	23971	22892	23883	23958	25556	25479	25346	25291	24515
8	21693	16338	24591	24060	23464	23980	24506	25620	25055	25310	25346	24766
9	22979	16959	24322	23927	24318	24256	25082	25556	24748	25060	25255	24394
10	23689	17644	23289	23954	23812	24296	25630	25438	24627	24969	25433	24034
11	24502	18293	23136	24131	23272	24309	25433	25351	24956	24893	25323	23923
12	24681	19021	22927	24074	22940	24282	25232	25301	25323	24983	25159	23610
13	24915	19649	22550	23010	22975	24264	25159	25273	25689	24838	24974	23632
14	24924	20254	22262	22344	23031	24242	25648	25282	25273	25114	25333	23693
15	24780	20811	22884	22992	23403	24074	25625	25319	25055	24983	25319	23856
16	24897	21439	22840	22589	23825	23689	25652	25296	24843	25064	25269	23372
17	24829	21988	22520	23768	24074	23145	25685	25287	24879	25042	25264	22931
18	24870	22374	22563	23425	23737	22542	25625	25269	25355	25105	25342	22262
19	24861	22460	22944	23250	23724	22069	25524	25273	25828	24992	25006	22112
20	24915	22871	23171	23407	23460	22318	25392	25195	25579	25110	25237	21907
21	24875	23263	23469	23263	23693	22741	25073	25301	24672	25492	25378	21668
22	24775	23667	23676	23141	23566	23123	24884	24640	24663	24385	25378	21409
23	24694	24153	24034	23171	23390	22646	25173	24390	24816	25433	25305	21868
24	24717	24140	23843	23045	23359	21219	25337	24712	25001	25470	25470	20786
25	24618	24376	24016	22486	23040	20084	25883	25019	25456	25607	25342	19817
26	24753	24506	24367	22503	23101	19134	25685	25051	25110	25754	24929	18827
27	24847	24416	24416	22572	23154	19243	25168	24852	24956	25943	24942	18056
28	24193	24658	24470	22520	23180	22537	25001	25119	24663	25879	24870	17891
29	23101	24573	24162	22806	---	23869	25110	24587	24488	25442	25042	17535
30	22267	24676	24162	22806	---	24775	25232	24924	24685	25337	25250	17159
31	21740	---	24149	22793	---	25515	---	24875	---	25374	25191	---
MAX	24924	24676	24784	24349	24318	25515	25883	25620	25828	25943	25470	25515
MIN	12838	15161	22262	22344	22529	19134	22667	24390	24488	24385	24739	17159
(†)	1393.12	1399.84	1398.66	1395.57	1396.46	1401.69	1401.07	1400.28	1399.86	1401.38	1400.98	1381.84
(‡)	+12400	+2940	-527	-1360	+387	+2340	-283	-357	-190	+689	-183	-8030

CAL YR 1978 † +2910

WTR YR 1979 † +7840

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

## SAN JOAQUIN RIVER BASIN

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 eight discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--28 years, 418 ft<sup>3</sup>/s (11.84 m<sup>3</sup>/s), 302,800 acre-ft/yr (373 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, 6,970 ft<sup>3</sup>/s (197 m<sup>3</sup>/s) May 22, gage height, 16.59 ft (5.057 m); minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Jan. 13, 16, 17, 19-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	19	19	18	7.5	7.8	28	196	1920	12	16	19
2	16	19	14	18	7.3	7.5	28	196	2070	12	16	19
3	12	19	14	18	7.3	7.5	28	196	2060	12	17	19
4	16	19	16	18	7.3	7.5	27	196	2550	12	17	19
5	15	19	16	18	7.3	7.5	27	195	2820	12	17	19
6	15	20	16	18	7.3	7.5	27	195	2830	12	17	19
7	15	20	18	18	7.3	7.5	27	194	2860	12	18	19
8	15	20	18	16	7.3	7.5	27	194	1940	12	18	19
9	15	22	18	16	7.4	7.5	27	193	1160	12	18	19
10	15	22	18	16	7.5	7.5	28	192	1060	12	18	19
11	15	21	18	11	7.4	7.4	410	190	1070	13	18	19
12	16	19	18	3.2	7.3	7.3	415	186	1080	13	18	19
13	16	19	18	3.0	7.4	7.7	36	183	1300	13	18	19
14	16	19	18	3.1	6.1	8.5	102	178	1730	13	18	19
15	16	19	18	3.1	5.5	7.5	402	175	1020	13	18	20
16	16	19	18	3.0	5.5	5.5	394	175	630	13	18	22
17	16	20	18	3.0	5.5	4.3	389	175	299	14	21	22
18	16	20	18	3.1	5.6	4.3	386	175	30	14	26	22
19	16	20	18	3.0	5.7	4.3	385	175	27	14	19	22
20	17	20	18	3.0	5.8	4.3	375	175	413	14	19	22
21	18	20	18	3.0	5.9	4.3	370	1690	312	14	19	22
22	18	20	18	8.0	5.7	4.3	270	6040	20	14	19	22
23	18	20	18	8.7	6.8	12	29	5460	15	14	19	22
24	19	20	18	7.3	7.5	27	27	4700	16	14	19	26
25	20	20	18	7.4	7.6	27	75	4240	16	14	19	23
26	20	20	18	7.3	7.0	26	295	4770	12	15	19	22
27	20	20	18	7.3	7.5	20	532	5470	11	15	19	22
28	20	20	18	7.3	7.5	23	353	5030	11	15	19	21
29	20	20	18	7.3	---	27	198	4590	11	16	19	21
30	20	20	18	7.4	---	27	196	3370	11	16	19	21
31	19	---	18	7.6	---	28	---	2840	---	16	19	---
TOTAL	519	595	545	291.1	190.8	362.0	5913	51934	29304	417	574	618
MEAN	16.7	19.8	17.6	9.39	6.81	11.7	197	1675	977	13.5	18.5	20.6
MAX	20	22	19	18	7.6	28	532	6040	2860	16	26	26
MIN	12	19	14	3.0	5.5	4.3	27	175	11	12	16	19
AC-FT	1030	1180	1080	577	378	718	11730	103000	58120	827	1140	1230
CAL YR 1978 TOTAL	495651.8		MEAN	1358	MAX	11600	MIN	3.6	AC-FT	983100		
WTR YR 1979 TOTAL	91262.9		MEAN	250	MAX	6040	MIN	3.0	AC-FT	181000		

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA

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 Chilko Creek, and 4.7 mi (7.6 km) southeast of Sugar Pine.

DRAINAGE AREA.--16.9 mi<sup>2</sup> (43.8 km<sup>2</sup>).

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

REVISED RECORDS.--WDR CA-72-2: 1970-71.

GAGE.--Water-stage recorder. Altitude of gage is 5,200 ft (1,580 m), from topographic map.

REMARKS.--Records good. No storage above station.

AVERAGE DISCHARGE.--14 years, 20.2 ft<sup>3</sup>/s (0.572 m<sup>3</sup>/s), 14,630 acre-ft/yr (18.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft<sup>3</sup>/s (453 m<sup>3</sup>/s) Dec. 6, 1966, gage height, 5.90 ft (1.798 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.

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)				
Feb. 14	0300	105	2.97	3.71	1.131	May 5	unknown	145	4.11	3.90	1.189
Mar. 1	1315	--	--	*a4.46	1.359	May 15	1915	170	4.81	3.99	1.216
Apr. 16	unknown	unknown	--	unknown	--	May 21	1830	*222	6.29	4.16	1.268
Apr. 27	unknown	113	3.20	3.76	1.146						

a Backwater from ice.

Minimum daily, 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	5.4	11	8.1	14	25	36	95	47	22	7.6	4.5
2	8.6	5.7	8.7	8.3	13	19	35	87	44	21	7.3	4.3
3	8.6	5.6	7.5	8.6	13	19	36	97	42	21	7.2	4.3
4	8.4	5.4	7.1	8.6	14	20	39	112	40	20	7.1	4.1
5	8.1	5.1	7.2	9.5	14	21	49	123	36	20	7.0	4.0
6	7.2	5.1	6.3	10	13	25	63	113	33	19	6.9	3.8
7	7.1	4.8	7.2	10	12	30	59	97	30	18	6.8	3.7
8	7.1	4.8	6.2	9.7	12	33	62	86	25	18	6.6	3.5
9	7.1	4.8	6.5	13	12	35	68	78	21	17	6.4	3.5
10	7.1	4.9	6.8	13	12	41	63	73	18	16	6.3	3.5
11	7.1	6.3	7.0	19	13	46	55	79	27	16	6.4	3.4
12	6.9	5.7	6.9	23	13	46	52	93	45	15	6.5	3.3
13	6.9	6.3	6.9	28	22	45	65	113	43	15	6.6	3.2
14	6.6	6.0	7.0	29	62	42	81	130	41	14	6.5	3.2
15	6.3	5.9	6.9	28	34	45	89	138	39	14	6.4	3.1
16	6.3	6.1	6.8	25	27	41	95	114	37	13	6.2	3.2
17	6.3	6.6	6.6	23	24	36	88	105	37	12	5.9	3.2
18	6.3	6.3	5.5	20	22	34	74	124	37	12	5.9	3.1
19	6.0	6.1	7.1	19	21	32	63	136	35	11	5.9	3.1
20	5.8	6.0	8.3	19	18	30	60	139	33	12	5.9	3.0
21	6.0	5.9	7.3	18	15	30	67	153	32	17	6.0	3.1
22	5.8	6.0	7.6	17	18	29	73	138	31	14	5.8	3.2
23	5.1	6.5	8.0	17	18	29	74	125	30	12	5.6	3.3
24	5.0	6.5	7.9	16	21	31	65	111	29	11	5.4	3.5
25	5.0	7.0	8.1	16	22	33	66	100	28	9.9	5.3	3.5
26	4.8	7.6	8.4	15	20	36	78	106	27	9.4	5.1	3.6
27	4.8	7.9	8.5	14	19	64	101	118	26	9.1	5.0	3.6
28	4.8	6.6	8.6	13	20	52	97	113	25	8.9	4.6	3.6
29	4.8	7.0	7.6	12	---	41	90	87	24	8.5	4.7	3.6
30	4.8	7.5	7.7	10	---	38	92	65	23	8.2	4.8	3.6
31	4.9	---	7.7	11	---	36	---	54	---	7.9	4.7	---
TOTAL	198.2	181.4	230.9	490.8	538	1084	2035	3302	985	441.9	188.4	105.6
MEAN	6.39	6.05	7.45	15.8	19.2	35.0	67.8	107	32.8	14.3	6.08	3.52
MAX	8.6	7.9	11	29	62	64	101	153	47	22	7.6	4.5
MIN	4.8	4.8	5.5	8.1	12	19	35	54	18	7.9	4.6	3.0
AC-FT	393	360	458	974	1070	2150	4040	6550	1950	877	374	209
CAL YR 1978 TOTAL	14919.8		MEAN 40.9	MAX 223	MIN 4.8	AC-FT 29590						
WTR YR 1979 TOTAL	9781.2		MEAN 26.8	MAX 153	MIN 3.0	AC-FT 19400						

## SAN JOAQUIN RIVER BASIN

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) southeast 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 Soquel ditch (station 11242350) 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, 45,370 acre-ft (55.9 hm<sup>3</sup>) June 25, elevation, 3,376.36 ft (1,029.115 m); minimum, 22,070 acre-ft (27.2 hm<sup>3</sup>) Dec. 15, elevation, 3,353.08 ft (1,022.019 m).

## MONTHEND CONTENTS, IN ACRE-FEET, AT 2400, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Contents
Sept. 30.....	32,610
Oct. 31.....	25,690
Nov. 30.....	23,320
Dec. 31.....	23,530
Jan. 31.....	25,730
Feb. 28.....	24,530
Mar. 31.....	28,400
Apr. 30.....	33,850
May 31.....	42,400
June 30.....	45,080
July 31.....	40,610
Aug. 31.....	31,900
Sept. 30.....	26,610

## 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.--39 years, 68.6 ft<sup>3</sup>/s (1.943 m<sup>3</sup>/s), 49,700 acre-ft/yr (61.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 167 ft<sup>3</sup>/s (4.73 m<sup>3</sup>/s) June 23, 24, 1965; no flow at times.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	120	.01	1.2	120	119	120	120	120	.03	144	148
2	0	118	.70	1.2	120	119	122	120	43	54	144	147
3	0	120	.63	1.2	120	119	122	120	.03	56	144	148
4	0	121	.67	1.2	120	119	122	120	.03	.05	144	149
5	.02	121	1.6	1.2	120	119	122	120	38	49	144	149
6	30	120	3.1	1.2	120	119	122	120	119	76	145	149
7	145	120	68	1.4	120	119	122	120	119	.05	145	149
8	147	120	118	1.4	120	119	122	120	53	.03	144	149
9	149	120	118	1.4	120	119	121	121	.03	73	144	149
10	149	120	119	1.4	120	119	121	121	.03	120	144	149
11	149	120	120	27	120	119	121	121	75	120	144	149
12	149	120	120	52	120	119	121	121	119	86	144	149
13	149	120	120	52	120	120	121	122	120	120	145	149
14	149	120	120	52	120	120	121	122	121	120	145	149
15	147	120	70	80	120	120	120	39	45	120	145	149
16	149	120	0	116	120	120	120	66	.03	120	133	149
17	149	53	0	116	120	120	120	151	.03	120	144	149
18	149	.78	.43	116	120	120	120	150	.03	120	144	62
19	150	.78	1.1	116	120	120	120	150	.01	120	144	.03
20	150	.78	1.1	118	120	120	120	151	0	120	144	.02
21	150	.81	.86	120	120	120	120	151	0	120	144	0
22	148	.78	0	120	120	120	120	151	0	119	147	0
23	150	.78	0	118	119	120	120	151	0	137	150	0
24	150	.78	0	117	120	120	120	151	0	147	150	0
25	150	.74	0	119	120	120	120	150	76	141	150	0
26	148	.41	0	119	120	120	120	150	121	142	151	0
27	148	0	0	119	120	120	120	150	120	144	150	0
28	147	0	0	120	119	120	120	150	118	143	150	0
29	147	0	0	120	---	120	119	134	56	144	149	12
30	147	0	0	120	---	120	120	120	.03	144	149	.03
31	132	---	.55	120	---	120	---	120	---	144	148	---
TOTAL	3727.02	1979.64	983.75	2169.8	3358	3708	3619	3973	1463.25	3119.16	4512	2603.08
MEAN	120	66.0	31.7	70.0	120	120	121	128	48.8	101	146	86.8
MAX	150	121	120	120	120	120	122	151	121	147	151	149
MIN	0	0	0	1.2	119	119	119	39	0	.03	133	0
AC-FT	7390	3930	1950	4300	6660	7350	7180	7880	2900	6190	8950	5160
CAL YR 1978	TOTAL	43486.65	MEAN	119	MAX	162	MIN	0	AC-FT	86260		
WTR YR 1979	TOTAL	35215.70	MEAN	96.5	MAX	151	MIN	0	AC-FT	69850		

## 11244000 NORTH FORK WILLOW CREEK NEAR BASS LAKE, CA

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.

DRAINAGE AREA.--50.8 mi<sup>2</sup> (131.6 km<sup>2</sup>).

PERIOD OF RECORD.--May 1940 to current year. Prior to October 1944, published as Willow Creek below Crane Valley Reservoir. October 1944 to September 1954, published as "below Crane Valley Reservoir."

GAGE.--Water-stage recorder. Broad-crested weir with V-notch Dec. 21, 1961, to Jan. 16, 1969, and since Mar. 26, 1971. Altitude of gage is 3,200 ft (975 m), from topographic map.

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). Record for Soquel diversion (station 11242350) shows flow diverted from North Fork Willow Creek into Nelder Creek in Fresno River basin. Brown's Creek ditch diverted 21,500 acre-ft (26.5 hm<sup>3</sup>) from South Fork Willow Creek into Bass Lake during the current year. 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.--39 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, 1,300 ft<sup>3</sup>/s (36.8 m<sup>3</sup>/s) Jan. 26, 1969, gage height, unknown; minimum daily, 0.1 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Nov. 13-16, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 135 ft<sup>3</sup>/s (3.82 m<sup>3</sup>/s) Oct. 6, gage height, 2.82 ft (0.860 m); minimum daily, 0.32 ft<sup>3</sup>/s (0.009 m<sup>3</sup>/s) Sept. 19-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	.40	.38	.38	.43	2.0	.83	.69	1.6	1.4	.90	.43
2	.87	.40	.38	.38	.43	1.3	.73	.73	1.6	1.4	.90	.42
3	.87	.39	.38	.38	.42	.97	.65	.76	1.5	1.4	.87	.42
4	.88	.39	.38	.40	.42	.83	.58	.87	1.6	1.4	.87	.40
5	.82	.39	.38	.40	.43	.73	.56	.90	1.6	1.4	.83	.40
6	28	.37	.38	.40	.45	.65	.56	.90	1.6	1.4	.83	.38
7	.64	.37	.37	.40	.45	.56	.56	1.0	1.6	1.4	.80	.38
8	.56	.37	.37	.40	.45	.54	.56	1.1	1.6	1.4	.80	.38
9	.55	.37	.37	1.8	.43	.49	.56	1.1	1.6	1.4	.76	.38
10	.53	.37	.37	1.6	.43	.47	.56	1.6	1.5	1.4	.76	.38
11	.53	.37	.38	2.5	.43	.45	.56	1.8	1.5	1.4	.76	.37
12	.52	.37	.38	1.9	.43	.43	.56	1.9	1.5	1.3	.73	.37
13	.50	.37	.38	1.7	.62	.43	.56	2.0	1.5	1.3	.73	.37
14	.50	.38	.35	1.2	1.8	.43	.56	2.1	1.5	1.3	.73	.37
15	.48	.38	.35	1.4	.87	.94	.58	2.3	1.5	1.3	.69	.35
16	.47	.37	.35	1.0	.65	.97	.65	2.5	1.5	1.3	.69	.35
17	.46	.37	.83	.47	.54	.80	.69	2.5	1.5	1.3	.65	.33
18	.44	.37	1.0	.47	.51	.80	.62	2.5	1.5	1.2	.62	.33
19	.43	.35	1.2	.47	.90	.94	.56	2.5	1.5	1.2	.62	.32
20	.43	.35	1.0	.47	1.2	.97	.56	2.5	1.5	1.2	.58	.32
21	.42	.54	.83	.47	2.1	.97	.56	2.5	1.4	1.2	.58	.32
22	.41	.47	.65	.47	1.7	.90	.56	2.5	1.4	1.2	.56	.32
23	.41	.47	.51	.47	1.5	.87	.56	1.8	1.4	1.1	.58	.32
24	.40	.43	.47	.45	1.2	.83	.56	1.5	1.4	1.1	.56	.32
25	.39	.42	.43	.45	1.1	.80	.58	1.5	1.4	1.1	.54	.32
26	.39	.40	.40	.43	1.2	.69	.62	1.5	1.4	1.0	.51	.32
27	.39	.38	.38	.42	.97	2.3	.65	1.5	1.4	1.0	.49	.32
28	.39	.38	.38	.42	.94	3.3	.65	1.5	1.4	1.0	.47	.32
29	.39	.38	.38	.40	---	1.6	.65	1.6	1.4	.97	.45	.32
30	.40	.38	.38	.42	---	1.2	.69	1.6	1.4	.97	.45	.32
31	.39	---	.38	.43	---	.94	---	1.6	---	.94	.43	---
TOTAL	43.72	11.75	15.17	22.95	23.00	30.10	18.13	51.35	44.8	38.38	20.74	10.65
MEAN	1.41	.39	.49	.74	.82	.97	.60	1.66	1.49	1.24	.67	.36
MAX	28	.54	1.2	2.5	2.1	3.3	.83	2.5	1.6	1.4	.90	.43
MIN	.39	.35	.35	.38	.42	.43	.56	.69	1.4	.94	.43	.32
AC-FT	87	23	30	46	46	60	36	102	89	76	41	21

CAL YR 1978 TOTAL 5959.11 MEAN 16.3 MAX 690 MIN .35 AC-FT 11820  
WTR YR 1979 TOTAL 330.74 MEAN .91 MAX 28 MIN .32 AC-FT 656

11246500 WILLOW CREEK AT MOUTH, NEAR AUBERRY, CA

LOCATION.--Lat 37°09'03", long 119°27'34", in SE&NE& 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 nine discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--27 years, 56.3 ft<sup>3</sup>/s (1.594 m<sup>3</sup>/s), 40,790 acre-ft/yr (50.3 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 in 1955, 1959-62, 1964-66, 1968, 1972, 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,170 ft<sup>3</sup>/s (61.5 m<sup>3</sup>/s) Jan. 11, gage height, 11.54 ft (3.517 m); minimum daily, 0.91 ft<sup>3</sup>/s (0.026 m<sup>3</sup>/s) Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	3.7	8.7	7.0	63	195	78	170	34	12	5.2	2.2
2	11	4.3	11	7.1	29	98	72	137	31	12	4.7	2.0
3	12	4.4	7.6	6.8	23	66	64	147	29	12	4.3	2.0
4	9.8	4.3	6.6	6.8	21	58	60	175	28	11	4.2	1.9
5	10	4.1	6.8	7.6	21	58	73	197	26	11	4.1	1.8
6	11	4.0	6.3	8.7	20	64	87	157	40	11	3.9	1.8
7	9.2	3.6	6.2	7.7	20	89	70	158	25	11	4.0	1.6
8	9.0	3.6	6.2	10	20	103	65	132	22	11	3.9	1.5
9	8.8	3.6	6.2	30	19	100	91	100	21	10	3.6	1.3
10	8.5	3.6	6.0	15	19	109	68	86	20	9.9	3.5	1.2
11	7.0	4.9	6.2	629	18	65	58	89	19	10	3.3	1.2
12	6.4	5.4	6.2	490	18	53	54	109	18	11	3.4	1.1
13	6.3	4.9	6.2	75	21	52	58	134	24	11	2.8	1.0
14	5.8	4.9	6.0	45	219	47	76	156	20	11	2.8	.94
15	5.1	4.8	6.0	77	109	57	110	187	20	9.7	2.8	.94
16	4.9	4.8	16	51	52	125	119	193	19	8.9	2.7	.91
17	5.4	4.9	7.3	34	32	64	105	182	19	8.5	2.7	.94
18	5.5	5.1	9.2	37	26	59	71	187	20	7.9	2.4	.94
19	5.1	4.9	13	33	44	80	62	184	19	7.6	2.4	.94
20	4.4	4.8	10	27	61	52	64	169	18	7.9	2.2	1.5
21	3.7	7.7	8.3	25	358	47	75	154	17	10	2.3	3.0
22	4.0	10	8.7	23	210	45	93	139	16	12	2.3	3.2
23	3.9	8.0	8.3	21	185	41	95	121	16	9.9	2.4	2.9
24	4.0	6.8	8.0	20	107	40	86	102	15	8.6	2.2	2.9
25	4.3	6.4	7.9	21	77	42	93	81	14	7.6	2.0	2.9
26	3.2	6.0	7.7	18	67	45	106	71	14	7.2	1.9	3.3
27	3.2	6.0	7.7	18	56	205	182	63	13	6.9	1.8	3.6
28	3.2	6.0	7.7	18	50	716	175	53	13	6.7	1.7	3.7
29	3.2	6.0	7.6	15	---	211	161	45	12	6.6	1.6	3.8
30	3.4	6.2	7.3	17	---	123	179	41	12	5.8	1.7	4.8
31	3.6	---	7.0	32	---	89	---	37	---	5.5	2.0	---
TOTAL	195.9	157.7	243.9	1832.7	1965	3198	2750	3956	614	291.2	90.8	61.81
MEAN	6.32	5.26	7.87	59.1	70.2	103	91.7	128	20.5	9.39	2.93	2.06
MAX	12	10	16	629	358	716	182	197	40	12	5.2	4.8
MIN	3.2	3.6	6.0	6.8	18	40	54	37	12	5.5	1.6	.91
AC-FT	389	313	484	3640	3900	6340	5450	7850	1220	578	180	123

CAL YR 1978 TOTAL 67021.40 MEAN 184 MAX 2300 MIN 2.8 AC-FT 132900  
WTR YR 1979 TOTAL 15357.01 MEAN 42.1 MAX 716 MIN .91 AC-FT 30460

## SAN JOAQUIN RIVER BASIN

11247000 SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER, CA

LOCATION.--Lat 37°04'45", long 119°33'36", in NE¼NW¼ sec.10, T.10 S., R.22 E., Fresno County, Hydrologic Unit 18040006, on left bank 1.1 mi (1.8 km) downstream from Kerckhoff powerhouse, 1.4 mi (2.3 km) upstream from Big Sandy Creek, and 3.8 mi (6.1 km) southeast of Prather.

DRAINAGE AREA.--1,480 mi<sup>2</sup> (3,833 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1910 to September 1914, December 1936 to December 1937, December 1942 to current year. Published as "near North Fork" 1910-14 and as "below Kerckhoff powerhouse" 1915-60.

GAGE.--Water-stage recorder. Datum of gage is 563.4 ft (171.72 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to Oct. 1, 1914, at site 11 mi (18 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by 12 powerplants and eight reservoirs with total usable capacity of 609,300 acre-ft (751 hm<sup>3</sup>). Earliest storage began in 1901 at Bass Lake (station 11243400). See records for Florence Lake, Lake Thomas A. Edison, Mammoth Pool Reservoir, Huntington, Shaver, and Redinger Lakes given elsewhere in this report. Backwater from Millerton Lake has affected record at times since November 1947, when spillway gates were installed at Friant Dam. See schematic diagram of San Joaquin River basin.

COOPERATION.--Gage-height record, telemark readings, and five discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--40 years (water years 1911-14, 1944-79), 2,336 ft<sup>3</sup>/s (66.16 m<sup>3</sup>/s), 1,692,000 acre-ft/yr (2.09 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 92,200 ft<sup>3</sup>/s (2,610 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 51.0 ft (15.54 m), from floodmarks, from rating curve extended above 20,000 ft<sup>3</sup>/s (566 m<sup>3</sup>/s) on basis of records for San Joaquin River above Willow Creek, near Auberry and Willow Creek at mouth, near Auberry; minimum daily, 14 ft<sup>3</sup>/s (0.40 m<sup>3</sup>/s) Mar. 4, 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,800 ft<sup>3</sup>/s (306 m<sup>3</sup>/s) May 22, gage height, 22.39 ft (6.824 m); minimum daily, 639 ft<sup>3</sup>/s (18.1 m<sup>3</sup>/s) Dec. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	1660	1620	1530	2200	2580	3680	3880	5340	2360	1990	1780
2	1240	1660	1660	1570	2230	2610	3670	3860	5380	2350	2220	1710
3	1660	1650	1650	1650	1980	2530	3600	3860	5270	2450	2070	1700
4	1650	1660	1430	1670	2010	2450	3600	3880	5470	2350	1970	1650
5	1680	1660	1470	1650	2170	2310	3600	3890	6260	2360	1880	1650
6	1660	1650	1490	1640	2050	2270	3590	3880	6370	2530	2150	1660
7	1660	1670	1290	1640	1900	2360	3600	3880	5930	2470	2240	1660
8	1660	1650	1650	1640	1790	2340	3630	3860	5320	2480	2310	1220
9	1650	1650	1650	1650	1730	2520	3640	3800	4540	2540	2420	1670
10	1650	1640	1650	1680	2110	3060	3640	3800	4330	2210	2380	1660
11	1620	1640	1650	2290	2230	3000	3880	3750	4400	2350	2360	1470
12	1670	1640	1440	3100	2280	2990	3960	3800	4500	2090	2200	1390
13	1650	1640	1290	2720	2290	2990	3660	3800	4540	2270	1960	1460
14	1650	1670	1230	2520	3030	2970	3640	3820	5090	2100	2220	1310
15	1650	1660	639	1900	2480	3110	3980	3740	4540	2000	2080	1400
16	1620	1650	692	2350	2340	3640	4030	3710	3990	2040	2270	1660
17	1670	1630	937	2000	2300	3570	4010	3860	3630	2190	2240	1660
18	1650	1650	1460	2180	2690	3550	3960	3850	3390	2180	2260	1660
19	1650	1650	1350	2250	2840	3340	3950	3850	3250	2180	2090	1650
20	1650	1650	1440	2090	3030	3550	3910	3850	3570	1950	2090	1180
21	1650	1640	1370	2130	3540	3470	3910	4560	3770	1920	2030	1150
22	1640	1460	1280	2110	3390	3500	3900	9260	3030	1620	2250	1470
23	1670	1540	1240	2090	3370	3410	3660	8580	2920	1520	2280	998
24	1700	1450	1300	2010	2660	3440	3630	7880	3270	2130	2290	1650
25	1690	1290	1080	2410	2500	3430	3390	7520	3300	2010	2420	1650
26	1650	1500	1070	2100	2320	3420	3820	7790	3170	2010	2120	1650
27	1650	1610	1140	1960	2270	3700	4210	8590	2890	2040	1850	1650
28	1640	1660	1260	1970	2300	4770	4060	8040	2930	1940	1660	1400
29	1640	1570	1230	2010	---	4040	3880	7750	3050	2080	1710	1200
30	1620	1640	1650	2150	---	3790	3880	6510	2660	2050	1750	1010
31	1680	---	1520	2150	---	3710	---	6080	---	2080	1690	---
TOTAL	50540	48390	41828	62810	68030	98420	113570	159180	126100	66850	65450	45028
MEAN	1630	1613	1349	2026	2430	3175	3786	5135	4203	2156	2111	1501
MAX	1700	1670	1660	3100	3540	4770	4210	9260	6370	2540	2420	1780
MIN	1240	1290	639	1530	1730	2270	3390	3710	2660	1520	1660	998
AC-FT	100200	95980	82970	124600	134900	195200	225300	315700	250100	132600	129800	89310
CAL YR 1978 TOTAL	1529098			MEAN 4189	MAX 14400	MIN 639	AC-FT 3033000					
WTR YR 1979 TOTAL	946196			MEAN 2592	MAX 9260	MIN 639	AC-FT 1877000					



11247000 SAN JOAQUIN RIVER BELOW KERCKHOFF POWERHOUSE, NEAR PRATHER, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-68, 1970-74, 1978 to current year.

CHEMICAL ANALYSES: Water years 1978 to current year.

WATER TEMPERATURES: Water years 1961-68, 1970-74.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1960 to September 1968, January 1970 to September 1974.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CACO3)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
FEB 06...	1400	1749	36	7.3	4.5	13.4	11	.04	.00
JUN 26...	1452	3415	19	6.7	13.5	10.5	0	.02	.00

DATE	NITRO- GEN, NO2+N03 TOTAL (MG/L AS N)	NITRO- GEN, NO2+N03 DIS- SOLVED (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, ORTHOPH OSPATE TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPATE DISSOL. (MG/L AS P)
FEB 06...	.04	.03	.01	.13	.14	.18	.01	.00	.00
JUN 26...	.02	.02	.01	.09	.10	.12	.00	.00	.01

## 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 18040000, 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 Water and Power Resources Service and reviewed by the Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--36 years, 303 ft<sup>3</sup>/s (8.581 m<sup>3</sup>/s), 219,500 acre-ft/yr (271 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	502	221			0	0	201	1170	1260	994	1130	798
2	466	206			0	0	344	1160	1260	1090	1170	793
3	446	223			0	0	574	1130	1260	1160	1190	789
4	443	222			0	0	574	1130	1260	1150	1180	784
5	441	220			0	0	573	1130	1270	1100	1130	569
6	480	218			0	0	706	1090	1270	1070	1070	451
7	500	200			134	0	833	1070	1280	1070	1050	449
8	497	189			200	96	865	1070	1280	1070	1040	501
9	494	188			66	149	864	1070	1280	1060	1020	528
10	516	187			0	167	953	1020	1280	1060	1010	538
11	591	186			0	177	1030	1000	1240	1120	1000	479
12	623	186			0	227	1050	1000	1220	1120	991	407
13	607	186			0	325	1050	1000	1220	1090	978	303
14	597	187			64	389	1050	1030	1220	1090	966	199
15	593	151			134	427	1050	1050	1200	1120	956	199
16	589	126			151	330	1030	1050	1190	1140	946	199
17	561	82			151	198	1020	1050	1130	1190	937	199
18	544	51			169	183	1060	1120	1060	1240	930	199
19	540	52			162	184	1100	1150	1030	1220	923	70
20	536	52			151	211	1120	1150	1050	1190	914	0
21	532	18			163	227	1110	1200	1060	1190	904	0
22	495	0			104	227	1110	1210	1060	1180	895	0
23	473	0			0	227	1110	1220	1050	1160	886	0
24	470	0			0	227	1110	1230	1050	1150	878	132
25	467	0			0	227	1110	1240	1110	1150	874	205
26	500	0			0	227	1100	1210	1220	1140	869	205
27	517	0			0	227	1100	1200	1250	1130	860	205
28	513	0			0	179	1100	1210	1240	1120	837	205
29	509	0			---	151	1090	1220	1100	1110	820	204
30	504	0			---	151	1080	1240	998	1110	812	203
31	370	---			---	151	---	1260	---	1120	804	---
TOTAL	15916	3351	0	0	1649	5284	28067	35080	35398	34904	29970	9813
MEAN	513	112	0	0	58.9	170	936	1132	1180	1126	967	327
MAX	623	223	0	0	200	427	1120	1260	1280	1240	1190	798
MIN	370	0	0	0	0	0	201	1000	998	994	804	0
AC-FT	31570	6650	0	0	3270	10480	55670	69580	70210	69230	59450	19460
CAL YR 1978	TOTAL	239593.00	MEAN	656	MAX	1310	MIN	0	AC-FT	475200		
WTR YR 1979	TOTAL	199432.00	MEAN	546	MAX	1280	MIN	0	AC-FT	395600		

11250000 FRIANT-KERN CANAL AT FRIANT, CA  
(National stream-quality accounting network station)

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.

## WATER-DISCHARGE RECORDS

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 Water and Power Resources Service and reviewed by Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--30 years, 1,366 ft<sup>3</sup>/s (38.69 m<sup>3</sup>/s), 989,700 acre-ft/yr (1.22 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,564 ft<sup>3</sup>/s (129 m<sup>3</sup>/s) Apr. 17, 1962, Aug. 4, 1971; no flow for several months in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2480	2980			896	2420	3150	3640	3150	3660	3810	1520
2	2790	2850			1500	1700	3020	3680	3540	3940	3710	1490
3	3020	2890			1500	1460	3170	3670	3890	4130	3500	1540
4	3150	2880			1730	1530	3310	3560	3950	4070	3340	1570
5	3280	2950			2710	1530	3420	3450	3950	3710	3450	1610
6	3250	3020			3100	1520	3480	3480	3960	3410	3530	1600
7	3120	3020			3350	1600	3610	3490	3960	3230	3470	1440
8	3040	2960			3710	1670	3690	3400	3970	3380	3710	1280
9	3050	2650			3840	1700	3580	3210	3970	3620	3860	1390
10	3150	2420			3680	1730	3130	2740	3960	3530	3670	1460
11	3220	1830			2990	1840	2950	2500	3970	3420	3410	1480
12	3030	1430			2090	1980	2910	2380	4010	3450	3500	1490
13	2730	1280			2180	2000	2920	2550	4040	3320	3510	1540
14	2900	1160			2460	2050	2810	2800	4030	3180	3230	1480
15	3320	950			2640	2210	2760	3000	4030	3370	3100	1300
16	3520	896			2480	2080	3000	3040	3990	3610	2900	1360
17	3450	796			2430	1890	3190	3040	4000	3720	2650	1410
18	3310	805			2600	1830	3310	2930	4010	3820	2450	1410
19	3410	770			2870	1700	3370	2960	3980	3910	2590	1460
20	3380	729			2870	1680	3360	3120	3990	3780	2730	1490
21	3260	721			2650	2290	3290	3210	3960	3590	2800	1420
22	2960	497			2770	2860	3450	3200	3790	3640	2800	1250
23	2720	314			3490	2720	3790	2850	3550	3640	2710	1270
24	2820	109			3850	3380	3840	2830	3620	3610	2410	1380
25	2950	0			3840	3530	3950	2730	3800	3640	2070	1420
26	2910	0			3890	3760	3940	2620	3950	3640	2250	1420
27	2890	0			3900	3860	3930	2680	4010	3550	2420	1420
28	2830	0			3270	3640	3920	2840	3970	3440	2270	1360
29	3000	0			---	3490	3750	2990	3810	3450	2180	1190
30	3390	0			---	3440	3650	3080	3610	3540	2110	1160
31	3300	---			---	3340	---	3110	---	3720	1800	---
TOTAL	95630	40907	0	0	79286	72430	101650	94780	116420	111720	91940	42610
MEAN	3085	1364	0	0	2832	2336	3388	3057	3881	3604	2966	1420
MAX	3520	3020	0	0	3900	3860	3950	3680	4040	4130	3860	1610
MIN	2480	0	0	0	896	1460	2760	2380	3150	3180	1800	1160
AC-FT	189700	81140	0	0	157300	143700	201600	188000	230900	221600	182400	84520

CAL YR 1978 TOTAL 662749.00 MEAN 1816 MAX 3960 MIN 0 AC-FT 1315000  
WTR YR 1979 TOTAL 847373.00 MEAN 2322 MAX 4130 MIN 0 AC-FT 1681000

SAN JOAQUIN RIVER BASIN  
11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (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 AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 03...	1000	3030	28	--	17.5	3.9	10.4	<1	<1	7	0	2.0
NOV 02...	0930	2810	--	--	17.5	1.2	10.6	<1	K1	6	0	2.0
FEB 20...	1100	3000	34	7.6	5.0	1.1	12.6	<1	<1	9	0	3.1
MAR 06...	1130	1540	32	7.3	11.0	1.2	12.8	K1	<1	10	2	3.6
APR 11...	1230	2850	41	7.8	15.0	1.5	12.6	K4	K10	12	0	3.5
MAY 11...	0900	2250	36	7.3	11.0	1.5	12.1	K4	K3	11	0	3.7
JUN 07...	1000	3950	--	7.2	14.5	2.1	11.8	K3	K2	7	0	2.3
JUL 13...	0900	3431	25	6.5	15.0	1.4	11.0	<1	<1	6	0	1.9
AUG 15...	1300	2870	59	6.9	20.0	1.4	10.1	--	--	10	3	3.5
SEP 26...	1200	1420	29	7.2	25.0	14	9.0	K3	<1	9	2	2.6

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- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 03...	.4	1.3	28	.2	.4	7	1.0	.8	.0	5.6	17
NOV 02...	.2	3.0	50	.5	.5	7	2.1	1.0	.0	6.0	19
FEB 20...	.3	1.8	30	.3	.3	10	2.2	1.9	.0	8.3	24
MAR 06...	.3	3.2	39	.4	.6	8	1.4	2.5	.0	9.2	26
APR 11...	.8	3.7	37	.5	1.2	12	2.4	2.3	.1	12	29
MAY 11...	.5	3.5	42	.2	.9	11	3.3	2.1	.1	10	31
JUN 07...	.4	2.1	36	.3	.7	10	1.1	1.1	.1	8.2	26
JUL 13...	.3	1.6	34	.3	.7	9	2.6	.9	.0	8.1	19
AUG 15...	.4	2.0	28	.3	.8	7	6.4	1.3	.1	.4	24
SEP 26...	.6	2.6	43	.4	.7	11	.9	1.5	.1	8.1	26

See footnotes at end of table.

11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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, KJFL- DAHL, TOTAL (MG/L AS N)	NITRO- GEN+NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS. 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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 03...	.02	.01	.00	.15	.15	.00	.17	.16	.01	.00	1.6
NOV 02...	.02	.04	.01	.54	.55	.42	.13	.59	.02	.01	--
FEB 20...	.03	.09	.04	.18	.22	.07	.15	.31	.02	.02	--
MAR 06...	.03	.08	.01	--	--	.00	.26	--	.01	.01	--
APR 11...	.04	.05	.04	.22	.26	.00	.26	.31	.02	.01	--
MAY 11...	.04	.03	.01	.10	.11	--	--	.14	.02	.01	2.2
JUN 07...	.04	.02	.02	.25	.27	.18	.09	.29	.04	.01	--
JUL 13...	.03	.05	.02	.18	.20	.13	.07	.25	.01	.00	--
AUG 15...	.03	.17	.01	.11	.12	.04	.08	.29	.01	.01	1.8
SEP 26...	.04	.10	.03	1.3	1.3	.36	.94	1.4	.64	.63	1.8

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS RA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 02...	0930	2	1	100	100	0	2	0	2	0
FEB 20...	1100	1	1	0	0	0	0	0	0	10
APR 11...	1230	1	2	0	0	10	1	0	<1	0
JUL 13...	0900	1	1	0	0	6	1	0	2	0

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
NOV 02...	0	0	2	2	0	8	7	1	590	570
FEB 20...	10	0	0	0	0	2	0	2	80	80
APR 11...	0	0	0	0	<3	13	13	0	230	180
JUL 13...	0	0	0	0	<3	3	3	0	80	70

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 02...	20	7	4	3	20	10	10	.0	.0	.0
FEB 20...	0	22	19	3	60	60	0	.0	.0	.0
APR 11...	50	33	14	19	10	1	9	.1	.1	.0
JUL 13...	10	23	0	25	0	0	2	.1	.1	.0

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV 02...	0	0	0	0	0	0	30	20	10
FEB 20...	0	0	0	0	0	1	10	10	0
APR 11...	0	0	0	0	0	0	20	20	5
JUL 13...	0	0	0	0	0	0	10	6	4

&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).

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PHYTOPLANKTON

DATE TIME	NOV 2,78 0930	MAR 6,79 1130	MAY 11,79 0900	JUN 7,79 1000
TOTAL CELLS/ML	17000	360	98	52
DIVERSITY: DIVISION	0.1	1.5	0.6	0.0
..CLASS	0.1	1.5	0.6	0.0
..ORDER	0.5	1.8	1.1	0.0
...FAMILY	0.5	2.1	1.1	0.0
....GENUS	0.5	2.1	1.1	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
....ANKISTRODESMS	--	-	29	8	--	-	--	-
....DICTYOSPHAERIUM	* 0		--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
....SCENEDESMACEAE								
....CRUCIGENIA	--	-	58#	16	--	-	--	-
....SCENEDESMUS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CARTERIA	* 0		--	-	--	-	--	-
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
..ZYGNEMALES								
...DESMIDIACEAE								
....COSMARIUM	--	-	14	4	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
....CYCLOTELLA	--	-	--	-	--	-	--	-
....MELOSIRA	--	-	72#	20	70#	71	--	-
..PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	* 0		--	-	--	-	--	-
....CYMBELLACEAE								
....CYMBELLA	--	-	14	4	--	-	--	-
....FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	--	-
....FRAGILARIA	--	-	--	-	--	-	52#	100
....SYNEDRA	* 0		--	-	--	-	--	-
....NAVICULACEAE								
....NAVICULA	--	-	--	-	--	-	--	-
....NITZSCHACEAE								
....NITZSCHIA	* 0		--	-	14	14	--	-
....TABELLARIACEAE								
....TABELLARIA	--	-	--	-	--	-	--	-

CRYPTOPHYTA (CRYPTOMONADS)  
..CRYPTOPHYCEAE

See footnotes at end of table.

## 11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PHYTOPLANKTON

DATE TIME	JUL 13,79 0900	AUG 15,79 1300	SEP 26,79 1200
TOTAL CELLS/ML	400	370	1900
DIVERSITY: DIVISION	1.2	1.6	0.7
..CLASS	1.2	1.6	0.7
...ORDER	1.5	2.1	0.7
...FAMILY	1.7	2.4	1.6
....GENUS	2.0	2.4	1.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	3	1	--	--	--	--
....DICTYOSPHAERIUM	--	--	--	--	--	--
....KIRCHNERIELLA	--	--	26	7	--	--
....TETRAEDRON	--	--	--	--	13	1
...SCENEDESMACEAE						
....CRUCIGENIA	--	--	100#	28	--	--
....SCENEDESMUS	6	1	--	--	--	--
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	--	--	--	--	--
....CHLAMYDOMONAS	--	--	13	3	--	--
...ZYGNEMATALES						
...DESMIDIACEAE						
....COSMARIUM	--	--	--	--	--	--
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
...CYCLOTELLA	6	1	--	--	13	1
...MELOSIRA	27	7	140#	38	90	5
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	--	--	--	--	--	--
...CYMBELLACEAE						
....CYMBELLA	*	0	--	--	--	--
...FRAGILARIACEAE						
....ASTERIONELLA	23	6	--	--	--	--
....FRAGILARIA	4	1	--	--	--	--
....SYNEDRA	74#	18	13	3	--	--
...NAVICULACEAE						
....NAVICULA	6	1	--	--	--	--
...NITZSCHACEAE						
....NITZSCHIA	--	--	13	3	--	--
...TABELLARIACEAE						
....TABELLARIA	7	2	--	--	--	--
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
....CRYPTOMONAS	4	1	13	3	26	1
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	--	52	14	--	--
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	240#	60	--	--	620#	33
...OSCILLATORIA						
....OSCILLATORIA	--	--	--	--	1000#	55
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUTREPTIA	*	0	--	--	--	--
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...PERIDINIALES						
...GLENODINIACEAE						
....GLENODINIUM	--	--	--	--	77	4
...PERIDINIACEAE						
....PERIDINIUM	--	--	--	--	--	--

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

 QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
 BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
 PHYTOPLANKTON

DATE TIME	NOV 2,78 0930		MAR 6,79 1130		MAY 11,79 0900		JUN 7,79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
..CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	*	0	--	-	14	14	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
....ANACYSTIS	15000#	91	170#	48	--	-	--	-
...HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
...OSCILLATORIAEAE								
....OSCILLATORIA	1200	7	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
....EUTREPTIA	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...PERIDINIALES								
....GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-
...PERIDINIACEAE								
....PERIDINIUM	*	0	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%



11250000 FRIANT-KERN CANAL AT FRIANT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOPOM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
NOV 02...	30	9.06	7.24	19.7	.000	--	Polyethylene strip do
MAY 11...	30	.160	.080	.080	.220	1000	

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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
OCT 03...	1000	3030	17.5	2	16	50
NOV 02...	0930	2810	17.5	2	15	57
FEB 20...	1100	3000	5.0	2	16	79
MAR 06...	1130	1540	11.0	2	8.3	85
APR 11...	1230	2850	15.0	3	23	92
MAY 11...	0900	2250	11.0	1	6.1	90
JUN 07...	1000	3950	14.5	2	21	84
JUL 13...	0900	3431	15.0	2	19	77
AUG 15...	1300	2870	20.0	3	23	72
SEP 26...	1200	1420	25.0	2	7.7	93

## 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>).

## WATER-DISCHARGE RECORDS

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 Water and Power Resources Service). 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 Water and Power Resources Service.

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, 516,400 acre-ft (637 hm<sup>3</sup>) June 8, elevation, 577.16 ft (175.918 m); minimum, 164,300 acre-ft (203 hm<sup>3</sup>) Sept. 30, elevation, 481.03 ft (146.618 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	375500	253500	267800	347400	456900	430700	482700	447800	507600	448200	287400	180400
2	371500	250700	270900	350400	456600	432800	483600	445800	509100	442800	282000	179200
3	367800	247800	274000	353600	455800	435300	483400	443800	509600	437100	276900	178000
4	363900	245000	276700	356800	454500	437500	483000	442100	510800	431300	271800	176500
5	359800	242000	279500	359900	452200	439200	482200	440600	512500	426400	266500	175400
6	355600	238900	282300	363100	449600	440900	481100	439200	514200	422300	261600	174600
7	351700	235800	284700	366200	445900	442500	479500	437900	516000	418600	257100	174000
8	347900	232800	287900	369800	441700	443800	477700	436600	516400	414700	252300	172800
9	344300	230400	291000	373100	437400	445200	476000	435700	514900	410300	247500	172200
10	340200	228500	294100	376400	434300	447600	475200	435600	513100	405300	242900	171500
11	335800	227900	297300	381600	432700	449800	474900	436000	511400	400900	238900	170400
12	331800	227900	300000	388100	433000	451300	474800	436700	509800	395900	234300	169300
13	328500	228300	302500	393500	433500	452800	474400	437100	508300	391800	229400	168500
14	324800	228900	304900	398900	434800	454100	473800	437000	508100	387400	225500	167600
15	320300	230000	306100	403300	434300	455300	474100	436200	506700	382400	221700	167400
16	315400	231200	307400	408000	433800	458200	474000	435400	504000	377100	218500	167500
17	310700	232600	309100	412300	433300	461400	473500	434800	500700	371600	215900	167500
18	306200	234200	312000	416700	433300	464500	472700	434300	496900	365900	213800	167400
19	301600	235700	314600	421200	433200	467700	471500	433700	493500	360000	210900	167500
20	297100	237700	317400	425300	433700	470900	470400	432600	490400	354000	207900	166800
21	292800	239800	320100	429400	437100	473000	469300	432900	487600	348500	204600	166200
22	289200	241800	322500	433400	439200	473800	467800	443000	483800	342100	201800	166400
23	286200	244100	324800	437600	440100	474700	465000	452500	480400	335600	199200	165800
24	283000	246800	327300	440500	438300	474400	462700	460500	477500	330400	197200	165900
25	279500	249300	329500	443300	436000	473700	459300	467400	474100	324900	196200	165900
26	276000	252100	331500	445600	433300	472700	457000	474600	470000	319400	194200	165800
27	272400	255300	333700	447400	430300	472800	455300	483600	465300	314100	191400	165700
28	269000	258400	336000	449400	428700	478200	453300	491000	460600	308900	188500	165300
29	265000	261500	338400	451300	---	479900	451400	497600	456800	304000	186000	164900
30	260500	264600	341500	453700	---	480900	449600	501700	452800	298700	183600	164300
31	256400	---	344500	456100	---	481800	---	505400	---	293200	181700	---
MAX	375500	264600	344500	456100	456900	481800	483600	505400	516400	448200	287400	180400
MIN	256400	227900	267800	347400	428700	430700	449600	432600	452800	293200	181700	164300
†	513.15	515.62	537.83	564.36	558.24	569.92	562.94	574.88	563.65	523.99	487.84	481.03
‡	-122600	+8200	+79900	+116000	-27400	+53100	-32200	+55800	-52600	-159600	-111500	-17400
††	1380	570	230	400	510	870	1440	2620	3740	3220	2160	1470

CAL YR 1978 † +118000

WTR YR 1979 ‡ -214700

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

11250100 MILLERTON LAKE AT FRIANT, CA--Continued

## WATER-QUALITY RECORDS

MILLERTON LAKE SITE NO. 3 OPPOSITE PINCUSHION MOUNTAIN, NEAR FRIANT, CA

LOCATION.--Lat 37°01'40", long 119°39'28", Fresno County, Hydrologic Unit 18040006, 1.1 mi (1.8 km) southwest of Pincushion Mountain, 4.0 mi (6.4 km) northeast of Friant.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) <u>1</u> /	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
27...	1230	.50	43	7.8	25.0	8.3	103
27...	1231	1.0	43	7.8	25.0	8.3	103
27...	1232	2.0	43	7.9	24.9	8.3	103
27...	1233	3.0	43	7.9	24.7	8.4	104
27...	1234	4.0	43	7.9	24.4	8.4	103
27...	1235	5.0	40	8.1	22.4	9.4	111
27...	1236	6.0	33	7.3	18.6	10.1	111
27...	1237	7.0	29	6.9	17.3	9.5	101
27...	1238	8.0	27	6.8	16.3	9.5	99
27...	1239	9.0	25	6.8	14.7	9.7	98
27...	1240	10.0	23	6.7	14.3	9.6	96
27...	1241	11.0	23	6.7	14.1	9.4	94
27...	1242	12.0	23	6.6	13.9	9.4	93
27...	1243	13.0	22	6.6	13.6	9.5	94
27...	1244	14.0	22	6.6	13.6	9.5	94
27...	1245	15.0	22	6.6	13.4	9.6	94
27...	1246	16.0	22	6.6	13.3	9.7	95
27...	1247	17.0	22	6.6	13.2	9.8	96
27...	1248	18.0	22	6.6	13.2	9.8	96
27...	1249	19.0	22	6.6	13.1	9.8	96
27...	1250	20.0	21	6.6	13.1	9.8	96
27...	1251	22.0	21	6.6	13.0	9.8	95
27...	1252	24.0	21	6.6	12.8	9.8	95
27...	1253	26.0	21	6.6	12.7	9.8	95
27...	1254	28.0	22	6.5	12.6	9.8	95
27...	1255	30.0	22	6.5	12.4	9.8	94
27...	1256	32.0	24	6.5	12.0	9.7	92
27...	1257	34.0	26	6.5	11.6	9.7	91
27...	1258	36.0	31	6.5	10.5	9.4	86
27...	1259	38.0	34	6.5	9.9	9.3	84
27...	1300	40.0	38	6.5	8.8	8.8	78
27...	1301	42.0	43	6.5	7.7	8.6	74
27...	1302	44.0	45	6.5	7.2	8.6	73
27...	1303	46.0	45	6.5	7.1	8.6	73
27...	1304	48.0	45	6.5	6.8	8.6	72
27...	1305	50.0	45	6.5	6.7	8.6	72
AUG							
21...	1607	.50	37	8.1	26.2	8.2	105
21...	1608	1.0	37	8.1	26.2	8.2	104
21...	1609	2.0	37	8.1	26.1	8.3	105
21...	1610	3.0	37	8.0	25.8	8.2	103
21...	1611	4.0	37	7.8	24.9	8.1	100
21...	1612	5.0	27	6.8	19.8	8.7	98
21...	1613	6.0	25	6.8	18.4	9.0	98
21...	1614	7.0	24	6.7	18.0	9.0	97
21...	1615	8.0	23	6.7	17.7	9.0	97
21...	1616	9.0	23	6.6	17.4	9.0	96
21...	1617	10.0	22	6.6	17.3	9.1	97
21...	1618	11.0	22	6.6	17.1	9.0	96
21...	1619	12.0	22	6.5	16.9	9.0	95
21...	1620	13.0	22	6.5	16.8	9.0	95
21...	1621	14.0	21	6.4	16.5	8.8	92
21...	1622	15.0	22	6.3	16.1	8.6	89
21...	1623	16.0	22	6.3	15.6	8.3	85
21...	1624	17.0	21	6.2	14.6	8.2	83
21...	1625	18.0	20	6.2	13.6	8.2	81
21...	1626	19.0	21	6.2	12.2	7.9	75
21...	1627	20.0	26	6.2	10.8	7.2	67
21...	1628	21.0	31	6.2	10.0	6.9	63
21...	1629	22.0	24	6.2	9.2	6.8	61
21...	1630	23.0	38	6.2	8.3	6.9	60
21...	1631	24.0	39	6.3	8.1	7.2	62
21...	1632	25.0	40	6.3	7.9	7.2	62
21...	1633	26.0	40	6.3	7.8	7.3	63
21...	1634	27.0	41	6.3	7.5	7.4	63
21...	1635	28.0	41	6.5	7.4	7.4	63
21...	1636	29.0	41	6.3	7.4	7.4	63
21...	1637	30.0	42	6.3	7.2	7.5	64
21...	1638	31.0	42	6.3	7.1	7.6	64
21...	1639	32.0	42	6.3	7.0	7.7	65
21...	1640	33.0	42	6.3	7.0	7.7	65
21...	1641	34.0	42	6.3	6.9	7.7	65
21...	1642	36.0	42	6.3	6.8	7.7	65
21...	1643	38.0	44	6.3	6.7	7.6	64
21...	1644	40.0	44	6.3	6.7	7.3	61
21...	1645	42.0	44	6.3	6.6	7.2	60

1. To convert meters to feet, multiply by 3.281.

## 11250100 MILLERTON LAKE AT FRIANT, CA--Continued

MILLERTON LAKE SITE NO. 5 OPPOSITE PINCUSHION MOUNTAIN, NEAR FRIANT, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
JUN												
27...	1310	9.8	9.8	43	7.9	24.7	8.4	.00	.00	.00	.00	.01
27...	1315	19	19	33	7.3	18.6	10.1	.00	.00	.00	.00	.01
27...	1320	131	131	38	6.5	8.8	8.8	.08	.00	.08	.08	.01
AUG												
21...	1650	13	13	37	7.8	24.9	8.1	--	--	--	.02	.01

DATE	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,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (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)	PHOS- PHORUS, ORTHOPH- OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
JUN											
27...	--	.14	--	.15	--	--	.15	.010	--	.00	.01
27...	--	.48	--	.49	--	--	.49	.010	--	.00	.01
27...	--	.26	--	.27	--	--	.35	.010	--	.00	.01
AUG											
21...	.00	.60	.59	.61	.02	.59	--	.012	.00	--	.03

## MILLERTON LAKE SITE NO. 1 AT WINCHELL BAY, NEAR FRIANT, CA

LOCATION.--Lat 37°00'00", long 119°39'30", Fresno County, Hydrologic Unit 18040006, in Winchell Bay, 3.0 mi (4.8 km) northeast of Friant.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) <u>1</u> /	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
JUN							
27...	1445	.50	44	7.9	26.7	8.4	108
27...	1446	1.0	44	7.9	26.6	8.4	108
27...	1447	2.0	44	8.0	25.5	8.6	108
27...	1448	3.0	44	8.1	25.1	8.7	108
27...	1449	4.0	44	8.3	23.4	9.7	117
27...	1450	5.0	42	8.4	22.0	10.4	122
27...	1451	6.0	40	8.3	20.4	10.8	123
27...	1452	7.0	30	7.4	16.2	11.0	115
27...	1453	8.0	29	6.9	15.6	10.6	109
27...	1454	9.0	29	6.8	15.2	10.4	106
27...	1455	10.0	26	6.6	14.6	10.1	102
27...	1456	11.0	26	6.5	14.3	9.9	99
27...	1457	12.0	25	6.4	13.9	9.8	97
27...	1458	13.0	24	6.4	13.6	9.8	97
27...	1459	14.0	24	6.4	13.5	9.7	95
27...	1500	15.0	24	6.3	13.4	9.6	94
27...	1501	16.0	24	6.3	13.3	9.8	96
27...	1502	17.0	23	6.3	13.2	9.9	97
27...	1503	18.0	23	6.3	13.2	9.9	97
27...	1504	19.0	23	6.3	13.1	9.9	97

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
JUN									
27...	1510	9.8	9.8	44	8.1	25.1	8.7	.01	.00
27...	1515	23	23	33	7.4	16.2	11.0	.00	.00
27...	1520	45	45	24	6.4	13.5	9.7	.86	.00

1. To convert meters to feet, multiply by 3.281.

## 11250100 MILLERTON LAKE AT FRIANT, CA--Continued

## MILLERTON LAKE SITE NO. 1 AT WINCHELL BAY, NEAR FRIANT, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, NO2+N03 TOTAL (MG/L AS N)	NITRO- GEN, NO2+N03 DIS- SOLVED (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, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
JUN									
27...	.01	.00	.01	.22	.23	.24	.02	.01	.01
27...	.00	.00	.01	.33	.34	.34	.01	.00	.01
27...	.86	.00	.01	.11	.12	.98	.00	.00	.01

## MILLERTON LAKE SITE NO. 2 AT FRIANT DAM, NEAR FRIANT, CA

LOCATION.--Lat 37°00'25", long 119°41'45", Fresno County, Hydrologic Unit 18040006, 0.6 mi (1.0 km) northeast of Friant Dam, 1.7 mi (2.7 km) northeast of Friant.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, PER- CENT SATUR- ATION)
JUN							
27...	0949	.50	38	8.6	24.2	9.0	110
27...	0950	1.0	38	8.6	24.2	9.0	110
27...	0951	2.0	38	8.6	24.0	9.0	110
27...	0952	3.0	38	8.6	23.8	9.0	109
27...	0953	4.0	38	8.6	23.8	9.0	109
27...	0954	5.0	37	8.6	23.1	9.5	114
27...	0955	6.0	36	8.6	21.3	10.4	120
27...	0956	7.0	32	8.1	18.7	11.3	124
27...	0957	8.0	27	7.4	17.2	11.0	117
27...	0958	9.0	25	7.3	16.1	10.5	109
27...	0959	10.0	24	7.0	15.5	10.1	104
27...	1000	11.0	24	6.8	14.9	9.8	99
27...	1001	12.0	23	6.7	14.6	9.6	97
27...	1002	13.0	21	6.7	14.4	9.7	97
27...	1003	14.0	20	6.7	14.1	9.8	98
27...	1004	15.0	19	6.7	14.0	9.9	99
27...	1005	16.0	19	6.6	13.9	9.9	98
27...	1006	17.0	19	6.6	13.9	9.7	96
27...	1007	18.0	19	6.7	13.8	9.9	98
27...	1008	19.0	19	6.6	13.8	10.0	99
27...	1009	20.0	19	6.6	13.7	9.9	98
27...	1010	22.0	19	6.6	13.6	10.0	99
27...	1011	24.0	19	6.6	13.5	9.9	97
27...	1012	26.0	19	6.6	13.3	9.9	97
27...	1013	28.0	20	6.6	13.2	10.0	98
27...	1014	30.0	22	6.6	13.0	9.9	96
27...	1015	32.0	22	6.6	12.8	10.0	97
27...	1016	34.0	23	6.6	12.2	10.0	97
27...	1017	36.0	27	6.6	11.6	9.9	96
27...	1018	38.0	30	6.6	10.2	10.0	91
27...	1019	40.0	34	6.6	9.4	9.8	88
27...	1020	42.0	37	6.6	8.3	9.8	85
27...	1021	44.0	39	6.6	7.9	9.7	84
27...	1022	46.0	40	6.6	7.7	9.6	83
27...	1023	48.0	40	6.5	7.5	9.6	82
27...	1024	50.0	40	6.5	7.4	9.6	82
27...	1025	55.0	40	6.5	7.1	9.5	80
AUG							
21...	1318	.50	35	8.1	25.6	8.2	103
21...	1319	1.0	36	8.1	25.1	8.3	103

1. To convert meters to feet, multiply by 3.281.

## SAN JOAQUIN RIVER BASIN

11250100 MILLERTON LAKE AT FRIANT, CA--Continued

MILLERTON LAKE SITE NO. 2 AT FRIANT DAM, NEAR FRIANT, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
AUG							
21...	1320	2.0	36	8.1	24.5	8.4	103
21...	1321	3.0	36	8.1	24.0	8.4	102
21...	1322	4.0	31	7.6	23.4	8.7	105
21...	1323	5.0	25	6.8	20.4	8.8	100
21...	1324	6.0	25	6.6	19.2	8.7	96
21...	1325	7.0	24	6.6	18.1	8.8	95
21...	1326	8.0	23	6.5	17.5	8.7	93
21...	1327	9.0	22	6.5	17.3	8.7	93
21...	1328	10.0	22	6.5	17.1	8.7	92
21...	1329	11.0	22	6.5	17.0	8.7	92
21...	1330	12.0	22	6.5	17.0	8.8	93
21...	1331	13.0	21	6.3	16.7	8.6	91
21...	1332	14.0	21	6.3	16.3	8.3	87
21...	1333	15.0	21	6.3	16.1	8.3	86
21...	1334	16.0	21	6.3	15.9	8.2	85
21...	1335	17.0	21	6.3	15.4	8.1	83
21...	1336	18.0	21	6.3	13.6	8.4	83
21...	1337	19.0	21	6.3	11.9	8.2	78
21...	1338	20.0	26	6.4	10.9	8.3	77
21...	1339	21.0	38	6.4	9.0	8.6	76
21...	1340	22.0	36	6.4	8.9	8.6	76
21...	1341	23.0	38	6.4	8.4	8.7	76
21...	1342	24.0	39	6.5	8.2	8.8	76
21...	1343	25.0	39	6.5	8.0	8.8	76
21...	1344	26.0	40	6.5	7.7	8.9	76
21...	1345	27.0	41	6.5	7.4	8.9	76
21...	1346	28.0	41	6.5	7.3	8.9	76
21...	1347	29.0	42	6.5	7.2	8.8	75
21...	1348	30.0	42	6.5	7.1	8.9	75
21...	1349	31.0	42	6.5	7.1	9.0	76
21...	1350	32.0	42	6.5	7.0	9.0	76
21...	1351	34.0	42	6.4	7.0	9.0	76

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
JUN												
27...	1030	9.8	9.8	38	8.3	23.8	9.0	0	.00	.00	.00	--
27...	1035	26	26	27	7.3	17.2	11.0	0	.00	.02	.01	.00
27...	1040	131	131	34	6.6	9.4	9.8	0	.06	.00	.06	.05
AUG												
21...	1355	19	9.8	--	--	--	--	--	--	--	--	.02
21...	1400	82	65	--	--	--	--	--	--	--	--	.08

DATE	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,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (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)	PHOS- PHORUS, ORTHOPH OSPHATE TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
JUN												
27...	.01	--	.22	--	.23	--	--	.23	.02	--	.00	--
27...	.02	--	.12	--	.14	--	--	.15	.00	--	.00	.01
27...	.01	--	.26	--	.27	--	--	.33	.01	--	.00	.01
AUG												
21...	.01	.00	.55	.23	.56	.33	.23	--	.03	.01	--	.01
21...	.00	.00	.16	.08	.16	.08	.08	--	.01	.00	--	.04

1. To convert meters to feet, multiply by 3.281.

## 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 18040301, 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 Water and Power Resources Service). 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 excellent. 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).--72 years, 2,352 ft<sup>3</sup>/s (66.61 m<sup>3</sup>/s), 1,704,000 acre-ft/yr (2.10 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, 1,040 ft<sup>3</sup>/s (29.5 m<sup>3</sup>/s) Feb. 5, gage height, 4.29 ft (1.308 m); minimum daily, 28 ft<sup>3</sup>/s (0.79 m<sup>3</sup>/s) Nov. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	73	51	58	1030	289	137	115	107	138	119	107
2	105	64	61	53	1030	191	137	115	106	139	119	105
3	105	66	72	46	1030	179	135	114	107	138	118	105
4	104	66	66	47	1020	168	135	113	107	148	119	105
5	103	66	63	48	775	164	132	113	107	158	119	104
6	99	65	63	48	464	144	132	113	129	155	118	105
7	94	75	57	48	342	140	132	114	202	155	121	105
8	93	92	52	53	169	137	130	115	229	155	120	104
9	95	85	52	51	109	132	130	117	199	155	120	103
10	98	77	52	36	115	128	128	125	158	154	118	104
11	97	78	52	36	121	128	124	130	146	146	117	106
12	97	66	53	38	121	126	124	130	146	124	117	106
13	100	56	48	36	123	124	124	129	146	124	117	105
14	109	56	44	39	141	130	124	129	146	124	117	107
15	109	56	52	72	130	128	121	128	146	124	117	106
16	109	57	56	97	126	137	121	129	146	124	116	105
17	109	45	56	88	126	142	121	130	146	122	115	105
18	96	28	57	109	126	130	120	130	145	121	115	106
19	82	28	57	86	150	130	119	129	144	121	113	105
20	81	29	57	79	149	130	119	128	143	121	113	105
21	82	31	57	79	231	130	119	128	142	122	113	106
22	82	29	56	79	189	130	119	125	142	121	113	106
23	82	29	56	79	201	126	119	115	142	122	112	105
24	82	29	57	472	162	126	118	116	141	123	111	105
25	82	29	57	1010	152	124	117	324	141	122	111	105
26	81	29	57	1010	165	124	118	628	142	121	108	106
27	82	29	57	1010	161	146	119	642	141	121	108	107
28	86	42	56	1010	155	217	117	644	139	121	108	107
29	86	62	56	1010	---	161	117	646	139	121	108	107
30	87	50	56	1020	---	144	116	524	139	120	108	106
31	86	---	57	1030	---	137	---	159	---	119	107	---
TOTAL	2909	1587	1743	8977	8813	4542	3724	6497	4313	4079	3555	3163
MEAN	93.8	52.9	56.2	290	315	147	124	210	144	132	115	105
MAX	109	92	72	1030	1030	289	137	646	229	158	121	107
MIN	81	28	44	36	109	124	116	113	106	119	107	103
AC-FT	5770	3150	3460	17810	17480	9010	7390	12890	8550	8090	7050	6270
MEAN †	1721	1676	1359	2111	2722	3532	3931	5349	4383	2318	2270	1585
AC-FT †	105800	99730	83560	129800	151200	217200	233900	328900	260800	142500	139600	94310
CAL YR 1978 TOTAL	675997			1852	MAX 7430	MIN 28	AC-FT 1341000	MEAN † 4511	AC-FT † 3266000			
WTR YR 1979 TOTAL	53902			148	MAX 1030	MIN 28	AC-FT 106900	MEAN † 2745	AC-FT † 1987000			

† 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 fair. Some small dams for stock use above station.

AVERAGE DISCHARGE.--13 years, 2.85 ft<sup>3</sup>/s (0.081 m<sup>3</sup>/s), 2,060 acre-ft/yr (2.54 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)	Date	Time	Discharge (ft <sup>3</sup> /s) (m <sup>3</sup> /s)	Gage height (ft) (m)
Jan. 15	0215	*288 8.16	3.55 1.082	Feb. 20	2215	87 2.46	2.72 .829
Feb. 13	2300	103 2.92	2.82 0.860	Mar. 27	0330	54 1.53	2.47 .753

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.09	.51	1.4	.93	2.9	7.3	8.0	3.9	1.9	.60		
2	.08	.57	1.5	.94	2.5	6.8	7.5	4.0	1.7	.61		
3	.08	.57	1.2	.89	2.1	6.3	7.1	3.6	1.6	.66		
4	.08	.57	1.2	.86	1.8	6.0	6.8	3.5	1.5	.68		
5	.07	.57	1.1	1.1	1.8	5.8	6.5	3.5	1.4	.67		
6	.08	.57	.95	1.3	1.9	5.5	6.3	3.6	1.3	.57		
7	.09	.57	.89	.99	3.8	5.3	6.3	3.7	1.2	.54		
8	.10	.57	.81	1.3	3.6	5.3	6.0	3.7	1.3	.52		
9	.11	.57	.74	8.3	3.2	5.0	5.9	3.6	1.3	.48		
10	.11	.57	.71	3.3	3.1	5.0	5.8	3.3	1.2	.44		
11	.11	.65	.71	2.3	3.1	4.8	5.7	3.2	1.1	.43		
12	.11	.80	.71	2.1	3.0	4.8	5.6	3.1	1.0	.37		
13	.11	.83	.71	1.7	12	4.8	5.3	2.9	.99	.28		
14	.11	.96	.71	2.9	35	4.6	5.1	2.8	1.0	.23		
15	.12	.93	.71	52	11	4.6	5.0	2.7	1.1	.20		
16	.14	.87	.79	15	8.4	5.1	4.9	2.7	1.1	.16		
17	.14	.80	.80	7.5	8.0	5.5	5.0	2.7	1.2	.13		
18	.14	.80	1.1	5.9	7.0	5.8	5.0	2.8	1.2	.10		
19	.16	.80	1.5	4.6	7.7	6.1	4.9	2.7	1.2	.08		
20	.18	.86	1.1	3.7	12	6.7	4.7	2.7	1.1	.06		
21	.20	7.5	1.1	3.2	25	5.5	4.6	2.7	.97	.21		
22	.21	8.3	1.0	2.9	14	4.8	4.4	2.8	.83	.36		
23	.23	5.9	1.0	2.6	11	4.5	4.4	2.7	.81	.27		
24	.26	2.8	.99	2.4	9.9	4.3	4.4	2.6	.73	.16		
25	.27	2.0	.99	2.2	8.8	4.2	4.3	2.4	.69	.10		
26	.34	1.7	.99	1.9	8.1	4.3	4.3	2.3	.69	.06		
27	.46	1.5	.99	1.6	7.5	30	4.4	2.1	.68	.03		
28	.45	1.4	.99	1.6	7.0	25	4.1	2.1	.64	.01		
29	.42	1.3	.99	1.6	---	14	3.9	2.2	.61	0		
30	.45	1.2	.99	1.6	---	10	3.9	2.1	.59	0		
31	.47	---	.99	3.5	---	8.7	---	2.0	---	0		
TOTAL	5.97	47.54	30.36	142.71	225.2	226.4	160.1	90.7	32.63	9.01	0	0
MEAN	.19	1.58	.98	4.60	8.04	7.30	5.34	2.93	1.09	.29	0	0
MAX	.47	8.3	1.5	52	35	30	8.0	4.0	1.9	.68	0	0
MIN	.07	.51	.71	.86	1.8	4.2	3.9	2.0	.59	0	0	0
AC-FT	12	94	60	283	447	449	318	180	65	18	0	0
CAL YR 1978	TOTAL	2772.24	MEAN 7.60	MAX 182	MIN 0	AC-FT 5500						
WTR YR 1979	TOTAL	970.62	MEAN 2.66	MAX 52	MIN 0	AC-FT 1930						



## SAN JOAQUIN RIVER BASIN

229

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 Water and Power Resources Service. 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 Water and Power Resources Service.

AVERAGE DISCHARGE.--32 years, 154 ft<sup>3</sup>/s (4.361 m<sup>3</sup>/s), 111,600 acre-ft/yr (138 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	0	25	0	50	0		
2					0	0	15	0	70	0		
3					0	0	10	0	70	0		
4					0	0	0	0	15	0		
5					0	0	0	0	5.0	0		
6					0	0	0	0	50	0		
7					0	0	0	0	40	0		
8					0	0	0	0	30	0		
9					0	0	0	0	20	0		
10					0	0	0	0	10	0		
11					0	0	0	0	5.0	0		
12					0	0	0	0	5.0	0		
13					0	0	0	0	0	0		
14					0	0	0	0	0	0		
15					0	0	30	0	0	0		
16					0	0	30	0	0	0		
17					0	0	40	0	0	0		
18					0	0	15	0	0	0		
19					0	0	5.0	0	0	0		
20					0	0	5.0	0	0	0		
21					0	0	5.0	0	0	0		
22					0	0	5.0	0	0	0		
23					0	0	50	20	0	0		
24					90	0	50	463	0	80		
25					70	0	30	828	0	60		
26					30	0	10	984	0	25		
27					10	0	0	934	0	5.0		
28					0	0	0	574	0	0		
29					---	0	0	384	0	0		
30					---	70	0	325	0	0		
31		---			---	40	---	243	---	0		---
TOTAL	0	0	0	0	200	110	325.0	4755	370.0	170.0	0	0
MEAN	0	0	0	0	7.14	3.55	10.8	153	12.3	5.48	0	0
MAX	0	0	0	0	90	70	50	984	70	80	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	397	218	645	9430	734	337	0	0
CAL YR 1978	TOTAL	277963.00	MEAN 762	MAX 4410	MIN 0	AC-FT 551300						
WTR YR 1979	TOTAL	5930.00	MEAN 16.2	MAX 984	MIN 0	AC-FT 11760						

11257100 MIAMI CREEK NEAR OAKHURST, CA

LOCATION.--Lat 37°23'37", long 119°39'12", in NE¼SE¼ sec.22, T.6 S., R.21 E., Madera County, Hydrologic Unit 18040007, Sierra National Forest, on left bank 200 ft (61 m) downstream from county road bridge, and 4.6 mi (7.4 km) north of Oakhurst.

DRAINAGE AREA.--10.6 mi<sup>2</sup> (27.5 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (1,070 m), from topographic map.

REMARKS.--No known diversions above station.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--19 years, 8.38 ft<sup>3</sup>/s (0.237 m<sup>3</sup>/s), 6,070 acre-ft/yr (7.48 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 804 ft<sup>3</sup>/s (22.8 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 9.08 ft (2.768 m); no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 255 ft<sup>3</sup>/s (7.22 m<sup>3</sup>/s) Jan. 11, gage height, 5.91 ft (1.801 m); minimum daily, 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s) Sept. 22, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.3	6.4	4.1	7.6	60	35	22	9.2	5.5	2.2	2.7
2	3.0	3.5	5.8	3.9	7.3	41	30	20	8.9	5.4	2.3	2.6
3	3.1	3.2	4.9	3.9	6.9	35	28	21	8.6	5.4	2.2	2.5
4	3.0	2.8	4.5	3.9	6.7	30	27	21	8.5	5.4	2.2	2.5
5	3.0	2.8	4.6	4.8	7.7	27	27	22	8.2	5.2	2.2	2.6
6	3.0	2.7	4.3	5.0	7.4	25	27	21	8.1	5.0	2.3	2.5
7	3.0	2.6	3.5	5.0	7.2	24	26	25	8.0	5.0	2.2	2.4
8	2.9	2.6	3.6	7.5	7.0	23	25	22	7.7	5.1	2.2	2.2
9	2.9	2.6	3.7	10	6.7	22	27	20	7.6	4.7	2.2	2.3
10	2.8	2.8	3.7	7.1	6.7	21	24	18	7.4	4.5	2.2	2.2
11	2.9	4.1	3.8	109	6.7	21	23	18	7.2	4.3	2.2	2.0
12	2.8	3.9	3.8	66	7.9	20	22	18	7.0	4.3	2.5	1.9
13	2.8	4.2	3.6	23	15	20	24	18	6.9	4.2	2.8	1.8
14	2.7	4.0	3.6	18	50	19	26	17	6.9	4.0	2.8	1.8
15	2.6	4.0	3.6	17	25	30	26	17	6.8	3.9	2.9	1.7
16	2.7	3.9	3.6	14	20	50	27	16	6.8	3.6	2.6	1.7
17	2.9	4.2	5.0	12	19	70	26	16	7.1	3.4	2.4	1.7
18	2.9	4.1	7.4	12	18	60	22	15	7.4	3.3	2.4	1.6
19	2.8	4.1	5.4	10	35	30	21	15	7.2	3.3	2.4	1.6
20	2.9	4.6	4.5	9.5	45	22	21	14	6.9	3.3	2.4	1.6
21	3.0	7.5	4.5	9.5	98	22	21	14	6.7	4.0	2.6	1.6
22	3.1	6.5	4.6	9.2	75	23	22	13	6.6	4.8	2.7	1.5
23	3.0	5.6	4.5	8.8	70	21	22	13	6.4	4.0	2.5	1.6
24	2.9	4.9	4.4	8.7	50	19	21	12	6.2	3.6	2.4	1.6
25	2.8	4.6	4.3	8.6	41	19	21	11	6.1	3.1	2.4	1.7
26	2.8	4.5	4.3	7.6	35	20	23	11	6.0	2.9	2.4	1.9
27	2.8	4.3	4.3	7.3	32	50	26	11	5.8	2.8	2.4	1.7
28	2.8	4.3	4.4	7.3	32	85	24	11	5.7	2.8	2.3	1.5
29	2.9	4.3	4.2	6.4	---	60	23	10	5.7	2.6	2.7	1.6
30	3.0	4.4	4.1	7.0	---	50	23	9.9	5.5	2.5	2.9	1.6
31	3.0	---	4.0	7.7	---	41	---	9.3	---	2.4	2.7	---
TOTAL	89.8	120.9	136.9	433.8	737.8	1060	740	501.2	213.1	124.3	75.6	58.2
MEAN	2.90	4.03	4.42	14.0	26.4	34.2	24.7	16.2	7.10	4.01	2.44	1.94
MAX	3.1	7.5	7.4	109	90	85	35	25	9.2	5.5	2.9	2.7
MIN	2.6	2.6	3.5	3.9	6.7	19	21	9.3	5.5	2.4	2.2	1.5
AC-FT	178	240	272	860	1460	2100	1470	994	423	247	150	115
CAL YR 1978	TOTAL	6609.1	MEAN 18.1	MAX 249	MIN 2.6	AC-FT 13110						
WTR YR 1979	TOTAL	4291.6	MEAN 11.8	MAX 109	MIN 1.5	AC-FT 8510						

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 period Aug. 13 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 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s) at times since 1897 from the San Joaquin River basin and 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.--64 years (water years 1912, 1917-79), 80.0 ft<sup>3</sup>/s (2.266 m<sup>3</sup>/s), 57,960 acre-ft/yr (71.5 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. 11	2115	1,670 47.3	4.96 1.512	Mar. 1	0630	1,070 30.3	4.04 1.231
Feb. 21	2345	862 24.4	3.65 1.113	Mar. 28	1000	*2,040 57.8	5.44 1.658

Minimum daily, 2.7 ft<sup>3</sup>/s (0.076 m<sup>3</sup>/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.9	14	24	19	122	647	270	110	128	27	5.3	3.9
2	10	14	32	20	109	328	245	107	125	26	8.2	3.8
3	9.8	15	25	21	79	246	225	103	119	26	5.3	3.6
4	13	16	21	21	68	222	214	128	116	26	3.1	3.4
5	13	15	21	22	64	207	209	138	112	26	3.0	3.4
6	13	15	22	26	62	205	204	137	108	25	3.6	3.4
7	13	14	17	24	60	206	192	152	102	27	4.0	3.3
8	12	14	15	35	58	205	187	174	96	31	4.5	3.2
9	13	14	17	108	57	196	182	144	95	30	3.5	3.2
10	12	14	20	48	56	190	174	132	87	29	3.6	3.1
11	12	19	19	620	56	182	164	127	81	29	3.6	3.1
12	13	21	20	596	56	174	159	123	60	29	3.7	3.0
13	12	18	20	202	71	168	155	121	47	29	5.1	2.9
14	12	20	20	163	355	179	155	119	44	25	5.1	2.9
15	11	19	20	338	200	191	154	118	44	17	5.0	2.8
16	11	20	20	180	153	293	153	113	44	14	4.9	2.9
17	12	19	23	123	130	212	160	170	42	13	4.8	2.9
18	13	19	43	164	111	189	148	173	42	12	4.8	2.8
19	13	19	48	124	185	175	136	173	40	13	4.8	2.8
20	12	21	32	95	202	166	130	172	38	10	4.9	2.7
21	13	64	26	83	692	170	127	165	36	12	4.9	2.8
22	14	51	25	75	533	208	126	162	34	17	4.8	2.9
23	14	31	25	68	479	170	125	155	34	17	4.6	3.0
24	13	25	23	62	303	153	123	148	33	14	4.5	3.2
25	12	22	23	63	243	149	118	146	31	12	4.3	3.2
26	13	20	23	56	228	148	120	143	30	10	4.2	3.3
27	12	20	22	50	207	430	144	140	29	9.3	4.1	3.2
28	12	20	22	48	196	1270	130	137	28	9.1	4.1	3.3
29	13	20	22	43	---	525	121	135	28	8.9	4.2	3.3
30	13	20	21	45	---	363	116	133	27	8.2	4.3	3.2
31	13	---	20	90	---	301	---	128	---	5.7	4.1	---
TOTAL	381.7	633	731	3632	5135	8468	4866	4326	1880	587.2	138.9	94.5
MEAN	12.3	21.1	23.6	117	183	273	162	140	62.7	18.9	4.48	3.15
MAX	14	64	48	620	692	1270	270	174	128	31	8.2	3.9
MIN	9.8	14	15	19	56	148	116	103	27	5.7	3.0	2.7
AC-FT	757	1260	1450	7200	10190	16800	9650	8580	3730	1160	276	187

CAL YR 1978	TOTAL	72519.2	MEAN	199	MAX	2160	MIN	6.0	AC-FT	143800
WTR YR 1979	TOTAL	30873.3	MEAN	84.6	MAX	1270	MIN	2.7	AC-FT	61240

NOTE.--Backwater from Beaver dam Aug. 13 to Sept. 30.

## SAN JOAQUIN RIVER BASIN

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, 32.0°C July 24; minimum recorded, 0.0°C Dec. 8, 9.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.0	18.0	13.5	10.0	8.0	6.5	5.0	2.0	5.5	5.0	10.5	8.0
2	24.0	18.0	14.0	9.5	8.0	6.0	4.0	1.5	6.5	4.5	9.0	5.5
3	24.5	18.0	13.5	8.5	8.5	5.0	5.0	2.0	6.5	3.5	11.0	8.0
4	24.0	18.0	13.0	8.5	8.0	4.5	7.5	4.0	6.5	3.5	11.5	9.0
5	23.5	17.5	14.0	9.0	7.5	4.5	8.0	5.5	7.0	4.0	11.5	8.5
6	23.0	17.0	14.0	9.0	5.5	2.0	8.5	6.0	8.0	5.0	13.0	9.0
7	22.0	16.0	14.5	9.0	3.0	0.5	7.5	6.0	8.5	5.0	13.0	10.0
8	21.5	15.5	14.5	9.5	0.0	0.0	8.5	7.0	9.0	5.5	13.0	10.5
9	21.5	16.0	14.0	9.5	0.0	0.0	9.0	7.5	9.0	5.5	13.5	10.5
10	21.0	15.0	11.5	9.5	4.0	0.5	9.5	7.5	9.0	5.5	14.0	11.0
11	21.5	15.0	9.5	7.5	5.0	1.0	9.5	8.5	9.0	6.0	13.5	11.0
12	21.5	15.5	9.5	5.5	6.0	2.0	9.0	8.0	9.5	7.5	13.5	10.5
13	21.5	15.5	9.5	7.0	6.5	2.5	7.5	6.0	9.5	9.0	13.0	11.0
14	22.0	15.5	9.5	5.5	6.0	2.5	7.0	7.0	9.5	8.0	12.5	11.0
15	20.5	15.5	9.0	4.5	6.0	2.0	8.0	7.0	7.5	5.0	12.0	10.0
16	19.5	14.5	9.0	5.0	5.0	2.0	8.0	6.5	8.0	6.5	10.0	8.5
17	20.0	14.5	10.0	5.5	6.0	4.0	7.0	5.5	7.5	5.0	11.0	9.0
18	20.0	14.5	10.0	5.5	7.0	6.0	6.5	5.0	8.0	6.5	11.0	9.5
19	19.5	14.5	9.5	5.0	6.0	4.5	6.5	4.5	9.5	8.0	10.0	9.0
20	19.0	14.5	8.0	5.5	6.0	3.0	7.0	5.0	8.5	7.0	10.5	8.5
21	18.0	13.5	8.0	7.5	5.0	2.0	6.5	5.5	8.0	7.5	10.5	9.0
22	18.0	12.5	8.5	7.5	4.0	2.0	7.5	5.0	7.5	6.5	10.0	9.0
23	17.5	12.5	10.5	7.0	5.0	3.5	7.0	5.5	8.5	6.5	12.0	7.5
24	17.0	11.5	8.5	6.5	5.5	3.5	7.5	6.0	8.5	6.0	13.0	9.0
25	16.5	11.5	9.0	6.0	5.5	3.5	7.5	5.5	9.5	7.0	13.5	10.0
26	17.0	11.0	9.0	5.5	5.5	2.5	7.0	4.0	10.0	8.5	12.5	10.5
27	16.5	11.5	8.5	5.5	6.0	3.5	6.5	4.0	9.5	6.5	11.5	10.5
28	16.5	11.5	8.5	5.0	6.5	5.0	6.5	4.0	10.5	8.0	10.5	9.0
29	16.0	11.5	9.0	5.0	6.0	5.0	5.0	2.0	---	---	11.5	7.5
30	13.0	10.0	9.0	5.5	6.5	4.5	4.0	2.5	---	---	12.0	9.0
31	12.5	7.5	---	---	6.5	3.5	5.5	3.5	---	---	12.0	8.0
MONTH	24.5	7.5	14.5	4.5	8.5	0.0	9.5	1.5	10.5	3.5	14.0	5.5

11257500 FRESNO RIVER NEAR KNOWLES, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	12.5	9.0	17.5	14.5	20.0	15.0	26.5	19.5	31.5	23.0	27.0	19.5
2	13.0	8.5	16.0	13.0	20.5	15.5	26.5	19.5	31.0	22.5	27.0	19.5
3	13.5	9.0	18.0	13.5	20.5	16.0	26.5	19.5	31.0	22.5	27.0	20.0
4	12.5	10.0	19.0	15.0	21.5	16.5	26.5	19.5	30.5	22.5	27.0	19.5
5	15.5	11.0	18.0	15.0	22.0	17.0	27.0	20.0	30.5	21.5	27.0	19.5
6	14.5	12.0	17.0	14.0	22.5	18.0	27.0	19.5	30.5	21.0	27.5	20.0
7	14.0	10.0	16.0	13.0	21.0	17.0	26.0	19.5	30.0	23.5	28.0	20.5
8	15.0	10.5	13.5	10.5	20.5	16.0	27.5	19.0	30.0	21.5	27.5	21.0
9	14.5	12.0	14.5	10.0	20.5	15.5	28.5	20.5	30.0	21.5	27.5	20.0
10	13.0	9.5	15.5	11.0	21.5	16.5	28.5	20.5	30.0	22.0	28.0	20.0
11	13.0	10.0	17.5	12.5	22.0	17.5	29.0	21.0	28.0	22.5	28.0	20.0
12	14.5	9.0	19.0	14.5	23.5	18.0	29.0	21.0	27.0	22.0	27.5	20.5
13	15.5	11.0	19.5	15.5	24.5	19.5	30.5	22.5	27.5	20.0	27.5	20.5
14	16.5	12.5	20.0	15.5	23.5	18.5	31.0	23.5	28.5	20.0	27.0	21.0
15	16.5	13.0	19.5	16.0	22.5	17.0	31.5	23.0	28.5	20.0	27.0	20.0
16	16.0	13.0	19.5	15.5	22.5	17.0	31.5	23.0	28.5	20.5	26.5	20.0
17	14.5	12.0	19.5	15.5	21.0	17.0	31.0	22.0	27.5	21.0	25.5	19.0
18	12.0	9.0	20.5	15.5	21.0	15.0	31.0	22.0	27.5	21.0	25.0	18.5
19	13.5	9.0	20.5	16.0	22.5	16.0	31.0	22.0	28.5	20.0	24.0	17.5
20	14.5	10.0	20.5	15.5	23.5	17.5	27.0	23.5	25.5	20.5	23.5	17.0
21	15.5	11.5	20.0	16.0	24.5	18.5	25.0	23.0	27.5	19.0	23.5	17.0
22	16.5	13.5	20.0	16.0	24.5	18.0	30.5	22.5	27.5	19.5	23.0	17.0
23	16.0	13.5	20.5	16.0	26.0	19.5	31.5	24.0	27.5	19.5	23.5	17.5
24	16.0	12.0	19.5	15.0	27.0	20.5	32.0	23.5	27.5	20.0	22.5	17.5
25	15.0	13.0	20.5	15.0	26.0	20.5	31.5	23.5	26.5	19.5	22.5	18.0
26	15.0	13.5	21.0	16.0	27.0	20.0	30.5	23.0	27.0	18.5	21.0	17.0
27	17.5	13.5	20.5	16.5	27.5	20.5	30.0	21.5	28.0	20.0	20.0	16.0
28	17.5	13.5	19.5	15.5	26.5	20.5	29.5	21.0	27.5	20.5	21.0	15.5
29	17.5	14.0	19.5	15.0	26.5	20.5	30.0	20.5	25.0	22.0	20.0	17.5
30	18.0	14.5	19.5	14.5	26.5	19.5	30.5	21.5	26.5	19.0	21.5	17.5
31	---	---	19.5	15.0	---	---	31.5	23.0	26.5	19.0	---	---
MONTH	18.0	8.5	21.0	10.0	27.5	15.0	32.0	19.0	31.5	18.5	28.0	15.5

## SAN JOAQUIN RIVER BASIN

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, 33,517 acre-ft (41.3 hm<sup>3</sup>) Sept. 30, 1979, elevation, 495.40 ft (150.998 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 89,509 acre-ft (110 hm<sup>3</sup>) June 6, elevation, 539.52 ft (164.446 m); minimum, 24,017 acre-ft (29.6 hm<sup>3</sup>) Dec. 9, elevation, 484.56 ft (147.694 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49033	39329	35299	25451	34309	55513	70117	80546	88637	75290	56274	42134
2	48775	39162	35181	25492	34680	56853	70284	80843	88839	74516	55662	41830
3	48495	39068	35033	25541	34974	57788	70730	80992	89041	73845	55053	41528
4	48227	38953	33690	25607	35230	58591	71121	81289	89244	73248	54397	41248
5	47972	38776	31664	25656	35447	59321	71499	81543	89431	72653	53794	40991
6	47740	38683	29619	25722	35656	59991	71963	81811	89509	72047	53183	40745
7	47475	38558	27523	25805	35875	60639	72470	81916	89322	71457	52575	40490
8	47118	38362	25434	26037	36064	61264	72950	82290	89072	70855	51958	40235
9	46728	38238	24017	26437	36265	61826	73433	82696	88793	70242	51369	39971
10	46373	38104	24048	26639	36455	62351	73859	82951	88482	69631	50771	39707
11	46032	37970	24096	27894	36637	62852	74287	83312	88141	69037	50224	39602
12	45681	37867	24135	29853	36818	63355	74688	83554	87723	68444	49668	39392
13	45319	37713	24191	30313	37112	63806	75074	83735	87199	67841	49127	39078
14	44971	37560	24231	30595	38083	64299	75448	83992	86645	67226	48635	38755
15	44624	37387	24295	31757	38735	64834	75822	84174	86108	66574	48134	38444
16	44278	37234	24319	32084	39172	65775	76197	84401	85542	65924	47636	38124
17	43933	37061	24406	32281	39549	66235	76574	84674	84994	65223	47175	37775
18	43590	36859	24494	32659	39897	66411	76893	84994	84462	64526	46751	37417
19	43248	36707	24631	32839	40554	66574	77212	85313	83931	63833	46328	37092
20	42897	36657	24735	32915	41238	66669	77518	85603	83388	63143	45919	36788
21	42580	36677	24808	32934	43944	66791	77809	85878	82815	62522	45522	36465
22	42286	36586	24881	32943	46100	66927	78102	86169	82230	61918	45151	36134
23	42003	36465	24946	32915	48320	67022	78365	86445	81498	61355	44836	35805
24	41772	36385	25002	32877	49573	67049	78658	86706	80724	60821	44523	35457
25	41452	36194	25075	32829	50509	67049	78893	86967	79954	60263	44244	35132
26	41141	36064	25124	32915	51369	67076	79187	87214	79172	59707	43989	34807
27	40820	35895	25181	33067	52091	67800	79629	87445	78394	59141	43712	34484
28	40500	35735	25238	33239	52818	70451	79821	87677	77605	58565	43391	34163
29	40171	35576	25295	33382	---	70130	80028	87924	76820	57979	43061	33844
30	39844	35408	25352	33565	---	70298	80279	88141	76039	57408	42733	33517
31	39507	---	25402	33883	---	70298	---	88373	---	56840	42427	---
MAX	49033	39329	35299	33883	52818	70451	80279	88373	89509	75290	56274	42134
MIN	39507	35408	24017	25451	34309	55513	70117	80546	76039	56840	42427	33517
†	501.36	497.34	486.28	495.78	513.10	526.50	533.45	538.79	530.55	516.35	504.09	495.40
‡	-9819	-4099	-10006	+8481	+18935	+17480	+9981	+8094	-12334	-19199	-14413	-8910
††	675	215	72	84	133	275	560	1003	1375	1310	1107	887

CAL YR 1978 ‡ +18036

WTR YR 1979 ‡ -15809

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

‡ Change in contents, in acre-feet.

†† 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 excellent except those below 3.0 ft<sup>3</sup>/s (0.085 m<sup>3</sup>/s), which are poor. Flow completely regulated by Hensley Lake (station 11257950) since October 1975.

AVERAGE DISCHARGE.--38 years, 107 ft<sup>3</sup>/s (3.030 m<sup>3</sup>/s), 77,520 acre-ft/yr (95.6 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, 2,840 ft<sup>3</sup>/s (80.4 m<sup>3</sup>/s) Feb. 14, 15, 1978, gage height, 8.27 ft (2.521 m); no flow for many days in 1975-78.

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 Water and Power Resources Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,380 ft<sup>3</sup>/s (39.1 m<sup>3</sup>/s) Mar. 28, gage height, 7.29 ft (2.222 m); minimum daily, 0.20 ft<sup>3</sup>/s (0.006 m<sup>3</sup>/s) May 29 to June 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	105	96	.80	.90	1.0	487	.40	.20	406	283	132
2	130	78	95	.80	.90	1.0	260	.40	.20	404	288	135
3	130	77	95	.90	.90	1.0	93	.40	.20	356	300	135
4	130	77	636	1.0	.80	1.0	96	.40	.20	313	300	126
5	130	78	967	1.1	.50	.90	96	.40	.20	315	300	119
6	110	80	988	1.2	.50	.90	45	.40	.49	317	300	119
7	130	80	1010	1.3	.60	1.0	1.5	20	178	317	300	119
8	167	80	1010	1.5	.60	.90	.80	1.5	228	317	299	118
9	187	80	708	1.5	.60	.80	.50	.80	219	317	298	116
10	176	80	5.2	1.5	.90	.60	.40	.50	248	317	291	120
11	167	81	1.8	1.4	1.2	.60	.40	.40	255	317	274	51
12	168	81	1.7	1.4	1.6	.70	.40	.40	268	317	266	87
13	180	80	2.2	56	1.8	.90	.40	.40	279	317	263	145
14	168	88	2.1	122	1.7	1.1	.40	2.7	312	320	247	144
15	166	97	1.9	123	1.6	1.4	.40	1.3	312	328	236	144
16	167	98	1.6	121	1.5	1.8	.40	.60	312	329	236	144
17	168	98	1.6	121	1.5	1.29	.40	.50	312	344	221	153
18	165	98	1.6	120	1.4	1.93	.40	.40	312	353	200	158
19	168	98	1.7	120	1.4	1.89	.40	.40	312	349	194	144
20	170	98	1.7	120	1.2	1.89	.40	.40	309	343	191	135
21	156	100	1.8	120	1.2	1.91	.40	.40	309	326	191	141
22	143	100	1.8	120	1.2	1.91	.40	.40	322	313	170	148
23	138	100	1.6	120	1.2	1.89	.40	.40	381	299	142	148
24	138	100	1.6	120	1.3	1.88	.40	.40	410	274	137	148
25	138	100	1.4	120	1.0	1.88	.40	.30	410	273	127	148
26	149	99	1.2	49	.80	1.88	.40	.30	410	274	119	148
27	157	98	.70	1.0	.90	1.89	.40	.30	410	277	120	148
28	156	97	.40	.80	.90	1.762	.40	.30	407	284	140	148
29	155	97	.50	.80	---	1020	.40	.20	406	284	151	148
30	153	97	.60	.90	---	488	.40	.20	406	284	151	148
31	153	---	.60	.90	---	487	---	.20	---	284	140	---
TOTAL	4752	2720	5640.30	1570.80	30.60	4796.60	1088.20	36.10	7777.00	9868	6875	4017
MEAN	153	90.7	182	50.7	1.09	155	36.3	1.16	259	318	222	134
MAX	187	105	1010	123	1.8	1020	487	20	410	406	300	158
MIN	110	77	.40	.80	.50	.60	.40	.20	.20	273	119	51
AC-FT	9430	5400	11190	3120	61	9510	2160	72	15430	19570	13640	7970

CAL YR 1978 TOTAL 93516.58 MEAN 256 MAX 2760 MIN .20 AC-FT 185500 MEAN ‡ 291 AC-FT ‡ 210900  
 WTR YR 1979 TOTAL 49171.60 MEAN 135 MAX 1020 MIN .20 AC-FT 97530 MEAN ‡ 124 AC-FT ‡ 89420

‡ Adjusted for change in contents and evaporation from Hensley Lake.

NOTE.--Stage-discharge relation affected by backwater from beaver dams Dec. 10 to Jan. 13, Jan 26 to Mar. 17, Apr. 7 to May 15.

## SAN JOAQUIN RIVER BASIN

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.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 25.0°C May 26, June 6; minimum recorded, 5.0°C Jan. 29.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	17.0					---	---	9.0	7.0	13.0	11.0
2	17.5	17.0					---	---	10.0	7.5	12.0	10.5
3	17.5	17.0					---	---	9.5	6.5	13.5	12.0
4	17.5	17.0					---	---	10.0	6.5	13.5	12.5
5	17.5	17.0					---	---	10.5	7.0	14.0	12.0
6	19.0	17.0					---	---	10.5	7.5	15.5	13.0
7	17.5	17.0					---	---	11.0	8.0	16.0	14.5
8	18.0	17.0					---	---	11.5	8.5	17.5	15.5
9	18.0	17.5					---	---	12.0	9.0	18.0	16.0
10	18.0	17.5					---	---	11.0	9.0	18.5	16.5
11	18.0	17.5					---	---	11.5	9.0	18.0	17.0
12	19.0	17.5					---	---	12.5	10.5	18.0	16.0
13	18.0	17.5					---	---	12.0	11.0	18.0	16.5
14	18.0	17.5					---	---	13.5	10.5	18.0	17.0
15	18.0	17.5					---	---	12.5	10.5	17.0	15.5
16	18.0	17.5					---	---	12.0	10.5	15.5	14.5
17	18.5	18.0					---	---	11.5	9.5	14.5	9.0
18	18.5	18.0					9.0	8.0	11.5	10.0	9.5	9.0
19	18.5	18.0					9.0	8.0	12.5	11.0	9.5	9.0
20	18.5	18.0					9.0	8.0	12.5	11.0	9.5	9.0
21	18.5	18.0					8.5	8.0	11.0	10.0	9.5	9.0
22	18.5	18.0					8.5	8.0	11.0	10.0	9.5	9.0
23	18.5	18.0					8.0	8.0	11.5	9.5	10.0	9.0
24	18.5	18.0					8.0	8.0	11.5	10.0	10.0	9.0
25	18.5	18.0					8.5	7.5	12.5	10.5	10.0	9.0
26	18.5	18.0					10.0	7.5	13.5	12.0	9.5	9.0
27	19.0	18.0					9.0	6.0	13.0	11.5	9.5	9.0
28	19.0	18.5					8.5	6.0	13.5	11.5	9.5	9.0
29	19.0	18.5					7.5	5.0	---	---	9.5	9.5
30	19.0	18.5					6.5	5.5	---	---	10.5	9.0
31	---	---					7.5	6.0	---	---	10.0	9.5
MONTH	19.0	17.0					---	---	13.5	6.5	18.5	9.0



11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	10.5	10.5	24.0	21.5	12.5	9.5	14.0	13.0	16.0	15.0
2	11.5	8.5	10.5	10.5	24.5	22.0	13.5	12.0	14.0	13.0	16.0	15.0
3	11.0	9.5	10.5	10.5	24.5	22.5	13.0	12.0	14.0	13.0	16.5	15.0
4	11.0	9.5	22.5	10.5	24.5	22.5	13.0	12.0	14.0	13.5	16.5	15.0
5	11.0	11.0	22.5	21.0	24.5	23.0	13.0	12.0	14.0	13.0	16.5	15.0
6	11.0	11.0	22.0	19.5	25.0	17.5	13.0	12.5	14.5	13.5	16.5	15.0
7	11.0	11.0	21.0	19.5	17.5	13.0	13.0	12.5	14.5	13.5	16.5	15.0
8	11.0	11.0	19.0	17.5	13.0	12.0	13.0	12.5	14.5	13.5	16.5	15.5
9	11.0	11.0	20.0	16.5	12.0	11.5	13.0	12.5	14.5	13.5	16.5	15.5
10	11.0	11.0	20.5	17.5	12.0	10.5	13.0	12.5	14.5	14.0	16.5	15.5
11	11.0	11.0	22.0	19.0	11.5	10.5	13.0	12.0	14.5	14.0	20.5	15.5
12	11.0	11.0	23.0	20.5	11.5	10.5	13.0	12.5	14.5	14.0	19.5	16.0
13	11.0	11.0	24.5	22.0	11.5	11.0	13.0	12.5	15.0	14.0	16.5	16.0
14	11.0	11.0	24.0	22.5	11.5	11.0	13.5	12.5	15.0	14.0	17.0	16.0
15	11.0	11.0	24.0	22.5	11.5	11.0	13.0	12.5	15.0	14.0	17.0	16.0
16	10.5	10.5	23.5	21.5	11.5	10.0	13.5	12.0	15.0	14.0	17.0	16.0
17	10.5	10.5	23.5	21.5	11.5	11.0	13.5	12.5	15.0	14.5	17.0	16.0
18	10.5	10.5	24.5	22.0	12.0	10.5	13.5	12.5	15.0	14.5	17.0	16.0
19	10.5	10.5	24.5	22.5	12.0	9.5	13.5	12.0	15.0	14.5	17.0	16.5
20	10.5	10.5	24.5	22.0	12.0	11.0	13.0	12.0	15.0	14.5	17.0	16.5
21	10.5	10.5	24.0	22.0	12.0	11.0	13.0	12.0	15.5	14.5	17.5	16.5
22	10.5	10.5	24.0	22.0	12.0	9.5	13.5	12.5	15.5	14.5	17.5	16.5
23	10.5	10.5	23.5	21.5	12.0	10.5	13.5	13.0	15.5	14.5	17.5	16.5
24	10.5	10.5	23.5	21.5	12.0	10.0	13.5	13.0	15.5	14.5	18.0	17.0
25	10.5	10.5	24.5	22.0	12.0	10.5	13.5	12.5	15.5	14.5	17.5	17.0
26	10.5	10.5	25.0	22.5	13.0	9.0	13.5	12.5	15.5	14.5	17.5	17.0
27	10.5	10.5	24.5	22.5	12.5	11.0	13.5	13.0	16.0	14.5	17.5	17.0
28	10.5	10.5	24.0	21.5	13.0	10.0	13.5	13.0	16.0	14.5	18.0	17.0
29	10.5	10.5	23.0	21.0	12.5	11.0	14.0	13.0	15.5	15.0	18.0	17.5
30	10.5	10.5	23.5	21.0	12.5	9.0	14.0	13.0	16.0	15.0	18.5	17.5
31	---	---	23.5	21.5	---	---	14.0	13.0	16.0	15.0	---	---
MONTH	11.5	8.5	25.0	10.5	25.0	9.0	14.0	9.5	16.0	13.0	20.5	15.0

## 11258900 WEST FORK CHOWCHILLA RIVER NEAR MARIPOSA, CA

LOCATION.--Lat 37°25'14", long 119°52'25", in SW¼SE¼ sec.10, T.6 S., R.19 E., Mariposa County, Hydrologic Unit 18040007, on left bank 15 ft (5 m) downstream from bridge on Indian Peak Road, 0.5 mi (0.8 km) downstream from Humbug Creek, and 6.7 mi (10.8 km) southeast of Mariposa.

DRAINAGE AREA.--33.6 mi<sup>2</sup> (87.0 km<sup>2</sup>).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,680 ft (512 m), from topographic map.

REMARKS.--No known diversions above station.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--22 years, 17.8 ft<sup>3</sup>/s (0.504 m<sup>3</sup>/s), 12,900 acre-ft/yr (15.9 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) Jan. 25, 1969, gage height, 8.93 ft (2.722 m) in gage well, 11.1 ft (3.38 m) from floodmarks; no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 665 ft<sup>3</sup>/s (18.8 m<sup>3</sup>/s) Jan. 11, gage height, 5.81 ft (1.771 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.40	3.1	2.9	29	288	66	20	4.8	.90	0	.10
2	.30	.50	4.0	2.8	29	105	60	19	4.1	.90	0	.10
3	.30	.50	2.8	3.0	24	80	54	18	3.5	.90	0	.10
4	.30	.50	2.3	3.2	22	70	49	18	3.2	1.0	0	.10
5	.20	.50	2.3	3.7	21	64	47	17	3.0	1.0	0	.10
6	.30	.50	2.2	4.0	21	58	43	17	2.8	.90	0	0
7	.30	.50	2.1	3.7	20	53	39	21	2.7	.90	0	0
8	.30	.70	1.9	14	19	50	39	21	2.6	.90	0	0
9	.30	.80	1.9	40	18	45	37	18	2.4	.70	0	0
10	.30	.60	1.9	15	18	40	35	16	2.3	.70	0	0
11	.30	1.3	2.0	329	17	39	34	16	2.2	.70	0	0
12	.30	1.6	2.1	160	17	38	33	14	2.0	.60	0	0
13	.30	1.5	2.0	45	40	36	32	13	1.9	.60	0	0
14	.30	1.3	2.0	51	192	35	31	13	1.9	.60	0	0
15	.30	1.3	2.0	224	59	61	29	12	1.9	.60	0	0
16	.30	1.1	2.1	61	48	97	30	12	2.0	.40	0	0
17	.30	1.1	4.7	37	38	53	33	11	2.1	.20	0	0
18	.30	1.0	8.3	53	34	44	29	11	2.4	.10	0	0
19	.40	1.0	11	39	73	43	27	9.8	2.0	.20	0	0
20	.40	1.9	7.6	32	100	40	26	9.3	1.9	.10	0	0
21	.40	25	5.4	29	372	41	25	9.1	1.6	.10	0	0
22	.40	16	4.7	25	238	48	24	9.0	1.5	1.1	0	0
23	.40	9.3	4.4	23	278	38	25	8.7	1.5	.90	0	0
24	.50	5.0	4.0	22	111	35	24	7.8	1.3	.60	0	0
25	.40	3.7	3.8	22	83	35	23	7.4	1.2	.40	0	0
26	.40	3.1	3.6	19	80	36	25	6.8	1.2	.10	0	0
27	.30	2.6	3.5	18	69	153	37	6.3	1.0	.10	0	0
28	.30	2.4	3.4	18	67	366	25	6.0	1.0	0	0	0
29	.30	2.3	3.3	16	---	130	23	5.8	.90	0	0	0
30	.40	2.2	3.2	17	---	90	21	5.5	.90	0	.10	---
31	.40	---	3.0	30	---	74	---	5.1	---	0	.10	---
TOTAL	10.30	90.20	110.6	1362.3	2137	2385	1025	383.6	63.80	16.20	.20	.50
MEAN	.33	3.01	3.57	43.9	76.3	76.9	34.2	12.4	2.13	.52	.007	.017
MAX	.50	25	11	329	372	366	66	21	4.8	1.1	.10	.10
MIN	.20	.40	1.9	2.8	17	35	21	5.1	.90	0	0	0
AC-FT	20	179	219	2700	4240	4730	2030	761	127	32	.4	1.0

CAL YR 1978 TOTAL 18347.80 MEAN 50.3 MAX 1380 MIN 0 AC-FT 36390  
WTR YR 1979 TOTAL 7584.70 MEAN 20.8 MAX 372 MIN 0 AC-FT 15040

11258980 CHOWCHILLA RIVER NEAR RAYMOND, CA

LOCATION.--Lat 37°15'36", long 119°56'43", in SE4SE4 sec.1, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on right bank 20 ft (6 m) downstream from County Road 613 bridge, 2,300 ft (701 m) downstream from Chapman Creek, and 3.8 mi (6.1 km) northwest of Raymond.

DRAINAGE AREA.--201 mi<sup>2</sup> (521 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to current year. December 1958 to September 1970 in files of California Department of Water Resources.

REVISED RECORDS.--WDR CA-73-2: 1972(M).

GAGE.--Water-stage recorder and concrete improved control. Datum of gage is 565.67 ft (172.416 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Station is affected by backwater from H. V. Eastman Lake at times in most years. No large storage or diversions above station.

AVERAGE DISCHARGE.--8 years, 91.7 ft<sup>3</sup>/s (2.597 m<sup>3</sup>/s), 66,440 acre-ft/yr (81.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft<sup>3</sup>/s (286 m<sup>3</sup>/s) Mar. 4, 1978, gage height, 15.92 ft (4.852 m); maximum gage height, 18.55 ft (5.654 m) June 3, 1979 (backwater from H. V. Eastman Lake); minimum daily, 0.01 ft<sup>3</sup>/s (<0.001 m<sup>3</sup>/s) on several days in 1974 and 1977.

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. 11	2030	*4,880 138	10.60 3.231	Mar. 1	0900	(a) --	9.90 3.018
Jan. 15	1000	2,110 59.8	7.09 2.161	Mar. 28	1200	(a) --	12.90 3.932
Feb. 14	1000	1,210 34.3	5.62 1.713	June 3	1400	(a) --	*18.55 5.654
Feb. 21	2400	(a) --	7.95 2.423				

a Backwater from H. V. Eastman Lake.

Minimum daily, 0.16 ft<sup>3</sup>/s (0.005 m<sup>3</sup>/s) Sept. 12, 13, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.4	4.2	7.4	6.1	194	1400	335	107	36	7.6	1.1	.74
2	4.6	4.2	10	6.5	158	640	292	99	35	7.5	1.0	.69
3	4.8	4.5	8.0	6.7	133	440	288	95	34	7.5	.90	.74
4	4.1	4.8	6.5	6.7	120	365	282	94	33	7.4	.69	.57
5	4.0	4.6	6.6	6.9	110	310	250	91	32	7.1	.66	.48
6	4.0	4.5	6.9	8.2	109	320	242	90	30	7.0	.70	.36
7	3.8	4.2	5.6	7.8	102	295	216	109	29	7.3	.77	.29
8	3.6	4.2	4.8	13	99	282	212	111	28	7.6	.88	.21
9	3.9	4.2	5.0	33	93	292	203	92	27	6.9	.79	.19
10	3.6	4.2	5.4	15	89	240	199	84	25	6.8	.80	.19
11	3.6	5.8	5.8	1480	85	230	180	85	23	6.8	.81	.19
12	3.8	6.2	6.5	1480	82	213	178	74	20	6.7	.83	.16
13	3.6	5.8	6.4	413	92	202	167	68	14	5.8	.99	.16
14	3.6	6.0	6.4	384	678	212	164	68	12	4.7	.98	.19
15	3.4	5.8	6.4	1180	267	220	161	64	12	3.4	.96	.19
16	3.3	6.0	6.4	397	192	450	160	62	12	3.0	.95	.16
17	3.5	5.8	7.2	276	180	280	177	59	12	2.8	.95	.19
18	3.9	5.8	14	357	133	230	163	55	12	2.6	.94	.19
19	3.9	5.9	15	264	251	220	147	51	11	2.7	.89	.19
20	3.6	6.8	10	145	263	208	139	48	11	2.2	.84	.19
21	3.9	150	8.2	147	1600	208	136	47	10	2.7	.84	.19
22	4.2	176	8.0	114	1370	222	130	46	9.6	3.6	.79	.21
23	4.2	20	8.0	119	1400	194	133	44	9.6	3.6	.69	.21
24	3.8	8.4	7.4	109	660	177	127	42	9.2	2.9	.65	.21
25	3.6	7.1	7.4	99	490	168	121	41	8.7	2.5	.69	.24
26	3.9	6.4	7.4	93	430	190	140	40	8.5	2.1	.79	.24
27	3.6	6.4	7.0	89	380	400	195	40	8.2	2.0	.79	.26
28	3.6	6.3	7.0	76	410	2250	132	38	7.9	2.0	.69	.26
29	3.9	6.3	7.0	75	---	900	122	37	7.8	1.9	.65	.26
30	3.9	6.3	6.7	100	---	480	113	36	7.6	1.8	.74	.29
31	3.9	---	6.3	88	---	380	---	36	---	1.3	.74	---
TOTAL	119.5	496.7	230.7	7594.9	10170	12618	5512	2053	535.1	139.8	25.49	8.64
MEAN	3.85	16.6	7.44	245	363	407	184	66.2	17.8	4.51	.82	.29
MAX	4.8	176	15	1480	1600	2250	335	111	36	7.6	1.1	.74
MIN	3.3	4.2	4.8	6.1	82	168	113	36	7.6	1.3	.65	.16
AC-FT	237	985	458	15060	20170	25030	10930	4070	1060	277	51	17

CAL YR 1978 TOTAL 107113.30 MEAN 293 MAX 4700 MIN 2.7 AC-FT 212500  
WTR YR 1979 TOTAL 39503.83 MEAN 108 MAX 2250 MIN .16 AC-FT 78360

11258980 CHOWCHILLA RIVER NEAR RAYMOND, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1971 to current year.

INSTRUMENTATION.--Temperature recorder since Oct. 1, 1971.

REMARKS.--Temperature not shown for periods when in backwater from Buchanan Dam.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 34.5°C June 28, 1973; minimum recorded, 1.0°C Dec. 12, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 28.5°C Aug. 18, Sept. 2; minimum recorded, 2.0°C Dec. 22, 26.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	25.0	19.0	17.0	12.0	10.0	9.0	---	---	7.5	6.0		
2	25.5	18.0	17.0	12.0	10.0	7.0	---	---	8.0	6.0		
3	24.5	16.5	16.0	10.5	9.0	5.5	---	---	7.0	4.0		
4	25.0	18.0	15.5	10.0	4.0	5.0	---	---	7.5	4.0		
5	25.0	18.0	16.5	11.0	9.5	6.0	---	---	8.0	4.5		
6	24.0	17.5	16.5	10.5	---	---	---	---	8.5	5.0		
7	23.5	16.5	17.0	10.5	---	---	---	---	9.0	5.5		
8	24.0	16.5	16.5	11.0	---	---	---	---	10.0	6.0		
9	24.0	17.0	16.0	11.0	---	---	10.0	8.0	10.0	6.0		
10	23.5	16.0	12.0	10.5	---	---	10.0	7.5	10.0	6.5		
11	24.0	16.5	12.5	10.0	---	---	10.5	9.0	10.0	6.5		
12	24.0	16.5	12.0	8.5	---	---	10.0	9.0	10.5	8.0		
13	24.5	17.0	12.5	10.0	---	---	8.5	7.5	10.0	9.0		
14	25.0	17.0	11.0	7.5	---	---	8.0	7.5	10.0	8.5		
15	23.0	16.5	11.5	7.0	---	---	9.5	7.5	9.5	6.5		
16	21.5	16.5	11.5	7.0	---	---	8.5	7.0	9.0	7.5		
17	22.5	16.0	12.0	8.0	7.0	6.0	7.5	6.0	9.5	6.0		
18	22.5	16.5	11.5	7.5	8.0	7.0	7.5	6.0	9.5	7.0		
19	22.5	16.0	11.5	7.0	8.0	6.0	7.0	5.0	11.0	8.5		
20	21.5	16.0	10.0	8.5	7.0	4.0	7.5	5.0	10.0	8.0		
21	20.5	15.0	9.5	8.5	6.0	2.5	8.0	6.0	10.0	7.0		
22	20.5	14.5	9.5	8.0	5.5	2.0	7.5	5.5	8.0	7.0		
23	20.5	14.0	11.5	8.0	7.0	3.0	7.5	6.5	---	---		
24	20.0	13.5	10.5	7.5	7.0	3.5	8.0	7.0	---	---		
25	19.5	13.0	11.0	8.0	6.5	3.5	8.5	6.5	---	---		
26	19.5	13.0	10.5	7.0	7.0	2.0	7.5	4.5	---	---		
27	19.5	12.5	10.5	7.5	9.5	4.0	7.5	4.0	---	---		
28	19.5	12.5	10.0	6.0	7.5	5.0	7.5	4.5	---	---		
29	18.0	12.5	10.5	6.5	6.5	5.0	6.5	3.0	---	---		
30	15.0	11.5	10.5	7.0	8.0	4.0	5.0	3.0	---	---		
31	15.5	9.5	---	---	---	---	7.0	5.0	---	---		
MONTH	25.5	9.5	17.0	6.0	---	---	---	---	11.0	4.0		

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1									---	---	27.5	21.5
2									---	---	28.5	21.5
3									---	---	27.0	22.5
4									---	---	26.0	22.0
5									---	---	26.0	23.5
6									---	---	26.5	24.0
7									---	---	27.5	25.0
8									---	---	27.5	24.0
9									---	---	27.0	23.5
10									---	---	27.5	25.0
11									---	---	27.0	25.0
12									---	---	26.0	24.5
13									---	---	26.0	25.0
14									---	---	26.0	24.5
15									---	---	26.5	24.5
16									---	---	26.5	24.5
17									---	---	26.0	23.5
18									28.5	20.5	25.5	22.0
19									27.5	20.0	25.0	20.5
20									26.5	19.5	24.5	19.5
21									26.5	19.0	24.5	19.0
22									26.5	19.0	24.5	19.0
23									26.5	20.5	24.5	19.0
24									26.0	21.0	24.5	19.0
25									25.5	21.5	23.5	19.5
26									27.0	20.5	23.5	18.0
27									26.5	22.0	23.0	17.5
28									27.5	22.5	23.5	18.0
29									27.5	22.5	23.0	19.0
30									26.5	22.0	24.0	19.5
31									27.0	21.0	---	---
MONTH									---	---	28.5	17.5

## SAN JOAQUIN RIVER BASIN

241

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.

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, 145,687 acre-ft (180 hm<sup>3</sup>) June 4, 5, elevation, 584.22 ft (178.070 m); minimum, 103,984 acre-ft (128 hm<sup>3</sup>) Sept. 30; elevation, 558.32 ft (170.176 m).

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

438	1,519	480	18,213
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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107988	107403	106670	107748	110343	128319	132797	142586	145652	139384	127894	118342
2	107958	107388	106565	107778	110647	128746	132830	142794	145670	139093	127404	118295
3	107928	107373	106565	107763	110890	128713	133298	143037	145670	138820	126883	118201
4	107898	107373	106610	107778	111103	128533	133850	143210	145687	138632	126346	118138
5	107868	107373	106625	107763	111286	128237	134302	143332	145687	138462	125811	118028
6	107838	107373	106640	107763	111469	128237	134806	143453	145652	138274	125293	117746
7	107807	107373	106685	107792	111637	128516	135260	143662	145600	138087	124743	117261
8	107778	107373	106700	108018	111805	128746	135698	143871	145600	137951	124227	116636
9	107748	107403	106655	108589	111973	129123	136120	144063	145600	137730	123697	116013
10	107733	107403	106655	108816	112111	129402	136509	144237	145600	137458	123215	115407
11	107703	107403	106700	112003	112233	129567	136882	144394	145582	137170	122783	114634
12	107703	107403	106789	114695	112371	129616	137272	144568	145512	136865	122287	114324
13	107703	107403	106819	115066	112693	129732	137611	144690	145179	136543	121808	113522
14	107673	107403	106774	115376	114200	130111	137951	144830	144655	136205	121394	112371
15	107658	107403	106804	117261	115004	130656	138274	144917	144271	135850	121028	111637
16	107628	107403	106819	117590	115547	131401	138599	145005	143958	135530	120663	111012
17	107658	107403	106909	116278	116029	131301	138923	145092	143662	135210	120314	110495
18	107628	107403	106999	114942	116465	131036	139213	145197	143471	134756	120030	109979
19	107613	107388	107133	113368	117261	130738	139538	145197	143228	134302	119698	109465
20	107598	107568	107208	111683	118154	130656	139830	145250	142950	133749	119429	108936
21	107568	108003	107298	110010	121633	130738	140087	145302	142638	133214	119224	108454
22	107538	108138	107358	108936	124727	130838	140327	145372	142292	132714	119113	107943
23	107523	108093	107418	109042	127258	130871	140567	145407	141963	132231	119035	107463
24	107553	107868	107463	109193	126573	130838	140808	145477	141601	131782	118971	106939
25	107553	107688	107508	109328	129422	130755	141066	145529	141256	131334	118877	106431
26	107538	107538	107568	109434	124840	130722	141359	145582	140929	130838	118783	105924
27	107538	107268	107613	109525	125001	131500	141704	145565	140602	130177	118735	105434
28	107523	107133	107643	109586	125422	134319	141963	145565	140293	129699	118672	104959
29	107493	106909	107703	109676	---	133114	142205	145565	140018	129222	118578	104456
30	107448	106700	107748	109843	---	133181	142413	145600	139658	128778	118500	103984
31	107433	---	107718	109979	---	133064	---	145635	---	128369	118452	---
MAX	107988	108138	107748	117590	127258	134319	142413	145635	145687	139384	127894	118342
MIN	107433	106700	106565	107748	110343	128237	132797	142586	139658	128369	118452	103984
†	560.64	560.15	560.83	562.33	572.19	576.84	582.34	584.19	580.74	574.00	567.82	558.32
‡	-585	-733	+1018	+2261	+15443	+7642	+9349	+3222	-5977	-11289	-9917	-14468
††	699	251	112	121	155	297	545	977	1353	1379	1233	1058

CAL YR 1978 † +102727

WTR YR 1979 † -4034

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

‡ Change in contents, in acre-feet.

†† 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.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from H. V. Eastman Lake since 1976).--48 years (water years 1922-23, 1931-72, 1976-79), 98.2 ft<sup>3</sup>/s (2.781 m<sup>3</sup>/s), 71,150 acre-ft/yr (87.7 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, 8.69 ft (2.649 m); 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) Mar. 28, gage height, 7.72 ft (2.353 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	0	84	.10	20	333	508	10	10	143	201	21
2	.30	0	65	.10	18	510	319	10	10	144	219	21
3	.20	0	21	19	20	502	92	10	10	126	234	21
4	.10	0	.30	14	20	501	48	10	10	84	239	21
5	.10	0	.20	20	20	504	49	10	10	87	231	42
6	.10	0	.20	20	20	355	20	10	10	87	237	136
7	0	0	.10	18	20	202	11	10	10	87	242	240
8	0	0	.10	16	20	202	11	11	10	84	240	275
9	0	0	.10	11	20	142	11	6.8	10	116	239	275
10	0	0	.10	8.6	20	134	10	11	10	147	217	275
11	0	0	.10	11	20	175	10	11	10	146	204	275
12	0	0	.20	7.0	20	218	10	10	39	181	202	228
13	0	0	.10	180	9.6	165	10	11	143	201	198	380
14	0	0	.10	242	1.3	44	10	11	210	202	180	554
15	0	0	.10	247	1.0	8.6	10	11	175	200	163	352
16	0	0	0	236	1.0	145	10	10	128	183	163	256
17	0	0	0	859	.20	389	10	10	130	177	147	228
18	0	0	.10	1000	.20	399	10	10	131	218	121	222
19	0	0	.10	1020	.30	401	10	10	133	212	124	222
20	0	.20	.10	1000	1.0	276	10	10	134	255	104	222
21	0	.80	.10	993	1.2	195	10	10	164	254	77	222
22	0	69	.10	659	.80	203	10	10	189	237	43	223
23	0	97	.10	68	318	204	10	10	191	233	24	222
24	0	107	.10	38	997	217	10	10	192	196	24	222
25	0	111	.10	38	1010	224	10	10	179	216	24	222
26	0	111	.10	42	715	224	10	10	169	216	24	222
27	0	111	.10	45	295	211	10	10	171	217	24	222
28	0	111	.10	45	188	983	10	10	158	217	21	221
29	0	111	.10	29	---	1430	10	10	135	216	20	220
30	0	111	.10	18	---	517	10	10	139	201	20	223
31	0	---	.10	19	---	508	---	10	---	192	21	---
TOTAL	1.10	940.00	173.10	6922.80	3777.60	10521.6	1279	312.8	3020	5475	4227	6485
MEAN	.036	31.3	5.58	223	135	339	42.6	10.1	101	177	136	216
MAX	.30	111	84	1020	1010	1430	508	11	210	255	242	554
MIN	0	0	0	.10	.20	8.6	10	6.8	10	84	20	21
AC-FT	2.2	1860	343	13730	7490	20870	2540	620	5990	10860	8380	12860
CAL YR 1978 TOTAL	42910.90											
WTR YR 1979 TOTAL	43135.00											
MEAN 118												
MAX 1430												
MIN 0												
AC-FT 85110												
AC-FT 85560												
MEAN 270												
MEAN 124												
AC-FT 195300												
AC-FT 89710												

‡ Adjusted for change in contents in 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.

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, 27.0°C Oct. 4; minimum recorded, 3.5°C Dec. 8, 9, 11.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	25.5	18.0	17.5	11.0	13.0	12.5	---	---	9.5	8.5	9.5	9.0
2	26.5	17.5	17.0	10.5	13.0	12.5	---	---	10.0	8.0	9.5	9.0
3	26.5	18.0	17.0	9.5	14.0	11.0	---	---	10.0	8.0	9.5	9.0
4	27.0	18.0	16.5	9.5	13.0	9.5	---	---	10.0	8.0	9.0	9.0
5	26.5	17.5	17.0	10.0	11.5	8.0	---	---	10.0	8.0	9.5	9.0
6	26.0	17.0	17.5	9.5	9.5	5.5	---	---	10.0	8.0	9.5	9.0
7	25.0	15.5	18.0	10.0	8.0	4.0	---	---	10.0	8.0	10.0	9.0
8	24.5	15.5	18.0	10.0	7.5	3.5	---	---	10.0	8.0	10.0	9.0
9	23.5	16.0	17.5	10.5	7.5	3.5	---	---	10.0	8.0	10.0	9.5
10	24.0	15.0	11.0	9.5	8.0	4.0	---	---	10.0	8.0	10.0	9.5
11	24.5	15.0	10.5	8.0	8.5	3.5	---	---	9.5	8.5	10.0	9.5
12	24.5	15.0	13.0	6.5	---	---	---	---	10.0	8.5	10.0	9.5
13	25.0	15.0	13.0	9.0	---	---	---	---	14.0	9.0	10.0	9.5
14	25.0	15.5	12.5	7.0	---	---	---	---	13.5	7.5	11.5	9.5
15	23.0	15.0	13.5	7.0	---	---	---	---	13.5	8.5	10.5	9.5
16	22.0	14.0	12.5	6.5	---	---	---	---	13.5	7.0	11.5	9.5
17	22.0	13.5	13.0	7.0	---	---	---	---	13.5	8.0	10.0	9.5
18	22.5	13.5	13.5	7.0	---	---	---	---	14.0	9.5	10.0	9.5
19	22.5	14.0	13.5	7.0	---	---	9.5	9.0	14.5	10.0	10.0	10.0
20	20.5	13.5	10.5	8.0	---	---	9.5	9.0	13.5	9.0	10.5	10.0
21	19.5	12.5	11.0	9.5	---	---	9.5	9.0	14.0	9.0	10.5	10.0
22	20.5	12.0	13.5	9.5	---	---	9.0	8.5	13.0	9.0	10.5	10.0
23	21.0	12.5	13.5	12.5	---	---	9.0	9.0	15.5	8.5	10.5	10.0
24	20.5	12.0	13.0	12.5	---	---	9.5	8.5	9.0	8.5	10.5	9.5
25	20.5	11.5	13.0	12.5	---	---	9.5	8.5	9.0	8.5	10.5	10.0
26	20.0	11.0	13.0	12.0	---	---	9.5	8.5	9.0	8.5	10.5	10.0
27	20.0	11.0	13.0	12.5	---	---	9.5	8.5	9.0	8.5	11.0	10.0
28	19.5	11.0	13.0	12.5	---	---	10.0	8.5	9.0	8.5	10.5	10.0
29	17.5	11.0	13.0	12.5	---	---	9.0	8.5	---	---	10.5	10.0
30	14.5	9.0	13.0	12.5	---	---	9.5	8.5	---	---	10.5	10.0
31	16.5	8.5	---	---	---	---	10.0	8.5	---	---	11.0	10.0
MONTH	27.0	8.5	18.0	6.5	---	---	---	---	15.5	7.0	11.5	9.0

## SAN JOAQUIN RIVER BASIN

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.5	14.5	9.0	15.5	10.0	11.5	10.0	11.5	9.0	13.0	10.0
2	11.0	10.0	15.0	9.5	15.5	9.0	11.0	10.0	11.5	10.0	13.0	10.5
3	12.0	10.5	15.5	10.0	15.5	9.5	11.0	10.0	11.0	10.5	13.5	10.5
4	12.0	10.5	15.0	9.5	15.5	9.0	11.5	10.0	12.0	10.0	13.0	10.5
5	12.0	10.5	15.0	9.0	15.5	9.5	11.5	10.5	11.0	10.0	12.0	10.0
6	13.5	10.5	15.0	9.5	15.5	10.5	11.5	10.5	12.5	10.0	11.0	10.5
7	14.5	10.0	13.0	9.0	15.0	9.5	11.5	10.5	13.0	8.5	11.0	10.5
8	14.5	10.5	14.0	9.5	15.5	9.5	12.5	8.5	12.0	9.5	11.0	10.5
9	14.5	10.5	21.0	9.5	15.5	10.0	11.5	10.5	12.0	9.0	11.0	10.5
10	14.0	10.0	15.0	9.0	15.5	9.5	11.5	10.0	12.0	9.0	11.0	10.0
11	14.0	10.0	15.5	9.5	15.5	10.0	11.5	10.0	11.0	10.5	11.0	10.5
12	14.5	10.0	15.5	9.5	11.5	10.0	12.5	8.5	11.0	10.5	14.5	10.5
13	15.0	10.0	15.0	10.0	11.5	10.0	12.5	9.5	11.0	10.5	11.0	10.0
14	15.0	10.0	15.0	9.5	11.0	9.5	12.5	8.5	11.0	10.5	12.5	9.0
15	14.5	10.0	15.0	9.5	12.0	9.5	12.5	8.5	11.0	10.5	11.0	10.5
16	14.5	9.5	15.0	9.0	11.5	9.0	11.5	9.5	11.5	10.5	12.5	9.0
17	13.5	10.0	15.0	9.0	11.0	9.5	11.5	10.0	11.0	10.5	11.5	10.5
18	13.5	9.5	15.5	10.5	12.5	10.0	11.5	9.5	11.5	10.0	11.5	10.5
19	14.0	10.0	15.5	9.5	11.5	10.0	11.0	10.0	11.5	10.5	11.5	10.5
20	14.5	9.5	15.5	8.5	11.5	10.0	11.5	10.0	11.5	10.0	11.5	10.5
21	14.5	9.5	15.0	9.0	11.0	10.0	11.0	10.0	11.5	10.0	11.0	10.5
22	14.5	9.5	15.0	10.0	12.0	10.0	11.0	10.0	13.0	10.0	11.0	10.5
23	14.5	9.5	15.0	10.5	12.0	9.5	11.0	10.0	13.0	10.0	11.5	10.5
24	14.5	9.5	15.5	9.0	11.0	10.0	11.5	10.0	13.0	10.5	11.5	10.5
25	13.5	9.5	15.5	10.0	11.5	10.0	12.5	8.5	12.5	10.5	11.5	11.0
26	13.0	10.5	15.5	10.0	11.0	10.0	12.0	9.0	13.0	10.0	11.5	10.5
27	14.5	8.5	15.0	9.5	11.0	10.0	12.5	8.5	13.0	10.5	11.5	10.5
28	15.0	9.5	15.0	9.5	11.0	10.0	11.0	10.5	13.5	10.5	11.5	10.5
29	15.0	9.0	15.0	8.0	11.0	10.0	11.5	10.5	13.0	10.5	11.5	10.5
30	15.0	9.5	15.0	8.0	11.0	10.0	11.5	10.0	13.0	10.0	11.5	10.5
31	---	---	15.0	9.5	---	---	12.5	9.5	13.0	10.5	---	---
MONTH	15.0	8.5	21.0	8.0	15.5	9.0	12.5	8.5	13.5	8.5	14.5	9.0



## 11260480 MARIPOSA CREEK NEAR CATHEYS VALLEY, CA

LOCATION.--Lat 37°23'56", long 120°00'10", in SW¼NE¼ sec.21, T.6 S., R.18 E., Mariposa County, Hydrologic Unit 18040007, on downstream side of bridge on White Rock Road, 0.3 mi (0.5 km) downstream from China Gulch, and 5.7 mi (9.2 km) southeast of town of Catheys Valley.

DRAINAGE AREA.--65.7 mi<sup>2</sup> (170 km<sup>2</sup>).

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1963, published as "near Cathay."

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,230 ft (375 m), from topographic map.

REMARKS.--Probably minor diversions above the station for irrigation.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--21 years, 28.9 ft<sup>3</sup>/s (0.818 m<sup>3</sup>/s), 20,940 acre-ft/yr (25.8 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,460 ft<sup>3</sup>/s (211 m<sup>3</sup>/s) Feb. 24, 1969, gage height, 11.63 ft (3.545 m); no flow many days in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 3, 1958, reached a stage of 11.62 ft (3.542 m), discharge, 7,180 ft<sup>3</sup>/s (203 m<sup>3</sup>/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,070 ft<sup>3</sup>/s (58.6 m<sup>3</sup>/s) Jan. 11, gage height, 8.22 ft (2.505 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	1.2	6.4	5.0	44	726	95	19	3.3	.60		
2	.60	1.5	10	5.0	56	230	81	18	3.0	.50		
3	.60	1.6	7.1	4.9	59	154	70	17	2.6	.40		
4	.60	1.5	6.1	5.0	45	122	63	16	2.3	.40		
5	.60	1.6	5.8	5.4	38	102	57	16	2.2	.30		
6	.60	1.7	5.6	5.8	32	88	52	15	2.1	.30		
7	.60	1.7	5.3	5.5	29	77	48	19	2.0	.30		
8	.60	1.7	5.0	38	26	69	44	19	1.8	.20		
9	.70	1.7	4.8	149	23	61	41	17	1.8	.20		
10	.70	1.7	4.8	36	22	50	39	15	1.7	.10		
11	.70	2.5	4.8	869	20	45	36	14	1.7	.10		
12	.70	3.2	4.7	347	18	42	35	13	1.5	.10		
13	.70	3.2	4.6	86	21	39	33	12	1.4	.10		
14	.60	2.9	4.5	128	41	36	31	11	1.4	.10		
15	.60	2.8	4.3	650	98	61	29	10	1.4	.10		
16	.70	2.5	3.8	131	477	108	29	9.8	1.4	.10		
17	.70	2.5	6.3	72	204	65	31	9.3	1.4	0		
18	.70	2.5	12	125	135	53	27	8.6	1.5	0		
19	.80	2.4	23	87	102	52	26	7.9	1.5	0		
20	.80	3.7	14	59	151	46	24	7.4	1.4	0		
21	.80	52	9.9	46	185	43	23	7.0	1.3	0		
22	.90	47	8.1	37	902	47	23	7.0	1.1	0		
23	1.0	21	7.1	30	695	41	23	6.8	1.1	0		
24	1.0	8.7	6.4	26	488	37	22	6.0	1.1	0		
25	1.0	6.1	6.0	24	208	35	21	5.5	1.0	0		
26	.90	4.8	5.7	20	145	35	26	5.1	.90	0		
27	.90	4.1	5.4	17	112	234	38	4.6	.90	0		
28	.90	3.7	5.2	17	94	700	24	4.3	.80	0		
29	.90	3.5	5.0	15	---	221	21	4.3	.70	0		
30	.90	3.4	4.8	15	---	144	20	4.1	.70	0		
31	.90	---	4.7	41	---	113	---	3.6	---	0		
TOTAL	23.40	198.4	211.2	3101.6	4470	3876	1132	332.3	47.00	3.90	0	0
MEAN	.75	6.61	6.81	100	160	125	37.7	10.7	1.57	.13	0	0
MAX	1.0	52	23	869	902	726	95	19	3.3	.60	0	0
MIN	.60	1.2	3.8	4.9	18	35	20	3.6	.70	0	0	0
AC-FT	46	394	419	6150	8870	7690	2250	659	93	7.7	0	0
CAL YR 1978	TOTAL	26839.50	MEAN	73.5	MAX	1570	MIN	.10	AC-FT	53240		
WTR YR 1979	TOTAL	13395.80	MEAN	36.7	MAX	902	MIN	0	AC-FT	26570		

## 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.--64 years, 341 ft<sup>3</sup>/s (9.657 m<sup>3</sup>/s), 247,100 acre-ft/yr (305 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)
May 21	2400	*3,500 99.1	7.34 2.237
June 6	0230	2,400 68.0	6.44 1.963

Minimum daily, 7.4 ft<sup>3</sup>/s (0.210 m<sup>3</sup>/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	16	54	34	70	100	184	956	1630	468	117	21
2	61	18	49	34	72	93	189	829	1650	433	117	21
3	59	18	43	36	74	100	193	1030	1740	397	114	20
4	57	18	48	36	78	102	224	1350	1960	382	106	19
5	53	19	48	38	79	114	301	1390	2120	369	101	18
6	51	19	27	38	80	139	338	1100	2150	344	98	17
7	47	18	28	39	77	189	304	912	1950	320	94	17
8	43	18	28	40	76	242	298	773	1440	288	88	16
9	41	18	32	46	76	278	366	639	1190	257	81	16
10	38	18	33	51	79	316	322	570	1300	246	76	15
11	35	21	32	685	79	325	295	634	1400	255	74	15
12	32	18	31	689	81	295	310	949	1440	287	75	14
13	31	18	31	348	101	287	421	1350	1660	316	68	14
14	26	20	28	250	170	281	539	1640	1500	338	63	13
15	23	20	27	210	124	281	625	1880	1090	327	58	13
16	26	23	26	178	115	247	620	2040	906	309	54	13
17	24	24	29	155	105	213	519	2170	784	273	50	12
18	21	23	32	149	102	197	400	2490	620	239	48	12
19	22	22	39	132	104	184	353	2710	489	267	46	12
20	21	24	41	128	100	172	353	2820	554	269	40	11
21	20	28	47	122	102	163	400	2930	644	265	37	11
22	20	31	46	112	105	155	466	2880	668	313	33	10
23	19	35	46	107	102	150	426	2640	725	268	29	9.8
24	18	36	48	106	101	155	373	2410	778	234	27	9.0
25	17	37	48	98	102	172	388	2320	795	204	22	8.8
26	16	38	49	89	100	189	466	2570	683	195	22	8.3
27	15	36	48	85	93	206	609	2790	649	182	22	7.8
28	15	36	44	75	96	202	735	2560	614	159	22	7.6
29	14	43	38	66	---	195	835	2290	534	139	23	7.4
30	14	49	36	66	---	191	894	2070	512	128	24	8.0
31	15	---	33	68	---	182	---	1770	---	118	23	---
TOTAL	956	762	1189	4310	2643	6115	12746	55462	34175	8589	1852	396.7
MEAN	30.8	25.4	38.4	139	94.4	197	425	1789	1139	277	59.7	13.2
MAX	62	49	54	689	170	325	894	2930	2150	468	117	21
MIN	14	16	26	34	70	93	184	570	489	118	22	7.4
AC-FT	1900	1510	2360	8550	5240	12130	25280	110000	67790	17040	3670	787

CAL YR 1978 TOTAL 210851.0 MEAN 578 MAX 3570 MIN 14 AC-FT 418200  
WTR YR 1979 TOTAL 129195.7 MEAN 354 MAX 2930 MIN 7.4 AC-FT 256300

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 to current year.

WATER TEMPERATURES: Water years 1966-77, 1979.

SEDIMENT RECORDS: Water years 1970-71, 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to September 1977, October 1978 to September 1979.

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, 20.0°C July 15; minimum recorded, 0.0°C Dec. 7, 19, Jan. 13, 17, Mar. 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT									
30...	1530	14	29	5.7	6.5	11.0	<1	<1	<1
DEC									
04...	1400	51	25	7.2	1.5	12.5	12	<1	K1
JAN									
16...	1500	182	33	7.9	.5	12.4	34	K2	K4
FEB									
14...	1200	159	28	6.1	2.0	12.4	10	K2	K3
APR									
24...	1300	363	20	6.6	9.5	10.6	K1	<1	16
MAY									
31...	1200	1750	7	7.6	10.6	10.6	K4	<1	<1
JUN									
29...	1400	544	12	7.1	14.5	--	K5	<1	<1
JUL									
27...	1000	184	12	6.4	14.0	9.0	K2	<1	11
SEP									
20...	1400	11	27	--	10.0	--	K7	K2	K6

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)
OCT									
30...	8	1	2.8	.3	2.2	35	.3	.5	7
DEC									
04...	6	0	2.1	.1	2.4	46	.4	.3	6
JAN									
16...	8	3	2.9	.2	2.0	34	.3	.2	9
FEB									
14...	6	2	2.3	.1	1.0	25	.2	.2	4
APR									
24...	5	3	1.5	.2	1.3	36	.3	.3	2
MAY									
31...	1	0	.2	.1	.5	41	.2	.5	1
JUN									
29...	3	3	.9	.1	.7	34	.2	.2	2
JUL									
27...	8	5	2.2	.6	1.1	22	.2	.4	3
SEP									
20...	8	1	2.7	.2	2.0	35	.3	.3	7

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SULFATE DIS- SOLVED (MG/L AS SO <sub>4</sub> )	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO <sub>2</sub> )	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)	NITROGEN, NO <sub>2</sub> +NO <sub>3</sub> TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)
OCT 30...	1.3	3.8	.0	8.4	--	24	.03	.02	.00
DEC 04...	1.9	4.1	.0	6.1	26	21	.04	.03	.02
JAN 16...	.9	2.8	.0	7.0	20	19	.03	.04	.01
FEB 14...	2.2	2.5	.0	7.3	20	18	.03	.02	.01
APR 24...	2.6	1.3	.0	8.2	14	17	.02	.06	.00
MAY 31...	1.9	.4	.1	2.7	19	7	.03	.03	.00
JUN 29...	1.4	.6	.0	3.3	7	7	.01	.03	.01
JUL 27...	2.1	.7	.1	3.4	15	12	.02	.01	.08
SEP 20...	1.7	3.6	.1	4.7	19	20	.03	.01	.01

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	CYANIDE TOTAL (MG/L AS CN)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
APR 24...	1	0	0	0	4	.04	50	--	0	.0	0	0
SEP 20...	2	0	0	0	0	.00	100	0	10	.1	0	0

DATE	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	GROSS ALPHA, SUSP. TOTAL (UG/L U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRACT- ION (UG/L)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ALDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLORDANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	CHLORDANE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDD, TOTAL (UG/L)
APR 24...	10	--	--	--	--	--	--	--	--	--	--	--
SEP 20...	10	<.4	<.3	<.4	<.4	.07	.16	.00	.0	.0	0	.00

DATE	DDD, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	DDT, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	DI- AZINON, TOTAL (UG/L)	DI- ELDRIN, TOTAL (UG/L)	DI- ELDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ENDO- SULFAN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ENDRIN, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	ETHION, TOTAL (UG/L)
APR 24...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 20...	.0	.00	.0	.00	.0	.00	.00	.0	.00	.00	.0	.00

DATE	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/L)	HEPTA- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/L)	LINDANE TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)
APR 24...	--	--	--	--	--	--	--	--	--	--	--
SEP 20...	.00	.0	.00	.0	.00	.0	.00	.00	.0	.00	.00

See footnotes at end of table.

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PCB, TOTAL (UG/L)	PCB, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	PER- THANE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOX- APHENE, TOTAL IN BOT- TOM MA- TERIAL (UG/KG)	TOTAL TRI- THION (UG/L)	2,4-D, TOTAL (UG/L)	2,4,5-T TOTAL (UG/L)	SILVEX, TOTAL (UG/L)
APR 24...	--	--	--	--	--	--	--	--	--	--	--
SEP 20...	.00	.00	.0	0	.00	0	0	.00	.00	.00	.00

&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).

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	12.0	5.5	5.5	2.5	1.5	0.5	0.5	---	---	1.5	0.5
2	14.5	12.0	5.5	5.0	1.5	0.5	1.5	0.5	0.5	0.5	0.5	0.0
3	14.0	12.0	9.5	5.0	1.5	0.5	1.5	1.0	0.5	0.5	3.5	0.5
4	14.0	11.0	6.5	5.5	1.5	1.0	1.5	1.0	0.5	0.5	4.0	1.5
5	13.5	10.5	7.0	6.5	2.0	0.5	---	---	0.5	0.5	4.5	2.5
6	12.5	10.0	6.5	6.0	1.5	0.5	---	---	1.0	0.5	5.0	3.0
7	---	---	7.5	6.5	1.0	0.0	---	---	1.0	0.5	5.5	3.0
8	11.5	10.0	7.5	7.0	1.0	0.5	---	---	1.0	0.5	5.5	2.5
9	12.0	10.5	7.0	6.5	1.0	0.5	2.0	1.0	1.0	0.5	5.5	3.0
10	11.5	9.5	6.5	5.5	1.5	0.5	2.5	1.5	1.0	0.5	6.5	3.0
11	11.5	10.0	5.5	3.5	1.5	1.0	2.5	1.5	1.5	1.0	5.5	3.0
12	11.5	10.0	3.5	2.5	1.5	1.0	2.0	1.0	2.0	1.0	6.0	3.0
13	11.5	10.0	2.5	2.0	2.0	1.0	2.0	0.0	2.0	1.0	6.5	3.0
14	11.5	10.0	2.5	1.5	1.5	1.0	2.0	0.5	1.5	1.0	6.0	3.0
15	11.5	10.0	2.5	1.5	1.5	1.0	---	---	1.0	0.5	5.0	2.5
16	11.0	9.5	2.5	2.0	1.5	1.0	---	---	1.5	0.5	2.5	1.0
17	10.5	9.5	2.5	2.5	1.5	1.0	1.0	0.0	1.0	0.5	3.5	0.5
18	10.5	9.0	2.5	2.5	1.5	0.5	1.0	0.5	1.5	1.0	3.5	2.0
19	10.0	9.5	3.0	2.5	1.0	0.0	0.5	0.5	2.0	1.0	4.5	1.5
20	10.0	9.0	2.5	2.5	0.5	0.5	1.0	0.5	1.5	0.5	3.5	1.5
21	9.5	8.5	2.5	1.5	1.0	0.5	---	---	1.0	0.5	4.0	1.5
22	9.0	7.5	2.0	1.5	1.0	0.5	---	---	1.0	0.5	4.0	1.5
23	7.5	6.0	2.0	1.5	1.0	0.5	---	---	1.0	0.5	5.5	1.5
24	7.0	6.5	1.5	1.0	1.0	1.0	---	---	1.0	0.5	6.5	2.5
25	7.5	6.5	1.5	1.0	1.5	1.0	---	---	2.5	1.0	6.5	3.0
26	8.0	7.0	1.5	1.0	1.5	1.0	---	---	2.5	1.5	5.0	3.5
27	8.0	7.0	3.0	1.5	1.5	1.0	---	---	1.5	0.5	4.5	2.0
28	8.0	7.0	3.5	2.0	1.5	1.0	---	---	2.5	1.0	2.5	1.0
29	7.5	7.0	2.5	1.5	1.0	0.5	---	---	---	---	4.0	0.5
30	7.0	6.5	3.0	2.0	1.0	0.5	---	---	---	---	4.5	1.5
31	6.5	5.5	---	---	1.0	0.5	---	---	---	---	5.0	0.5
MONTH	14.5	5.5	7.5	1.0	2.5	0.0	---	---	2.5	0.5	6.5	0.0

## SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT						
30...	1530	6.5	14	1	.04	57
DEC						
04...	1400	1.5	51	2	.28	36

## 11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA

LOCATION.--Lat 37°43'01", long 119°39'55", Mariposa County, Yosemite National Park, Hydrologic Unit 18040008, 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 excellent. 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.--63 years, 599 ft<sup>3</sup>/s (16.96 m<sup>3</sup>/s), 434,000 acre-ft/yr (535 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)
Jan. 11	1930	3,250 92.0	7.33 2.234
May 5	0015	3,500 99.1	7.58 2.310
May 22	0200	*6,010 170	9.71 2.960

Minimum daily, 25 ft<sup>3</sup>/s (0.71 m<sup>3</sup>/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	39	114	75	148	235	424	2050	2810	669	167	49
2	101	41	103	77	154	210	424	1740	2770	628	164	48
3	99	42	90	79	156	233	431	2180	2830	597	159	46
4	96	41	99	79	165	234	500	2780	3060	571	153	44
5	93	41	102	84	169	261	675	2930	3220	549	146	43
6	88	41	70	81	173	317	783	2400	3230	516	139	42
7	85	40	68	81	166	414	695	2050	2970	479	134	40
8	81	39	66	89	166	527	706	1680	2270	432	126	40
9	77	38	69	97	164	609	859	1400	1940	385	118	39
10	74	38	74	105	172	694	752	1300	2000	367	111	39
11	71	41	75	1380	173	739	702	1420	2070	375	107	38
12	68	41	75	1460	178	675	745	1940	2090	393	106	37
13	66	41	74	783	221	658	967	2630	2290	410	103	37
14	64	42	71	604	393	649	1170	3240	2140	441	97	36
15	62	42	67	481	298	654	1320	3610	1690	438	91	35
16	59	44	64	403	289	574	1320	3790	1410	418	84	35
17	57	47	75	353	256	485	1140	4070	1260	378	79	34
18	56	46	83	337	241	460	899	4580	1060	333	75	34
19	54	46	82	287	246	428	807	4970	890	334	74	34
20	53	50	82	282	236	404	811	5080	917	351	71	32
21	52	62	93	270	236	386	905	5240	994	342	68	32
22	51	59	96	249	240	372	1040	5210	1010	423	64	31
23	48	63	94	237	236	358	981	4740	1050	361	60	30
24	46	67	98	235	231	377	866	4360	1100	317	56	29
25	44	70	99	215	239	418	946	4150	1100	275	54	28
26	42	73	100	182	235	460	866	4410	973	263	52	28
27	41	71	102	180	212	501	1270	4720	898	253	51	27
28	40	72	96	177	222	491	1610	4380	846	227	50	26
29	39	83	84	143	---	466	1800	3880	760	201	49	26
30	39	100	81	140	---	463	2030	3520	717	185	49	25
31	39	---	74	140	---	422	---	3130	---	173	49	---
TOTAL	1988	1560	2620	9385	6015	14174	28444	103580	52365	12084	2906	1064
MEAN	64.1	52.0	84.5	303	215	457	948	3341	1746	390	93.7	35.5
MAX	103	100	114	1460	393	739	2030	5240	3230	669	167	49
MIN	39	38	64	75	148	210	424	1300	717	173	49	25
AC-FT	3940	3090	5200	18620	11930	28110	56420	205500	103900	23970	5760	2110
CAL YR 1978	TOTAL	366571	MEAN	1004	MAX	5840	MIN	38	AC-FT	727100		
WTR YR 1979	TOTAL	236185	MEAN	647	MAX	5240	MIN	25	AC-FT	468500		

## SAN JOAQUIN RIVER BASIN

11269300 MAXWELL CREEK AT COULTERVILLE, CA

LOCATION.--Lat 37°42'58", long 120°11'20", in NW¼SE¼ sec.34, T.2 S., R.16 E., Mariposa County, Hydrologic Unit 18040008, on Dogtown Road bridge, 0.4 mi (0.6 km) downstream from Cuneo Creek, and 0.5 mi (0.8 km) northeast of Coulterville.

DRAINAGE AREA.--17.0 mi<sup>2</sup> (44.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1959 to September 1974, October 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,740 ft (530 m), from topographic map.

REMARKS.--No diversion or storage above station.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--19 years (water years 1960-74, 1976-79) 7.95 ft<sup>3</sup>/s (0.225 m<sup>3</sup>/s), 5,760 acre-ft/yr (7.10 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. 22, 1964, gage height, 5.71 ft (1.740 m); no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,150 ft<sup>3</sup>/s (32.6 m<sup>3</sup>/s) Jan. 11, gage height, 5.61 ft (1.710 m); no flow many days in August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.40	.40	2.5	.90	14	301	29	4.1	1.1	.30	.10	0
2	.40	.40	1.9	.90	19	126	24	3.9	1.0	.30	.10	0
3	.40	.40	1.4	.90	22	76	20	3.7	1.0	.30	.10	0
4	.40	.30	1.2	.90	19	52	18	3.6	.90	.30	.10	0
5	.30	.30	1.2	1.0	17	39	16	3.6	.90	.30	.10	0
6	.30	.30	1.0	1.0	16	31	15	3.5	.80	.30	.10	0
7	.30	.30	.80	1.1	16	26	14	4.0	.80	.30	.10	0
8	.30	.30	.80	1.5	15	23	12	3.6	.70	.20	.10	0
9	.40	.40	.80	2.8	15	20	11	3.2	.70	.30	.10	0
10	.30	.40	.80	5.6	13	17	11	3.0	.70	.30	0	0
11	.30	.80	.80	4.60	12	16	9.9	2.8	.60	.20	0	0
12	.30	.60	.80	1.57	11	14	9.2	2.7	.60	.20	.10	0
13	.30	.70	.70	1.7	39	14	8.8	2.6	.50	.20	.10	0
14	.30	.60	.70	2.9	183	13	8.3	2.5	.50	.20	.10	0
15	.30	.60	.70	1.85	70	23	7.6	2.4	.50	.10	.10	0
16	.30	.60	.70	3.4	50	49	7.6	2.3	.60	.20	.10	0
17	.30	.60	1.4	21	37	26	7.8	2.2	.70	.20	.10	0
18	.30	.60	4.7	26	31	22	6.7	2.1	.70	.10	.10	0
19	.30	.60	5.2	20	99	20	6.3	2.0	.70	.10	.10	0
20	.30	.80	3.4	16	94	18	6.1	2.0	.60	.10	.10	0
21	.40	7.6	2.2	13	480	19	5.7	2.0	.50	.20	.10	0
22	.40	5.8	1.7	11	258	29	5.5	1.9	.40	.10	.10	0
23	.40	2.5	1.5	9.3	173	22	5.3	1.9	.50	.10	.10	0
24	.40	1.6	1.4	8.4	94	19	4.9	1.8	.40	.10	.10	0
25	.40	1.3	1.3	8.0	59	17	4.7	1.7	.30	.10	.30	0
26	.30	1.1	1.2	6.9	54	17	5.8	1.6	.40	.10	.10	0
27	.40	1.0	1.1	6.3	41	36	8.0	1.6	.30	.10	.10	0
28	.40	1.0	1.1	6.0	57	250	5.1	1.6	.30	.10	0	0
29	.40	.90	1.1	5.5	---	87	4.7	1.6	.30	.10	0	.10
30	.40	.90	1.0	6.4	---	49	4.4	1.5	.30	.10	0	.10
31	.40	---	1.0	9.7	---	37	---	1.3	---	.10	0	---
TOTAL	10.80	33.70	46.10	1110.80	2008	1508	302.4	78.3	18.30	5.70	2.70	.20
MEAN	.35	1.12	1.49	35.8	71.7	48.6	10.1	2.53	.61	.18	.087	.007
MAX	.40	7.6	5.2	460	480	301	29	4.1	1.1	.30	.30	.10
MIN	.30	.30	.70	.90	11	13	4.4	1.3	.30	.10	0	0
AC-FT	21	67	91	2200	3980	2990	600	155	36	11	5.4	.4
CAL YR 1978	TOTAL	6620.80	MEAN 18.1	MAX 510	MIN .10	AC-FT 13130						
WTR YR 1979	TOTAL	5125.00	MEAN 14.0	MAX 480	MIN 0	AC-FT 10170						



## 11269500 LAKE McCURE 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, 1,004,000 acre-ft (1,240 hm<sup>3</sup>) June 14, 15, elevation, 864.1 ft (263.38 m); minimum, 588,300 acre-ft (725 hm<sup>3</sup>) Jan. 5-7, elevation, 792.0 ft (241.40 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	764200	636100	601400	589700	660500	694100	722000	778600	977800	975100	873800	762000
2	760300	632200	600900	589700	661500	694600	724100	782000	979900	972300	870700	759100
3	755200	628700	600000	588800	662600	694600	725800	785500	982600	968900	866900	755800
4	751300	624400	599100	588800	663600	693100	728000	791300	986800	966900	862500	751800
5	747300	620500	597200	588300	663600	693100	731800	798300	991600	964200	858800	748500
6	742900	616200	596200	588300	664100	691000	734600	803100	995800	961400	855100	745700
7	738400	611900	596000	588300	665100	689400	737300	807200	998600	958700	851300	742300
8	735100	608000	595300	589200	664600	688900	739500	809600	999900	956000	847600	739500
9	730700	604300	595300	591100	664600	687800	741200	811900	999900	952700	843400	736200
10	726900	600900	594800	591600	665600	687800	742900	813100	1001000	950000	839100	732900
11	723100	599100	594400	609000	666100	688300	744500	813700	1001000	945900	835400	729600
12	720300	598100	594400	625800	666100	688300	746200	816700	1002000	943300	831800	726900
13	714900	596700	593900	630700	667100	687800	746800	822700	1003000	939300	827500	724100
14	711700	597200	593400	634600	674800	687800	749600	828100	1004000	935900	823900	720300
15	706300	597200	593000	642500	677400	687800	752400	835400	1004000	932600	820300	717100
16	702100	597700	592500	646500	677400	688900	755200	844000	1003000	929300	816700	713800
17	697800	597700	592000	649000	677400	688900	757500	853800	1002000	926700	812500	710600
18	694100	597700	592500	651500	677900	687800	758000	865000	1001000	923400	809000	706900
19	690400	597700	593000	653500	678500	687800	759700	876300	999200	919400	805400	703700
20	686200	598100	592500	654500	677900	687300	759100	889000	997200	915500	802500	699900
21	682100	599100	592500	655500	688800	687300	759700	901200	995100	912900	798900	696200
22	677900	600000	592500	656000	691000	688300	760300	912900	993700	909000	795400	692500
23	673300	600500	591600	657000	693600	688300	761400	922000	992300	907100	791300	689400
24	669700	600900	591600	657000	694100	689900	762000	929300	990900	903800	787800	686200
25	665100	601400	591600	657500	693100	690400	762000	936600	988800	900600	784900	682600
26	661000	601400	592000	658000	693100	692000	762000	943900	987400	896700	781400	679500
27	656500	601400	591600	659000	690400	696200	764800	952700	985400	892900	778600	677400
28	652500	601400	591600	660000	690000	706900	767100	960100	982600	889000	776300	673800
29	648500	601400	590600	659000	---	712800	770500	966200	979900	885200	772200	670700
30	645000	601400	590600	659500	---	716000	774500	971000	977800	880800	768200	667100
31	640000	---	589700	660000	---	723100	---	974400	---	877000	764800	---
MAX	764200	636100	601400	660000	694100	723100	774500	974400	1004000	975100	873800	762000
MIN	640000	596700	589700	588300	660500	687300	722000	778600	977800	977000	764800	667100
†	802.8	794.8	792.3	806.8	812.6	818.0	829.0	859.8	860.3	845.0	826.3	808.2
‡	-127100	-38600	-11700	+70300	+30000	+33100	+51400	+199900	+3400	-100800	-112200	-97700

CAL YR 1978 ‡ +490100  
WTR YR 1979 ‡ -100000

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

‡ 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 SE4SW4 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).--78 years, 1,326 ft<sup>3</sup>/s (37.55 m<sup>3</sup>/s), 960,700 acre-ft/yr (1.18 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-79): 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, 3,860 ft<sup>3</sup>/s (109 m<sup>3</sup>/s) June 5, gage height, 8.83 ft (2.691 m); minimum daily, 227 ft<sup>3</sup>/s (6.43 m<sup>3</sup>/s) Nov. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	2250	255	398	462	2650	698	1820	3050	2190	2110	1700
2	2210	2260	262	389	466	2550	694	1800	2980	2130	2100	1690
3	2190	2250	266	396	448	2530	606	1800	2830	2100	2110	1700
4	2210	2250	357	395	442	2520	502	1790	2630	2100	2090	1710
5	2210	2250	396	389	441	2500	489	1880	2530	2060	2100	1700
6	2200	2260	404	393	445	2510	479	1910	2550	2050	2100	1700
7	2200	2250	396	394	440	2520	492	1840	2770	2070	2090	1690
8	2200	2260	392	441	444	2510	825	1800	2820	2090	2090	1690
9	2190	1920	396	420	447	2200	985	1800	2820	2100	2080	1690
10	2200	1420	390	396	447	2020	1000	1810	2640	2140	2060	1690
11	2200	939	394	487	442	2000	1020	1820	2530	2160	2050	1680
12	2230	588	394	415	445	2010	1080	1820	2540	2170	2040	1680
13	2220	338	397	392	648	2010	1130	1880	2410	2180	2060	1670
14	2230	251	396	488	1420	2020	1180	1910	2230	2180	2060	1680
15	2200	246	391	503	1800	2020	1290	1960	2170	2170	2050	1650
16	2210	243	394	418	1610	2020	1340	2000	2170	2170	1980	1670
17	2210	241	407	414	1510	2010	1420	2030	2180	2150	1920	1660
18	2220	231	411	426	1510	2010	1460	2060	2190	2150	1930	1660
19	2230	229	405	406	1810	1830	1520	2040	2210	2150	1940	1660
20	2250	233	398	406	2060	1400	1550	2050	2210	2150	1920	1650
21	2270	231	406	397	2100	1200	1630	2390	2180	2140	1830	1650
22	2290	227	411	408	2400	1200	1760	2790	2170	2100	1800	1640
23	2280	234	398	427	2550	1080	1800	2810	2170	2100	1790	1630
24	2270	232	409	444	2520	862	1800	2870	2160	2100	1790	1630
25	2280	240	396	447	2520	718	1890	2900	2160	2100	1790	1630
26	2270	239	383	449	2510	711	1930	2930	2150	2100	1800	1620
27	2270	241	387	444	2530	700	1960	3120	2210	2130	1720	1630
28	2260	245	386	441	2540	706	1910	3120	2230	2160	1670	1620
29	2270	248	388	436	---	694	1900	3120	2240	2160	1670	1610
30	2250	250	387	451	---	693	1890	3110	2200	2150	1680	1600
31	2240	---	389	442	---	697	---	3100	---	2150	1690	---
TOTAL	69170	27296	11841	13152	37407	53101	38229	70080	72330	66050	60110	49880
MEAN	2231	910	382	424	1336	1713	1274	2261	2411	2131	1939	1663
MAX	2290	2260	411	503	2550	2650	1960	3120	3050	2190	2110	1710
MIN	2190	227	255	389	440	693	479	1790	2150	2050	1670	1600
AC-FT	137200	54140	23490	26090	74200	105300	75830	139000	143500	131000	119200	98940
†	2320	159	32	0	0	0	1920	3540	4240	4630	4400	3130
CAL YR 1978 TOTAL	618603			1695	MAX 4230	MIN 114	AC-FT 1227000	MEAN † 2403	AC-FT † 1740000			
WTR YR 1979 TOTAL	568646			1558	MAX 3120	MIN 227	AC-FT 1128000	MEAN † 1453	AC-FT † 1052000			

† Diversion, in acre-feet, to North Side Canal, furnished by Merced Irrigation District.

† Adjusted for diversion to North Side Canal and change in contents in Lake McClure and McSwain Reservoir.

## 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 fair. Most water released from Lake McClure (station 11269500) is diverted upstream into the Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 ft<sup>3</sup>/s (5.66 m<sup>3</sup>/s).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---					---	144	---	170	181	
2		---					---	147	---	173	149	
3		---					---	142	---	162	152	
4		---					---	142	---	142	154	
5		---					---	131	---	131	147	
6		---					---	133	---	149	152	
7		---					---	154	---	165	157	
8		---					---	157	---	167	170	
9		---					---	167	---	144	167	
10		---					173	162	---	138	176	
11		---					181	165	---	138	187	
12		---					193	160	---	149	---	
13		---					---	154	---	167	---	
14		---					181	160	---	190	---	
15		---					160	152	181	190	---	
16		---					165	147	149	176	---	
17		---					173	144	197	170	---	
18		---					120	154	---	152	---	
19		---					120	160	190	138	---	
20		---					133	147	167	135	---	
21		---					114	154	176	162	---	
22		---					124	---	147	173	193	
23		---					131	---	144	176	---	
24		---					131	---	165	197	176	
25		---					126	---	157	197	173	
26		---					144	---	142	181	184	
27		---					167	---	144	184	---	
28		197					181	---	157	178	197	
29		---					165	---	154	178	178	
30		---					162	---	165	184	197	
31		---					---	---	---	181	---	
TOTAL		---					---	---	---	5137	---	
MEAN		---					---	---	---	166	---	
MAX		---					---	---	---	197	---	
MIN		---					---	---	---	131	---	
AC-FT		---					---	---	---	10190	---	
†	37720	1240	986	891	857	1150	57900	98320	105400	109300	97980	72260

† 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.--13 years, 18.4 ft<sup>3</sup>/s (0.521 m<sup>3</sup>/s), 13,330 acre-ft/yr (16.4 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. 8	2130	2,620 74.2	11.34 3.456	Feb. 14	0815	1,600 45.3	9.37 2.856
Jan. 11	1645	2,580 73.1	11.26 3.432	Feb. 21	1130	3,340 94.6	12.54 3.822
Jan. 15	0645	2,500 70.8	11.13 3.392	Mar. 1	0430	*3,920 111	13.43 4.093

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	1.4	.88	86	1230	9.6	0				
2		0	.93	.88	163	149	7.7	0				
3		0	.52	.86	38	79	6.2	0				
4		0	.35	.70	20	49	5.4	0				
5		0	.44	.78	15	38	4.6	0				
6		0	.31	.81	12	30	4.0	0				
7		0	.10	.74	9.8	24	3.5	0				
8		0	.10	364	7.9	20	3.1	0				
9		0	.15	318	6.6	17	2.8	0				
10		0	.18	37	5.6	15	2.5	0				
11		0	.18	854	5.0	13	2.3	0				
12		0	.18	374	4.3	11	2.2	.01				
13		0	.18	65	43	10	2.1	.07				
14		0	.18	504	607	8.7	1.9	.04				
15		0	.18	1020	138	14	1.7	.02				
16		0	.19	117	127	96	1.5	0				
17		0	.38	55	72	26	1.5	0				
18		0	49	240	72	18	1.4	0				
19		0	172	62	402	16	1.3	0				
20		.02	17	34	168	11	.84	0				
21		2.5	7.0	25	1090	9.0	.15	0				
22		3.9	3.8	19	494	8.0	.05	0				
23		2.1	2.7	15	262	9.1	.04	0				
24		1.4	2.1	13	114	7.1	.03	0				
25		.98	1.8	12	65	5.6	.01	0				
26		.75	1.6	8.8	54	4.6	.01	0				
27		.62	1.4	6.9	39	17	.01	0				
28		.43	1.3	5.8	55	116	0	0				
29		.43	1.2	4.9	---	38	0	0				
30		.56	1.1	3.9	---	17	0	0				
31		---	.98	15	---	13	---	0	---			---
TOTAL	0	13.69	268.93	4178.95	4175.2	2119.1	66.44	.14	0	0	0	0
MEAN	0	.46	8.68	135	149	68.4	2.21	.005	0	0	0	0
MAX	0	3.9	172	1020	1090	1230	9.6	.07	0	0	0	0
MIN	0	0	.10	.70	4.3	4.6	0	0	0	0	0	0
AC-FT	0	27	533	8290	8280	4200	132	.3	0	0	0	0
CAL YR 1978	TOTAL	10787.90	MEAN 29.6	MAX 1490	MIN 0	AC-FT 21400						
WTR YR 1979	TOTAL	10822.45	MEAN 29.7	MAX 1230	MIN 0	AC-FT 21470						

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. 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.--39 years, 648 ft<sup>3</sup>/s (18.35 m<sup>3</sup>/s), 469,500 acre-ft/yr (579 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, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) Mar. 2, elevation, 67.42 ft (20.550 m); minimum daily, 157 ft<sup>3</sup>/s (4.45 m<sup>3</sup>/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	2030	535	409	481	2600	848	314	1090	274	186	253
2	1210	2080	537	409	513	3680	816	283	1020	284	193	253
3	1180	2090	533	410	596	2820	791	267	990	272	171	260
4	1160	2090	532	409	552	2630	802	266	918	267	211	252
5	1200	2090	526	412	513	2550	699	253	831	248	251	240
6	1220	2060	535	410	493	2490	658	327	697	229	243	236
7	1210	2050	460	408	485	2450	641	372	653	210	213	266
8	1300	2130	436	417	476	2430	554	345	741	234	209	259
9	1290	2200	430	486	469	2420	480	283	823	278	194	258
10	1160	2100	427	904	467	2310	418	279	809	263	183	303
11	1190	1800	424	583	465	2090	378	309	795	217	202	319
12	1240	1480	422	905	461	2040	402	300	624	209	229	314
13	1240	1170	426	1130	461	2010	410	270	596	217	247	326
14	1190	941	425	641	517	1990	428	258	562	212	233	300
15	1180	768	423	926	1310	1980	393	245	465	242	262	312
16	1180	697	428	1800	1690	2000	381	217	372	255	285	351
17	1190	652	431	962	1630	2040	339	229	346	217	267	382
18	1150	624	435	726	1530	2010	306	266	371	207	232	381
19	1150	605	447	791	1510	1980	260	255	352	169	232	353
20	1180	598	542	647	1860	1930	243	280	301	157	281	390
21	1310	593	498	577	2010	1740	252	291	259	181	270	419
22	1750	568	464	541	2860	1470	298	265	245	218	217	427
23	1900	478	455	517	2880	1420	331	591	251	229	227	467
24	1950	432	443	502	2900	1340	308	756	252	201	212	523
25	1960	408	439	501	2670	1200	272	866	259	265	212	516
26	2040	390	432	500	2570	1000	268	891	234	258	208	500
27	2130	379	422	496	2520	958	327	932	214	214	199	503
28	2110	403	417	488	2510	940	345	1100	217	210	211	532
29	2120	515	410	481	---	944	392	1160	218	253	205	562
30	2140	531	408	477	---	900	375	1100	226	246	184	569
31	2100	---	406	476	---	836	---	1110	---	216	213	---
TOTAL	45530	34952	14148	19341	37399	59198	13415	14680	15731	7152	6882	11026
MEAN	1469	1165	456	624	1336	1910	447	474	524	231	222	368
MAX	2140	2200	542	1800	2900	3680	848	1160	1090	284	285	569
MIN	1150	379	406	408	461	836	243	217	214	157	171	236
AC-FT	90310	69330	28060	38360	74180	117400	26610	29120	31200	14190	13650	21870
CAL YR 1978	TOTAL	363965	MEAN 997	MAX 2580	MIN 163	AC-FT 721900						
WTR YR 1979	TOTAL	279454	MEAN 766	MAX 3680	MIN 157	AC-FT 554300						

## 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.--67 years, 1,978 ft<sup>3</sup>/s (56.02 m<sup>3</sup>/s), 1,433,000 acre-ft/yr (1.77 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, 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) Feb. 25, elevation, 59.21 ft (18.047 m); minimum daily, 389 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	2180	772	476	1080	5380	3140	954	1480	468	528	639
2	1500	2190	770	476	1100	5650	2860	953	1420	547	521	633
3	1460	2190	777	464	1310	5820	2440	915	1390	553	461	667
4	1370	2180	774	446	1400	5710	2230	881	1320	571	503	662
5	1380	2200	767	452	1310	5430	1980	799	1250	591	535	686
6	1400	2210	758	474	1290	5000	1690	819	1110	555	542	700
7	1420	2170	675	499	1340	4590	1530	872	1000	476	496	701
8	1450	2210	678	537	1320	4260	1380	894	987	452	489	670
9	1480	2320	949	628	1230	4000	1220	857	1100	533	471	667
10	1420	2290	1100	1260	1120	3700	1110	858	1110	594	423	718
11	1360	2020	1150	1390	1050	3280	1030	892	1140	592	395	736
12	1410	1660	1060	1530	997	3100	1020	948	997	521	413	710
13	1420	1350	813	2190	962	3000	1030	919	941	483	454	699
14	1380	1100	660	2270	992	2910	1050	855	907	475	471	690
15	1340	920	578	2380	1800	2830	1020	786	805	520	495	708
16	1340	825	551	3670	3080	2780	1030	722	690	534	502	761
17	1370	767	603	3840	3320	2890	1010	693	614	549	471	837
18	1360	749	606	3510	3000	3010	938	697	657	534	466	840
19	1370	723	588	3090	2700	2980	879	679	641	474	450	789
20	1380	699	656	2880	2880	2990	818	680	594	458	510	811
21	1420	721	717	2540	3330	2930	788	643	570	502	562	851
22	1860	764	688	2320	4330	2650	779	621	494	553	546	898
23	2140	782	649	2280	5530	2460	798	834	487	576	551	937
24	2190	783	609	2210	6170	2370	795	1070	490	591	534	963
25	2230	692	580	2020	6380	2190	771	1210	494	625	528	968
26	2250	641	566	1670	6220	1970	731	1280	466	593	564	952
27	2370	593	533	1460	5990	1860	776	1290	416	512	573	964
28	2360	586	497	1320	5750	1870	828	1370	398	437	608	1010
29	2340	730	498	1220	---	1990	925	1490	392	484	634	1050
30	2320	770	484	1150	---	2190	971	1470	389	541	577	1070
31	2280	---	476	1100	---	2650	---	1470	---	523	592	---
TOTAL	51810	40015	21582	51752	76981	104440	37567	29421	24749	16416	15865	23987
MEAN	1671	1334	696	1669	2749	3369	1252	949	825	530	512	800
MAX	2370	2320	1150	3840	6380	5820	3140	1490	1480	625	634	1070
MIN	1340	586	476	446	962	1860	731	621	389	437	395	633
AC-FT	102800	79370	42810	102700	152700	207200	74510	58360	49090	32560	31470	47580
CAL YR 1978 TOTAL	1454036			3984	MAX 15300	MIN 287	AC-FT 2884000					
WTR YR 1979 TOTAL	494585			1355	MAX 6380	MIN 389	AC-FT 981000					

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. 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.--39 years, 648 ft<sup>3</sup>/s (18.35 m<sup>3</sup>/s), 469,500 acre-ft/yr (579 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, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) Mar. 2, elevation, 67.42 ft (20.550 m); minimum daily, 157 ft<sup>3</sup>/s (4.45 m<sup>3</sup>/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	2030	535	409	481	2600	848	314	1090	274	186	253
2	1210	2080	537	409	513	3680	816	283	1020	284	193	253
3	1180	2090	533	410	596	2820	791	267	990	272	171	260
4	1160	2090	532	409	552	2630	802	266	918	267	211	252
5	1200	2090	526	412	513	2550	699	253	831	248	251	240
6	1220	2060	535	410	493	2490	658	327	697	229	243	236
7	1210	2050	460	408	485	2450	641	372	653	210	213	266
8	1300	2130	436	417	476	2430	554	345	741	234	209	259
9	1290	2200	430	486	469	2420	480	283	823	278	194	258
10	1160	2100	427	904	467	2310	418	279	809	263	183	303
11	1190	1800	424	583	465	2090	378	309	795	217	202	319
12	1240	1480	422	905	461	2040	402	300	624	209	229	314
13	1240	1170	426	1138	461	2010	410	270	596	217	247	326
14	1190	941	425	641	517	1990	428	258	562	212	233	300
15	1180	768	423	926	1310	1980	393	245	465	242	262	312
16	1180	697	428	1800	1690	2000	381	217	372	255	285	351
17	1190	652	431	962	1630	2040	339	229	346	217	267	382
18	1150	624	435	726	1530	2010	306	266	371	207	232	381
19	1150	605	447	791	1510	1980	260	255	352	169	232	353
20	1180	598	542	647	1860	1930	243	280	301	157	281	390
21	1310	593	498	577	2010	1740	252	291	259	181	270	419
22	1750	568	464	541	2860	1470	298	265	245	218	217	427
23	1900	478	455	517	2880	1420	331	591	251	229	227	467
24	1950	432	443	502	2900	1340	308	756	252	201	212	523
25	1960	408	439	501	2670	1200	272	866	259	268	212	516
26	2040	390	432	500	2570	1000	268	891	234	258	208	500
27	2130	379	422	496	2520	958	327	932	214	214	199	503
28	2110	403	417	488	2510	940	345	1100	217	210	211	532
29	2120	515	410	481	---	944	392	1160	218	253	205	562
30	2140	531	408	477	---	900	375	1100	226	248	184	569
31	2100	---	406	476	---	836	---	1110	---	216	213	---
TOTAL	45530	34952	14148	19341	37399	59198	13415	14680	15731	7152	6882	11026
MEAN	1469	1165	456	624	1336	1910	447	474	524	231	222	368
MAX	2140	2200	542	1800	2900	3680	848	1160	1090	284	285	569
MIN	1150	379	406	408	461	836	243	217	214	157	171	236
AC-FT	90310	69330	28060	38360	74180	117400	26610	29120	31200	14190	13650	21870
CAL YR 1978	TOTAL	363965	MEAN 997	MAX 2580	MIN 163	AC-FT 721900						
WTR YR 1979	TOTAL	279454	MEAN 766	MAX 3680	MIN 157	AC-FT 554300						

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.--Lat 37°21'02", long 120°53'34", 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.--67 years, 1,978 ft<sup>3</sup>/s (56.02 m<sup>3</sup>/s), 1,433,000 acre-ft/yr (1.77 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, 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) Feb. 25, elevation, 59.21 ft (18.047 m); minimum daily, 389 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	2180	772	476	1080	5380	3140	954	1480	468	528	639
2	1500	2190	770	476	1100	5650	2860	953	1480	547	521	633
3	1460	2190	777	464	1310	5820	2440	915	1390	553	461	667
4	1370	2180	774	446	1400	5710	2230	881	1320	571	503	662
5	1380	2200	767	452	1310	5430	1980	799	1250	591	535	686
6	1400	2210	758	474	1290	5000	1690	819	1110	555	542	700
7	1420	2170	675	499	1340	4590	1530	872	1000	476	496	701
8	1450	2210	678	537	1320	4260	1380	894	987	452	489	670
9	1480	2320	949	628	1230	4000	1220	857	1100	533	471	667
10	1420	2290	1100	1260	1120	3700	1110	858	1110	594	423	718
11	1360	2020	1150	1390	1050	3280	1030	892	1140	592	395	736
12	1410	1660	1060	1530	997	3100	1020	948	997	521	413	710
13	1420	1350	813	2190	962	3000	1030	919	941	483	454	699
14	1380	1100	660	2270	992	2910	1050	855	907	475	471	690
15	1340	920	578	2380	1800	2830	1020	786	805	520	495	708
16	1340	825	551	3670	3080	2780	1030	722	690	534	502	761
17	1370	767	603	3840	3320	2890	1010	693	614	549	471	837
18	1360	749	606	3510	3000	3010	938	697	657	534	466	840
19	1370	723	588	3090	2700	2980	879	679	641	474	450	789
20	1380	699	656	2880	2880	2990	818	680	594	458	510	811
21	1420	721	717	2540	3330	2930	788	643	570	502	562	851
22	1860	764	688	2320	4330	2650	779	621	494	553	546	898
23	2140	782	649	2280	5530	2460	798	834	487	576	551	937
24	2190	783	609	2210	6170	2370	795	1070	490	591	534	963
25	2230	692	580	2020	6380	2190	771	1210	494	625	528	968
26	2250	641	566	1670	6220	1970	731	1280	466	593	564	952
27	2370	593	533	1460	5990	1860	776	1290	416	512	573	964
28	2360	586	497	1320	5750	1870	828	1370	398	437	608	1010
29	2340	730	498	1220	---	1990	925	1490	392	484	634	1050
30	2320	770	484	1150	---	2190	971	1470	389	541	577	1070
31	2280	---	476	1100	---	2650	---	1470	---	523	592	---
TOTAL	51810	40015	21582	51752	76981	104440	37567	29421	24749	16416	15865	23987
MEAN	1671	1334	696	1669	2749	3369	1252	949	825	530	512	800
MAX	2370	2320	1150	3840	6380	5820	3140	1490	1480	625	634	1070
MIN	1340	586	476	446	962	1860	731	621	389	437	395	633
AC-FT	102800	79370	42810	102700	152700	207200	74510	58360	49090	32560	31470	47580
CAL YR 1978 TOTAL	1454036			3984	15300	287		AC-FT	2884000			
WTR YR 1979 TOTAL	494585			1355	6380	389		AC-FT	981000			



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. 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.--39 years, 648 ft<sup>3</sup>/s (18.35 m<sup>3</sup>/s), 469,500 acre-ft/yr (579 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, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) Mar. 2, elevation, 67.42 ft (20.550 m); minimum daily, 157 ft<sup>3</sup>/s (4.45 m<sup>3</sup>/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	2030	535	409	481	2600	848	314	1090	274	186	253
2	1210	2080	537	409	513	3680	816	283	1020	284	193	253
3	1180	2090	533	410	596	2820	791	267	990	272	171	260
4	1160	2090	532	409	552	2630	802	266	918	267	211	252
5	1200	2090	526	412	513	2550	699	253	831	248	251	240
6	1220	2060	535	410	493	2490	658	327	697	229	243	236
7	1210	2050	460	408	485	2450	641	372	653	210	213	266
8	1300	2130	436	417	476	2430	554	345	741	234	209	259
9	1290	2200	430	486	469	2420	480	283	823	278	194	258
10	1160	2100	427	904	467	2310	418	279	809	263	183	303
11	1190	1800	424	583	465	2090	378	309	795	217	202	319
12	1240	1480	422	905	461	2040	402	300	624	209	229	314
13	1240	1170	426	1138	461	2010	410	270	596	217	247	326
14	1190	941	425	641	517	1990	428	258	562	212	233	300
15	1180	768	423	926	1310	1980	393	245	465	242	262	312
16	1180	697	428	1800	1690	2000	381	217	372	255	285	351
17	1190	652	431	962	1630	2040	339	229	346	217	267	382
18	1150	624	435	726	1530	2010	306	266	371	207	232	381
19	1150	605	447	791	1510	1980	260	255	352	169	232	353
20	1180	598	542	647	1860	1930	243	280	301	157	281	390
21	1310	593	498	577	2010	1740	252	291	259	181	270	419
22	1750	568	464	541	2860	1470	298	265	245	218	217	427
23	1900	478	455	517	2880	1420	331	591	251	229	227	467
24	1950	432	443	502	2900	1340	308	756	252	201	212	523
25	1960	408	439	501	2670	1200	272	866	259	265	212	516
26	2040	390	432	500	2570	1000	268	891	234	258	208	500
27	2130	379	422	496	2520	958	327	932	214	214	199	503
28	2110	403	417	488	2510	940	345	1100	217	210	211	532
29	2120	515	410	481	---	944	392	1160	218	253	205	562
30	2140	531	408	477	---	900	375	1100	226	246	184	569
31	2100	---	406	476	---	836	---	1110	---	216	213	---
TOTAL	45530	34952	14148	19341	37399	59198	13415	14680	15731	7152	6882	11026
MEAN	1469	1165	456	624	1336	1910	447	474	524	231	222	368
MAX	2140	2200	542	1800	2900	3680	848	1160	1090	284	285	569
MIN	1150	379	406	408	461	836	243	217	214	157	171	236
AC-FT	90310	69330	28060	38360	74180	117400	26610	29120	31200	14190	13650	21870
CAL YR 1978	TOTAL	363965	MEAN 997	MAX 2580	MIN 163	AC-FT 721900						
WTR YR 1979	TOTAL	279454	MEAN 766	MAX 3680	MIN 157	AC-FT 554300						

## 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.--67 years, 1,978 ft<sup>3</sup>/s (56.02 m<sup>3</sup>/s), 1,433,000 acre-ft/yr (1.77 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, 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) Feb. 25, elevation, 59.21 ft (18.047 m); minimum daily, 389 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	2180	772	476	1080	5380	3140	954	1480	468	528	639
2	1500	2190	770	476	1100	5650	2860	953	1420	547	521	633
3	1460	2190	777	464	1310	5820	2440	915	1390	553	461	667
4	1370	2180	774	446	1400	5710	2230	881	1320	571	503	662
5	1380	2200	767	452	1310	5430	1980	799	1250	591	535	686
6	1400	2210	758	474	1290	5000	1690	819	1110	555	542	700
7	1420	2170	675	499	1340	4590	1530	872	1000	476	496	701
8	1450	2210	678	537	1320	4260	1380	894	987	452	489	670
9	1480	2320	949	628	1230	4000	1220	857	1100	533	471	667
10	1420	2290	1100	1260	1120	3700	1110	858	1110	594	423	718
11	1360	2020	1150	1390	1050	3280	1030	892	1140	592	395	736
12	1410	1660	1060	1530	997	3100	1020	948	997	521	413	710
13	1420	1350	813	2190	962	3000	1030	919	941	483	454	699
14	1380	1100	660	2270	992	2910	1050	855	907	475	471	690
15	1340	920	578	2380	1800	2830	1020	786	805	520	495	708
16	1340	825	551	3670	3080	2780	1030	722	690	534	502	761
17	1370	767	603	3840	3320	2890	1010	693	614	549	471	837
18	1360	749	606	3510	3000	3010	938	697	657	534	466	840
19	1370	723	588	3090	2700	2980	879	679	641	474	450	789
20	1380	699	656	2880	2880	2990	818	680	594	458	510	811
21	1420	721	717	2540	3330	2930	788	643	570	502	562	851
22	1860	764	688	2320	4330	2650	779	621	494	553	546	898
23	2140	782	649	2280	5530	2460	798	834	487	576	551	937
24	2190	783	609	2210	6170	2370	795	1070	490	591	534	963
25	2230	692	580	2020	6380	2190	771	1210	494	625	528	968
26	2250	641	566	1670	6220	1970	731	1280	466	593	564	952
27	2370	593	533	1460	5990	1860	776	1290	416	512	573	964
28	2360	586	497	1320	5750	1870	828	1370	398	437	608	1010
29	2340	730	498	1220	---	1990	925	1490	392	484	634	1050
30	2320	770	484	1150	---	2190	971	1470	389	541	577	1070
31	2280	---	476	1100	---	2650	---	1470	---	523	592	---
TOTAL	51810	40015	21582	51752	76981	104440	37567	29421	24749	16416	15865	23987
MEAN	1671	1334	696	1669	2749	3369	1252	949	825	530	512	800
MAX	2370	2320	1150	3840	6380	5820	3140	1490	1480	625	634	1070
MIN	1340	586	476	446	962	1860	731	621	389	437	395	633
AC-FT	102800	79370	42810	102700	152700	207200	74510	58360	49090	32560	31470	47580
CAL YR 1978 TOTAL	1454036			3984	MAX 15300	MIN 287	AC-FT 2884000					
WTR YR 1979 TOTAL	494585			1355	MAX 6380	MIN 389	AC-FT 981000					

## 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. 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.--39 years, 648 ft<sup>3</sup>/s (18.35 m<sup>3</sup>/s), 469,500 acre-ft/yr (579 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, 4,080 ft<sup>3</sup>/s (116 m<sup>3</sup>/s) Mar. 2, elevation, 67.42 ft (20.550 m); minimum daily, 157 ft<sup>3</sup>/s (4.45 m<sup>3</sup>/s) July 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1200	2030	535	409	481	2600	848	314	1090	274	186	253
2	1210	2080	537	409	513	3680	816	283	1020	284	193	253
3	1180	2090	533	410	596	2820	791	267	990	272	171	260
4	1160	2090	532	409	552	2630	802	266	918	267	211	252
5	1200	2090	526	412	513	2550	699	253	831	248	251	240
6	1220	2060	535	410	493	2490	658	327	697	229	243	236
7	1210	2050	460	408	485	2450	641	372	653	210	213	266
8	1300	2130	436	417	476	2430	554	345	741	234	209	259
9	1290	2200	430	486	469	2420	480	283	823	278	194	258
10	1160	2100	427	904	467	2310	418	279	809	263	183	303
11	1190	1800	424	583	465	2090	378	309	795	217	202	319
12	1240	1480	422	905	461	2040	402	300	624	209	229	314
13	1240	1170	426	1130	461	2010	410	270	596	217	247	326
14	1190	941	425	641	517	1990	428	258	562	212	233	300
15	1180	768	423	926	1310	1980	393	245	465	242	262	312
16	1180	697	428	1800	1690	2000	381	217	372	255	285	351
17	1190	652	431	962	1630	2040	339	229	346	217	267	382
18	1150	624	435	726	1530	2010	306	266	371	207	232	381
19	1150	605	447	791	1510	1980	260	255	352	169	232	353
20	1180	598	542	647	1860	1930	243	280	301	157	281	390
21	1310	593	498	577	2010	1740	252	291	259	181	270	419
22	1750	568	464	541	2860	1470	298	265	245	218	217	427
23	1900	478	455	517	2880	1420	331	591	251	229	227	467
24	1950	432	443	502	2900	1340	308	756	252	201	212	523
25	1960	408	439	501	2670	1200	272	866	259	265	212	516
26	2040	390	432	500	2570	1000	268	891	234	258	208	500
27	2130	379	422	496	2520	958	327	932	214	214	199	503
28	2110	403	417	488	2510	940	345	1100	217	210	211	532
29	2120	515	410	481	---	944	392	1160	218	253	205	562
30	2140	531	408	477	---	900	375	1100	226	246	184	569
31	2100	---	406	476	---	836	---	1110	---	216	213	---
TOTAL	45530	34952	14148	19341	37399	59198	13415	14680	15731	7152	6882	11026
MEAN	1469	1165	456	624	1336	1910	447	474	524	231	222	368
MAX	2140	2200	542	1800	2900	3680	848	1160	1090	284	285	569
MIN	1150	379	406	408	461	836	243	217	214	157	171	236
AC-FT	90310	69330	28060	38360	74180	117400	26610	29120	31200	14190	13650	21870
CAL YR 1978 TOTAL	363965		MEAN 997	MAX 2580	MIN 163	AC-FT 721900						
WTR YR 1979 TOTAL	279454		MEAN 766	MAX 3680	MIN 157	AC-FT 554300						

## 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.--67 years, 1,978 ft<sup>3</sup>/s (56.02 m<sup>3</sup>/s), 1,433,000 acre-ft/yr (1.77 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, 6,400 ft<sup>3</sup>/s (181 m<sup>3</sup>/s) Feb. 25, elevation, 59.21 ft (18.047 m); minimum daily, 389 ft<sup>3</sup>/s (11.0 m<sup>3</sup>/s) June 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1440	2180	772	476	1080	5380	3140	954	1480	468	528	639
2	1500	2190	770	476	1100	5650	2860	953	1420	547	521	633
3	1460	2190	777	464	1310	5820	2440	915	1390	553	461	667
4	1370	2180	774	446	1400	5710	2230	881	1320	571	503	662
5	1380	2200	767	452	1310	5430	1980	799	1250	591	535	686
6	1400	2210	758	474	1290	5000	1690	819	1110	555	542	700
7	1420	2170	675	499	1340	4590	1530	872	1000	476	496	701
8	1450	2210	678	537	1320	4260	1380	894	987	452	489	670
9	1480	2320	949	628	1230	4000	1220	857	1100	533	471	667
10	1420	2290	1100	1260	1120	3700	1110	858	1110	594	423	718
11	1360	2020	1150	1390	1050	3280	1030	892	1140	592	395	736
12	1410	1660	1060	1530	997	3100	1020	948	997	521	413	710
13	1420	1350	813	2190	962	3000	1030	919	941	483	454	699
14	1380	1100	660	2270	992	2910	1050	855	907	475	471	690
15	1340	920	578	2380	1800	2830	1020	786	805	520	495	708
16	1340	825	551	3670	3080	2780	1030	722	690	534	502	761
17	1370	767	603	3840	3320	2890	1010	693	614	549	471	837
18	1360	749	606	3510	3000	3010	938	697	657	534	466	840
19	1370	723	588	3090	2700	2980	879	679	641	474	450	789
20	1380	699	656	2880	2880	2990	818	680	594	458	510	811
21	1420	721	717	2540	3330	2930	788	643	570	502	562	851
22	1860	764	688	2320	4330	2650	779	621	494	553	546	898
23	2140	782	649	2280	5530	2460	798	834	487	576	551	937
24	2190	783	609	2210	6170	2370	795	1070	490	591	534	963
25	2230	692	580	2020	6380	2190	771	1210	494	625	528	968
26	2250	641	566	1670	6220	1970	731	1280	466	593	564	952
27	2370	593	533	1460	5990	1860	776	1290	416	512	573	964
28	2360	586	497	1320	5750	1870	828	1370	398	437	608	1010
29	2340	730	498	1220	---	1990	925	1490	392	484	634	1050
30	2320	770	484	1150	---	2190	971	1470	389	541	577	1070
31	2280	---	476	1100	---	2650	---	1470	---	523	592	---
TOTAL	51810	40015	21582	51752	76981	104448	37567	29421	24749	16418	15865	23987
MEAN	1671	1334	696	1669	2749	3369	1252	949	825	530	512	800
MAX	2370	2320	1150	3840	6380	5820	3140	1490	1480	625	634	1070
MIN	1340	586	476	446	962	1860	731	621	389	437	395	633
AC-FT	102800	79370	42810	102700	152700	207200	74510	58360	49090	32560	31470	47580

CAL YR 1978 TOTAL 1454036 MEAN 3984 MAX 15300 MIN 287 AC-FT 2884000  
WTR YR 1979 TOTAL 494585 MEAN 1355 MAX 6380 MIN 389 AC-FT 981000

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.--47 years, 14.9 ft<sup>3</sup>/s (0.422 m<sup>3</sup>/s), 10,800 acre-ft/yr (13.3 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 discharge 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)	
Feb. 21	1300	*1,270	36.00	6.48	1.975
Feb. 22	2130	748	21.20	6.05	1.844

Minimum, no flow many months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	0	22	17	2.8				
2				0	0	17	14	2.6				
3				0	0	13	12	2.1				
4				0	0	12	10	1.8				
5				0	0	10	9.6	1.6				
6				0	0	8.1	8.8	1.6				
7				0	0	7.4	8.8	1.6				
8				.06	0	7.4	8.1	1.6				
9				0	0	6.2	7.4	1.6				
10				0	0	5.2	6.8	1.4				
11				0	0	4.8	6.2	1.4				
12				0	0	5.2	5.7	1.2				
13				0	0	4.8	5.2	.93				
14				0	50	4.8	5.2	.93				
15				0	21	5.7	4.2	.70				
16				0	12	5.7	3.9	.46				
17				0	10	6.2	3.2	.15				
18				0	8.1	6.2	3.2	0				
19				0	16	8.8	3.2	0				
20				0	24	6.8	3.2	0				
21				0	568	5.2	3.2	0				
22				0	290	4.4	3.2	0				
23				0	312	4.4	3.0	0				
24				0	109	4.4	2.8	0				
25				0	67	4.2	2.8	0				
26				0	46	4.4	3.0	0				
27				0	34	12	3.9	0				
28				0	26	38	3.9	0				
29				0	---	49	3.2	0				
30				0	---	37	2.8	0				
31		---		0	---	24	---	0	---			---
TOTAL	0	0	0	.06	1593.1	354.3	177.5	24.47	0	0	0	0
MEAN	0	0	0	.002	56.9	11.4	5.92	.79	0	0	0	0
MAX	0	0	0	.06	568	49	17	2.8	0	0	0	0
MIN	0	0	0	0	0	4.2	2.8	0	0	0	0	0
AC-FT	0	0	0	.1	3160	703	352	49	0	0	0	0
CAL YR 1978	TOTAL	15815.97	MEAN	43.3	MAX	1740	MIN	0	AC-FT	31370		
WTR YR 1979	TOTAL	2149.43	MEAN	5.89	MAX	568	MIN	0	AC-FT	4260		

## SAN JOAQUIN RIVER BASIN

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 good. Some stock ponds and small diversions above station.

AVERAGE DISCHARGE.--14 years, 4.72 ft<sup>3</sup>/s (0.134 m<sup>3</sup>/s), 3,420 acre-ft/yr (4.22 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.--Maximum discharge, 158 ft<sup>3</sup>/s (4.47 m<sup>3</sup>/s) 2130 hours Feb. 22, gage height, 3.16 ft (0.963 m), no other peak above base of 50 ft<sup>3</sup>/s (1.42 m<sup>3</sup>/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.95	4.2	11	7.8	6.1	1.0			
2			0	.95	4.0	9.8	7.0	5.8	.83			
3			0	.95	3.7	8.6	6.4	5.1	.66			
4			0	1.0	3.3	8.0	5.9	4.6	.50			
5			0	.99	3.1	7.4	5.6	4.3	.36			
6			0	1.1	3.1	6.9	5.5	4.2	.25			
7			.07	1.1	2.9	6.6	5.4	4.4	.14			
8			.19	1.8	2.9	6.2	5.1	4.6	.04			
9			.26	5.8	2.7	5.7	4.8	4.3	0			
10			.31	3.8	2.6	5.7	4.7	3.9	0			
11			.40	3.1	2.6	5.0	4.6	3.8	0			
12			.40	6.1	2.6	5.1	4.7	3.8	0			
13			.45	4.7	2.9	4.9	4.7	3.8	0			
14			.49	3.8	11	4.8	5.0	3.7	0			
15			.56	25	10	4.9	4.6	3.8	0			
16			.59	16	7.6	5.3	4.6	3.8	0			
17			.62	8.4	7.9	5.3	8.1	3.7	0			
18			.79	6.5	6.2	4.8	9.6	3.5	0			
19			.96	5.3	6.6	5.4	9.6	3.4	0			
20			1.0	4.5	8.3	5.0	9.1	3.2	0			
21			1.1	4.0	89	4.7	9.0	3.0	0			
22			1.2	3.6	67	5.6	8.6	2.9	0			
23			1.1	3.3	77	5.3	8.2	2.7	0			
24			1.1	3.3	37	4.9	8.7	2.5	0			
25			1.1	3.1	24	4.5	8.4	2.4	0			
26			1.1	2.8	18	4.3	8.9	2.2	0			
27			1.1	2.7	14	7.9	9.4	2.1	0			
28			1.1	2.7	11	16	8.0	1.9	0			
29			1.1	2.6	---	17	6.7	1.6	0			
30			1.1	3.2	---	12	6.3	1.4	0			
31		---	1.1	5.1	---	8.9	---	1.3	---			---
TOTAL	0	0	19.29	138.24	435.2	217.5	205.0	107.8	3.78	0	0	0
MEAN	0	0	.62	4.46	15.5	7.02	6.83	3.48	.13	0	0	0
MAX	0	0	1.2	25	89	17	9.6	6.1	1.0	0	0	0
MIN	0	0	0	.95	2.6	4.3	4.6	1.3	0	0	0	0
AC-FT	0	0	38	274	863	431	407	214	7.5	0	0	0
CAL YR 1978	TOTAL	4104.66	MEAN	11.2	MAX	254	MIN	0	AC-FT	8140		
WTR YR 1979	TOTAL	1126.81	MEAN	3.09	MAX	89	MIN	0	AC-FT	2240		

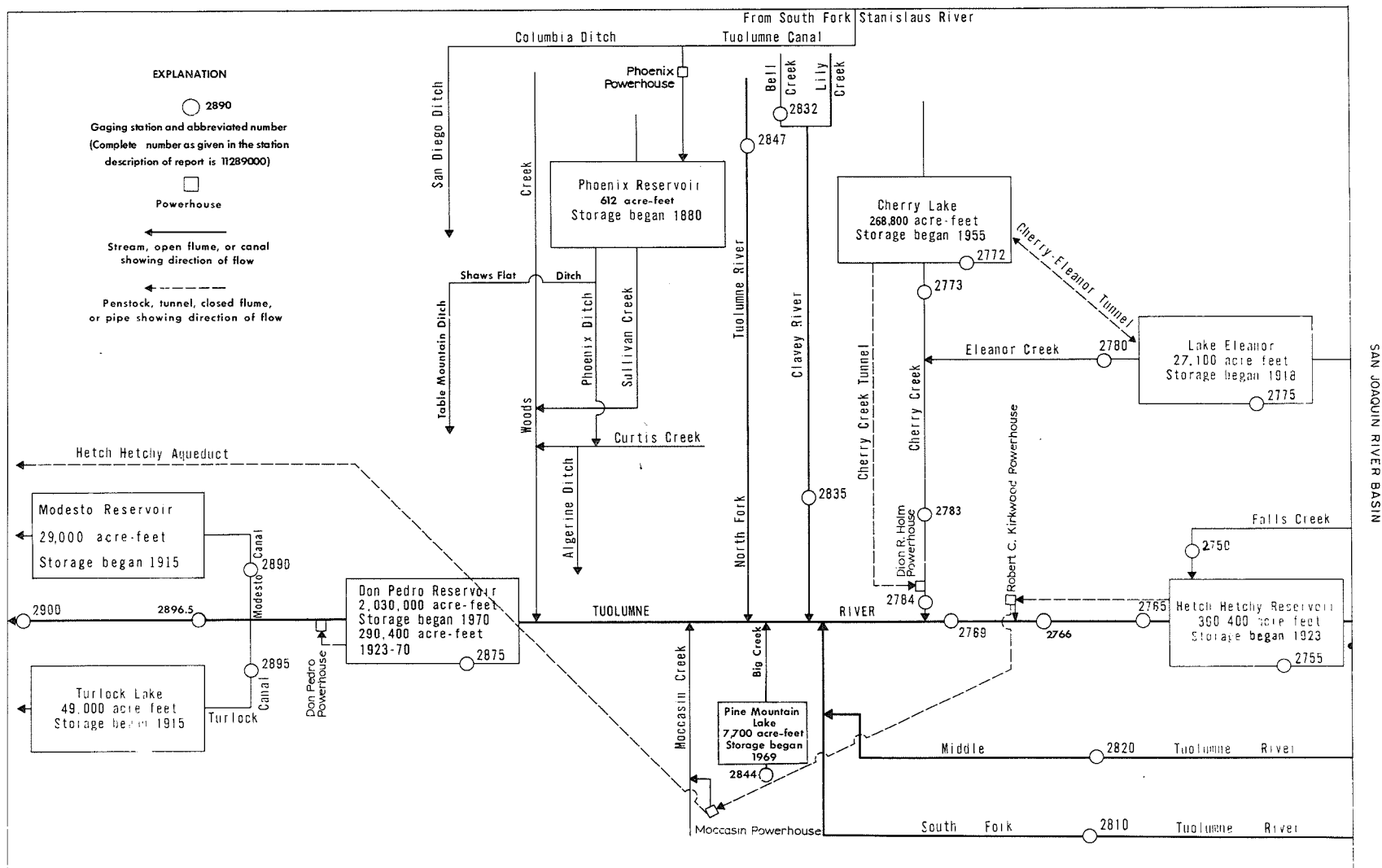


FIGURE 9.--Schematic diagram showing diversions and storage in Tuolumne River basin.

## 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.--64 years, 142 ft<sup>3</sup>/s (4.021 m<sup>3</sup>/s), 102,900 acre-ft/yr (127 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)
Jan. 11	1515	1,280 36.2	6.12 1.865	May 27	0915	1,230 34.8	6.06 1.847
May 22	0745	*1,310 37.1	6.15 1.875	June 5	1030	965 27.3	5.71 1.740

Minimum, no flow Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	2.4	52	17	30	42	67	454	576	141	10	1.2
2	8.5	2.5	38	19	32	46	69	358	591	119	8.9	1.0
3	8.2	2.6	33	18	33	43	78	426	614	109	8.4	.93
4	7.9	2.6	31	17	34	50	108	576	694	104	7.9	.83
5	7.4	2.8	40	18	36	61	161	701	812	95	7.2	.72
6	7.0	2.9	21	18	36	93	195	548	790	85	6.7	.64
7	6.7	3.1	16	18	37	128	177	375	766	74	6.5	.55
8	6.3	3.2	12	22	36	149	190	287	523	64	6.2	.45
9	5.9	3.3	13	35	38	156	209	237	413	56	5.7	.37
10	5.6	3.4	18	40	38	177	183	203	443	54	5.2	.30
11	5.4	4.5	17	687	37	205	153	208	511	53	4.9	.24
12	5.1	5.3	17	434	37	191	146	291	563	52	4.7	.21
13	4.8	6.6	17	192	77	174	211	445	658	50	4.5	.20
14	4.5	7.7	17	113	143	163	272	618	655	52	4.6	.19
15	4.2	7.3	17	80	73	153	306	723	462	50	5.8	.17
16	4.0	7.2	16	70	60	116	330	797	352	46	5.7	.16
17	3.8	7.6	17	65	55	89	284	861	299	43	4.9	.15
18	3.6	7.3	25	55	48	77	192	956	211	38	4.2	.14
19	3.5	6.9	27	54	46	65	147	999	166	32	3.7	.13
20	3.3	7.3	19	50	42	61	139	1020	214	28	3.3	.12
21	3.2	13	19	47	45	57	160	1030	264	27	3.1	.11
22	3.1	14	20	45	44	56	193	1130	270	32	2.9	.10
23	2.9	17	21	43	45	54	191	932	282	36	2.7	.09
24	2.7	20	21	43	50	65	153	891	290	29	2.5	.07
25	2.7	21	21	41	49	84	151	834	293	24	2.3	.06
26	2.6	21	22	37	48	97	243	927	247	20	2.2	.05
27	2.6	21	31	32	46	103	407	1040	212	18	2.0	.03
28	2.5	20	28	29	43	88	370	1010	196	17	1.8	.02
29	2.4	24	20	24	---	79	365	845	176	14	1.7	.01
30	2.4	31	16	24	---	76	428	687	164	13	1.6	0
31	2.4	---	17	28	---	67	---	590	---	11	1.4	---
TOTAL	144.2	298.5	699	2415	1338	3065	6278	20999	12707	1586	143.2	9.24
MEAN	4.65	9.95	22.5	77.9	47.8	98.9	209	677	424	51.2	4.62	.31
MAX	9.0	31	52	687	143	205	428	1130	812	141	10	1.2
MIN	2.4	2.4	12	17	30	42	67	203	164	11	1.4	0
AC-FT	286	592	1390	4790	2650	6080	12450	41650	25200	3150	284	18
CAL YR 1978 TOTAL	76867.30			MEAN 211	MAX 1160	MIN 2.4	AC-FT 152500					
WTR YR 1979 TOTAL	49682.14			MEAN 136	MAX 1130	MIN 0	AC-FT 98540					



## 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) somewhat above 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 where flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flow in excess of aqueduct capacity being spilled to 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, 361,900 acre-ft (446 hm<sup>3</sup>) June 24, gage height, 3,806.8 ft (1,160.31 m); minimum, 127,200 acre-ft (157 hm<sup>3</sup>) Apr. 5, gage height, 3,665.7 ft (1,117.31 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	325100	276400	229800	185900	163300	137600	129100	156600	311300	360400	339300	293500
2	323400	274800	228500	184600	162100	136800	128500	159600	313400	360000	338100	291800
3	322100	273000	227200	183100	160800	135800	128000	162700	316000	359800	336800	290200
4	320500	271400	225800	181500	159600	134900	127500	167500	320000	359800	335400	288700
5	319200	269800	224500	180200	158400	133800	127200	173800	324900	360000	334100	287100
6	317500	268200	223200	178800	157300	133100	128000	179100	329700	360000	332700	285600
7	316200	266600	221700	177300	156100	132800	128300	182000	334900	360000	331400	284200
8	314700	265000	220200	175800	155000	132800	128600	183700	336000	359600	330100	282700
9	313200	263400	218600	174100	153900	133000	129200	183500	334100	359200	328700	281100
10	311700	261900	217100	173200	152600	133100	129800	182900	333500	358600	327400	279600
11	310200	260300	215700	173100	151500	133500	129900	181400	336000	358000	325900	278000
12	308700	258700	214200	180800	150400	135000	129900	182100	340000	357400	324300	276600
13	310800	257000	212700	181500	149100	135400	130100	183500	344700	356800	323000	275000
14	305500	255200	211300	181400	149700	135700	131300	187500	351300	356200	321500	273500
15	303800	253700	209800	181000	149600	135900	132800	193400	352500	355800	320000	271900
16	302400	252100	208200	180600	148900	136200	135000	199400	351900	355000	318500	270500
17	300700	250500	206800	179900	148000	136300	136800	206600	351300	354300	317000	269100
18	299200	249000	205500	179000	147000	136200	137700	214500	351900	353700	315400	267500
19	297700	247300	204300	178000	146500	135100	138400	223200	352300	352700	313900	266100
20	296100	245700	202800	176800	145300	134500	138500	232500	353300	351700	312200	264300
21	294400	244400	201600	176100	144400	134700	138800	242600	355200	350900	310800	263100
22	292900	242600	200300	175200	143600	133800	139400	253700	357600	350400	309300	261500
23	291700	241200	198800	173800	142800	132600	140400	260800	360000	349600	307800	260100
24	289600	239900	197300	172800	142000	131500	140900	267800	361900	348400	306100	258500
25	287800	238400	196000	171700	141100	130700	141200	273700	360800	347800	304600	257000
26	286400	236900	194600	170600	140100	130500	141900	280000	360200	346800	302900	255400
27	284700	235400	193200	169400	139200	130400	144000	288400	360000	345700	301400	254000
28	283100	233800	191800	168200	138500	130500	146600	295600	359600	344500	299800	252400
29	281300	232300	190400	167000	---	130500	149100	302900	359200	343400	298300	251100
30	279600	231000	188800	165500	---	129900	152800	307000	359400	342000	296600	249500
31	277800	---	187300	164500	---	129500	---	310000	---	340600	295000	---
*AX	325100	276400	229800	185900	163300	137600	152800	310000	361900	360400	339300	293500
*MIN	277800	231000	187300	164500	138500	129500	127200	156600	311300	340600	295000	249500
†	3762.3	3735.3	3708.1	3692.9	3674.3	3667.5	3684.7	3779.8	3805.5	3795.9	3771.7	3746.2
‡	-48600	-46800	-43700	-22800	-26000	-9000	+23300	+157200	+49400	-18800	-45600	-45500

CAL YR 1978 +95500

WTR YR 1979 -76900

† Gage height, in feet, at end of month.

‡ 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 1 mi (2 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); 12 years (water years 1968-79), 322 ft<sup>3</sup>/s (9.119 m<sup>3</sup>/s), 233,300 acre-ft/yr (288 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 Oct. 3, 4, 1968, Dec. 16, 1969, Feb. 20-26, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,780 ft<sup>3</sup>/s (107 m<sup>3</sup>/s) June 7, gage height, 9.87 ft (3.008 m); minimum daily, 36 ft<sup>3</sup>/s (1.02 m<sup>3</sup>/s) on several days during April.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	40	39	38	40	47	40	57	2600	349	78	75
2	40	40	39	38	40	43	39	73	2380	555	77	75
3	40	40	38	38	39	43	38	73	2420	232	76	75
4	40	40	38	38	38	43	38	123	2460	68	76	75
5	40	39	38	38	38	42	37	278	2520	62	76	75
6	40	38	39	38	38	41	37	509	2420	60	76	78
7	40	38	38	42	38	41	37	650	2940	60	76	80
8	39	38	38	40	40	41	38	952	3730	60	76	78
9	38	38	38	42	39	41	38	1150	3350	60	76	77
10	38	38	38	41	39	46	37	1140	2070	60	76	77
11	38	39	38	92	39	41	37	1140	1420	59	76	77
12	38	40	38	56	39	41	38	1140	1330	60	76	77
13	38	40	38	45	42	41	36	1160	1020	71	75	77
14	38	40	39	45	55	41	36	1200	1860	77	74	77
15	38	39	39	47	43	43	36	1220	2550	78	76	77
16	38	39	39	46	42	45	36	1250	2050	78	76	53
17	38	39	38	46	41	44	36	1630	1280	78	76	37
18	38	39	40	42	41	44	36	1940	680	77	75	37
19	38	39	39	41	45	43	36	2020	228	75	76	37
20	40	39	39	41	46	44	36	2110	60	74	76	37
21	41	40	39	41	48	42	36	2180	60	75	76	37
22	40	39	38	41	45	40	36	2520	61	74	77	37
23	40	39	37	41	44	40	36	2790	116	74	77	37
24	40	38	37	40	44	40	36	2860	1670	76	76	37
25	40	38	37	40	44	39	36	2920	1920	77	76	37
26	40	40	37	40	45	39	37	2900	1290	77	77	37
27	40	39	37	40	44	44	38	2940	1150	76	77	37
28	40	39	38	40	43	48	37	3050	1020	75	76	37
29	40	39	38	39	---	42	37	2990	639	75	76	37
30	40	39	38	39	---	41	37	2910	230	74	77	37
31	40	---	38	40	---	41	---	2950	---	76	77	---
TOTAL	1218	1172	1184	1335	1179	1311	1108	50825	47524	3122	2361	1721
MEAN	39.3	39.1	38.2	43.1	42.1	42.3	36.9	1640	1584	101	76.2	57.4
MAX	41	40	40	92	55	48	40	3050	3730	555	78	80
MIN	38	38	37	38	38	39	36	57	60	59	74	37
AC-FT	2420	2320	2350	2650	2340	2600	2200	100800	94260	6190	4680	3410
CAL YR 1978	TOTAL	231368	MEAN 634	MAX 5470	MIN 22	AC-FT 458900						
WTR YR 1979	TOTAL	114060	MEAN 312	MAX 3730	MIN 36	AC-FT 226200						

## 11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'46", long 119°56'46", in SE4SW4 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. Records for the period October 1939 to September 1970 in the files of the California district office of the Geological Survey.

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.--9 years, 301 ft<sup>3</sup>/s (8.524 m<sup>3</sup>/s), 218,100 acre-ft/yr (269 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, 4,020 ft<sup>3</sup>/s (114 m<sup>3</sup>/s) June 8, gage height, 18.30 ft (5.578 m); minimum daily, 37 ft<sup>3</sup>/s (1.05 m<sup>3</sup>/s) on several days during October and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	40	48	42	70	200	128	79	2880	340	83	79
2	39	40	42	42	72	161	120	107	2530	590	81	79
3	39	40	40	41	69	146	113	108	2490	359	81	79
4	38	40	42	42	69	155	108	119	2490	117	80	78
5	38	40	42	42	71	152	106	242	2530	95	80	78
6	39	40	42	42	73	158	105	670	2470	80	80	78
7	38	39	41	42	75	168	102	705	2440	80	80	84
8	38	39	40	50	74	166	98	720	3800	77	80	82
9	38	39	40	88	75	159	96	1220	3600	76	80	81
10	38	39	40	71	73	154	93	1200	2200	76	79	81
11	37	39	40	480	72	154	89	1170	1550	76	79	80
12	37	41	40	290	71	144	87	1160	1400	75	79	80
13	38	42	40	162	93	133	86	1170	1100	72	79	80
14	38	40	39	129	317	131	83	1210	1850	83	79	80
15	38	39	40	156	173	145	82	1250	2700	84	79	80
16	38	41	40	132	136	187	81	1280	2000	83	81	79
17	38	40	45	108	121	141	93	1630	1400	82	80	47
18	38	39	61	97	111	127	88	2100	880	81	80	39
19	38	39	81	89	140	120	82	2210	330	81	80	39
20	38	40	73	84	149	122	78	2290	70	80	80	39
21	38	41	48	81	197	141	76	2280	70	81	80	37
22	40	41	44	79	176	124	74	2600	70	82	79	37
23	40	42	44	76	161	113	76	2990	180	80	80	37
24	40	42	44	74	153	108	77	3030	1700	79	80	37
25	40	40	44	74	149	105	74	3060	1900	83	80	37
26	40	40	44	71	159	104	76	3070	1350	82	80	37
27	39	42	44	69	150	197	126	3050	1150	81	80	37
28	39	42	44	68	139	291	97	3150	1050	80	79	37
29	40	42	43	65	---	194	86	3100	780	81	81	37
30	39	42	43	64	---	168	81	3110	420	80	80	37
31	40	---	42	69	---	142	---	3120	---	78	79	---
TOTAL	1197	1210	1400	3019	3388	4710	2761	53200	49380	3574	2478	1812
MEAN	38.6	40.3	45.2	97.4	121	152	92.0	1716	1646	115	79.9	60.4
MAX	40	42	81	480	317	291	128	3150	3800	590	83	84
MIN	37	39	39	41	69	104	74	79	70	72	79	37
AC-FT	2370	2400	2780	5990	6720	9340	5480	105500	97950	7090	4920	3590
CAL YR 1978	TOTAL	251206	MEAN 688	MAX 5720	MIN 33	AC-FT 498300						
WTR YR 1979	TOTAL	128129	MEAN 351	MAX 3800	MIN 37	AC-FT 254100						

## 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 excellent. 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.--13 years, 455 ft<sup>3</sup>/s (12.89 m<sup>3</sup>/s), 329,600 acre-ft/yr (406 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, 3,960 ft<sup>3</sup>/s (112 m<sup>3</sup>/s) June 8, gage height, 7.78 ft (2.371 m); minimum daily, 58 ft<sup>3</sup>/s (1.64 m<sup>3</sup>/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	189	178	230	187	409	292	274	2850	228	156	87
2	173	185	162	230	182	360	300	303	2490	644	148	89
3	164	182	132	230	165	304	282	293	2500	478	147	93
4	161	174	186	216	174	335	267	310	2560	205	112	115
5	159	150	186	201	193	348	263	442	2640	198	117	119
6	159	212	170	198	190	358	263	579	2560	182	124	117
7	148	203	170	170	192	366	243	784	2880	184	148	121
8	130	198	162	230	190	347	205	1050	3820	190	148	89
9	184	194	159	261	187	327	274	1380	3590	204	148	92
10	176	188	170	352	175	293	261	1360	2320	196	147	120
11	168	185	195	670	160	258	253	1350	1590	189	112	125
12	163	193	198	655	209	318	241	1350	1530	185	105	119
13	158	203	198	371	233	296	236	1360	1150	183	154	120
14	148	195	198	301	513	280	228	1430	1640	188	157	123
15	165	190	198	403	338	290	240	1510	2500	167	152	92
16	180	186	198	301	268	360	249	1510	2040	213	160	97
17	177	188	207	248	241	268	261	1700	1440	211	162	96
18	168	180	226	239	238	265	250	2050	888	208	121	92
19	173	153	230	228	288	270	235	2100	533	203	125	92
20	173	207	230	212	323	267	227	2130	267	180	164	96
21	165	211	210	224	410	300	209	2240	248	178	162	91
22	136	206	192	232	369	264	178	2550	242	174	153	58
23	183	190	183	225	344	251	243	2900	228	185	160	63
24	191	194	195	220	305	238	239	3030	1250	185	157	100
25	183	187	206	217	274	194	229	3090	2030	189	118	97
26	184	199	230	212	374	265	235	2970	1370	175	117	95
27	180	204	230	198	328	400	307	2980	1190	173	171	95
28	168	198	230	163	306	496	243	3090	1100	166	175	91
29	183	195	230	216	---	404	231	3190	766	141	177	62
30	197	195	230	213	---	358	241	3070	474	191	170	68
31	189	---	230	210	---	287	---	3110	---	191	159	---
TOTAL	5243	5734	6119	8276	7356	9776	7425	55485	50686	6584	4526	2914
MEAN	169	191	197	267	263	315	248	1790	1690	212	146	97.1
MAX	197	212	230	670	513	496	307	3190	3820	644	177	125
MIN	130	150	132	163	160	194	178	274	228	141	105	58
AC-FT	10400	11370	12140	16420	14590	19390	14730	110100	100500	13060	8980	5780

CAL YR 1978 TOTAL 305007 MEAN 836 MAX 5700 MIN 33 AC-FT 605000  
WTR YR 1979 TOTAL 170124 MEAN 466 MAX 3820 MIN 58 AC-FT 337400

## 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, 269,900 acre-ft (333 hm<sup>3</sup>) July 1-3, 1957, gage height, 4,700.6 ft (1,432.74 m), from capacity table currently in use; 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, 239,700 acre-ft (296 hm<sup>3</sup>) June 17, gage height, 4,683.3 ft (1,427.47 m); minimum, 91,100 acre-ft (113 hm<sup>3</sup>) Mar. 6, 7, gage height, 4,584.6 ft (1,397.39 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195200	173100	153700	126000	112900	92800	96000	122900	219000	235400	209600	186300
2	194300	172200	153100	124700	111800	92000	95500	125000	220700	234900	208400	186300
3	193300	171200	153000	123500	111000	91600	95000	127800	223100	234100	207300	186300
4	192500	170600	152200	122400	110700	91900	94700	131500	225700	234100	206600	185500
5	191600	170600	151400	121200	109800	91400	95000	135900	227900	233200	206300	184600
6	190600	169700	150500	120100	108700	91100	95500	139400	229400	232400	205300	184000
7	190100	168800	149500	119900	107700	91100	96000	141500	231100	231900	204200	183000
8	190100	167900	148300	118700	106600	91200	96900	143000	231600	231700	203000	182400
9	189200	167000	147400	117800	105500	91600	97700	144000	232600	230900	201900	182400
10	188200	166100	147100	116900	104700	92400	98100	144900	233900	229700	200800	181800
11	187400	165300	145900	121400	104400	94100	98400	146100	234900	228900	200100	181000
12	186500	165600	144800	123500	103300	95000	98900	148300	236100	227900	199800	179500
13	185700	164700	143600	124300	103200	95800	99800	151800	237500	226900	198900	179300
14	185200	164000	142300	125800	103600	95800	101300	155000	238500	226200	197900	178200
15	185200	163000	141100	126300	103200	97500	102100	158700	239100	225900	197100	177800
16	184300	162100	139900	126500	102600	97700	105100	162400	239400	224900	196300	177800
17	183300	161400	139500	126500	102100	98100	106200	166700	239700	223900	195400	176800
18	182400	160600	138500	126000	101400	99100	106600	171100	239400	222900	195100	175900
19	181500	160600	137500	125400	100700	98800	106900	175900	238700	221700	195100	175300
20	180700	159900	136400	124600	100000	98500	106900	181100	238200	220500	194300	174500
21	180100	159300	135400	124300	99300	98100	107300	186000	238000	219900	193500	173600
22	180100	158500	134200	123300	98700	97700	108200	190400	237700	219500	192700	173100
23	180200	158700	133200	122400	98100	97300	108500	194300	237800	218500	191900	173100
24	179300	157800	132900	121400	97300	97100	108500	197300	238400	217400	191100	172200
25	178400	157200	132500	120300	96600	97100	108700	200100	238400	216400	190800	171400
26	177400	157200	131500	119200	95600	96800	110200	203700	238000	215300	190800	170600
27	176500	156400	130400	118200	94500	96900	112900	207600	237500	214100	190000	169800
28	175900	155500	129200	117400	93400	96800	115100	211700	236800	213300	189200	168900
29	175900	154900	128100	116200	---	96400	117800	214300	236000	213000	188400	168500
30	175000	154300	127000	115100	---	96000	120400	216100	235600	211800	187700	168500
31	174000	---	126400	113900	---	95900	---	217500	---	210700	186900	---
MAX	195200	173100	153700	126500	112900	99100	120400	217500	239700	235400	209600	186300
MIN	174000	154300	126400	113900	93400	91100	94700	122900	219000	210700	186900	168500
†	4642.8	4629.8	4610.5	4601.5	4586.4	4588.3	4606.2	4670.1	4680.9	4665.9	4651.1	4639.2
‡	-21200	-19700	-27900	-12500	-20500	+2500	+24500	+97100	+18100	-24900	-23800	-18400

CAL YR 1978 † +25000

WTR YR 1979 † -26700

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

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 and concrete control. 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 excellent. 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).--19 years (water years 1961-79), 28.2 ft<sup>3</sup>/s (0.799 m<sup>3</sup>/s), 20,430 acre-ft/yr (25.2 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, 58 ft<sup>3</sup>/s (1.64 m<sup>3</sup>/s) Jan. 11, gage height, 3.53 ft (1.076 m); minimum daily, 1.6 ft<sup>3</sup>/s (0.045 m<sup>3</sup>/s) Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	4.6	6.6	5.9	6.9	7.2	9.9	7.2	7.1	13	15	15
2	7.4	4.6	6.4	5.9	6.9	7.2	9.6	6.9	7.2	16	15	15
3	6.1	6.1	6.4	5.9	6.9	7.2	9.3	9.7	7.2	16	15	15
4	6.2	6.1	6.3	5.9	6.9	7.2	9.0	12	7.1	16	15	15
5	6.2	6.1	6.3	5.9	6.9	7.4	8.9	8.7	7.1	16	15	15
6	6.2	6.1	6.1	5.9	6.9	8.3	8.9	6.9	7.1	16	15	15
7	6.3	6.1	6.1	6.0	6.9	9.5	8.8	7.7	7.0	16	15	15
8	6.3	6.1	6.1	6.3	6.9	9.8	8.6	7.5	7.1	16	15	15
9	6.1	6.1	6.1	6.2	6.9	10	8.6	7.2	7.2	16	15	15
10	4.5	6.2	6.1	6.4	6.9	10	8.4	7.2	7.2	16	15	15
11	1.7	6.3	6.1	21	6.9	11	8.3	7.1	7.0	16	15	15
12	1.6	6.2	6.1	11	7.2	11	8.3	6.9	7.0	16	15	15
13	4.1	6.2	6.1	8.0	7.2	11	8.1	6.9	7.0	16	15	14
14	6.1	6.1	6.1	7.6	7.2	11	8.8	6.9	7.0	16	15	14
15	6.1	6.1	6.1	7.4	7.2	12	7.9	6.9	6.8	16	16	14
16	6.1	6.1	6.1	7.2	7.2	12	7.8	6.9	6.7	15	16	14
17	7.4	6.1	6.4	6.9	7.2	11	7.8	6.9	6.9	15	16	14
18	8.5	6.1	6.5	6.9	7.2	10	7.7	6.9	6.7	15	16	14
19	9.9	6.1	6.2	6.9	7.2	10	7.5	6.9	6.8	15	15	14
20	8.6	6.6	6.1	6.9	7.2	10	7.5	6.9	7.5	16	16	14
21	6.4	6.8	6.1	6.9	7.2	10	7.5	6.9	8.7	16	16	14
22	6.4	6.4	6.1	6.9	7.2	9.9	7.4	6.9	9.3	16	16	14
23	6.4	6.4	6.1	6.9	7.2	9.6	7.3	6.9	7.4	15	16	14
24	6.4	6.4	6.1	6.5	7.2	9.6	7.2	6.9	7.5	15	16	14
25	6.4	6.4	6.1	6.6	7.2	9.6	7.3	6.9	7.4	15	16	14
26	6.1	6.1	6.1	6.4	7.2	9.7	7.6	6.9	7.4	15	16	14
27	5.0	6.1	5.9	6.4	7.2	13	7.8	6.9	7.3	15	16	14
28	6.1	6.1	5.9	6.9	7.2	12	7.5	7.1	7.3	15	16	14
29	6.1	6.1	5.9	6.9	---	11	7.4	7.1	7.3	16	16	14
30	6.1	6.1	5.9	6.9	---	10	7.2	7.1	7.5	15	14	14
31	6.1	---	5.9	6.9	---	10	---	7.1	---	15	15	---
TOTAL	194.9	182.9	190.4	224.3	198.3	387.2	243.1	226.9	217.8	481	478	432
MEAN	6.29	6.10	6.14	7.24	7.08	9.91	8.10	7.32	7.26	15.5	15.4	14.4
MAX	12	6.8	6.6	21	7.2	13	9.9	12	9.3	16	16	15
MIN	1.6	4.6	5.9	5.9	6.9	7.2	7.2	6.9	6.7	13	14	14
AC-FT	387	363	378	445	393	609	482	450	432	954	948	857
CAL YR 1978	TOTAL	25418.8	MEAN	69.6	MAX	811	MIN	1.6	AC-FT	50420		
WTR YR 1979	TOTAL	3376.8	MEAN	9.25	MAX	21	MIN	1.6	AC-FT	6700		

## SAN JOAQUIN RIVER BASIN

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11277500 LAKE ELEANOR NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'27", long 119°52'48", in SE4NW4 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, 25,510 acre-ft (31.4 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 usable 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, 26,700 acre-ft (32.9 hm<sup>3</sup>) June 26, gage height, 4,660.6 ft (1,420.55 m); minimum, 1,330 acre-ft (1.64 hm<sup>3</sup>) Dec. 16, 17, Jan. 4-7, gage height, 4,627.7 ft (1,410.52 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24100	12300	3350	1430	1770	2060	2620	7190	25300	26100	26100	19100
2	23800	12000	3180	1380	1720	2060	2560	7130	25400	26100	26100	18700
3	23400	11600	3010	1380	1720	2060	2510	7540	25500	25900	26000	18300
4	23100	11200	2790	1330	1670	2060	2680	8290	25700	25800	26000	18100
5	22700	10800	2560	1330	1670	2110	3010	9180	25900	25800	25900	17800
6	22300	10500	2300	1330	1670	2260	3350	9820	25900	25900	25900	17400
7	21900	10100	2110	1330	1670	2560	3350	10200	25800	26000	25700	17200
8	21500	9660	1960	1430	1670	2900	3460	10200	25600	26000	25800	16700
9	21100	9260	1820	1480	1670	3130	3580	9980	25600	26100	25700	16400
10	20800	8950	1720	1580	1670	3300	3460	9660	25800	26100	25700	16100
11	20400	8430	1620	6160	1670	3460	3350	9580	26100	26100	25600	15800
12	20000	8160	1530	7260	1670	3520	3240	9580	26200	26100	25600	15400
13	19600	7810	1480	6850	2110	3520	3460	10600	26300	26200	25400	15100
14	19200	7470	1430	6090	2790	3520	3800	11600	26300	26200	25100	14700
15	18800	7130	1380	5210	2840	3460	4080	12900	26300	26200	24800	14300
16	18400	6780	1330	4370	2680	3300	4310	14100	26100	26200	24600	14000
17	18100	6370	1330	3520	2560	3070	4250	15500	26100	26300	24200	13600
18	17600	6020	1380	3010	2450	2900	3800	17200	26100	26300	23800	13300
19	17300	5610	1380	2680	2350	2680	3410	18800	26000	26300	23400	12900
20	16800	5410	1380	2450	2300	2560	3240	20600	26000	26300	23200	12500
21	16500	5160	1430	2300	2300	2510	3180	22300	26000	26200	22800	12200
22	16000	4930	1430	2210	2260	2400	3300	24100	26100	26300	22500	11900
23	15700	4700	1480	2110	2260	2350	3350	25400	26200	26200	22100	11600
24	15300	4480	1480	2060	2210	2400	3240	26100	26400	26300	21800	11200
25	15000	4250	1480	2010	2160	2510	3180	26100	26600	26200	21400	10800
26	14600	4080	1480	1920	2110	2680	3860	26100	26700	26200	21000	10500
27	14200	3860	1480	1870	2060	2900	5410	26100	26600	26100	20800	10100
28	13800	3690	1480	1820	2060	2960	6020	26000	26500	26100	20400	9740
29	13500	3520	1480	1770	---	2900	6440	25800	26400	26100	20100	9720
30	13000	3350	1480	1770	---	2790	6920	25600	26300	26100	19700	9020
31	12700	---	1430	1770	---	2680	---	25400	---	26100	19400	---
MAX	24100	12300	3350	7260	2840	3520	6920	26100	26700	26300	26100	19100
MIN	12700	3350	1330	1330	1670	2060	2510	7130	25300	25800	19400	9020
†	4645.0	4631.6	4627.9	4628.6	4629.2	4630.4	4637.4	4659.2	4660.2	4660.0	4652.7	4640.4
‡	-11700	-9350	-1920	+340	+290	+620	+4240	+18480	+900	-200	-6700	-10380

CAL YR 1978 ‡ -3220

WTR YR 1979 ‡ -15380

† Gage height, in feet, at end of month.

‡ 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); 20 years (water years 1960-79), 61.0 ft<sup>3</sup>/s (1.728 m<sup>3</sup>/s), 44,190 acre-ft/yr (54.5 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, 1,100 ft<sup>3</sup>/s (31.2 m<sup>3</sup>/s) May 25, gage height, 5.26 ft (1.603 m); minimum daily, 3.9 ft<sup>3</sup>/s (0.11 m<sup>3</sup>/s) on several days during November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	4.3	6.1	7.0	6.2	6.8	6.5	7.0	603	179	14	12
2	6.5	4.3	6.0	7.0	6.2	6.6	6.5	6.9	505	160	14	12
3	6.4	4.3	6.0	7.0	6.2	7.1	6.5	6.6	437	150	14	12
4	5.5	4.3	6.0	7.1	6.2	7.3	6.5	6.8	468	150	13	12
5	5.3	4.3	6.2	7.5	6.2	7.5	6.5	7.0	541	78	14	13
6	5.3	4.3	6.4	7.5	6.2	7.9	6.5	7.2	575	20	14	13
7	5.3	4.3	6.2	7.6	6.3	7.8	6.5	7.3	583	19	14	13
8	5.3	4.3	6.2	7.3	6.5	7.7	6.5	7.5	507	17	14	13
9	5.3	4.3	6.2	6.8	6.6	7.4	6.5	7.2	347	16	14	13
10	5.1	4.3	6.5	8.1	6.5	7.4	6.5	7.2	219	16	14	13
11	5.1	4.3	6.3	19	6.6	7.2	6.5	7.1	212	16	14	13
12	4.9	4.0	6.0	8.0	6.8	7.1	6.5	7.1	274	16	14	13
13	4.9	3.9	5.9	6.9	9.4	7.0	6.7	7.2	336	16	14	13
14	4.9	3.9	6.0	6.8	8.0	7.0	6.6	7.3	381	16	15	12
15	4.9	3.9	6.0	6.7	6.7	7.7	6.6	7.2	360	16	14	12
16	4.9	3.9	6.0	6.5	6.7	7.4	6.6	7.0	295	16	15	12
17	4.9	3.9	6.0	6.3	6.5	7.0	6.6	7.2	259	16	15	12
18	4.9	3.9	6.2	6.2	6.5	7.0	6.7	7.3	210	15	15	12
19	4.7	5.1	6.2	6.2	6.6	6.9	6.3	7.3	183	15	14	12
20	4.4	6.2	6.4	6.1	6.6	6.7	6.5	7.4	176	15	13	12
21	4.6	6.4	6.6	6.0	6.6	6.7	6.5	7.5	159	14	13	12
22	4.6	6.2	6.8	6.1	6.5	6.7	6.5	8.3	122	14	13	12
23	4.6	6.2	6.4	6.2	6.5	6.7	6.6	54	106	14	13	12
24	4.6	6.0	5.8	6.2	6.5	6.7	6.3	456	98	14	13	12
25	4.6	6.0	6.0	6.2	6.6	6.7	6.2	993	79	14	12	12
26	4.6	6.0	6.1	6.2	6.7	6.8	6.4	1020	129	14	12	12
27	4.6	6.0	6.3	6.2	6.7	8.5	6.7	1040	189	14	13	12
28	4.6	6.0	6.5	6.2	6.8	9.1	6.5	1020	187	14	13	12
29	4.5	6.0	6.7	6.2	---	7.1	6.5	913	185	14	13	12
30	4.3	6.0	6.7	6.2	---	6.8	6.7	787	184	14	13	12
31	4.3	---	6.9	6.2	---	6.7	---	683	---	14	12	---
TOTAL	157.2	146.8	193.6	219.5	186.4	223.0	195.5	7124.6	8909	1116	422	369
MEAN	5.07	4.89	6.25	7.08	6.66	7.19	6.52	230	297	36.0	13.6	12.3
MAX	8.8	6.4	6.9	19	9.4	9.1	6.7	1040	603	179	15	13
MIN	4.3	3.9	5.8	6.0	6.2	6.6	6.2	6.6	79	14	12	12
AC-FIT	312	291	384	435	370	442	388	14130	17670	2210	837	733

CAL YR 1978	TOTAL	40399.8	MEAN	111	MAX	1340	MIN	1.7	AC-FT	80130
WTR YR 1979	TOTAL	19262.6	MEAN	52.8	MAX	1040	MIN	3.9	AC-FT	38210



## 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).--19 years (water years 1961-79), 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.--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, 1,110 ft<sup>3</sup>/s (31.4 m<sup>3</sup>/s) May 25, gage height, 6.97 ft (2.124 m); minimum daily, 11 ft<sup>3</sup>/s (0.31 m<sup>3</sup>/s) on several days during October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	14	38	17	34	94	128	62	627	217	34	30
2	20	12	26	15	34	77	121	59	542	205	34	30
3	17	12	22	14	32	78	116	57	474	188	34	30
4	16	14	23	14	32	90	114	58	491	188	34	29
5	15	15	28	14	33	100	117	57	559	148	33	29
6	15	15	30	13	35	121	119	57	593	50	33	30
7	15	14	45	14	36	147	111	73	602	45	33	30
8	15	14	49	15	36	161	106	88	540	44	33	29
9	15	13	30	25	36	162	106	81	406	41	33	29
10	15	13	15	30	37	162	98	69	278	41	33	28
11	13	12	14	480	37	165	93	62	241	41	33	28
12	11	11	13	260	38	165	90	57	309	41	33	28
13	11	11	13	160	57	157	87	53	368	40	33	28
14	12	11	13	100	194	155	85	51	412	40	34	28
15	14	11	14	72	108	178	81	49	401	40	34	28
16	14	11	13	61	87	181	79	47	346	39	33	28
17	14	11	14	53	72	139	88	46	306	38	34	27
18	16	11	18	48	68	130	81	44	262	38	34	27
19	16	12	20	44	76	118	75	43	222	38	33	27
20	17	14	33	41	78	115	70	42	213	38	32	28
21	16	14	30	40	86	116	67	42	200	38	32	27
22	14	15	26	40	77	115	65	41	166	38	32	27
23	14	14	24	38	74	109	68	66	137	37	31	27
24	14	14	22	38	69	108	71	390	132	36	31	27
25	14	15	22	38	71	109	64	990	117	35	31	27
26	14	16	22	36	77	110	68	1020	130	35	31	27
27	14	16	21	34	73	203	111	1030	226	35	31	27
28	12	15	21	33	75	238	84	1020	223	35	31	27
29	14	17	20	33	---	174	72	922	221	35	31	27
30	15	18	24	33	---	149	66	801	220	35	31	27
31	15	---	24	34	---	135	---	700	---	34	29	---
TOTAL	471	405	727	1887	1762	4261	2701	8177	9964	1953	1008	841
MEAN	15.2	13.5	23.5	60.9	62.9	137	90.0	264	332	63.0	32.5	28.0
MAX	34	18	49	480	194	238	128	1030	627	217	34	30
MIN	11	11	13	13	32	77	64	41	117	34	29	27
AC-FT	934	803	1440	3740	3490	8450	5360	16220	19760	3870	2000	1670
CAL YR 1978	TOTAL	86658	MEAN 237	MAX 2160	MIN 11	AC-FT 171900						
WTR YR 1979	TOTAL	34157	MEAN 93.6	MAX 1030	MIN 11	AC-FT 67750						

## 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 good except those for period Oct. 1 to Dec. 22, which are 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.--16 years, 622 ft<sup>3</sup>/s (17.62 m<sup>3</sup>/s), 450,600 acre-ft/yr (556 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,530 ft<sup>3</sup>/s (242 m<sup>3</sup>/s) Dec. 24, 1964, gage height, 13.55 ft (4.130 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, 2,010 ft<sup>3</sup>/s (56.9 m<sup>3</sup>/s) May 25, gage height, 9.58 ft (2.920 m); minimum daily, 173 ft<sup>3</sup>/s (4.90 m<sup>3</sup>/s) Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	215	648	724	389	790	779	557	809	1430	426	638	500
2	654	651	661	742	771	753	851	809	1140	823	638	183
3	653	648	384	750	676	585	849	810	887	805	646	183
4	650	586	708	749	365	290	839	806	1280	398	411	650
5	653	198	715	753	744	787	844	720	1350	760	189	643
6	653	644	715	698	775	821	844	454	1390	659	597	644
7	521	650	735	331	772	870	854	814	1390	476	644	652
8	201	650	740	767	775	861	667	816	1330	245	647	504
9	653	640	668	779	776	855	925	804	980	650	639	189
10	651	656	318	771	694	642	909	799	610	649	628	650
11	652	582	704	1190	424	348	904	796	989	660	378	646
12	643	191	700	999	757	781	869	717	1060	661	179	643
13	646	646	704	774	706	772	904	388	1130	661	624	646
14	507	646	707	456	966	767	837	790	1190	477	632	642
15	190	641	703	816	868	789	563	783	1180	238	629	494
16	649	647	649	826	853	795	896	789	908	653	626	173
17	651	641	380	851	805	617	899	784	687	650	633	644
18	654	580	714	851	595	336	892	783	1000	654	389	642
19	654	188	711	866	699	708	886	706	967	653	182	644
20	647	644	721	789	910	725	888	437	968	652	634	642
21	521	650	716	562	910	730	823	778	951	469	631	640
22	193	651	711	820	896	730	630	772	915	242	629	495
23	190	199	672	838	895	743	889	789	694	649	628	183
24	643	652	346	844	797	705	889	1130	464	653	632	640
25	643	587	387	845	680	708	886	1750	861	654	377	642
26	651	194	750	836	921	857	892	1730	846	658	179	651
27	650	649	759	783	1000	940	932	1460	983	646	632	637
28	514	648	756	643	1000	977	826	1510	978	478	630	641
29	203	657	754	808	---	915	538	1700	975	234	632	492
30	649	657	690	838	---	903	881	1590	781	661	631	180
31	652	---	387	842	---	730	---	1490	---	658	636	---
TOTAL	16906	16921	19989	23806	21820	22819	24863	29313	30314	17852	16820	15815
MEAN	545	564	645	768	779	736	829	946	1010	576	543	527
MAX	654	657	759	1190	1000	977	932	1750	1430	823	647	652
MIN	190	188	318	331	365	290	538	388	464	234	179	173
AC-FT	33530	33560	39650	47220	43280	45260	49320	58140	60130	35410	33360	31370

CAL YR 1978 TOTAL 328730 MEAN 901 MAX 3010 MIN 140 AC-FT 652000  
WTR YR 1979 TOTAL 257238 MEAN 705 MAX 1750 MIN 173 AC-FT 510200

NOTE.--No gage-height record Oct. 1 to Dec. 22.

## 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 except those for the period Oct. 1 to Jan. 15, which are fair. 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.--56 years, 92.5 ft<sup>3</sup>/s (2.620 m<sup>3</sup>/s), 67,020 acre-ft/yr (82.6 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)
Jan. 11	unknown	*1,600 45.3	7.18 2.188
Feb. 14	0045	1,210 34.3	6.68 2.036

Minimum daily, 8.4 ft<sup>3</sup>/s (0.24 m<sup>3</sup>/s) Sept. 18, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	15	33	18	46	200	207	361	262	46	19	13
2	20	16	34	19	42	140	193	305	248	45	18	13
3	19	17	21	18	40	131	184	332	243	44	18	12
4	19	17	27	19	40	139	185	398	241	43	18	12
5	18	17	27	22	41	145	208	430	228	42	17	12
6	17	17	14	24	42	166	228	392	219	41	17	12
7	17	14	11	25	42	198	211	369	195	40	17	11
8	16	11	15	57	42	229	210	325	162	39	16	11
9	16	11	19	64	42	245	233	283	145	37	16	11
10	15	11	23	38	43	254	212	262	139	36	16	10
11	15	16	23	980	44	262	199	262	132	35	15	10
12	15	16	22	700	46	251	191	307	124	34	16	9.7
13	15	15	21	330	216	238	218	375	117	33	16	9.4
14	14	15	20	240	641	236	246	435	107	31	16	9.1
15	14	14	19	151	229	290	266	457	95	30	16	9.0
16	13	15	19	105	168	291	275	464	88	29	15	8.9
17	13	16	28	82	130	226	272	479	84	27	15	8.6
18	13	16	45	74	114	206	227	527	83	26	15	8.4
19	13	16	23	61	121	189	204	551	78	25	14	8.5
20	13	18	18	58	131	183	194	535	74	25	14	8.6
21	13	40	22	56	178	183	198	539	70	30	15	8.7
22	13	30	20	53	146	176	212	513	66	36	15	8.5
23	13	24	20	51	128	162	218	463	64	30	14	8.4
24	12	20	20	50	111	159	202	420	61	27	14	8.5
25	12	19	20	50	112	164	198	406	58	25	14	8.5
26	12	21	20	40	122	174	235	420	55	23	13	9.0
27	12	19	20	41	113	452	426	416	53	22	13	9.2
28	12	21	22	42	120	462	367	370	51	22	13	8.8
29	12	20	18	32	---	306	354	326	49	21	13	8.6
30	13	20	15	44	---	254	372	300	47	20	15	8.6
31	15	---	16	45	---	222	---	283	---	20	14	---
TOTAL	455	537	675	3589	3290	6933	7145	12305	3638	984	477	294.0
MEAN	14.7	17.9	21.8	116	118	224	238	397	121	31.7	15.4	9.80
MAX	21	40	45	980	641	462	426	551	262	46	19	13
MIN	12	11	11	18	40	131	184	262	47	20	13	8.4
AC-FT	902	1070	1340	7120	6530	13750	14170	24410	7220	1950	946	583
CAL YR 1978 TOTAL	60875.5			MEAN 167	MAX 1310	MIN 3.0	AC-FT 120700					
WTR YR 1979 TOTAL	40322.0			MEAN 110	MAX 980	MIN 8.4	AC-FT 79980					

NOTE.--No gage-height record Oct. 1 to Jan. 15.

## 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.--63 years, 74.5 ft<sup>3</sup>/s (2.110 m<sup>3</sup>/s), 53,980 acre-ft/yr (66.6 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)
Jan. 11	1600	842 23.8	5.65 1.722	May 5	0345	432 12.2	4.26 1.298
Feb. 14	0145	689 19.5	5.19 1.582	May 22	0130	*928 26.3	5.89 1.795

Minimum daily, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Sept. 17-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.3	15	10	31	128	101	289	386	46	9.4	5.9
2	9.8	7.7	15	11	29	75	97	245	378	44	8.8	4.6
3	9.4	8.2	10	11	27	72	95	294	372	43	8.4	4.3
4	9.1	7.4	12	11	28	77	96	353	377	42	7.8	4.3
5	8.9	7.1	12	13	28	79	106	387	351	40	7.5	4.2
6	8.5	6.7	6.7	14	28	88	118	371	336	39	6.9	4.0
7	8.2	6.2	5.6	14	28	101	111	335	299	37	6.5	3.9
8	8.0	5.7	7.1	29	28	114	110	281	244	35	6.5	3.6
9	7.9	5.5	9.0	32	27	119	124	240	220	33	6.5	3.4
10	7.7	5.5	11	19	28	125	116	225	222	31	6.4	3.4
11	7.6	7.8	11	502	28	129	111	228	198	30	6.4	3.3
12	7.4	7.8	11	360	29	128	108	277	181	29	6.4	3.1
13	7.3	7.6	10	144	126	123	122	361	170	28	6.0	2.9
14	7.0	7.6	9.8	123	309	124	141	434	152	26	6.2	2.8
15	6.7	6.9	9.4	121	123	163	157	478	136	24	6.3	2.7
16	6.6	7.5	9.1	73	89	152	166	506	120	23	6.3	2.6
17	6.7	7.9	13	59	69	115	158	530	113	21	6.3	2.5
18	6.7	7.7	25	54	63	106	137	604	111	19	6.1	2.5
19	6.7	7.8	14	44	73	99	123	659	104	18	6.0	2.5
20	6.4	8.9	10	41	81	99	119	675	97	18	5.9	2.5
21	6.3	20	12	41	115	100	124	699	91	20	5.6	2.5
22	6.4	16	12	39	94	92	138	699	85	25	5.7	2.5
23	6.4	12	11	35	79	84	140	640	79	23	5.8	2.5
24	6.2	9.5	11	35	64	84	132	579	73	18	5.8	2.5
25	6.0	9.0	11	34	63	88	134	516	68	16	5.8	2.6
26	5.9	10	12	27	72	96	162	544	63	14	5.6	2.8
27	6.0	8.7	12	26	66	186	271	584	59	13	5.5	2.7
28	5.9	9.9	12	27	76	210	257	538	55	13	5.5	2.7
29	5.9	9.7	11	22	---	136	257	487	53	12	5.5	2.7
30	6.2	10	8.9	28	---	118	281	448	49	11	5.2	2.8
31	7.5	---	9.2	30	---	106	---	428	---	10	5.1	---
TOTAL	225.3	259.6	347.8	2029	1901	3516	4312	13934	5242	801	197.7	95.3
MEAN	7.27	8.65	11.2	65.5	67.9	113	144	449	175	25.8	6.38	3.18
MAX	10	20	25	502	309	210	281	699	386	46	9.4	5.9
MIN	5.9	5.5	5.6	10	27	72	95	225	49	10	5.1	2.5
AC-FT	447	515	690	4020	3770	6970	8550	27640	10400	1590	392	189

CAL YR 1978 TOTAL 49074.1 MEAN 134 MAX 711 MIN 5.0 AC-FT 97340  
WTR YR 1979 TOTAL 32860.7 MEAN 90.0 MAX 699 MIN 2.5 AC-FT 65180

11283200 BELL CREEK NEAR PINECREST, CA

LOCATION.--Lat 38°09'46", long 119°56'32", in NE¼NE¼ sec.36, T.4 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, on right bank 1,400 ft (426 m) downstream from Bell Meadows, and 3 mi (5 km) southeast of Pinecrest.

DRAINAGE AREA.--9.11 mi<sup>2</sup> (23.59 km<sup>2</sup>).

PERIOD OF RECORD.--September 1963 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 6,450 ft (1,966 m), from topographic map.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--16 years, 25.6 ft<sup>3</sup>/s (0.725 m<sup>3</sup>/s), 18,550 acre-ft/yr (22.9 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 934 ft<sup>3</sup>/s (26.5 m<sup>3</sup>/s) Dec. 23, 1964, gage height, 7.54 ft (2.298 m), from rating curve extended above 160 ft<sup>3</sup>/s (4.53 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 8.79 ft (2.679 m); no flow at times in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 1, 1963, reached a stage of 8.79 ft (2.679 m) from floodmarks, discharge, 1,410 ft<sup>3</sup>/s (39.9 m<sup>3</sup>/s), from slope-area measurement of maximum flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 125 ft<sup>3</sup>/s (3.54 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. 11	1300	-- --	*a5.24 1.597	Apr. 30	2030	173 4.90	4.42 1.347
Jan. 11	1830	231 6.54	4.79 1.460	May 4	1900	235 6.66	4.81 1.466
Apr. 27	1945	168 4.76	4.39 1.338	May 21	1915	*295 8.35	5.15 1.570

a Backwater from ice.

Minimum daily, 0.07 ft<sup>3</sup>/s (0.002 m<sup>3</sup>/s) Sept. 13-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.96	.67	2.2	2.1	5.5	7.9	15	110	103	11	.86	.16
2	.96	.87	2.2	2.1	5.6	11	16	112	101	9.8	.78	.13
3	.94	1.1	2.1	2.0	6.0	7.1	18	144	101	9.2	.72	.12
4	.87	1.1	2.1	2.0	5.8	7.8	27	164	107	8.4	.66	.12
5	.81	.97	2.2	2.1	5.9	10	42	169	100	7.6	.60	.10
6	.82	.83	2.2	2.1	5.9	15	45	132	101	6.7	.56	.10
7	.83	.76	2.2	2.0	6.0	23	38	91	82	6.3	.53	.09
8	.81	.69	2.2	2.0	6.1	29	48	69	64	5.6	.50	.09
9	.80	.65	2.1	2.4	6.2	32	52	58	61	5.2	.46	.09
10	.74	.67	2.2	2.7	6.9	39	42	61	62	5.0	.41	.08
11	.71	1.0	2.3	102	6.9	39	37	82	63	4.6	.39	.08
12	.67	.97	2.3	64	6.6	39	43	115	64	4.0	.39	.08
13	.63	1.3	2.7	30	6.0	40	64	150	62	3.7	.38	.07
14	.59	1.6	2.4	18	16	36	79	167	50	3.4	.39	.07
15	.57	1.6	2.3	15	15	31	83	180	41	3.2	.35	.07
16	.57	1.7	2.3	17	11	25	77	182	36	3.0	.29	.07
17	.57	1.7	2.3	15	10	21	58	189	30	2.4	.28	.07
18	.56	1.7	1.9	12	8.9	19	42	207	23	2.1	.25	.07
19	.54	1.5	2.2	11	8.5	17	37	212	25	1.9	.23	.07
20	.54	1.3	2.3	10	7.4	16	41	203	26	1.9	.24	.07
21	.54	1.8	1.9	9.6	7.0	15	48	217	26	2.6	.23	.07
22	.53	3.6	2.0	9.0	7.0	14	53	196	25	2.9	.20	.07
23	.49	3.8	2.5	9.0	9.0	14	49	180	26	2.0	.17	.08
24	.48	2.9	2.9	8.9	8.0	16	42	159	25	1.7	.15	.08
25	.48	2.5	3.4	8.1	7.5	20	45	160	22	1.6	.14	.10
26	.48	2.4	4.0	7.1	7.3	23	84	175	20	1.5	.12	.10
27	.45	2.3	3.7	6.4	7.2	19	144	174	17	1.4	.11	.09
28	.45	2.3	3.0	5.5	7.1	17	115	153	15	1.2	.13	.09
29	.45	2.2	2.7	4.8	---	16	121	131	14	1.1	.72	.09
30	.51	2.2	2.5	4.2	---	15	129	119	12	1.0	.46	.10
31	.60	---	2.3	4.2	---	15	---	107	---	.93	.24	---
TOTAL	19.95	48.68	75.6	392.3	216.3	648.8	1734	4568	1504	122.93	11.94	2.67
MEAN	.64	1.62	2.44	12.7	7.73	20.9	57.8	147	50.1	3.97	.39	.089
MAX	.96	3.8	4.0	102	16	40	144	217	107	11	.86	.16
MIN	.45	.65	1.9	2.0	5.5	7.1	15	58	12	.93	.11	.07
AC-FT	40	97	150	778	429	1290	3440	9060	2980	244	24	5.3
CAL YR 1978 TOTAL	13613.80			37.3	222	45	AC-FT	27000				
WTR YR 1979 TOTAL	9345.17			25.6	217	07	AC-FT	18540				

## SAN JOAQUIN RIVER BASIN

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. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--20 years, 245 ft<sup>3</sup>/s (6.938 m<sup>3</sup>/s), 177,500 acre-ft/yr (219 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,200 ft<sup>3</sup>/s (544 m<sup>3</sup>/s) Feb. 1, 1963, gage height, 21.40 ft (6.523 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 of peak flow; 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)
Jan. 11	1915	*3,270 92.6	12.21 3.722	May 6	0100	1,900 53.8	10.12 3.085
Apr. 27	0545	1,910 54.1	10.13 3.088	May 18	2400	1,870 53.0	10.05 3.063

Minimum daily, 13 ft<sup>3</sup>/s (0.37 m<sup>3</sup>/s) Sept. 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	20	84	43	106	260	507	1250	580	88	29	20
2	25	21	72	44	102	222	499	1080	566	83	28	19
3	24	22	54	41	93	220	497	1290	545	80	27	18
4	24	22	52	41	95	231	528	1440	545	78	27	18
5	23	21	53	48	96	258	646	1540	530	75	26	17
6	23	21	43	51	98	321	751	1410	510	72	26	17
7	22	20	34	50	100	425	695	1090	463	69	25	16
8	22	19	37	81	101	540	732	860	361	65	25	15
9	21	19	40	95	103	601	810	743	325	62	24	15
10	21	19	42	81	107	644	717	724	322	58	24	15
11	23	31	39	1580	110	700	671	794	315	57	23	14
12	22	27	37	1210	113	701	681	976	308	55	24	14
13	21	29	36	515	221	698	818	1190	311	53	24	13
14	20	28	35	349	803	685	922	1310	284	50	24	13
15	19	26	34	273	464	832	997	1380	226	47	24	13
16	19	27	33	227	365	749	1020	1350	199	45	23	14
17	19	28	45	192	288	609	921	1360	187	42	22	16
18	19	28	67	173	261	544	718	1450	166	40	22	16
19	19	28	50	148	269	494	638	1440	151	39	21	16
20	19	33	46	141	263	464	624	1370	157	39	21	16
21	19	62	48	137	283	436	652	1370	156	44	22	17
22	19	50	50	131	262	412	696	1280	150	54	22	17
23	18	44	48	126	237	388	714	1110	146	45	21	17
24	18	39	48	125	220	398	651	998	141	40	20	18
25	18	36	49	124	224	441	664	933	133	37	20	18
26	17	36	50	100	231	498	876	970	124	35	19	18
27	17	35	52	109	213	744	1650	967	115	34	19	17
28	17	36	52	104	216	730	1350	870	107	33	18	17
29	17	38	48	84	---	617	1300	755	99	32	19	16
30	18	48	43	106	---	566	1340	672	93	31	21	16
31	21	---	41	105	---	524	---	617	---	30	21	---
TOTAL	629	913	1462	6634	6044	15952	24285	34589	8315	1612	711	486
MEAN	20.3	30.4	47.2	214	216	515	810	1116	277	52.0	22.9	16.2
MAX	25	62	84	1580	803	832	1650	1540	580	88	29	20
MIN	17	19	33	41	93	220	497	617	93	30	18	13
AC-FT	1250	1810	2900	13160	11990	31640	48170	68610	16490	3200	1410	964
CAL YR 1978	TOTAL	149792	MEAN	410	MAX	2630	MIN	17	AC-FT	297100		
WTR YR 1979	TOTAL	101632	MEAN	278	MAX	1650	MIN	13	AC-FT	201600		

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. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--10 years, 6.67 ft<sup>3</sup>/s (0.189 m<sup>3</sup>/s), 4,830 acre-ft/yr (5.96 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,260 ft<sup>3</sup>/s (35.7 m<sup>3</sup>/s) Feb. 9, 1978, gage height, 5.84 ft (1.780 m); 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 not determined.

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)	
Jan. 11	1600	*743	21.0	5.16	1.573	Mar. 1	unknown	348	9.86	4.21	1.283
Jan. 15	0715	242	6.85	3.87	1.180	Mar. 28	0900	187	5.30	3.67	1.119
Feb. 14	0230	170	4.81	3.60	1.097						

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	0	1.1	.75	5.8	200	18	3.8	1.3	.17		
2	.01	0	1.0	.76	5.8	75	16	3.7	1.2	.16		
3	0	0	.73	.81	5.0	25	13	3.5	1.2	.15		
4	0	0	.59	.91	4.9	13	12	3.2	1.1	.15		
5	0	0	.59	1.2	5.3	14	11	3.2	1.0	.15		
6	.01	0	.49	1.3	6.4	14	10	3.4	1.0	.14		
7	0	0	.37	1.3	7.4	15	9.2	4.6	.96	.13		
8	0	0	.31	13	7.1	15	8.3	5.4	.88	.11		
9	0	0	.31	20	6.9	15	8.0	4.0	.83	.10		
10	0	0	.33	5.4	6.8	13	7.5	3.3	.79	.08		
11	0	0	.33	368	6.6	12	7.1	3.0	.74	.07		
12	0	0	.34	156	6.8	11	6.7	2.8	.69	.06		
13	0	0	.34	26	42	9.6	6.2	2.6	.65	.06		
14	0	.03	.33	29	138	8.8	5.8	2.5	.62	.04		
15	0	.03	.31	165	60	28	5.5	2.3	.62	.04		
16	0	.03	.32	46	42	31	5.6	2.2	.63	.03		
17	0	.03	1.3	20	30	17	6.3	2.2	.65	.02		
18	0	.03	4.9	17	24	14	5.6	2.0	.70	.02		
19	0	.03	3.4	13	56	13	5.1	2.0	.66	.01		
20	0	.05	2.0	11	.47	11	4.7	2.0	.61	.01		
21	0	5.2	1.4	8.7	80	10	4.5	2.0	.57	.01		
22	0	4.6	1.2	7.3	50	10	4.4	1.9	.51	.01		
23	0	1.7	1.1	5.8	28	9.1	4.2	1.9	.48	.01		
24	0	.90	1.0	5.1	18	8.2	4.1	1.8	.42	.01		
25	0	.64	1.0	5.3	16	7.6	4.0	1.7	.35	0		
26	0	.49	1.0	4.5	20	7.8	4.7	1.7	.31	0		
27	0	.39	1.1	3.7	16	34	9.9	1.6	.26	0		
28	0	.32	1.1	3.5	23	108	5.2	1.5	.23	0		
29	0	.28	.97	3.2	---	48	4.4	1.5	.21	0		
30	0	.26	.95	3.4	---	29	4.1	1.5	.19	0		
31	0	---	.81	5.8	---	22	---	1.4	---	0		---
TOTAL	.03	15.01	31.02	952.73	754.8	848.1	221.1	80.2	20.36	1.74	0	0
MEAN	.001	.50	1.00	30.7	27.0	27.4	7.37	2.59	.68	.056	0	0
MAX	.01	5.2	4.9	368	138	200	18	5.4	1.3	.17	0	0
MIN	0	0	.31	.75	4.9	7.6	4.0	1.4	.19	0	0	0
AC-FT	.06	30	62	1890	1500	1680	439	159	40	3.5	0	0
CAL YR 1978	TOTAL	5175.54	MEAN	14.2	MAX	657	MIN	0	AC-FT	10270		
WTR YR 1979	TOTAL	2925.09	MEAN	8.01	MAX	368	MIN	0	AC-FT	5800		

## SAN JOAQUIN RIVER BASIN

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.

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.--17 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).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,670 ft<sup>3</sup>/s (47.3 m<sup>3</sup>/s) Jan. 21, 1969, gage height, 7.61 ft (2.320 m), from rating curve extended above 650 ft<sup>3</sup>/s (18.4 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 9.8 ft (2.99 m); 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 9.8 ft (2.99 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)	
Jan. 11	1515	*417	11.8	5.07	1.545	Apr. 27	0145	179	5.07	4.21	1.283
Feb. 13	1845	322	9.12	4.77	1.454	May 6	0030	174	4.93	4.19	1.277

Minimum daily, 0.30 ft<sup>3</sup>/s (0.008 m<sup>3</sup>/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.3	9.4	4.3	9.5	24	72	132	37	7.2	2.1	.78
2	.98	2.1	8.7	4.8	18	28	69	118	34	7.1	2.0	.67
3	1.2	1.7	8.9	6.0	10	22	66	120	31	7.0	1.9	.60
4	1.2	1.6	6.4	7.5	10	24	68	130	28	6.8	1.7	.60
5	1.2	1.2	5.0	9.4	11	29	77	144	27	6.7	1.4	.60
6	1.1	1.0	4.7	8.7	18	38	86	155	25	6.4	1.4	.69
7	1.0	.87	4.2	7.4	25	53	83	136	23	6.2	1.4	.57
8	1.1	.89	3.9	10	27	65	85	120	22	5.4	1.3	.53
9	1.4	.84	3.9	13	25	73	88	109	19	4.0	1.2	.52
10	1.4	1.2	4.6	9.8	17	83	85	102	17	4.0	1.0	.48
11	1.4	2.8	4.7	236	17	89	84	99	16	4.3	1.0	.44
12	1.1	3.1	4.2	87	13	89	84	103	15	4.5	1.1	.42
13	.86	2.9	3.8	38	97	92	92	113	14	4.5	1.1	.41
14	.78	3.1	3.4	28	146	90	101	123	13	4.2	1.1	.40
15	.71	3.7	4.2	26	63	112	109	128	13	4.0	1.1	.38
16	.74	2.9	4.6	24	44	96	118	127	13	3.8	1.0	.37
17	.79	3.1	4.4	23	36	79	116	122	13	3.6	.95	.33
18	.79	2.8	5.6	17	31	70	95	124	13	3.1	.94	.32
19	.75	2.9	6.6	15	30	62	83	123	12	2.6	.91	.32
20	1.0	4.8	4.7	14	27	57	78	117	11	3.1	.95	.32
21	.77	9.9	4.6	15	29	53	77	111	11	4.5	1.0	.32
22	.80	6.6	4.9	14	32	50	81	102	9.8	5.0	.96	.30
23	.73	5.2	5.1	14	32	47	87	90	9.8	4.1	.94	.31
24	.63	5.1	5.2	14	31	49	83	78	9.3	3.5	.91	.31
25	.61	5.0	5.2	13	26	52	81	70	8.8	3.2	.84	.35
26	.63	4.9	5.6	12	23	60	107	61	8.5	2.9	.78	.39
27	.70	4.8	5.4	10	23	127	166	54	8.1	2.7	.75	.37
28	.65	4.5	5.2	9.0	22	108	146	50	7.9	2.7	.76	.36
29	.64	3.9	5.0	7.6	---	89	138	47	7.7	2.6	.80	.35
30	.93	4.1	4.0	7.6	---	82	138	43	7.4	2.4	.92	.40
31	1.2	---	4.1	9.0	---	76	---	40	---	2.2	.89	---
TOTAL	28.79	98.80	160.2	714.1	884.5	2068	2843	3191	484.3	134.3	35.10	13.21
MEAN	.93	3.29	5.17	23.0	31.6	66.7	94.8	103	16.1	4.33	1.13	.44
MAX	1.4	9.9	9.4	236	146	127	166	155	37	7.2	2.1	.78
MIN	.61	.84	3.4	4.3	9.5	22	66	40	7.4	2.2	.75	.30
AC-FT	57	196	318	1420	1750	4100	5640	6330	961	266	70	26
CAL YR 1978	TOTAL	14626.15	MEAN	40.1	MAX	359	MIN	.18	AC-FT	29010		
WTR YR 1979	TOTAL	10655.30	MEAN	29.2	MAX	236	MIN	.30	AC-FT	21130		



## 11287500 DON PEDRO RESERVOIR NEAR LA GRANGE, CA

LOCATION.--Lat 37°42'06", long 120°25'16", in NE¼SW¼ 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 1315-A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). Prior to Feb. 1, 1941, nonrecording gage at site 1.5 mi (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, 1,891,000 acre-ft (2.33 km<sup>3</sup>) June 18, 1979, elevation, 819.0 ft (249.63 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, 1,891,000 acre-ft (2.33 km<sup>3</sup>) June 18, elevation, 819.0 ft (249.63 m); minimum, 1,499,000 acre-ft (1.85 km<sup>3</sup>) Jan. 6, 10, elevation, 784.1 ft (238.99 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1574000	1560000	1527000	1509000	1535000	1574000	1616000	1634000	1832000	1874000	1752000	1647000
2	1571000	1557000	1527000	1506000	1533000	1575000	1616000	1636000	1838000	1873000	1747000	1647000
3	1569000	1555000	1528000	1504000	1532000	1576000	1616000	1639000	1843000	1872000	1744000	1647000
4	1567000	1554000	1527000	1502000	1532000	1579000	1616000	1642000	1848000	1869000	1740000	1645000
5	1565000	1555000	1525000	1500000	1530000	1578000	1616000	1647000	1854000	1866000	1737000	1641000
6	1563000	1554000	1523000	1499000	1527000	1578000	1617000	1655000	1858000	1862000	1732000	1638000
7	1562000	1551000	1521000	1500000	1525000	1578000	1618000	1659000	1862000	1858000	1729000	1635000
8	1562000	1549000	1519000	1500000	1521000	1578000	1623000	1662000	1868000	1856000	1723000	1634000
9	1561000	1547000	1518000	1500000	1519000	1578000	1623000	1667000	1873000	1851000	1719000	1631000
10	1560000	1543000	1518000	1499000	1517000	1579000	1623000	1671000	1877000	1848000	1714000	1628000
11	1560000	1546000	1517000	1524000	1517000	1582000	1622000	1675000	1877000	1844000	1708000	1626000
12	1559000	1546000	1516000	1534000	1515000	1583000	1620000	1679000	1878000	1840000	1707000	1623000
13	1558000	1543000	1514000	1537000	1514000	1583000	1620000	1684000	1878000	1837000	1703000	1619000
14	1557000	1541000	1513000	1544000	1521000	1583000	1620000	1688000	1880000	1832000	1698000	1617000
15	1557000	1538000	1512000	1550000	1523000	1585000	1622000	1694000	1885000	1828000	1693000	1615000
16	1557000	1537000	1511000	1552000	1523000	1587000	1622000	1699000	1889000	1825000	1688000	1614000
17	1557000	1535000	1511000	1551000	1521000	1588000	1620000	1705000	1890000	1820000	1686000	1611000
18	1558000	1535000	1512000	1552000	1526000	1590000	1619000	1711000	1891000	1815000	1682000	1609000
19	1558000	1535000	1512000	1552000	1532000	1590000	1618000	1719000	1890000	1810000	1677000	1607000
20	1558000	1533000	1511000	1551000	1532000	1590000	1617000	1727000	1888000	1806000	1673000	1606000
21	1559000	1533000	1510000	1553000	1544000	1590000	1617000	1735000	1886000	1801000	1671000	1605000
22	1560000	1533000	1509000	1552000	1551000	1590000	1622000	1743000	1884000	1797000	1670000	1605000
23	1560000	1533000	1509000	1549000	1556000	1589000	1622000	1752000	1881000	1793000	1667000	1605000
24	1560000	1533000	1510000	1548000	1558000	1589000	1620000	1760000	1879000	1788000	1665000	1604000
25	1560000	1533000	1511000	1546000	1561000	1592000	1618000	1769000	1881000	1782000	1662000	1604000
26	1560000	1534000	1510000	1543000	1562000	1592000	1618000	1779000	1881000	1777000	1660000	1604000
27	1560000	1532000	1509000	1542000	1563000	1597000	1619000	1789000	1881000	1773000	1657000	1604000
28	1560000	1530000	1509000	1543000	1563000	1605000	1623000	1800000	1879000	1768000	1655000	1604000
29	1560000	1529000	1508000	1541000	---	1609000	1628000	1809000	1878000	1765000	1652000	1604000
30	1560000	1528000	1507000	1538000	---	1611000	1630000	1819000	1877000	1760000	1650000	1605000
31	1560000	---	1508000	1537000	---	1613000	---	1826000	---	1757000	1648000	---
MAX	1574000	1560000	1528000	1553000	1563000	1613000	1630000	1826000	1891000	1874000	1752000	1647000
MIN	1557000	1528000	1507000	1499000	1514000	1574000	1616000	1634000	1832000	1757000	1648000	1604000
†	790.0	786.9	785.0	787.8	790.3	794.9	796.5	813.6	817.8	807.7	798.1	794.2
‡	-15000	-32000	-20000	+29000	+26000	+50000	+17000	+196000	+49000	-118000	-109000	-43000

CAL YR 1978 † +1142900

WTR YR 1979 ‡ +30000

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

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.--76 years, 407 ft<sup>3</sup>/s (11.53 m<sup>3</sup>/s), 294,900 acre-ft/yr (364 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	34	594		0	.13	545	756	941	912	1320	400
2	187	34	214		0	0	570	1050	879	1040	1330	342
3	751	33	34		0	0	596	976	299	941	1240	359
4	760	31	660		0	0	595	822	901	912	1020	596
5	640	25	786		0	0	537	366	981	960	943	727
6	190	723	737		0	0	389	281	992	980	1200	892
7	175	740	648		0	0	388	753	830	913	1220	872
8	171	761	562		0	0	386	702	946	989	1220	446
9	175	737	173		0	0	384	706	885	1090	1200	327
10	795	708	27		0	0	479	816	345	1190	1260	719
11	282	28	589		0	0	642	927	1050	1190	1160	867
12	359	26	545		0	0	1140	844	1070	1320	578	964
13	436	910	585		0	0	1100	294	880	1340	941	941
14	273	817	607		0	0	825	1090	709	1290	1020	838
15	191	790	506		0	0	627	914	748	946	1060	806
16	663	715	262		0	.02	1220	879	677	1330	1080	341
17	646	646	26		0	0	1300	986	676	1340	1270	820
18	707	221	594		0	0	1310	1050	748	1330	1010	580
19	600	27	558		0	.02	1200	815	1070	1350	938	591
20	510	735	853		0	0	1180	298	1320	1350	791	637
21	255	723	531		.02	0	649	684	1300	949	642	624
22	38	714	18		0	.06	307	668	1280	949	654	368
23	647	27	.35		0	22	1120	827	1070	1360	662	365
24	799	184	.30		0	37	1170	862	917	1380	657	589
25	596	151	.27		0	35	1170	913	1030	1370	641	324
26	275	27	.15		0	356	1180	739	1030	1340	641	323
27	39	755	.03		0	565	1100	331	1110	1240	932	334
28	32	709	.02		0	581	502	286	1030	1200	779	385
29	28	647	.01		---	578	307	433	1020	950	667	316
30	35	636	.01		---	572	1100	696	913	1340	660	125
31	33	---	0		---	573	---	850	---	1330	706	---
TOTAL	11402	13314	10110.14	0	.02	3319.23	24026	22614	27647	36121	29442	16818
MEAN	368	444	326	0	.0007	107	801	729	922	1165	950	561
MAX	799	910	853	0	.02	581	1310	1090	1320	1380	1330	964
MIN	28	25	0	0	0	0	307	281	299	912	578	125
AC-FT	22620	26410	20050	0	.04	6580	47660	44850	54840	71650	58400	33360
CAL YR 1978	TOTAL	171873.42	MEAN 471	MAX 1360	MIN 0	AC-FT 340900						
WTR YR 1979	TOTAL	194813.39	MEAN 534	MAX 1380	MIN 0	AC-FT 386400						

## 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 1950 for history of changes prior to Apr. 17, 1924.

REMARKS.--Records excellent. 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. 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.--81 years, 621 ft<sup>3</sup>/s (17.59 m<sup>3</sup>/s), 449,900 acre-ft/yr (555 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,320 ft<sup>3</sup>/s (65.7 m<sup>3</sup>/s) June 8, 9, 1979; 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	8.4	1010	23	22	23	34	1480	1410	1380	1760	1360
2	337	7.4	761	27	21	66	35	1050	1780	1630	1730	58
3	1110	7.4	23	27	20	24	35	1400	1460	1560	1710	56
4	1060	13	1110	28	17	23	35	1520	1760	1390	1550	1540
5	977	13	1110	26	17	24	607	1240	1770	1870	1400	1380
6	849	1120	1160	25	17	23	1320	20	1920	2210	1680	1360
7	611	938	1210	23	19	23	1360	1440	2300	2190	1820	1280
8	29	1110	1180	26	24	24	34	1490	2320	1170	2230	1110
9	874	1120	849	25	24	24	1460	1520	2320	2160	2250	1180
10	47	1050	24	26	24	24	1940	1540	2310	2160	2210	1580
11	937	25	1130	26	23	23	2000	1540	2140	1910	2230	1300
12	945	24	1080	26	24	24	1950	1470	1810	1700	566	1290
13	966	1190	1120	25	24	24	1890	1310	1720	1690	2270	1080
14	823	1180	1130	22	24	16	1890	1990	1620	1680	2270	1210
15	23	1150	1150	26	23	14	2080	1420	1600	1340	2260	1190
16	78	1130	971	25	24	14	1940	1250	1610	1720	2210	762
17	23	1050	23	25	23	14	1930	1500	1490	1970	762	1460
18	22	873	1080	24	20	14	1930	1910	1620	2090	1490	870
19	22	24	1050	24	21	14	1930	1680	1700	2070	2280	813
20	21	1110	28	24	24	14	1920	1470	1760	2100	2000	835
21	16	1120	27	23	25	14	1850	1640	1630	2220	1270	593
22	5.6	1040	27	23	23	13	52	1260	1700	1880	1340	474
23	6.0	23	27	23	23	29	1250	1330	1700	2110	1330	38
24	5.6	663	22	22	22	30	1930	1350	1470	2120	1330	494
25	7.4	621	23	22	21	36	1940	1540	1690	2130	1300	220
26	9.0	24	27	22	22	292	1910	1450	1670	2230	1300	324
27	8.4	1070	27	22	22	209	1880	1120	2300	2190	1490	370
28	7.4	1060	27	22	22	37	1850	1460	2280	2200	1380	368
29	6.0	998	27	22	---	37	31	1520	2280	1710	1280	346
30	6.0	1020	26	22	---	37	1220	1310	1490	1730	1270	90
31	6.4	---	24	22	---	36	---	1320	---	1760	1240	---
TOTAL	9871.8	20782.2	17483	748	615	1219	40233	43540	54630	58270	51208	25031
MEAN	318	693	564	24.1	22.0	39.3	1341	1405	1821	1880	1652	834
MAX	1110	1190	1210	28	25	292	2080	1990	2320	2230	2280	1580
MIN	5.6	7.4	22	22	17	13	31	20	1410	1170	566	38
AC-FT	19580	41220	34680	1480	1220	2420	79800	86360	108400	115600	101600	49650
CAL YR 1978 TOTAL	306880.25			MEAN 841	MAX 2280	MIN .85	AC-FT 608700					
WTR YR 1979 TOTAL	323631.00			MEAN 887	MAX 2320	MIN 5.6	AC-FT 641900					

## SAN JOAQUIN RIVER BASIN

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 149 ft<sup>3</sup>/s (4.22 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).--9 years, 459 ft<sup>3</sup>/s (13.00 m<sup>3</sup>/s), 332,500 acre-ft/yr (410 hm<sup>3</sup>/yr).  
(Combined river and canals).--9 years, 1,717 ft<sup>3</sup>/s (48.63 m<sup>3</sup>/s), 1,244,000 acre-ft/yr (1.53 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 4,850 ft<sup>3</sup>/s (137 m<sup>3</sup>/s) Feb. 21, 1979, gage height, 10.86 ft (3.310 m); no flow on several days during September and October 1977.  
Combined flow, maximum daily discharge, 5,360 ft<sup>3</sup>/s (152 m<sup>3</sup>/s) May 9, 1978; 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, 4,850 ft<sup>3</sup>/s (137 m<sup>3</sup>/s) Feb. 21, gage height, 10.86 ft (3.310 m); minimum daily, 1.2 ft<sup>3</sup>/s (0.034 m<sup>3</sup>/s) May 6.  
Combined flow, maximum daily discharge, 4,170 ft<sup>3</sup>/s (118 m<sup>3</sup>/s) Oct. 2; minimum daily, 232 ft<sup>3</sup>/s (6.57 m<sup>3</sup>/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	2380	404	331	3070	3440	591	30	212	17	257	14
2	3650	2360	405	2970	3080	3260	2370	336	119	17	241	14
3	787	2310	409	2820	2380	3030	2350	80	21	16	160	14
4	702	1720	405	2370	603	1390	2430	15	185	16	26	14
5	605	410	381	2330	2940	3280	1990	8.4	250	16	23	224
6	582	452	429	1760	2940	3220	1330	1.2	77	16	85	391
7	566	498	424	321	3010	3240	687	2.4	29	16	20	308
8	218	501	415	2540	3050	3240	507	2.8	26	7.8	72	22
9	520	496	403	2170	2850	3210	1100	2.4	26	12	86	19
10	882	493	404	2380	2420	2990	1100	2.4	20	15	104	25
11	506	450	401	2430	830	1390	1000	2.9	258	15	21	282
12	511	421	400	2110	3120	3210	699	4.5	173	187	5.2	332
13	512	489	401	1810	3200	3200	432	4.1	21	316	8.5	354
14	520	507	403	329	3090	3270	402	72	20	254	9.4	92
15	325	497	399	2380	3350	3370	167	74	20	21	11	22
16	424	450	396	2380	3310	3380	551	2.2	20	270	10	11
17	480	405	399	2720	3050	3080	519	1.9	19	279	303	319
18	518	404	399	2580	829	1400	525	44	19	178	20	189
19	507	408	394	2440	814	3210	522	18	19	253	19	188
20	501	403	1140	2080	3480	2970	468	2.4	19	187	17	222
21	448	408	1480	604	3420	2990	397	2.0	19	22	15	381
22	301	414	1990	2680	3460	3110	169	1.5	19	20	15	397
23	636	408	1330	2770	3210	2910	478	1.5	18	191	15	21
24	496	403	389	2740	3010	2530	507	1.6	18	249	15	428
25	687	401	387	2840	1410	1010	522	77	18	214	15	869
26	1040	401	1870	2720	3210	2570	476	24	18	22	15	394
27	1250	403	1830	2270	3140	2350	402	11	20	20	15	385
28	687	404	1790	607	3210	2460	362	25	20	19	15	393
29	322	404	1780	2830	---	2380	165	16	18	17	17	291
30	1180	406	1420	3020	---	2310	407	15	17	225	15	17
31	1090	---	335	2860	---	1980	---	105	---	297	15	---
TOTAL	21704	20106	23412	67192	75486	85380	23625	986.2	1738	3404.8	1665.1	6632
MEAN	700	670	755	2167	2696	2754	788	31.8	57.9	110	53.7	221
MAX	3650	2380	1990	3020	3480	3440	2430	336	258	316	303	869
MIN	218	401	335	321	603	1010	165	1.2	17	7.8	5.2	11
AC-FT	43050	39880	46440	133300	149700	169400	46860	1960	3450	6750	3300	13150
CAL YR 1978 TOTAL	211873.4			MEAN 580	MAX 4570	MIN 3.3	AC-FT 420300					
WTR YR 1979 TOTAL	331331.1			MEAN 908	MAX 3650	MIN 1.2	AC-FT 657200					

## 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 1978 TO SEPTEMBER 1979

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	399	2420	2000	354	3090	3460	1170	2270	2560	2310	3340	1770
2	4170	2400	1380	3000	3100	3330	2980	2440	2780	2690	3300	414
3	2650	2350	466	2850	2400	3050	2980	2460	1780	2520	3110	429
4	2520	1760	2180	2400	620	1410	3060	2360	2850	2320	2600	2150
5	2230	448	2280	2360	2960	3300	3130	1620	3000	2850	2360	2330
6	1620	2290	2330	1790	2960	3240	3040	302	2990	3210	2970	2640
7	1350	2180	2280	344	3030	3260	2440	2190	3160	3120	3060	2460
8	418	2370	2160	2570	3070	3260	927	2190	3300	2170	3520	1580
9	1570	2360	1420	2200	2870	3230	2940	2230	3240	3260	3540	1530
10	1720	2250	455	2410	2440	3010	3520	2360	2680	3370	3570	2330
11	1730	503	2120	2460	853	1410	3640	2470	3450	3120	3410	2450
12	1810	471	2030	2140	3140	3230	3790	2310	3050	3210	1150	2580
13	1910	2590	2110	1840	3220	3220	3420	1600	2620	3350	3220	2370
14	1620	2510	2140	351	3110	3290	3120	3150	2350	3220	3300	2140
15	539	2440	2060	2410	3370	3380	2880	2400	2370	2310	3330	2020
16	1170	2300	1630	2410	3330	3390	3710	2130	2310	3320	3300	1110
17	1150	2110	448	2750	3070	3090	3750	2490	2190	3590	2330	2600
18	1250	1490	2070	2600	849	1410	3770	3000	2390	3600	2520	1640
19	1130	459	2000	2460	835	3220	3650	2520	2790	3670	3240	1590
20	1030	2250	2020	2100	3500	8980	3570	1770	3100	3640	2810	1690
21	719	2250	2040	627	3450	3000	2900	2320	2950	3190	1930	1600
22	345	2160	2040	2700	3480	3120	528	1930	3000	2850	2010	1240
23	1290	458	1360	2790	3230	8960	2850	2160	2790	3660	2010	424
24	1300	1250	411	2760	3030	8600	3610	2210	2410	3750	2010	1510
25	1290	1170	410	2860	1430	1080	3630	2530	2740	3710	1960	1410
26	1320	452	1900	2740	3230	3220	3570	2210	2720	3590	1960	1040
27	1300	2230	1860	2290	3160	3120	3380	1460	3430	3450	2440	1090
28	726	2170	1820	629	3230	3080	2710	1780	3330	3420	2180	1150
29	356	2050	1810	2850	---	3000	503	1970	3320	2680	1970	953
30	1220	2070	1450	3040	---	8920	2730	2030	2420	3300	1950	232
31	1130	---	359	2880	---	8590	---	2280	---	3390	1970	---
TOTAL	42982	54211	51039	67965	76057	89860	87898	67142	84070	97840	82370	48472
MEAN	1387	1807	1646	2192	2716	2899	2930	2166	2802	3156	2657	1616
MAX	4170	2590	2330	3040	3500	3460	3790	3150	3450	3750	3570	2640
MIN	345	448	359	344	620	1080	503	302	1780	2170	1150	232
AC-FT	85250	107500	101200	134800	150900	178200	174300	133200	166800	194100	163400	96140
CAL YR 1978	TOTAL	699292	MEAN	1916	MAX	5360	MIN	34	AC-FT	1387000		
WTR YR 1979	TOTAL	849906	MEAN	2329	MAX	4170	MIN	832	AC-FT	1686000		

## SAN JOAQUIN RIVER BASIN

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, 23.0°C May 13; minimum recorded, 8.5°C Feb. 15, 17, 18, Apr. 19, May 1.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

## 11290000 TUOLUMNE RIVER AT MODESTO, CA

LOCATION.--Lat 37°37'38", long 120°59'11", in SE&SW¼ 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 (0.5 km) downstream from Dry Creek.

DRAINAGE AREA.--1,884 mi<sup>2</sup> (4,880 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. 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 excellent. 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.--40 years (water years 1896, 1941-79), 1,315 ft<sup>3</sup>/s (37.24 m<sup>3</sup>/s), 952,700 acre-ft/yr (1.17 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1895-96, 1941-79).--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, 8,030 ft<sup>3</sup>/s (227 m<sup>3</sup>/s) Feb. 22, elevation, 51.76 ft (15.776 m); minimum daily, 176 ft<sup>3</sup>/s (4.98 m<sup>3</sup>/s) June 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	724	1180	1120	699	3200	5000	2550	544	191	216	585	261
2	469	1930	1120	451	3520	6950	1140	425	273	210	520	302
3	408	2340	1110	2320	3750	4810	2490	422	330	197	520	319
4	438	2350	1110	2750	2820	4060	2880	448	306	184	504	260
5	476	1750	1110	2460	1160	2320	2980	301	243	184	516	258
6	514	905	1080	2390	2790	3650	2540	276	339	193	449	252
7	552	665	1080	1840	3220	3950	1710	273	348	200	434	431
8	591	833	1110	1520	3580	3940	1110	255	249	199	465	504
9	629	1100	1110	2620	3600	3930	826	215	190	194	323	437
10	677	1170	1110	3280	3410	3900	1210	209	176	187	352	296
11	948	1160	1110	3290	2920	3660	1290	205	204	183	392	267
12	783	1180	1100	4930	1320	2080	1220	190	261	181	367	294
13	708	1160	1090	5930	3090	3450	994	185	359	193	300	431
14	724	1180	1080	5930	3880	3790	726	188	314	317	243	490
15	699	1190	1060	4290	5030	3900	659	183	216	263	243	437
16	594	1200	1060	4280	4390	4020	522	285	207	308	230	384
17	523	1190	1070	3120	4200	4170	693	212	222	468	226	312
18	590	1170	1070	3320	3900	3830	735	189	204	352	294	308
19	617	1160	878	3550	1790	2130	715	184	198	474	213	434
20	611	1170	825	2920	2070	3490	703	240	203	422	327	411
21	612	1210	1240	2360	4780	3590	699	225	211	480	319	392
22	556	1190	1570	1130	7310	3570	657	203	204	598	310	504
23	456	1110	1960	2460	6570	3670	511	194	212	497	332	626
24	858	1080	1360	2950	5360	3530	616	193	229	446	387	468
25	1020	1060	707	3000	4210	3100	697	196	203	524	422	417
26	1090	1030	491	3100	2420	1520	732	185	197	589	338	941
27	284	1020	1390	3020	3630	2900	1010	203	215	550	284	696
28	1430	1110	1740	2480	3920	3140	728	204	200	443	292	650
29	1170	1120	1760	1100	---	3860	601	193	218	422	300	650
30	942	1120	1720	2600	---	3250	509	189	216	487	292	636
31	1150	---	1440	3250	---	2970	---	199	---	455	296	---
TOTAL	21843	37033	36781	89340	101840	112130	34453	7613	7138	10616	11075	13068
MEAN	705	1234	1186	2882	3637	3617	1148	246	238	342	357	436
MAX	1430	2350	1960	5930	7310	6950	2980	544	359	598	585	941
MIN	284	665	491	451	1160	1520	509	183	176	181	213	252
AC-FT	43330	73450	72960	177200	202000	222400	68340	15100	14160	21060	21970	25920
CAL YR 1978 TOTAL	324626			889	5810	109	AC-FT	643900				
WTR YR 1979 TOTAL	482930			MEAN 1323	MAX 7310	MIN 176	AC-FT	957900				

11290000 TUOLUMNE RIVER AT MODESTO, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD. --

WATER TEMPERATURES: July 1965 to April 1979 (discontinued).

INSTRUMENTATION.--Temperature recorder July 1965 to April 1979.

EXTREMES FOR PERIOD OF DAILY RECORD. --

WATER TEMPERATURES: Maximum recorded, 31.5°C July 15, 1972; minimum recorded, 6.5°C on several days in 1972.

EXTREMES FOR PERIOD. --

WATER TEMPERATURES: Maximum recorded, 19.0°C Oct. 2; minimum recorded, 7.5°C on Dec. 8, 9.

## TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO APRIL 1979

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

[illegible]





## SAN JOAQUIN RIVER BASIN

11292000 MIDDLE FORK STANISLAUS RIVER AT KENNEDY MEADOWS, NEAR DARDANELLE, CA

LOCATION.--Lat 38°17'51", long 119°44'25", in 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.

DRAINAGE AREA.--47.5 mi<sup>2</sup> (123.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1938 to current year. Records for water year 1946 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1960, published as "at Kennedy Meadows."

REVISED RECORDS.--WSP 1315-A: 1939(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 6,326.3 ft (1,928.26 m), revised, National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Relief Reservoir 1.6 mi (2.6 km) upstream, capacity, 15,600 acre-ft (19.2 hm<sup>3</sup>). Contents of Relief Reservoir, 3,640 acre-ft (4.49 hm<sup>3</sup>) Sept. 30, 1978, and 594 acre-ft (732,000 m<sup>3</sup>) Sept. 30, 1979. 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 (unadjusted).--41 years, 132 ft<sup>3</sup>/s (3.738 m<sup>3</sup>/s), 95,630 acre-ft/yr (118 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 1,700 ft<sup>3</sup>/s (48.1 m<sup>3</sup>/s) Nov. 20, 1950, gage height, 6.66 ft (2.030 m); minimum daily recorded, 7.1 ft<sup>3</sup>/s (0.20 m<sup>3</sup>/s) Jan. 14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,080 ft<sup>3</sup>/s (30.6 m<sup>3</sup>/s) May 22, gage height, 5.84 ft (1.780 m); minimum daily, 16 ft<sup>3</sup>/s (0.45 m<sup>3</sup>/s) Feb. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183	25	26	20	21	23	34	144	496	195	189	164
2	31	27	24	20	20	22	34	137	503	174	186	162
3	32	25	25	20	17	22	36	162	535	180	184	160
4	32	25	24	21	16	22	42	200	458	195	182	158
5	37	25	24	20	17	24	51	209	595	211	181	155
6	153	24	20	20	18	28	54	164	694	208	179	153
7	244	24	26	20	19	35	52	134	623	182	177	153
8	236	24	35	20	21	39	58	112	442	158	175	155
9	230	23	27	21	21	40	63	97	395	147	174	153
10	224	23	24	22	21	43	59	92	455	147	172	150
11	215	24	22	110	20	46	59	101	500	146	172	146
12	207	23	22	57	20	46	66	129	564	152	169	143
13	122	23	22	41	24	48	77	173	651	193	174	122
14	43	23	22	36	30	50	95	219	559	239	178	77
15	43	24	21	35	24	50	103	248	418	255	176	55
16	42	23	21	33	23	44	108	268	277	250	174	54
17	42	24	22	31	23	42	93	300	243	241	172	44
18	41	23	23	31	22	39	77	668	191	230	171	18
19	37	22	23	28	23	37	68	807	160	227	169	18
20	27	23	23	29	22	35	65	849	179	222	168	18
21	27	25	22	27	23	35	66	908	266	225	166	18
22	27	24	21	27	24	34	68	908	312	225	164	18
23	26	24	22	26	24	34	65	762	325	217	162	18
24	25	28	22	26	23	34	63	716	320	211	160	18
25	26	27	22	25	22	36	61	720	381	210	159	18
26	25	24	22	25	22	37	83	821	345	209	156	17
27	25	23	22	28	22	39	109	887	314	204	155	17
28	25	22	21	28	22	38	115	832	295	199	154	23
29	25	25	20	26	---	35	128	690	270	194	155	29
30	25	26	20	25	---	34	144	575	247	191	153	29
31	25	---	20	23	---	34	---	502	---	189	155	---
TOTAL	2502	725	710	921	604	1125	2196	13534	12013	6226	5261	2463
MEAN	80.7	24.2	22.9	29.7	21.6	36.3	73.2	437	400	201	170	82.1
MAX	244	28	35	110	30	50	144	908	694	255	189	164
MIN	25	22	20	20	16	22	34	92	160	146	153	17
AC-FT	4960	1440	1410	1830	1200	2230	4360	26840	23830	12350	10440	4890
CAL YR 1978 TOTAL	67979		MEAN 186	MAX 988	MIN 14	AC-FT 134800						
WTR YR 1979 TOTAL	48280		MEAN 132	MAX 908	MIN 16	AC-FT 95760						

## 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 excellent except those for winter months, which are fair. No storage or diversion above station. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--29 years, 147 ft<sup>3</sup>/s (4.163 m<sup>3</sup>/s), 106,500 acre-ft/yr (131 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)
May 4	2215	644 18.2	5.24 1.597	June 4	2115	921 26.1	6.08 1.853
May 21	2145	*1,250 35.4	6.88 2.097	June 12	2115	813 23.0	5.76 1.756

Minimum daily, 23 ft<sup>3</sup>/s (0.65 m<sup>3</sup>/s) Jan. 29, 30, result of freeze-up.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	32	35	35	27	42	77	347	596	197	54	34
2	44	32	33	40	29	41	77	331	605	186	52	33
3	43	31	36	50	29	41	78	409	637	175	51	33
4	42	31	36	60	30	41	91	494	718	159	49	32
5	41	30	36	55	31	45	120	505	749	147	48	31
6	41	29	34	40	32	53	136	413	768	137	47	30
7	40	29	30	30	33	70	119	364	669	128	46	29
8	39	30	26	30	35	83	128	314	540	121	46	29
9	39	29	27	30	36	89	152	278	514	115	45	29
10	38	28	28	30	38	101	139	261	541	112	44	28
11	37	25	30	250	39	110	135	285	561	109	43	28
12	36	39	32	98	41	106	147	345	605	107	43	27
13	36	33	36	42	44	110	190	437	649	105	57	27
14	35	34	39	36	55	105	225	526	535	106	44	26
15	35	43	48	32	55	108	249	605	476	102	43	26
16	35	35	54	34	45	98	259	656	428	97	41	26
17	34	32	55	38	45	90	220	714	388	90	41	26
18	34	30	50	36	43	87	190	775	327	87	40	26
19	33	29	45	33	43	84	173	823	337	84	40	26
20	33	30	30	31	41	80	170	855	345	84	39	26
21	33	32	30	28	39	79	177	965	343	94	39	25
22	33	32	36	30	41	76	190	963	348	95	38	25
23	32	34	40	31	41	75	174	874	303	81	37	25
24	32	33	41	25	41	76	162	831	300	75	36	25
25	32	33	42	25	42	85	159	855	292	72	35	25
26	31	32	44	24	43	91	179	943	278	68	34	25
27	31	33	47	24	41	91	243	951	264	66	34	25
28	31	34	44	24	42	86	269	890	250	63	33	25
29	31	36	40	23	---	80	300	793	232	61	38	25
30	31	36	35	23	---	80	346	691	216	58	39	25
31	32	---	35	25	---	78	---	622	---	56	36	---
TOTAL	1109	966	1174	1320	1101	2481	5274	19115	13814	3237	1312	822
MEAN	35.8	32.2	37.9	42.6	39.3	80.0	176	617	460	104	42.3	27.4
MAX	45	43	55	258	55	110	346	965	768	197	57	34
MIN	31	25	26	23	27	41	77	261	216	56	33	25
AC-FT	2200	1920	2330	2620	2180	4920	10460	37910	27400	6420	2600	1630
CAL YR 1978	TOTAL	66636	MEAN 183	MAX 1010	MIN 25	AC-FT 132200						
WTR YR 1979	TOTAL	51725	MEAN 142	MAX 965	MIN 23	AC-FT 102600						

## 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 complete 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>) June 12, 26, 27, gage height, 4,915.9 ft (1,498.37 m); minimum, 6,100 acre-ft (7.52 hm<sup>3</sup>) Mar. 18, Apr. 25, gage height, 4,741.2 ft (1,445.12 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4720	2150	4780	16200
4725	2850	4790	19100
4730	3730	4800	22100
4735	4730	4820	28400
4740	5830	4850	38700
4750	8220	4880	49800
4760	10800	4917.3	64900
4770	13400		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45200	37700	24100	11600	7800	6400	6220	11400	63900	64000	55700	44300
2	44400	36700	23800	11200	7700	6170	6170	12400	64000	63800	55200	43700
3	43600	36000	23400	10900	7900	6450	6220	14100	64100	63700	54700	43100
4	42700	35100	23000	10600	8120	6730	6400	16400	64000	63500	54800	42400
5	41900	34100	22600	10300	7900	6480	6640	18800	64200	63300	54800	41700
6	41200	33700	21900	10400	7700	6500	6780	20500	64200	63100	54400	41000
7	40700	33200	20600	10400	7480	6640	6710	21600	63700	62900	53900	40400
8	40200	32900	19800	10100	7260	6660	6760	22100	63400	62500	53300	39600
9	40100	32500	19700	9840	7090	6730	6900	22400	63800	62700	52700	38900
10	40000	32000	19600	9510	7070	6900	6690	22600	64200	62800	52100	38200
11	39600	31300	19200	11000	7070	7170	6640	23000	64200	62300	52200	37500
12	39400	30800	18800	11700	6880	7070	6340	23900	64300	62000	52400	36800
13	39000	30300	18400	12300	6830	7000	6400	25700	64100	61800	51800	36100
14	38700	29800	17900	12800	6950	6950	6710	28000	63900	61600	51300	35200
15	38000	29300	17500	12600	6900	6920	7190	30700	64000	61400	50700	34400
16	38200	29000	17100	12300	6780	6730	7680	33700	64100	61300	50200	33500
17	38300	28300	16800	12000	6880	6430	7820	37000	64200	61000	50600	32700
18	38400	27700	16300	11700	7020	6100	7680	41400	64100	60800	51000	31800
19	38600	27000	16000	11300	7090	6260	7410	46300	63900	60500	51400	31000
20	38700	26300	15600	11000	6970	6380	7120	51400	63900	60200	51700	30400
21	38800	25700	15200	10600	6850	6380	6920	57100	64100	59900	51600	29800
22	38900	25300	14800	10300	6830	6360	6830	60100	64200	59700	50700	29800
23	39000	25400	14500	9920	6810	6360	6660	60200	64200	59400	50100	29900
24	39100	25600	14100	9560	6760	6430	6380	60400	64200	59100	49500	29200
25	39200	25700	13700	9180	7020	6500	6100	61300	64200	58700	48900	28500
26	39300	25800	13300	9000	6900	6660	6290	62700	64300	58400	48300	27300
27	39300	25400	13100	8700	6710	6640	7260	63300	64300	58000	47600	26000
28	39400	25100	12800	8920	6550	6520	8100	63500	64200	57600	46900	25400
29	39500	24700	12500	8440	---	6380	9050	63600	64200	57200	46300	25400
30	39200	24400	12200	8000	---	6200	10300	63900	64200	56700	45600	25500
31	38600	---	11800	7900	---	6220	---	63900	---	56200	44900	---
MAX	45200	37700	24100	12800	8120	7170	10300	63900	64300	64000	55700	44300
MIN	38000	24400	11800	7900	6550	6100	6100	11400	63400	56200	44900	25400
†	4849.7	4807.3	4764.0	4748.7	4743.1	4741.7	4758.2	4915.1	4915.6	4896.3	4867.1	4810.9
‡	-7100	-14200	-12600	-3900	-1350	-330	+4080	+53600	+300	-8000	-11300	-19400

CAL YR 1978 † -5300

WTR YR 1979 ‡ -20200

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

## 11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA

LOCATION.--Lat 38°14'49", long 120°01'51", in SW¼NE¼ 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>).

## WATER-DISCHARGE RECORDS

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. 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.--23 years, 242 ft<sup>3</sup>/s (6.853 m<sup>3</sup>/s), 175,300 acre-ft/yr (216 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, 3,300 ft<sup>3</sup>/s (93.5 m<sup>3</sup>/s) May 23, gage height, 9.09 ft (2.771 m); minimum daily, 17 ft<sup>3</sup>/s (0.48 m<sup>3</sup>/s) Nov. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	41	36	20	48	83	195	517	1250	52	43	40
2	40	42	34	21	47	75	194	474	1320	49	42	39
3	39	23	32	22	45	79	196	556	1450	47	41	38
4	39	19	31	23	46	88	212	645	1490	47	41	38
5	39	18	39	25	47	101	247	691	1490	45	40	37
6	38	18	23	24	47	134	286	661	1490	44	42	37
7	38	18	19	23	47	178	265	520	1430	43	41	36
8	38	17	18	29	48	206	280	419	1160	42	41	36
9	37	17	18	31	48	215	303	372	825	39	41	36
10	37	17	18	31	49	231	272	365	562	39	42	36
11	37	20	18	600	49	247	259	396	928	39	40	35
12	36	19	18	311	49	250	265	463	1060	37	38	35
13	36	21	18	150	67	245	319	547	1370	37	37	34
14	36	20	18	111	178	239	355	593	1110	42	36	33
15	36	19	18	94	118	247	386	621	645	42	115	33
16	36	19	18	77	98	228	404	609	372	40	132	33
17	37	19	23	70	85	208	360	614	214	40	130	33
18	41	19	28	66	84	198	296	638	167	39	131	38
19	41	19	25	61	87	187	266	640	122	36	131	38
20	41	21	23	58	82	180	262	619	103	36	53	38
21	41	31	22	57	83	174	274	620	68	39	42	38
22	41	28	22	56	82	169	293	1280	109	41	42	37
23	40	24	22	55	79	164	305	2980	245	39	42	37
24	40	22	22	55	78	171	285	2400	207	38	41	37
25	40	21	22	54	85	188	282	2080	299	36	41	38
26	40	21	22	49	87	203	374	1900	222	36	40	37
27	41	20	22	49	82	229	680	3050	144	36	40	37
28	40	20	22	48	82	226	566	2050	132	36	39	36
29	40	20	21	47	---	207	540	2010	93	34	39	36
30	41	20	20	48	---	202	565	1830	54	36	40	36
31	41	---	20	49	---	195	---	1380	---	43	40	---
TOTAL	1207	653	712	2414	2027	5747	9786	32540	20131	1249	1703	1092
MEAN	38.9	21.8	23.0	77.9	72.4	185	326	1050	671	40.3	54.9	36.4
MAX	41	42	39	600	178	250	680	3050	1490	52	132	40
MIN	36	17	18	20	45	75	194	365	54	34	36	33
AC-FT	2390	1300	1410	4790	4020	11400	19410	64540	39930	2480	3380	2170
CAL YR 1978	TOTAL	139021	MEAN 381	MAX 3140	MIN 17	AC-FT 275700						
WTR YR 1979	TOTAL	79261	MEAN 217	MAX 3050	MIN 17	AC-FT 157200						

## SAN JOAQUIN RIVER BASIN

11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-79.

CHEMICAL ANALYSES: Water year 1977.

WATER TEMPERATURES: October 1965 to December 1978 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to December 1978 (discontinued).

INSTRUMENTATION.--Temperature recorder October 1965 to December 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 1, 1977; minimum recorded, 0.0°C on many days during winter period of most years.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 15.5°C Oct. 1-4; minimum recorded, 0.5°C Dec. 7, 8, 19.

## TEMPERATURE (DEG. C) OF WATER, OCTOBER TO DECEMBER 1978

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

## 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 power-plant 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.

COOPERATION.--Once-daily gage-height readings furnished by Oakdale-South San Joaquin Irrigation District.

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, 97,800 acre-ft (121 hm<sup>3</sup>) June 22, gage height, 3,397.0 ft (1,035.41 m); minimum, 37,100 acre-ft (45.7 hm<sup>3</sup>) Mar. 7-9, gage height, 3,297.9 ft (1,005.20 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88100	68800	61000	57700	53400	40000	39900	66900	97400	97700	96900	91800
2	87900	70000	60500	57900	52900	39500	39900	68200	97400	97700	97000	91800
3	87600	70800	59900	58000	52100	38700	39800	69700	97400	97700	97100	91900
4	87400	71800	59400	58000	51200	37900	39700	71200	97400	97700	96600	92000
5	87100	72900	59000	58100	50800	37600	40100	72900	97400	97700	96000	92100
6	86800	73300	58700	57700	50500	37300	40600	74500	97600	97700	96100	92300
7	86600	73700	59000	57500	49900	37100	41100	76000	97400	97700	96200	92300
8	86400	74200	58900	57600	49500	37100	41800	77200	97300	97700	96200	92500
9	85800	74200	58200	57700	49100	37100	42600	78300	97400	97100	96400	92500
10	85100	73600	57500	58000	48600	37300	43300	79400	97700	96600	96400	92500
11	84800	73200	56900	59600	47900	37500	44000	80500	97500	96700	95800	92500
12	84300	72500	56400	60000	47500	37900	45100	81800	97500	96500	95000	92600
13	83800	72000	55900	59500	47200	38500	46100	83200	97300	96300	95200	92700
14	83200	71400	55700	58900	47200	38900	47300	84700	97400	96200	95300	92700
15	82700	70700	55800	58900	47100	39500	48600	86300	97400	96100	95500	92800
16	81500	70100	55900	58600	46800	39900	49800	87800	97400	96000	95400	93000
17	80300	69700	56100	58500	46300	40200	50900	89100	97500	96100	94500	93000
18	79200	69100	56400	58300	45700	40600	51900	89600	97400	96200	93700	92900
19	78200	68700	56600	58000	45200	40400	52800	90100	97500	96200	92700	92600
20	77200	68400	56700	57700	44900	40100	53600	90400	97600	96200	91800	92400
21	76100	68100	56800	57200	44500	40000	54600	90800	97700	96300	91300	92200
22	74900	67700	56900	56900	44000	39800	55500	92400	97800	96400	91600	91300
23	73700	66600	57100	56600	43400	39600	56500	95100	97700	96400	91600	90600
24	72600	65400	57200	56400	42700	39500	57500	96500	97700	96400	91700	90400
25	71400	64300	57300	56200	41800	39300	58400	97400	97700	96500	91600	90200
26	70200	63400	57500	55800	41300	39300	59500	97700	97700	96500	91600	90600
27	69100	62900	57500	55500	40900	39600	61100	97600	97600	96600	91600	91100
28	67900	62500	57600	54800	40400	39800	62600	97300	97600	96700	91600	90900
29	66700	62000	57600	54500	---	39900	64000	97300	97700	96700	91700	90100
30	67100	61400	57600	54300	---	40100	65500	97400	97700	96700	91700	89200
31	67800	---	57700	53800	---	39900	---	97500	---	96800	91800	---
MAX	88100	74200	61000	60000	53400	40600	65500	97700	97800	97700	97100	93000
MIN	66700	61400	55700	53800	40400	37100	39700	66900	97300	96000	91300	89200
†	3352.3	3341.9	3335.6	3328.9	3304.4	3303.5	3348.6	3396.6	3396.9	3396.6	3388.5	3384.8
‡	-20500	-6400	-3700	-3900	-13400	-500	+25600	+32000	+200	-900	-5000	-2600

CAL YR 1978 † +48610

WTR YR 1979 ‡ +900

† Gage height, in feet, at end of month.

‡ 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.--22 years (water years 1958-79), 603 ft<sup>3</sup>/s (17.08 m<sup>3</sup>/s), 436,900 acre-ft/yr (539 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, 4,230 ft<sup>3</sup>/s (120 m<sup>3</sup>/s) May 27, gage height, 9.63 ft (2.935 m); minimum daily, 22 ft<sup>3</sup>/s (0.62 m<sup>3</sup>/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	653	35	520	198	458	549	557	627	2060	661	476	481
2	653	26	520	198	454	545	557	630	1970	660	475	476
3	653	25	520	196	454	545	551	632	2020	623	477	478
4	653	22	520	196	454	543	498	635	2100	607	477	478
5	653	27	519	194	450	542	553	635	2180	608	479	478
6	653	27	520	189	450	543	549	635	2310	597	478	457
7	653	43	520	189	454	549	549	652	2440	590	479	476
8	653	38	521	191	454	557	550	651	1890	587	477	506
9	653	178	522	198	458	556	553	653	1210	590	477	505
10	653	536	520	196	458	559	557	653	1170	582	477	505
11	650	576	520	279	458	558	559	652	1680	605	474	505
12	589	553	520	450	454	556	475	652	1710	589	474	505
13	648	548	520	424	458	557	570	656	2290	589	476	505
14	647	548	389	420	454	556	566	657	1740	591	475	496
15	645	548	206	458	458	567	567	662	1330	590	478	466
16	644	545	200	493	465	566	580	662	1130	548	479	462
17	641	543	201	477	458	559	588	773	881	487	477	512
18	639	544	213	481	458	562	587	1100	919	479	475	520
19	506	544	212	485	462	558	589	1200	750	508	477	517
20	483	542	203	578	458	556	591	1210	727	515	503	464
21	622	540	196	595	529	553	591	1220	706	512	515	462
22	619	498	191	566	562	553	591	1340	766	484	516	455
23	625	496	191	485	557	551	596	2270	968	485	517	457
24	625	496	202	469	553	549	602	2360	984	485	518	458
25	622	476	202	458	553	549	600	2440	966	486	519	458
26	619	423	194	462	553	549	607	2670	952	486	521	454
27	616	424	180	443	549	566	616	3240	916	483	520	448
28	615	461	191	454	549	568	612	3490	821	478	516	458
29	610	506	194	458	---	562	620	2780	683	478	516	454
30	122	520	196	454	---	560	622	2250	661	477	515	454
31	51	---	200	446	---	559	---	1980	---	477	519	---
TOTAL	18368	11288	10523	11780	13532	17201	17203	40667	40910	16937	15252	14350
MEAN	593	376	339	380	483	556	573	1312	1364	546	492	478
MAX	653	576	522	595	562	568	622	3490	2440	661	521	520
MIN	51	22	180	189	450	542	475	627	661	477	474	448
AC-FT	36430	22390	20870	23370	26840	34120	34120	80660	81140	33590	30250	28460

CAL YR 1978 TOTAL 286321 MEAN 784 MAX 3590 MIN 22 AC-FT 567900  
WTR YR 1979 TOTAL 228011 MEAN 625 MAX 3490 MIN 22 AC-FT 452300



## 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) north-east 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.--27 years, 76.5 ft<sup>3</sup>/s (2.166 m<sup>3</sup>/s), 55,420 acre-ft/yr (68.3 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 (8.5 m<sup>3</sup>/s) and maximum (\*):

		Discharge		Gage height				Discharge		Gage height	
Date	Time	(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)	Date	Time	(ft <sup>3</sup> /s)	(m <sup>3</sup> /s)	(ft)	(m)
Jan. 11	1500	813	23.0	7.10	2.164	May 18	2215	1,050	29.7	7.43	2.265
May 4	2100	756	21.4	7.01	2.137	May 21	2300	*1,280	36.2	7.69	2.344
May 13	2300	826	23.4	7.12	2.170	May 26	2315	820	23.2	7.11	2.167
May 15	2230	990	28.0	7.35	2.240						

Minimum daily discharge, 4.5 ft<sup>3</sup>/s (0.13 m<sup>3</sup>/s) Oct. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	5.0	17	7.5	13	16	23	297	248	16	5.7	17
2	65	5.1	16	7.3	13	15	24	268	247	14	5.7	17
3	65	4.9	15	7.3	13	15	27	430	261	13	5.7	17
4	65	4.9	16	7.4	12	17	39	538	282	12	5.7	21
5	64	4.9	20	7.7	12	20	61	547	268	11	5.7	25
6	64	4.8	15	7.7	12	25	67	415	264	9.5	8.3	25
7	64	4.8	14	7.6	12	36	89	296	219	8.5	16	25
8	64	4.8	13	8.1	12	44	134	199	139	7.7	16	25
9	50	5.0	13	8.4	13	45	166	153	126	7.1	16	25
10	38	14	13	10	15	50	130	155	139	6.5	16	25
11	38	25	13	309	15	52	113	218	146	6.2	16	25
12	38	25	13	93	15	48	118	346	146	5.9	16	25
13	31	25	13	39	15	46	189	525	143	5.8	16	25
14	25	34	13	27	39	39	233	625	116	5.6	16	25
15	25	45	13	22	20	37	257	671	84	5.6	16	25
16	18	44	13	20	16	28	259	649	68	5.6	16	25
17	4.9	43	14	18	15	24	176	669	58	6.2	16	25
18	4.9	42	14	17	15	23	108	726	48	6.2	16	25
19	4.8	41	15	16	15	21	91	716	41	6.2	16	25
20	4.6	36	14	14	15	21	108	679	41	6.2	16	25
21	4.5	44	15	14	18	21	149	779	42	7.2	16	25
22	4.5	42	15	15	17	20	165	685	41	6.5	16	25
23	8.2	40	16	14	19	21	139	510	38	6.2	16	25
24	14	37	16	15	19	28	104	456	37	6.1	16	25
25	14	32	17	14	18	40	98	478	35	6.1	17	25
26	14	27	17	13	17	41	195	549	31	6.1	17	25
27	11	22	17	13	16	29	388	543	28	6.1	17	25
28	5.0	14	16	13	16	24	334	443	25	6.1	17	25
29	5.0	16	13	12	---	21	322	350	22	6.1	17	25
30	4.9	16	8.0	13	---	21	362	269	19	5.8	17	25
31	5.0	---	7.8	13	---	21	---	232	---	5.6	17	---
TOTAL	889.3	708.2	444.8	803.0	447	909	4668	14416	3402	232.9	443.8	722
MEAN	28.7	23.6	14.3	25.9	16.0	29.3	156	465	113	7.51	14.3	24.1
MAX	66	45	20	309	39	52	388	779	282	16	17	25
MIN	4.5	4.8	7.8	7.3	12	15	23	153	19	5.6	5.7	17
AC-FT	1760	1400	882	1590	887	1800	9260	28590	6750	462	880	1430
CAL YR 1978	TOTAL	41031.5	MEAN	112	MAX	932	MIN	4.4	AC-FT	81390		
WTR YR 1979	TOTAL	28086.0	MEAN	76.9	MAX	779	MIN	4.5	AC-FT	55710		

## SAN JOAQUIN RIVER BASIN

## 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.

REVISÉD 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.--27 years, 119 ft<sup>3</sup>/s (3.370 m<sup>3</sup>/s), 86,220 acre-ft/yr (106 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 Sept. 28 to Dec. 1, Dec. 4-6, 1964, Sept. 17, Oct. 4, 21-24, 1972.

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 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. 15	2215	500	14.2	4.86	1.481	May 21	2200	*1,710	48.4	6.88	2.097
Apr. 27	1945	695	19.7	5.29	1.612	May 26	2200	1,140	32.3	6.10	1.859
May 4	2115	1,160	32.9	6.14	1.871	June 4	2215	626	17.7	5.15	1.570
May 17	2200	1,280	36.2	6.31	1.923						

Minimum daily discharge, 0.81 ft<sup>3</sup>/s (0.023 m<sup>3</sup>/s) Jan. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	29	3.1	1.5	27	34	71	503	423	57	30	12
2	19	28	3.2	1.5	24	31	77	481	426	52	30	12
3	18	28	3.3	1.5	23	31	89	632	445	48	27	12
4	18	27	3.3	1.5	22	31	131	764	486	45	24	12
5	18	14	3.3	1.5	22	32	204	760	483	43	24	12
6	18	3.1	3.3	1.5	23	56	222	575	487	38	18	12
7	19	3.1	3.3	1.5	22	98	172	436	405	35	10	12
8	19	3.1	9.6	1.5	23	126	212	333	308	31	10	12
9	29	3.2	18	1.5	24	135	238	277	281	28	10	12
10	37	3.1	18	.81	26	156	191	270	299	37	10	12
11	36	3.1	18	1.5	26	175	178	304	310	38	10	12
12	36	3.0	17	1.3	27	165	212	455	321	36	10	12
13	36	2.9	17	1.3	42	171	313	625	324	38	10	12
14	36	2.9	18	2.0	93	146	360	734	269	41	10	12
15	35	2.9	18	3.4	52	149	392	807	217	41	10	12
16	35	3.0	17	4.0	44	109	398	826	186	42	10	12
17	35	3.0	17	6.1	40	94	307	858	163	45	10	12
18	35	3.0	17	40	36	84	224	912	130	45	10	12
19	34	3.0	17	38	36	75	195	927	122	45	10	12
20	34	3.0	17	35	35	71	207	908	130	45	11	12
21	34	3.0	17	34	39	70	244	1030	129	45	12	12
22	33	3.0	17	32	35	64	285	952	122	44	12	12
23	33	3.0	17	33	36	68	253	777	120	44	12	11
24	33	3.0	17	34	32	83	215	706	120	43	12	11
25	32	3.0	17	34	32	108	211	730	113	43	12	11
26	32	3.0	17	27	32	119	344	809	99	43	12	11
27	32	3.0	17	27	31	115	569	784	89	42	12	11
28	31	3.0	17	31	32	91	490	684	82	42	12	11
29	31	3.0	8.2	25	---	72	501	573	73	41	12	11
30	30	3.1	1.4	28	---	68	558	477	66	36	12	11
31	30	---	1.4	30	---	66	---	426	---	30	12	---
TOTAL	917	201.5	388.4	481.91	936	2893	8063	20335	7228	1283	426	352
MEAN	29.6	6.72	12.5	15.5	33.4	93.3	269	656	241	41.4	13.7	11.7
MAX	37	29	18	40	93	175	569	1030	487	57	30	12
MIN	18	2.9	1.4	.81	22	31	71	270	66	28	10	11
AC-FT	1820	400	770	956	1860	5740	15990	40330	14340	2540	845	698
CAL YR 1978	TOTAL	57197.40	MEAN	157	MAX	955	MIN	1.2	AC-FT	113500		
WTR YR 1979	TOTAL	43504.81	MEAN	119	MAX	1030	MIN	.81	AC-FT	86290		

## 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.--62 years, 413 ft<sup>3</sup>/s (11.70 m<sup>3</sup>/s), 299,200 acre-ft/yr (369 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 (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)
Jan. 11	1715	3,500 99.1	7.23 2.204	May 22	0215	*4,140 117	7.63 2.326
May 5	0115	3,390 96.0	7.15 2.179	May 27	0215	2,680 75.9	6.62 2.018
May 18	0115	3,580 101	7.28 2.219				

Minimum daily discharge, 18 ft<sup>3</sup>/s (0.51 m<sup>3</sup>/s) Nov. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	43	68	29	117	194	325	1640	1130	116	56	35
2	95	46	56	29	109	169	375	1600	1110	106	55	35
3	94	44	38	27	102	168	430	2000	1110	101	54	35
4	93	42	37	27	101	198	520	2610	1150	97	51	35
5	93	41	38	28	102	242	670	2800	1160	92	47	36
6	93	39	37	29	103	357	920	2200	1120	90	45	42
7	92	25	31	29	105	506	760	1750	1000	92	45	42
8	92	20	30	41	106	637	860	1400	742	86	39	41
9	91	19	33	52	109	658	980	1090	610	80	38	41
10	86	18	40	47	118	736	860	1050	607	75	38	41
11	87	23	48	1600	120	824	790	1250	624	82	38	40
12	87	40	45	920	121	795	870	1600	613	82	38	39
13	86	47	44	357	211	794	1090	2000	621	78	38	39
14	76	42	42	250	628	711	1240	2300	542	77	38	39
15	70	45	41	193	370	762	1390	2650	437	79	37	38
16	70	67	39	157	278	623	1480	2690	370	77	37	38
17	64	63	51	143	221	421	1240	2650	330	78	36	38
18	50	60	55	136	210	360	902	2860	289	80	36	38
19	49	59	51	158	211	330	746	2850	251	79	35	38
20	48	65	48	151	195	310	769	2830	244	79	35	38
21	47	87	50	147	202	300	871	2920	237	85	36	38
22	47	80	51	142	195	285	985	2910	230	90	38	38
23	45	70	52	137	181	330	910	2340	219	82	38	38
24	46	63	52	140	170	375	880	2100	212	78	37	38
25	53	58	55	139	178	450	840	2050	211	75	36	39
26	53	54	56	119	189	515	1210	2190	190	73	40	39
27	52	50	56	114	176	500	1990	2200	170	72	36	39
28	51	47	54	111	177	360	1600	1940	153	71	36	38
29	43	38	52	111	---	320	1670	1650	139	70	36	37
30	42	46	45	112	---	295	1700	1350	126	69	38	38
31	43	---	30	113	---	285	---	1160	---	64	36	---
TOTAL	2133	1441	1425	5788	5105	13810	29873	64630	15947	2555	1243	1150
MEAN	68.8	48.0	46.0	187	182	445	996	2085	532	82.4	40.1	38.3
MAX	95	87	68	1600	628	824	1990	2920	1160	116	56	42
MIN	42	18	30	27	101	168	325	1050	126	64	35	35
AC-FT	4230	2860	2830	11480	10130	27390	59250	128200	31630	5070	2470	2280

CAL YR 1978	TOTAL	210902	MEAN 578	MAX 3430	MIN 18	AC-FT 418300
WTR YR 1979	TOTAL	145100	MEAN 398	MAX 2920	MIN 18	AC-FT 287800

## SAN JOAQUIN RIVER BASIN

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.

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. Many diversions above station for hydroelectric 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: 12 years, 767 ft<sup>3</sup>/s (21.72 m<sup>3</sup>/s), 555,700 acre-ft/yr (685 hm<sup>3</sup>/yr); Combined river and powerplant: 12 years, 1,226 ft<sup>3</sup>/s (34.72 m<sup>3</sup>/s), 888,200 acre-ft/yr (1.10 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 17,300 ft<sup>3</sup>/s (490 m<sup>3</sup>/s) Jan. 21, 1970, gage height, 17.98 ft (5.480 m) recorded, 18.6 ft (5.67 m) from floodmarks; minimum daily, 9.4 ft<sup>3</sup>/s (0.27 m<sup>3</sup>/s) Aug. 7, 1977.  
Combined flow, maximum discharge, 17,900 ft<sup>3</sup>/s (507 m<sup>3</sup>/s) Jan. 21, 1970; 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, 6,920 ft<sup>3</sup>/s (196 m<sup>3</sup>/s) Jan. 11, gage height, 14.00 ft (4.267 m); minimum daily, 32 ft<sup>3</sup>/s (0.91 m<sup>3</sup>/s) Dec. 16.  
Combined flow, maximum discharge, 7,360 ft<sup>3</sup>/s (208 m<sup>3</sup>/s) Jan. 11; minimum daily, 44 ft<sup>3</sup>/s (1.25 m<sup>3</sup>/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

*REVISED IN '80 WY REPORT: OK OCT 1 TO JULY 16*

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	216	118	91	38	135	697	947	2690	2790	294	38	51
2	223	94	107	40	130	578	953	2120	2660	280	36	37
3	223	68	67	40	118	536	959	2760	2700	256	35	35
4	226	44	62	39	123	544	1020	3290	2750	198	37	36
5	221	50	63	41	123	583	1240	3520	2900	198	34	36
6	221	56	63	42	121	711	1530	3310	2940	186	36	39
7	221	77	56	42	125	941	1320	2590	2970	155	36	35
8	221	49	55	76	125	1130	1440	2060	2240	148	37	62
9	223	45	56	118	144	1170	1670	1700	1440	142	36	76
10	221	95	65	78	161	1250	1440	1610	1290	140	35	76
11	212	188	61	3310	138	1410	1330	1730	1750	148	35	78
12	172	178	61	1650	138	1380	1260	2180	1840	139	34	79
13	186	183	64	657	230	1370	1650	2780	2190	138	34	79
14	203	179	63	492	1180	1260	1930	3230	1890	138	36	79
15	213	182	48	454	716	1460	2060	3390	1370	139	35	61
16	196	176	32	341	570	1380	2200	3510	1010	136	37	42
17	203	133	43	289	422	1060	1930	3370	805	69	38	38
18	230	125	89	258	394	982	1480	4110	776	52	37	34
19	264	125	74	226	467	884	1260	4140	556	73	35	34
20	145	125	58	273	452	829	1220	4150	532	60	35	46
21	147	165	82	318	706	787	1250	4150	486	74	36	39
22	171	160	49	298	771	777	1470	4250	481	82	33	39
23	173	101	45	212	731	731	1480	4540	700	59	33	36
24	177	111	45	179	631	761	1290	4320	711	51	34	36
25	176	107	45	190	574	845	1280	4230	704	49	34	36
26	175	72	47	142	600	980	1580	4600	683	48	37	34
27	171	38	48	135	536	1460	3280	5210	616	47	39	34
28	173	34	50	125	511	1590	2830	5390	557	40	37	33
29	168	35	47	109	---	1220	2600	4280	367	40	35	33
30	121	35	41	123	---	1080	2720	3310	308	39	34	35
31	60	---	40	131	---	976	---	2820	---	38	34	---
TOTAL	5952	3148	1817	10466	11072	31370	48619	105340	43012	3656	1102	1408
MEAN	192	105	58.6	338	395	1012	1621	3398	1434	118	35.5	46.9
MAX	264	188	107	3310	1180	1590	3280	5390	2970	294	39	79
MIN	60	34	32	38	118	536	947	1610	308	38	33	33
AC-FT	11810	6240	3600	20760	21960	62220	96440	208900	85310	7250	2190	2790
CAL YR 1978 TOTAL	433321			MEAN 1187	MAX 6070	MIN 32	AC-FT 859500					
WTR YR 1979 TOTAL	266962			MEAN 731	MAX 5390	MIN 32	AC-FT 529500					

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## 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 1978 TO SEPTEMBER 1979

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	750	118	630	308	665	1230	1480	3240	3330	837	580	592
2	712	94	645	310	663	1110	1490	2670	3200	824	578	578
3	757	68	603	307	648	1070	1500	3310	3240	800	577	576
4	761	44	597	297	652	1080	1560	3840	3290	742	579	577
5	756	50	598	282	654	1120	1780	4070	3440	742	576	576
6	757	56	597	307	651	1248	2070	3860	3480	730	577	580
7	756	77	589	304	657	1470	1860	3140	3510	699	578	576
8	756	159	587	345	657	1660	1980	2610	2780	692	579	603
9	759	205	587	393	677	1700	2210	2250	1980	686	578	617
10	756	635	597	354	695	1780	1980	2160	1830	684	577	617
11	747	729	593	3750	673	1940	1870	2280	2290	692	577	619
12	709	717	592	2190	673	1910	1800	2730	2380	683	576	620
13	731	721	595	1200	764	1900	2190	3330	2730	682	576	620
14	746	716	572	1010	1710	1790	2470	3780	2430	682	577	620
15	753	718	282	986	1250	1990	2600	3940	1910	683	577	601
16	734	711	263	883	1100	1910	2740	4060	1550	680	578	582
17	742	667	291	828	955	1590	2470	3920	1350	613	580	578
18	739	659	380	796	927	1520	2020	4660	1320	595	579	574
19	659	658	365	762	1000	1420	1800	4690	1100	617	576	575
20	555	658	331	809	985	1360	1760	4700	1070	604	576	587
21	692	698	352	853	1240	1320	1790	4700	1030	618	577	579
22	713	692	296	833	1300	1310	2010	4800	1020	625	575	579
23	713	633	306	746	1260	1270	2020	5090	1240	602	574	576
24	716	643	322	713	1160	1300	1830	4860	1250	594	575	576
25	715	639	325	723	1110	1380	1820	4770	1250	592	575	576
26	712	601	314	674	1130	1520	2120	5140	1230	590	578	574
27	707	567	313	665	1070	2000	3820	5750	1160	589	580	573
28	709	559	313	656	1040	2130	3370	5930	1100	582	579	573
29	704	567	312	639	---	1760	3150	4820	910	582	576	573
30	385	576	308	654	---	1620	3270	3850	851	581	575	575
31	60	---	310	660	---	1510	---	3360	---	580	575	---
TOTAL	21461	14635	13765	24237	25966	47910	64830	122310	59251	20508	17890	17622
MEAN	692	488	444	782	927	1545	2161	3945	1975	661	577	587
MAX	761	729	645	3750	1710	2130	3820	5930	3510	837	580	620
MIN	60	44	263	282	648	1070	1480	2160	851	580	574	573
AC-FT	42570	29030	27300	48070	51500	95030	128600	242600	117500	40670	35480	34950
CAL YR 1978	TOTAL	598182	MEAN	1639	MAX	6610	MIN	44	AC-FT	1186000		
WTR YR 1979	TOTAL	450379	MEAN	1234	MAX	5930	MIN	44	AC-FT	893300		

## SAN JOAQUIN RIVER BASIN

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 September 1979.

INSTRUMENTATION.--Temperature recorder February 1970 to March 1978 October 1978 to September 1979.

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, 20.0°C July 17; minimum recorded, 3.0°C Jan. 29, 30.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	14.0	12.0	11.0	11.0	10.5	5.5	5.0	5.0	4.5	6.0	4.5
2	15.5	13.5	12.0	11.0	10.5	9.0	6.0	5.0	5.0	4.0	6.0	4.5
3	15.0	13.5	12.0	10.5	10.0	8.5	6.5	5.0	5.0	4.0	7.5	6.0
4	15.5	14.0	12.0	10.0	10.5	8.5	7.0	6.0	5.0	4.0	7.5	6.0
5	15.5	13.5	12.0	10.0	10.5	9.5	7.0	6.5	5.5	4.0	8.0	6.0
6	15.0	13.5	12.0	10.0	9.5	8.0	7.0	6.5	5.5	5.0	8.5	6.5
7	15.0	13.5	12.0	10.5	9.0	7.0	6.5	6.5	5.5	5.0	8.5	6.5
8	14.5	13.5	12.5	11.0	8.5	6.5	7.0	6.5	5.5	4.5	8.0	6.5
9	14.5	13.5	11.5	10.0	9.0	7.0	6.5	6.0	5.5	5.0	8.0	6.0
10	14.5	13.5	12.0	10.5	9.0	6.5	7.0	6.0	5.5	5.5	8.0	6.5
11	15.0	13.5	12.0	11.0	9.0	7.0	7.5	4.5	5.5	5.5	8.0	6.5
12	14.0	13.0	11.5	10.0	9.0	7.5	6.0	5.0	6.0	5.5	8.5	6.0
13	14.5	13.0	11.5	10.0	9.0	8.0	5.5	5.0	6.5	6.0	8.0	6.5
14	14.5	13.5	11.5	10.5	9.0	8.0	6.0	5.0	6.5	4.5	8.0	6.5
15	14.5	13.5	11.0	10.0	9.0	7.5	6.0	5.0	5.0	4.0	7.5	6.0
16	14.0	13.0	12.0	10.5	8.5	7.5	5.5	5.0	5.5	5.0	6.0	5.0
17	14.0	13.0	12.0	11.5	8.0	7.5	5.5	5.0	5.0	4.0	6.5	5.0
18	14.0	13.0	12.0	11.0	8.0	6.5	5.5	5.0	5.0	5.0	6.5	6.0
19	14.5	13.5	12.0	11.0	7.0	6.0	5.5	5.0	6.0	5.0	7.0	5.5
20	14.5	13.0	12.0	11.5	7.0	5.5	5.5	5.0	5.5	5.0	7.5	6.5
21	13.5	13.0	12.0	11.0	6.5	5.0	6.0	5.0	5.5	4.5	8.0	6.5
22	13.5	13.0	11.5	10.5	7.0	5.5	6.0	5.5	5.0	4.5	8.0	7.0
23	13.5	13.0	11.5	10.5	6.5	5.5	5.5	5.0	6.0	4.5	8.0	6.0
24	13.5	12.5	11.0	10.0	6.5	5.5	5.5	5.0	6.0	5.0	9.0	7.0
25	13.5	13.0	11.0	10.5	6.5	6.0	5.5	5.0	6.5	5.5	8.5	7.5
26	13.5	13.0	11.0	9.5	6.5	6.0	5.0	4.5	6.5	6.0	8.5	7.5
27	13.5	13.0	11.0	10.0	7.0	6.0	5.0	3.5	6.5	5.0	8.0	6.0
28	13.5	13.0	11.0	10.5	7.0	6.0	5.0	4.0	6.5	5.5	7.0	6.0
29	13.5	13.0	11.5	10.5	6.5	6.0	4.5	3.0	---	---	7.5	6.0
30	13.0	11.0	11.5	10.5	6.0	5.0	5.0	3.0	---	---	8.5	7.0
31	12.0	11.0	---	---	5.5	5.0	5.0	4.0	---	---	8.5	6.5
MONTH	16.0	11.0	12.5	9.5	11.0	5.0	7.5	3.0	6.5	4.0	9.0	4.5

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

## SAN JOAQUIN RIVER BASIN

11296500 SOUTH FORK STANISLAUS RIVER AT STRAWBERRY, CA

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.

DRAINAGE AREA.--44.8 mi<sup>2</sup> (116.0 km<sup>2</sup>).

PERIOD OF RECORD.--October 1911 to January 1917, August 1938 to current year. Monthly discharge only for October 1913 and yearly estimates for 1912-13, published in WSP 1315-A. Published as "near Confidence" 1911-13.

REVISED RECORDS.--WSP 1215: 1945(M). WSP 1515: 1916, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 5,235.1 ft (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.

REMARKS.--Flow at low and medium stages regulated beginning in 1916 by Pinecrest Lake 1.2 mi (1.9 km) upstream, capacity, 18,300 acre-ft (22.6 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.--46 years, (water years 1912-16, 1939-79), 126 ft<sup>3</sup>/s (3.568 m<sup>3</sup>/s), 91,290 acre-ft/yr (113 hm<sup>3</sup>/yr).

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.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,320 ft<sup>3</sup>/s (37.4 m<sup>3</sup>/s) May 21, gage height, 5.71 ft (1.740 m); minimum daily, 6.8 ft<sup>3</sup>/s (0.19 m<sup>3</sup>/s) Nov. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	63	96	36	50	49	50	66	201	601	68	44	43
2	63	51	35	50	49	48	66	182	526	59	43	43
3	63	7.0	34	51	48	47	68	236	521	54	43	43
4	63	6.8	34	51	49	49	73	285	629	50	43	43
5	62	6.8	34	49	48	49	88	294	662	46	43	43
6	62	6.8	34	51	49	51	94	238	684	41	44	59
7	62	23	33	52	48	56	85	191	621	41	44	65
8	62	60	33	49	48	61	90	162	439	41	44	65
9	64	61	33	50	48	63	102	144	353	43	44	64
10	65	61	34	50	49	68	94	139	368	47	43	63
11	64	61	33	154	48	73	90	152	414	46	43	63
12	64	62	33	146	47	76	90	192	447	45	45	63
13	63	61	33	75	53	78	111	443	468	44	44	63
14	63	76	33	43	62	81	131	662	410	43	44	63
15	63	77	37	36	54	78	145	742	302	43	44	62
16	86	43	46	44	53	75	146	808	228	44	45	62
17	99	34	78	57	51	70	128	857	185	43	45	62
18	101	33	82	58	52	67	110	934	137	43	45	62
19	102	33	82	56	52	66	101	982	122	43	45	62
20	101	34	82	56	51	64	99	996	160	43	44	61
21	101	35	81	55	52	63	103	1050	174	44	44	63
22	101	34	71	54	51	62	113	1030	171	47	44	63
23	101	34	53	54	51	62	110	882	171	44	44	63
24	99	36	53	54	50	62	101	830	163	43	44	63
25	99	34	53	53	49	64	99	795	157	42	44	63
26	99	32	53	50	49	67	127	909	140	44	44	75
27	98	33	52	50	49	70	191	963	113	44	44	101
28	98	33	53	50	49	68	185	879	100	43	43	101
29	98	33	52	49	---	68	193	777	88	43	43	100
30	98	34	51	49	---	67	210	644	78	43	43	99
31	97	---	50	49	---	65	---	582	---	44	43	---
TOTAL	2524	1231.4	1501	1795	1408	1988	3409	18181	9632	1408	1359	1945
MEAN	81.4	41.0	48.4	57.9	50.3	64.1	114	586	321	45.4	43.8	64.8
MAX	102	96	82	154	62	81	210	1050	684	68	45	101
MIN	62	6.8	33	36	47	47	66	139	78	41	43	43
AC-FT	5010	2440	2980	3560	2790	3940	6760	36060	19110	2790	2700	3860
CAL YR 1978	TOTAL	65346.4	MEAN 179	MAX 1040	MIN 6.8	AC-FT 129600						
WTR YR 1979	TOTAL	46381.4	MEAN 127	MAX 1050	MIN 6.8	AC-FT 92000						



## 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.--40 years, 42.1 ft<sup>3</sup>/s (1.192 m<sup>3</sup>/s), 30,500 acre-ft/yr (37.6 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; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	60	1.5	47	50	53	58	58	60	59	42	40
2	59	38	1.5	47	50	53	58	57	59	59	41	40
3	59	2.1	1.4	44	50	53	59	58	59	52	41	40
4	59	2.0	1.4	50	50	54	57	58	61	48	40	40
5	59	2.0	1.4	50	50	54	56	58	61	46	40	43
6	60	2.0	1.4	50	50	55	55	58	62	41	41	59
7	60	13	1.4	50	50	56	56	58	61	39	41	59
8	60	60	1.4	50	50	56	56	58	58	39	41	59
9	60	60	1.4	50	51	57	54	57	59	39	41	59
10	60	60	1.3	50	50	57	54	58	61	40	41	60
11	60	60	1.3	52	50	57	54	59	61	40	41	61
12	49	60	1.3	53	54	58	55	59	61	40	41	61
13	60	60	1.3	50	58	58	55	61	61	40	42	61
14	60	60	1.3	50	55	57	56	62	60	40	42	61
15	60	40	6.1	44	55	57	55	59	59	40	42	60
16	60	.68	22	47	59	57	55	59	59	40	42	58
17	60	.68	50	50	60	57	55	60	59	40	42	3.4
18	60	.68	50	50	60	57	54	61	59	40	42	3.5
19	60	.68	50	49	59	56	54	60	59	40	42	18
20	60	.68	42	49	55	56	55	61	61	40	13	58
21	60	.68	35	49	54	56	55	60	61	41	0	60
22	60	.68	47	49	54	56	56	59	59	43	0	60
23	60	.68	47	49	54	57	55	58	60	42	0	60
24	60	3.2	47	49	54	57	55	54	60	42	1.6	60
25	60	3.4	47	49	54	57	53	60	60	42	5.2	59
26	60	1.5	47	49	53	59	56	62	60	42	4.1	60
27	60	1.5	47	50	54	58	58	62	59	42	1.1	60
28	60	1.5	47	50	54	54	57	60	60	42	0	60
29	60	1.5	47	48	---	55	58	59	59	42	0	60
30	28	1.5	47	49	---	56	58	58	59	42	1.2	60
31	60	---	47	50	---	56	---	59	---	42	22	---
TOTAL	1812	598.64	744.4	1523	1497	1739	1672	1830	1797	1324	833.2	1542.9
MEAN	58.5	20.0	24.0	49.1	53.5	56.1	55.7	59.0	59.9	42.7	26.9	51.4
MAX	60	60	50	53	60	59	59	62	62	59	42	61
MIN	28	.68	1.3	44	50	53	53	54	58	39	0	3.4
AC-FT	3590	1190	1480	3020	2970	3450	3320	3630	3560	2630	1650	3060

CAL YR 1978 TOTAL 17741.39 MEAN 48.6 MAX 62 MIN 0 AC-FT 35190  
WTR YR 1979 TOTAL 16913.14 MEAN 46.3 MAX 62 MIN 0 AC-FT 33550

## SAN JOAQUIN RIVER BASIN

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.--42 years, 27.6 ft<sup>3</sup>/s (0.782 m<sup>3</sup>/s), 20,000 acre-ft/yr (24.7 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	17	36	27	30	38	38	40	45	49	41	39
2	30	7.5	36	27	30	38	38	41	45	49	41	39
3	30	19	36	27	29	38	38	40	46	48	44	38
4	30	41	36	23	30	38	38	40	46	36	46	38
5	30	41	36	21	30	38	38	42	45	48	45	38
6	30	38	25	21	30	38	38	50	45	47	45	38
7	30	35	16	21	30	39	37	45	45	46	45	38
8	30	34	21	21	30	39	38	40	45	45	45	37
9	30	35	21	21	30	40	38	40	44	42	45	37
10	29	34	21	21	30	40	38	41	45	31	44	37
11	29	34	21	23	30	41	38	42	45	31	44	37
12	29	34	21	25	29	39	38	42	45	33	44	37
13	30	34	21	25	30	45	38	43	45	34	44	37
14	30	35	21	28	32	49	38	47	45	34	43	37
15	30	35	21	31	32	38	38	52	45	35	45	36
16	29	35	20	31	33	38	38	53	46	36	46	36
17	29	35	20	31	33	38	38	54	49	36	45	36
18	33	35	24	31	33	37	38	53	48	39	45	38
19	36	35	36	31	33	38	39	54	49	39	45	38
20	36	35	36	31	35	38	39	55	50	39	44	38
21	36	35	36	31	37	38	39	54	50	40	45	37
22	36	36	36	31	37	38	42	51	49	41	45	37
23	2.5	36	36	31	37	38	45	51	48	41	44	37
24	0	36	36	31	37	38	38	52	48	40	42	36
25	20	36	36	30	37	38	38	48	48	40	41	36
26	6.4	36	35	30	37	38	38	50	45	40	41	35
27	20	36	35	30	37	38	38	49	47	41	41	36
28	42	36	35	29	37	38	40	47	47	41	40	37
29	42	36	32	29	---	38	41	48	49	41	39	37
30	6.1	36	27	29	---	38	40	47	50	41	39	37
31	5.1	---	27	30	---	38	---	45	---	41	39	---
TOTAL	825.1	1007.5	896	848	915	1205	1160	1456	1399	1244	1342	1114
MEAN	26.6	33.6	28.9	27.4	32.7	38.9	38.7	47.0	46.6	40.1	43.3	37.1
MAX	42	41	36	31	37	49	45	55	50	49	46	39
MIN	0	7.5	16	21	29	37	37	40	44	31	36	35
AC-FT	1640	2000	1780	1680	1810	2390	2300	2890	2770	2470	2660	2210
CAL YR 1978	TOTAL	14274.6	MEAN	39.1	MAX	54	MIN	0	AC-FT	28310		
WTR YR 1979	TOTAL	13411.6	MEAN	36.7	MAX	55	MIN	0	AC-FT	26600		

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.--42 years, 82.3 ft<sup>3</sup>/s (2.331 m<sup>3</sup>/s), 59,630 acre-ft/yr (73.5 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, 1,270 ft<sup>3</sup>/s (36.0 m<sup>3</sup>/s) May 27, gage height, 5.71 ft (1.740 m); minimum daily, 1.1 ft<sup>3</sup>/s (0.031 m<sup>3</sup>/s) Apr. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.6	2.3	2.7	1.7	2.6	80	227	436	2.0	2.2	2.2
2	2.0	1.5	2.2	2.7	1.8	2.6	80	204	443	1.8	2.2	2.2
3	2.0	1.6	2.2	2.7	1.8	2.6	80	191	435	1.6	2.2	2.2
4	2.0	2.0	2.2	2.3	1.8	2.6	80	91	427	2.7	2.2	2.2
5	2.2	2.0	2.2	2.0	1.8	2.7	80	3.8	503	2.8	2.2	2.2
6	2.2	2.1	2.0	2.0	1.9	2.7	81	17	562	2.8	2.0	2.2
7	2.2	2.2	1.6	2.0	2.0	2.8	81	121	561	2.8	1.8	2.2
8	2.2	2.2	1.8	2.2	2.0	2.8	81	168	409	2.8	1.8	2.2
9	2.2	2.2	2.0	2.1	1.9	2.8	81	93	257	2.5	1.8	2.2
10	2.2	2.3	2.0	2.1	1.8	2.8	81	76	216	2.2	1.9	2.2
11	2.2	2.4	2.0	2.7	1.8	2.8	80	83	193	2.2	2.2	2.2
12	2.2	2.3	2.0	2.2	1.8	2.8	80	86	221	2.2	2.2	2.2
13	2.2	2.4	2.0	2.0	2.3	13	80	295	318	2.2	2.2	2.2
14	2.2	2.3	2.0	2.0	2.4	107	80	616	326	2.2	2.0	2.2
15	2.2	2.4	2.1	2.0	2.2	170	80	670	224	2.2	1.8	2.2
16	2.2	2.2	2.2	2.0	2.2	165	40	749	165	2.2	1.8	2.2
17	2.2	2.2	2.4	2.0	2.2	113	1.1	863	120	2.2	1.8	2.2
18	2.2	2.2	2.4	1.9	2.3	92	1.5	902	44	2.2	1.8	2.2
19	2.1	2.2	2.4	1.8	2.4	80	2.0	940	4.5	2.2	1.8	2.2
20	2.1	2.2	2.3	1.8	2.4	79	2.0	1010	2.5	2.0	1.8	1.9
21	2.1	2.4	2.4	1.9	2.7	79	2.0	1030	21	2.0	2.0	1.9
22	2.1	2.3	2.4	1.9	2.6	78	2.1	1050	45	1.9	2.2	2.0
23	3.8	2.2	2.4	1.9	2.6	78	16	950	53	1.8	2.2	1.8
24	3.9	2.2	2.4	1.9	2.6	78	60	683	57	2.2	2.2	1.9
25	3.3	2.2	2.4	1.6	2.6	77	40	604	51	2.5	2.2	2.2
26	2.6	2.2	2.4	1.5	2.6	77	24	778	36	2.5	2.2	2.2
27	1.6	2.2	2.4	1.6	2.6	78	112	1090	9.1	2.4	2.2	2.0
28	2.0	2.2	2.4	1.6	2.6	79	207	937	2.0	2.2	2.2	1.8
29	2.0	2.2	2.4	1.6	---	79	185	725	2.2	2.2	2.2	1.8
30	1.6	2.2	2.6	1.6	---	80	200	550	2.2	2.2	2.2	1.8
31	1.5	---	2.7	1.6	---	80	---	416	---	2.2	2.2	---
TOTAL	69.5	64.8	69.2	61.9	61.4	1714.6	2099.7	16218.8	6145.5	69.9	63.7	63.1
MEAN	2.24	2.16	2.23	2.00	2.19	55.3	70.0	523	205	2.25	2.05	2.10
MAX	3.9	2.4	2.7	2.7	2.7	170	207	1090	562	2.8	2.2	2.2
MIN	1.5	1.5	1.6	1.5	1.7	2.6	1.1	3.8	2.0	1.6	1.8	1.8
AC-FT	138	129	137	123	122	3400	4160	32170	12190	139	126	125

CAL YR 1978 TOTAL 45556.18 MEAN 125 MAX 1010 MIN .92 AC-FT 90360  
WTR YR 1979 TOTAL 26702.10 MEAN 73.2 MAX 1090 MIN 1.1 AC-FT 52960

## SAN JOAQUIN RIVER BASIN

11299000 NEW MELONES RESERVOIR NEAR SONORA, CA  
(Formerly published as Melones Lake near Sonora)

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. Prior to Nov. 26, 1978, at site on left side of old Melones Dam.

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 Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 115,800 acre-ft (143 hm<sup>3</sup>) May 27, 1951, elevation, 736.7 ft (224.55 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, 298,830 acre-ft (368 hm<sup>3</sup>) June 6, elevation, 807.80 ft (246.217 m); minimum, 27,740 acre-ft (34.2 hm<sup>3</sup>) Oct. 17, elevation 668.55 ft (203.774 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55596	46090	38625	52217	54147	83870	106500	180721	291000	277904	213348	151907
2	55679	46400	39318	52038	52815	84039	105760	187156	295410	275642	211436	150077
3	53925	46636	39918	51860	51505	83870	106130	194522	295581	273683	210041	148373
4	51930	46828	42065	51623	49866	83071	107616	202602	296639	272837	208097	146905
5	49955	47010	42797	51445	51386	82435	109681	211436	298144	271376	206163	146006
6	48018	47181	43644	51327	53056	82594	111578	218779	298830	269759	203831	145066
7	46047	47841	44393	51210	54637	83230	115433	222795	298659	268082	201785	144107
8	44118	48205	45150	52038	56372	84191	118574	225109	297836	266317	199535	142886
9	42260	48593	45805	52396	56874	85158	121967	227437	298213	264302	197408	142179
10	40382	49887	46578	53297	57252	86132	124193	232196	298590	262328	195320	141122
11	38539	51363	47359	68635	57632	87276	125827	235102	298316	262900	193459	140244
12	36679	52942	48034	71358	58141	88265	127682	236893	297391	264238	191081	139872
13	34790	54445	48716	71068	60336	89261	130389	240497	298659	263028	187806	138999
14	33037	55855	49519	71285	64470	90263	133768	245353	296947	261693	185341	138804
15	31328	57402	49750	72832	65290	91610	137199	250576	296385	260521	182842	137762
16	29564	55373	49866	72964	65290	92628	140244	257746	295342	259794	180466	136832
17	27740	53382	50214	72304	64606	92799	143108	262805	294185	259541	178741	135541
18	28764	50738	50916	71576	64063	93311	144887	268566	295956	257903	176246	134301
19	30137	48283	51386	70491	64199	92799	146230	274401	295854	253056	173921	132749
20	31354	45908	51860	69488	65703	92118	147355	280971	295990	245659	171442	130599
21	32854	44440	52217	68494	71648	90935	148485	283958	295820	238931	169352	128782
22	34274	46122	52336	67369	77610	89928	149849	282628	295820	235847	168251	126650
23	35373	46122	52336	66117	80078	91356	150990	282296	295547	233172	166426	124397
24	37187	42400	52336	64880	80078	92799	152137	280971	294355	230809	165095	122168
25	38736	39225	52336	63657	79767	94514	153058	282628	293098	228607	163651	120163
26	40168	36215	52575	62182	79767	96422	155842	283624	292285	226417	162095	118970
27	41590	35370	52695	60729	78838	102287	161260	283958	289785	224240	160785	118376
28	43120	35744	52575	59297	81787	105760	165578	283459	287533	221787	159009	117783
29	44627	36025	52516	57759	---	106686	168984	285625	284690	219350	157479	116800
30	45555	38037	52456	56372	---	107057	174420	286628	281799	217355	155608	115920
31	45769	---	52336	55129	---	106871	---	289314	---	215371	153520	---
MAX	55679	57402	52695	72964	81787	107057	174420	289314	298830	277904	213348	151907
MIN	27740	35370	38625	51210	49866	82435	105760	180721	281799	215371	153520	115920
†	688.27	685.50	698.60	701.00	719.90	734.60	765.70	805.00	802.75	781.10	757.00	739.35
‡	-7809	-7732	+14299	+2793	+26658	+25084	+67549	+114894	-7515	-66428	-61851	-37600

CAL YR 1978 ‡ +42656

WTR YR 1979 ‡ +62342

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

‡ Change in contents, 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, 66,800 acre-ft (82.4 hm<sup>3</sup>) July 24, elevation, 509.9 ft (155.42 m); minimum, 29,400 acre-ft (36.3 hm<sup>3</sup>) Oct. 2, elevation, 469.6 ft (143.13 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30200	33400	64000	63800	61100	60600	66000	62200	61400	65600	66700	65700
2	29400	32400	63900	63800	61800	60800	66200	59800	62700	65700	66600	65800
3	30800	32400	63600	63900	61700	59900	66200	57200	62600	66300	66200	66100
4	32200	32400	63600	64000	61600	59900	66200	54300	63800	66500	66100	66300
5	33600	32400	63900	64000	61400	60000	66100	51500	63600	65400	66000	66500
6	34800	32400	63800	64100	61600	60100	66200	48600	65000	65200	66000	66300
7	35900	32400	63900	64200	61700	60200	66200	46700	65600	65100	65700	66300
8	37100	32400	64100	64900	61700	60300	66300	47800	65700	65100	65700	66200
9	38200	32400	64400	65100	61800	60400	65600	47700	64400	64900	65700	66100
10	39400	32400	64200	65100	62200	60400	65800	45800	64400	65200	65500	66000
11	40300	32400	64200	66100	62400	60600	66000	43900	65400	63900	65400	65800
12	41400	32100	64400	64200	62400	60700	66100	45200	65500	60600	65100	65600
13	42700	32100	64500	64200	62900	60800	65500	46600	65700	59000	65400	65500
14	44400	32100	64500	64900	62800	60800	64800	47900	64600	58400	65700	64700
15	46100	32100	64500	65400	62100	61400	64200	48900	65500	57600	66000	64700
16	48000	32900	64500	64600	62400	61600	63900	48100	66100	56500	66300	64600
17	50000	36100	64500	64500	62700	61400	63300	46800	66100	54400	65400	64500
18	51200	39900	64500	64700	62900	61300	62600	46100	64400	52900	65700	64500
19	51600	43400	64500	64500	64000	61100	61800	44200	62100	55000	66200	64500
20	48900	46900	64400	64200	65000	61500	61400	42200	62000	59100	66500	64700
21	47600	50500	64200	64000	66200	62200	61100	41100	59800	64200	66600	65000
22	46300	53500	64200	63600	65500	63000	60900	45500	59000	66300	66300	65200
23	45200	56300	64200	63300	63400	63900	60800	48900	59500	66600	66100	65500
24	43700	58700	64100	62900	60900	64700	60800	52500	59000	66800	66000	65700
25	42500	61300	64100	62400	60200	65700	60900	55200	59500	66700	66000	65800
26	41200	63600	63800	62100	60200	66200	61100	56500	59400	66700	65800	65800
27	39900	64600	63500	61700	60100	66100	61500	58700	59500	66700	66100	65600
28	38600	64500	63500	61300	60400	65400	62200	62300	61800	66700	66200	65100
29	37200	64200	63600	61100	---	65200	63000	62100	62600	66700	66200	65000
30	35800	64200	63600	61100	---	65400	63500	60800	63500	66700	66200	64900
31	34500	---	63800	61000	---	65600	---	60400	---	66700	66000	---
MAX	51600	64600	64500	66100	66200	66200	66300	62300	66100	66800	66700	66500
MIN	29400	32100	63500	61000	60100	59900	60800	41100	59000	52900	65100	64500
†	477.0	507.8	507.4	505.1	504.6	508.9	507.2	504.6	507.2	509.8	509.2	508.3
‡	+2400	+29700	-400	-2800	-600	+5200	-2100	-3100	+3100	+3200	-700	-1100

CAL YR 1978 +28900

WTR YR 1979 +32800

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

‡ 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, 19.5°C Oct. 1-3; minimum recorded, 7.0°C Feb. 11, 14, Mar. 4, 5.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.5	19.5	16.5	16.5	12.0	11.5	9.5	9.0	7.5	7.5	7.5	7.5
2	19.5	19.5	16.5	16.5	12.0	11.0	9.0	9.0	7.5	7.5	7.5	7.5
3	19.5	19.0	16.5	16.0	12.5	11.5	9.5	9.0	7.5	7.5	7.5	7.5
4	19.0	18.0	16.0	16.0	12.0	11.5	9.0	9.0	7.5	7.5	7.5	7.0
5	18.0	17.0	16.5	16.0	12.0	11.5	9.0	8.5	8.5	7.5	7.5	7.0
6	17.0	16.5	16.5	15.5	12.0	11.5	9.0	8.5	8.5	7.5	7.5	7.5
7	16.5	16.5	16.5	15.5	12.0	11.0	9.0	8.5	8.5	8.0	7.5	7.5
8	16.5	16.5	16.5	15.5	11.5	11.0	8.5	8.5	9.0	8.0	7.5	7.5
9	16.5	16.0	16.0	15.5	11.5	11.0	8.5	8.5	8.5	7.5	7.5	7.5
10	16.5	16.0	15.5	15.0	11.5	11.0	8.5	8.5	7.5	7.5	7.5	7.5
11	16.0	16.0	15.0	14.5	11.0	11.0	8.5	8.5	7.5	7.0	7.5	7.5
12	16.0	16.0	15.5	14.5	11.0	10.5	8.5	8.5	7.5	7.5	7.5	7.5
13	16.0	16.0	15.0	14.5	11.0	10.5	8.5	8.5	7.5	7.5	7.5	7.5
14	16.0	16.0	14.5	14.5	11.0	10.5	8.5	8.5	7.5	7.0	7.5	7.5
15	16.0	16.0	14.5	14.0	11.0	10.5	8.5	8.5	7.5	7.5	8.0	7.5
16	16.0	16.0	14.0	14.0	10.5	10.0	8.5	8.5	7.5	7.5	8.0	7.5
17	16.5	16.0	14.5	14.0	10.5	10.0	9.0	8.5	7.5	7.5	8.0	7.5
18	16.5	16.0	14.5	14.0	10.5	10.0	8.5	8.5	7.5	7.5	8.0	8.0
19	16.5	16.0	14.0	13.0	10.5	10.0	8.5	8.5	7.5	7.5	8.0	8.0
20	16.5	16.0	13.5	13.0	10.5	9.5	8.5	8.0	7.5	7.5	8.0	8.0
21	16.5	16.0	13.0	12.5	10.5	10.0	8.5	8.0	7.5	7.5	8.0	8.0
22	16.5	16.0	12.5	12.5	10.5	10.0	8.0	8.0	7.5	7.5	8.5	8.0
23	16.5	16.0	13.0	12.0	10.0	10.0	8.0	8.0	7.5	7.5	8.5	8.0
24	16.5	16.0	14.5	12.0	10.0	9.5	8.0	8.0	7.5	7.5	8.5	8.0
25	16.5	16.5	12.5	12.0	10.0	9.5	8.0	8.0	7.5	7.5	8.5	8.0
26	16.5	16.5	12.5	11.5	10.0	9.5	8.0	8.0	7.5	7.5	8.5	8.0
27	16.5	16.5	12.5	11.5	9.5	9.5	8.0	7.5	7.5	7.5	9.0	8.5
28	16.5	16.5	12.0	11.5	9.5	9.5	8.0	7.5	7.5	7.5	9.0	8.5
29	16.5	16.5	12.5	11.5	9.5	9.5	8.0	7.5	7.5	7.5	9.0	9.0
30	16.5	16.5	12.0	11.5	9.5	9.0	7.5	7.5	7.5	7.5	9.5	9.0
31	16.5	16.5	---	---	9.5	9.0	7.5	7.5	7.5	7.5	9.5	9.0
MONTH	19.5	16.0	16.5	11.5	12.5	9.0	9.5	7.5	9.0	7.0	9.5	7.0

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	9.5	9.0	10.0	10.0	13.0	13.0	16.5	16.5	15.0	15.0	17.0	16.5
2	9.5	9.0	10.0	10.0	13.0	13.0	16.5	16.5	15.0	15.0	17.0	17.0
3	10.0	9.5	10.0	10.0	13.0	13.0	16.5	16.5	15.0	15.0	17.0	17.0
4	10.0	9.5	10.5	10.0	13.5	13.0	17.0	16.5	15.0	15.0	17.0	17.0
5	10.0	9.5	10.5	10.0	13.5	13.0	17.0	17.0	15.0	15.0	17.0	17.0
6	10.0	9.5	10.5	10.0	13.0	12.5	17.0	17.0	15.0	15.0	17.0	17.0
7	10.0	9.5	10.5	10.5	13.0	12.5	17.0	17.0	15.0	15.0	17.0	17.0
8	10.0	9.5	11.0	10.5	13.0	13.0	17.0	17.0	15.0	15.0	17.0	17.0
9	10.0	9.5	11.0	10.5	13.0	13.0	17.0	17.0	15.5	15.0	17.0	17.0
10	10.0	9.5	11.0	10.5	13.5	13.0	17.5	17.0	15.5	15.0	17.0	17.0
11	10.0	10.0	11.0	10.5	13.5	13.0	17.5	17.5	15.5	15.5	17.0	17.0
12	10.0	10.0	11.0	10.5	13.5	13.0	17.5	17.5	15.5	15.5	17.0	17.0
13	10.0	10.0	11.0	10.5	14.0	13.5	17.5	17.5	15.5	15.5	17.0	17.0
14	10.5	10.0	11.0	10.5	14.0	13.5	17.5	17.0	15.5	15.5	17.0	17.0
15	10.5	10.0	11.0	10.5	14.0	14.0	17.0	16.0	15.5	15.5	17.5	17.0
16	10.5	10.5	11.0	10.5	14.5	14.0	16.0	15.5	16.0	15.5	17.0	17.0
17	10.5	10.5	11.0	10.5	14.5	14.5	16.0	15.5	16.0	15.5	17.0	17.0
18	11.0	10.5	11.0	10.5	15.0	14.5	16.0	15.5	16.0	16.0	17.5	17.0
19	11.0	10.5	11.0	10.5	15.0	15.0	16.5	15.5	16.0	16.0	17.0	17.0
20	11.0	10.0	11.0	10.5	15.0	15.0	17.0	16.0	16.0	16.0	17.5	17.0
21	11.0	10.5	11.0	10.5	15.5	15.0	17.0	16.5	16.0	16.0	17.5	17.0
22	11.0	10.5	11.0	10.5	15.5	15.5	17.0	16.5	16.0	16.0	17.5	17.5
23	10.5	10.5	11.5	10.5	15.5	15.5	16.5	16.5	16.0	16.0	17.5	17.5
24	10.5	10.0	12.0	11.0	16.0	15.5	16.5	16.0	16.5	15.5	17.5	17.5
25	10.5	10.0	12.0	11.5	16.0	16.0	16.0	16.0	16.5	16.0	17.5	17.5
26	10.5	10.0	12.0	11.5	16.0	16.0	16.0	15.5	16.5	16.0	17.5	17.5
27	10.5	10.0	12.5	11.5	16.0	16.0	15.5	15.5	16.5	16.0	17.5	17.5
28	10.5	10.0	12.5	12.5	16.0	16.0	15.5	15.5	16.5	16.0	17.5	17.5
29	10.0	10.0	13.0	12.5	16.0	16.0	15.5	15.0	16.5	16.5	18.0	17.5
30	10.0	10.0	13.0	12.5	16.5	16.0	15.5	15.0	16.5	16.5	18.0	18.0
31	---	---	13.0	12.5	---	---	15.0	15.0	17.0	16.5	---	---
MONTH	11.0	9.0	13.0	10.0	16.5	12.5	17.5	15.0	17.0	15.0	18.0	16.5

## 11300500 SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'16", long 120°38'14", in Rancheria Del Rio Estanislao Grant, Tuolumne 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 excellent. 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.--65 years, 428 ft<sup>3</sup>/s (12.12 m<sup>3</sup>/s), 310,100 acre-ft/yr (382 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 most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	592	41	3.7	2.0	72	38	702	688	1250	1250	1040	836
2	592	41	3.6	1.8	71	37	709	733	1250	1250	1040	836
3	649	38	3.6	2.7	82	36	737	826	1250	1250	1030	811
4	760	24	2.7	3.4	99	37	766	931	1240	1170	1030	712
5	761	15	.83	4.6	95	25	902	931	1240	1080	1030	668
6	882	9.5	2.7	5.8	53	2.3	773	930	1240	1080	1090	643
7	878	7.2	2.8	6.9	21	.40	583	933	1250	1080	1130	641
8	877	6.7	2.7	165	21	.46	601	930	1250	1080	1130	642
9	880	9.5	2.6	353	98	.46	677	930	1250	1080	1120	641
10	879	20	2.6	414	198	.50	682	931	1240	1080	1220	640
11	884	26	2.5	399	128	.50	691	931	1250	1090	1220	639
12	919	28	2.4	318	76	.64	779	931	1260	1150	1220	638
13	690	27	2.5	129	76	.84	976	931	1270	1190	1220	638
14	276	12	3.7	69	77	.63	998	995	1250	1180	1220	637
15	276	4.4	5.4	69	74	.65	999	1090	1250	1180	1220	636
16	276	3.1	6.6	69	50	.55	998	1230	1260	1200	1180	634
17	275	4.1	7.5	69	51	.51	998	1250	1250	1260	1160	634
18	274	9.4	7.0	69	51	.24	1010	1260	1250	1260	1160	634
19	275	8.8	3.6	69	44	.49	1050	1270	1220	1250	1160	853
20	276	10	2.4	69	.59	.57	1050	1270	1130	1250	1070	1030
21	276	3.4	1.7	70	.73	.52	1050	1270	1090	1250	961	1030
22	275	2.3	1.3	70	.32	142	1060	1260	1100	1250	928	1030
23	233	4.7	1.1	70	.20	386	1060	1260	1090	1250	929	1030
24	145	6.3	1.3	70	.20	545	1050	1260	1090	1250	903	1030
25	42	6.9	2.5	70	11	545	1060	1240	1170	1230	877	1030
26	41	7.0	2.9	71	61	308	926	1250	1240	1230	877	797
27	41	7.0	2.8	71	70	132	836	1250	1250	1230	878	666
28	41	6.5	2.6	71	38	166	835	1240	1250	1230	877	665
29	41	4.4	2.5	71	---	342	758	1240	1250	1220	850	666
30	41	3.9	2.4	71	---	476	672	1240	1250	1180	836	668
31	41	---	2.3	72	---	634	---	1240	---	1080	836	---
TOTAL	13388	397.1	94.83	3065.2	1619.04	3859.26	25988	33671	36630	36810	32442	22655
MEAN	432	13.2	3.06	98.9	57.8	124	866	1086	1221	1187	1047	755
MAX	919	41	7.5	414	198	634	1060	1270	1270	1260	1220	1030
MIN	41	2.3	.83	1.8	.20	.24	583	688	1090	1080	836	634
AC-FT	26560	788	188	6080	3210	7650	51550	66790	72660	73010	64350	44940

CAL YR 1978 TOTAL 199445.43 MEAN 546 MAX 1320 MIN 0 AC-FT 395600  
WTR YR 1979 TOTAL 210619.43 MEAN 577 MAX 1270 MIN .20 AC-FT 417800



## 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.--65 years, 164 ft<sup>3</sup>/s (4.644 m<sup>3</sup>/s), 118,800 acre-ft/yr (146 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	413	361	0	0	0	.60	0	441	524	525	526	530
2	413	305	0	0	0	0	20	440	523	525	526	530
3	412	8.3	0	0	0	0	110	440	523	525	525	529
4	412	0	0	0	0	0	270	444	524	523	525	441
5	412	0	0	0	0	0	340	471	524	525	525	452
6	413	0	0	0	0	0	295	471	522	525	525	450
7	412	0	0	0	0	0	124	473	514	525	525	449
8	412	0	0	.14	0	0	125	470	515	526	527	450
9	413	0	0	.01	0	0	352	471	516	526	526	450
10	413	0	0	0	0	0	381	471	513	524	526	450
11	409	0	0	.72	0	0	419	480	516	524	526	449
12	391	0	0	.10	0	0	444	486	512	524	526	449
13	398	0	0	0	.07	0	449	486	515	523	526	449
14	401	0	0	.25	.24	0	450	496	522	523	524	448
15	401	0	0	.43	0	0	452	512	523	523	523	448
16	402	0	0	.01	0	0	452	520	525	524	523	447
17	403	0	.20	.07	0	0	453	520	526	527	523	447
18	403	0	.10	.09	.01	0	463	522	525	529	522	448
19	403	0	0	0	.03	0	492	520	522	526	523	448
20	403	0	0	0	.18	0	493	520	524	527	525	447
21	403	0	0	0	.67	0	484	519	523	526	525	447
22	403	0	0	0	.39	0	480	521	524	526	526	447
23	404	0	0	0	.14	0	468	523	522	527	527	447
24	404	0	0	0	0	0	460	523	522	527	527	447
25	404	0	0	0	0	0	461	522	522	526	528	447
26	403	0	0	0	0	0	389	520	522	527	527	447
27	403	0	0	0	0	.12	267	522	523	527	528	446
28	403	0	0	0	.02	.18	342	521	523	527	528	446
29	403	0	0	0	---	0	350	523	524	525	528	436
30	387	0	0	0	---	0	441	524	525	525	528	422
31	361	---	0	0	---	0	---	524	---	525	530	---
TOTAL	12517	674.3	.30	1.82	1.75	.90	10726	15396	15638	16287	16299	13643
MEAN	404	22.5	.010	.059	.063	.029	350	497	521	525	526	455
MAX	413	361	.20	.72	.67	.60	493	524	526	529	530	530
MIN	361	0	0	0	0	0	0	440	512	523	522	422
AC-FT	24830	1340	.6	3.6	3.5	1.8	21280	30540	31020	32310	32330	27060
CAL YR 1978 TOTAL	83711.28			MEAN 229	MAX 528	MIN 0	AC-FT 166000					
WTR YR 1979 TOTAL	101185.07			MEAN 277	MAX 530	MIN 0	AC-FT 200700					

## 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.--22 years, 720 ft<sup>3</sup>/s (20.39 m<sup>3</sup>/s), 521,600 acre-ft/yr (643 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, 5,170 ft<sup>3</sup>/s (146 m<sup>3</sup>/s) Feb. 21, gage height, 13.66 ft (4.164 m); minimum daily, 0.12 ft<sup>3</sup>/s (0.003 m<sup>3</sup>/s) Feb. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	2.8	228	419	1580	3988	1540	5.6	259	6.4	6.1	3.9
2	5.0	3.4	224	413	1190	2740	1530	5.5	277	6.5	6.1	3.9
3	5.1	9.6	227	400	1830	2350	1180	5.6	575	6.4	6.1	3.9
4	5.0	.51	226	392	1730	2250	508	5.7	1370	6.2	6.1	3.9
5	5.0	.28	216	385	634	2180	4.6	6.5	1370	5.7	6.1	3.9
6	5.1	.23	214	386	.57	2030	3.8	6.6	1390	5.6	6.3	3.9
7	5.2	.19	215	386	.16	1850	56	6.6	2090	5.7	6.4	3.8
8	5.0	.18	223	209	.12	1850	24	6.5	2260	5.7	6.7	3.9
9	5.0	.18	212	73	67	1850	4.0	6.3	1190	5.7	6.8	3.9
10	5.0	.17	212	37	345	1850	4.6	6.3	236	6.0	7.1	4.0
11	5.0	.15	225	1910	358	1850	5.4	6.5	6.5	6.1	7.1	3.9
12	4.6	.18	219	2420	501	1850	5.9	6.7	1110	6.1	7.1	3.9
13	4.5	14	214	1840	872	1850	6.6	6.7	1290	6.5	7.1	3.8
14	4.6	29	243	1350	1850	1860	6.7	6.9	1600	7.0	6.8	3.8
15	4.7	40	289	1350	1830	1860	6.8	7.3	1100	7.1	6.6	3.7
16	4.6	74	291	1730	1830	2140	6.9	302	229	7.0	5.0	3.7
17	4.6	82	294	1730	1840	2418	6.9	928	241	7.2	4.0	3.7
18	4.6	89	289	1720	1860	2400	7.2	1360	116	7.2	3.9	3.8
19	4.4	85	316	1730	1870	2400	7.9	1900	6.8	6.9	3.9	3.9
20	4.4	72	323	1720	1880	2090	8.0	1920	6.0	6.9	3.9	3.9
21	4.3	158	288	1730	3010	1860	7.8	1850	5.7	6.9	3.9	4.0
22	4.2	210	354	1730	3670	1710	7.6	2320	5.7	6.8	3.9	4.0
23	4.2	212	413	1730	4110	1208	7.2	2970	5.6	6.8	3.9	4.3
24	4.2	201	404	1730	3840	2.2	6.8	3080	5.6	6.8	3.9	4.8
25	4.1	204	402	1730	2750	.30	6.6	2450	5.7	6.7	3.9	5.0
26	4.2	206	400	1710	2370	392	5.9	3000	6.0	6.1	3.9	5.0
27	4.2	205	463	1670	2240	2110	2.8	3820	6.1	6.0	3.9	4.8
28	4.2	216	417	1670	2210	3390	3.2	3760	6.2	6.1	3.9	4.8
29	4.3	232	409	1460	---	2420	3.4	3620	6.2	6.1	3.9	4.6
30	4.2	226	432	1590	---	1940	5.3	3110	6.3	6.1	3.9	4.3
31	3.0	---	418	1460	---	1640	---	1330	---	6.2	3.9	---
TOTAL	141.5	2572.87	9300	38810	46267.85	60304.50	4979.8	37815.3	16781.4	198.5	162.1	122.7
MEAN	4.56	85.8	300	1252	1652	1945	166	1220	559	6.40	5.23	4.09
MAX	5.2	232	463	2420	4110	3980	1540	3820	2260	7.2	7.1	5.0
MIN	3.0	.15	212	37	.12	.30	2.8	5.5	5.6	5.6	3.9	3.7
AC-FT	281	5100	18450	76980	91770	119600	9880	75010	33290	394	322	243
CAL YR 1978	TOTAL	442632.68	MEAN	1213	MAX	5000	MIN	.15	AC-FT	878000		
WTR YR 1979	TOTAL	217456.52	MEAN	596	MAX	4110	MIN	.12	AC-FT	431300		

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, 26.0°C July 14, 24; minimum recorded, 7.0°C Feb. 3-5.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.5	20.0	---	---	12.5	12.5	9.0	9.0	7.5	7.5	9.5	8.5
2	23.0	19.0	---	---	12.5	11.5	9.0	9.0	8.5	7.5	---	---
3	23.0	19.0	---	---	12.0	11.5	9.0	9.0	7.5	7.0	---	---
4	22.5	18.5	16.5	13.5	12.0	11.0	9.5	9.0	8.0	7.0	---	---
5	22.5	19.0	17.0	14.0	12.0	11.5	9.5	9.0	9.5	7.0	---	---
6	22.0	19.0	17.5	13.5	11.5	11.0	9.0	8.5	11.0	7.5	---	---
7	21.5	18.0	17.0	14.0	11.0	10.5	9.0	9.0	11.5	7.5	---	---
8	21.5	18.0	17.0	13.5	11.0	10.5	9.0	9.0	12.5	8.5	---	---
9	21.5	18.0	16.5	13.5	11.0	10.5	10.0	9.0	13.5	8.5	---	---
10	21.5	18.0	14.0	11.5	11.0	10.5	9.5	9.0	8.5	7.5	---	---
11	21.0	18.0	13.0	10.0	11.5	10.5	9.5	9.0	8.5	7.5	---	---
12	21.5	18.0	12.0	9.5	11.5	10.5	9.5	9.0	8.0	7.5	---	---
13	22.0	18.0	13.5	10.5	11.0	10.5	9.0	8.5	8.0	8.0	---	---
14	21.5	18.0	13.5	13.0	11.0	10.5	9.0	8.5	8.0	8.0	---	---
15	21.5	18.5	13.5	12.0	10.5	10.5	9.0	8.5	8.5	7.5	---	---
16	21.0	18.0	13.5	13.0	11.0	10.0	9.0	8.5	8.0	8.0	---	---
17	---	---	13.5	12.5	11.0	10.5	9.0	8.5	8.5	8.0	---	---
18	---	---	14.0	13.5	10.5	10.5	8.5	8.5	8.0	8.0	---	---
19	---	---	13.5	13.0	10.5	10.0	8.5	8.0	8.5	8.0	---	---
20	---	---	14.0	13.5	10.5	10.0	8.5	8.0	8.0	8.0	---	---
21	---	---	13.5	13.0	10.0	9.5	8.5	8.0	8.5	8.0	---	---
22	---	---	13.5	13.0	10.0	9.5	8.5	8.0	9.0	8.5	---	---
23	---	---	13.5	12.5	10.0	10.0	8.0	8.0	9.0	8.5	---	---
24	---	---	13.0	12.5	10.0	10.0	9.0	7.5	9.5	8.5	---	---
25	---	---	13.0	12.5	10.0	9.5	8.0	7.5	9.5	8.5	---	---
26	---	---	12.5	12.0	10.0	9.5	8.0	7.5	9.5	8.0	---	---
27	---	---	12.0	11.5	9.5	9.5	8.0	7.5	9.5	8.5	---	---
28	---	---	12.0	11.5	9.5	9.5	8.5	7.5	9.5	8.0	---	---
29	---	---	12.5	11.0	9.5	9.5	8.0	7.5	---	---	---	---
30	---	---	12.5	12.0	9.5	9.0	7.5	7.5	---	---	---	---
31	---	---	---	---	9.5	9.0	8.0	7.5	---	---	---	---
MONTH	---	---	17.5	9.5	12.5	9.0	10.0	7.5	13.5	7.0	---	---
DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	---	---	14.0	13.0	23.5	18.5	25.0	20.0	23.5	19.0
2	---	---	21.0	15.0	14.5	12.5	23.5	18.5	25.0	20.0	23.5	19.5
3	---	---	21.5	16.5	15.0	13.0	23.5	18.5	25.0	20.0	23.5	19.5
4	12.0	10.5	21.5	17.0	15.5	14.0	24.0	18.5	23.5	20.0	24.0	19.5
5	18.0	11.0	19.0	16.5	15.5	14.0	24.0	18.0	24.0	19.0	24.5	20.0
6	18.5	14.5	20.0	14.5	15.5	14.0	24.5	18.5	23.5	19.0	25.5	21.0
7	16.0	11.0	18.0	16.0	15.5	13.5	23.5	18.5	23.0	19.0	25.5	21.5
8	14.0	12.0	19.0	14.5	15.5	14.0	24.5	18.5	23.5	19.0	25.5	21.5
9	---	---	20.0	14.5	15.5	14.0	24.5	19.0	23.5	19.5	25.5	21.0
10	---	---	20.5	15.5	15.5	13.0	25.0	19.5	23.5	19.5	25.0	20.5
11	---	---	21.5	16.0	21.5	14.5	25.0	19.5	22.5	19.5	25.0	20.5
12	---	---	22.0	16.0	18.5	13.5	25.5	20.0	22.5	19.0	25.0	21.0
13	---	---	22.5	16.5	16.0	14.0	25.5	20.5	22.5	18.0	25.5	21.0
14	---	---	22.5	16.0	16.5	14.0	26.0	20.5	22.5	18.5	25.0	21.0
15	---	---	21.5	16.0	17.0	14.5	24.5	19.0	23.0	18.5	25.0	21.5
16	---	---	21.0	13.0	15.0	14.0	25.0	20.0	23.0	19.0	25.0	21.5
17	---	---	15.5	14.0	15.0	14.0	25.0	20.5	23.0	19.0	25.0	21.0
18	---	---	16.0	14.0	17.0	14.0	24.5	20.0	23.0	19.0	24.0	20.0
19	---	---	16.5	14.5	21.5	14.5	25.0	19.5	23.0	19.0	24.0	20.0
20	---	---	15.0	14.0	23.0	16.5	23.5	20.0	21.5	19.0	23.5	19.5
21	---	---	15.0	14.0	23.0	16.5	22.0	20.0	22.5	18.5	23.0	19.0
22	---	---	14.0	13.5	23.5	17.0	24.0	20.0	23.0	18.5	23.5	19.0
23	---	---	14.0	13.5	24.5	18.5	25.5	20.5	23.0	18.5	23.0	19.0
24	---	---	14.5	13.0	24.5	19.0	26.0	20.0	22.5	18.5	23.0	19.5
25	---	---	14.5	13.5	23.5	19.0	25.5	20.0	23.0	18.5	23.0	19.0
26	---	---	14.5	13.5	24.0	18.5	25.0	20.0	23.0	19.0	21.5	18.5
27	---	---	14.5	12.5	24.5	18.5	24.0	19.5	23.0	19.0	22.0	18.0
28	---	---	14.5	13.5	24.0	19.0	24.0	18.5	23.0	19.0	22.5	18.5
29	---	---	14.5	13.5	24.0	19.0	24.5	19.5	22.5	19.0	21.5	18.5
30	---	---	14.5	13.5	24.0	18.5	25.0	19.5	22.5	19.0	22.5	19.0
31	---	---	14.5	13.5	---	---	25.5	20.5	23.0	18.5	---	---
MONTH	---	---	22.5	12.5	24.5	12.5	26.0	18.0	25.0	18.0	25.5	18.0

## SAN JOAQUIN RIVER BASIN

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 area. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--39 years, 999 ft<sup>3</sup>/s (28.29 m<sup>3</sup>/s), 723,800 acre-ft/yr (892 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, 4,180 ft<sup>3</sup>/s (118 m<sup>3</sup>/s) Feb. 24, gage height, 51.33 ft (15.645 m); minimum daily, 79 ft<sup>3</sup>/s (2.24 m<sup>3</sup>/s) Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	303	228	443	436	1620	2500	1650	216	1780	203	179	213
2	283	246	456	433	1640	3930	1520	195	756	219	178	224
3	264	236	455	434	1460	3260	1520	153	643	201	177	235
4	294	199	448	430	1610	2490	1260	172	688	185	173	220
5	335	136	449	427	1600	2330	860	178	1200	181	181	190
6	261	107	454	427	1020	2200	521	158	1290	196	197	194
7	240	92	480	424	511	2060	407	214	1310	194	155	195
8	196	84	493	435	406	1880	385	206	1700	188	146	178
9	152	79	481	482	352	1840	362	159	2000	191	163	184
10	185	88	469	412	316	1830	329	188	1320	171	179	188
11	257	152	462	309	403	1820	267	192	706	187	181	183
12	271	185	446	1190	491	1810	260	159	434	179	178	166
13	292	214	432	2180	547	1790	226	149	771	172	170	171
14	258	220	414	1600	812	1780	246	190	1120	161	187	149
15	333	222	366	1750	1590	1780	239	150	1350	177	159	162
16	314	229	352	1920	1600	1790	265	139	1230	191	141	180
17	233	288	360	1730	1650	1960	254	185	626	147	141	161
18	227	332	366	1720	1650	2190	222	572	533	160	148	179
19	173	351	363	1800	1730	2220	220	857	445	158	186	163
20	157	359	353	1700	1880	2230	225	1380	314	186	187	175
21	200	368	354	1670	2030	2050	232	1560	284	206	185	181
22	203	363	346	1670	3160	1820	247	1510	263	224	173	179
23	212	398	343	1660	3710	1680	267	1820	249	254	174	170
24	211	391	398	1660	4120	1330	263	2340	227	182	214	184
25	196	378	446	1660	3790	604	244	2580	228	187	212	174
26	182	373	415	1660	3060	421	220	2300	228	184	244	204
27	201	374	414	1660	2470	443	285	2420	204	189	210	171
28	224	385	444	1660	2300	1540	257	3170	179	176	201	197
29	208	404	435	1660	---	2870	239	3380	195	202	196	188
30	214	421	431	1600	---	2400	228	3310	208	210	193	160
31	218	---	429	1530	---	1910	---	3060	---	213	214	---
TOTAL	7297	7902	12997	38329	47528	60758	13720	33262	22481	5873	5622	5518
MEAN	235	263	419	1236	1697	1960	457	1073	749	189	181	184
MAX	335	421	493	2180	4120	3930	1650	3380	2000	254	244	235
MIN	152	79	343	309	316	421	220	139	179	147	141	149
AC-FT	14470	15670	25780	76030	94270	120500	27210	65980	44590	11650	11150	10940
CAL YR 1978 TOTAL	493371			1352	MAX 4730	MIN 28	AC-FT 978600					
WTR YR 1979 TOTAL	261287			MEAN 716	MAX 4120	MIN 79	AC-FT 518300					

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 37°40'34", long 121°15'55", in El Pescadero Grant, San Joaquin County, Hydrologic Unit 18040003, on left bank 12 ft (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.

DRAINAGE AREA.--13,536 mi<sup>2</sup> (35,058 km<sup>2</sup>), includes about 2,100 mi<sup>2</sup> (5,440 km<sup>2</sup>) in James Bypass.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1922 to current year (1922-23 and 1925-29, low-water records only).

REVISED RECORDS.--WSP 831: 1936. WSP 931: 1940. WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. See WSP 2130 for history of changes prior to Nov. 30, 1967.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, ground-water withdrawals, and diversions for irrigation; low flows consist mainly of return flow from irrigated areas.

AVERAGE DISCHARGE.--51 years (water years 1924, 1930-79), 4,312 ft<sup>3</sup>/s (122.1 m<sup>3</sup>/s), 3,124,000 acre-ft/yr (3.85 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft<sup>3</sup>/s (2,240 m<sup>3</sup>/s) Dec. 9, 1950, elevation, 32.81 ft (10.000 m) present datum, including flow through breaks in levee; maximum elevation, 34.55 ft (10.531 m) Jan. 27, 1969; minimum discharge, 19 ft<sup>3</sup>/s (0.54 m<sup>3</sup>/s) Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,900 ft<sup>3</sup>/s (394 m<sup>3</sup>/s) Mar. 3, elevation, 22.81 ft (6.952 m); minimum daily, 1,090 ft<sup>3</sup>/s (30.9 m<sup>3</sup>/s) July 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3180	4090	2900	2800	5750	10900	7080	2100	4350	1230	1370	1670
2	3180	4160	2920	2210	5810	12200	6840	2180	3220	1340	1420	1690
3	3200	4650	2920	2180	5910	13700	6200	1990	2790	1310	1410	1760
4	4120	4920	2910	3330	5990	12400	6510	1980	2700	1260	1430	1670
5	3580	4870	2880	3580	5640	11200	6190	1860	2820	1290	1470	1640
6	3240	4520	2830	3530	4710	10200	5760	1810	2960	1310	1690	1560
7	3210	3830	2760	3470	4860	10200	4970	1830	2930	1380	1600	1570
8	3240	3600	2760	3140	4930	9950	4300	1820	2890	1380	1440	1750
9	3230	3670	2790	2610	4870	9590	3700	1790	3320	1370	1390	1880
10	3100	3910	2940	3630	4750	9280	3230	1710	3310	1240	1290	1910
11	3130	4000	3060	4070	4530	8970	3240	1690	2780	1150	1260	1770
12	3340	3950	3110	4420	4180	8390	3120	1670	2340	1210	1270	1700
13	3300	3730	3050	6610	3620	7590	2970	1730	2150	1140	1430	1610
14	3200	3540	2870	6660	4550	7950	2810	1810	2500	1090	1380	1620
15	3140	3360	2690	6050	5640	8060	2660	1640	2550	1180	1280	1620
16	3120	3200	2570	6360	6840	8090	2630	1480	2730	1320	1260	1660
17	3010	3100	2520	7600	7410	8160	2450	1540	2250	1280	1260	1680
18	2860	3050	2540	7760	7800	8430	2490	1600	2020	1150	1270	1620
19	2820	3030	2530	7970	7540	8290	2420	1950	1890	1220	1450	1620
20	2790	2990	2390	7790	6670	7690	2270	2400	1680	1250	1570	1770
21	2780	3060	2420	7250	7050	8140	2310	2820	1560	1280	1460	1750
22	2800	3080	2840	6620	9210	8050	2310	2760	1480	1530	1440	1770
23	2990	3070	3120	5810	11500	7820	2300	2770	1360	1750	1410	2040
24	3170	2980	3270	5390	12800	7470	2150	3190	1410	1590	1510	2210
25	3490	2890	2950	6590	13100	6730	2190	3690	1440	1480	1540	2070
26	3670	2780	2360	6550	12300	5710	2300	3960	1320	1480	1610	2090
27	3840	2690	2180	6400	11000	4990	2570	3830	1290	1520	1730	2420
28	4110	2650	2830	6130	10900	5740	2600	4310	1230	1420	1540	2290
29	4310	2720	3090	5480	---	7190	2330	4690	1150	1330	1570	2380
30	4100	2840	3120	4800	---	7800	2290	4820	1190	1460	1640	2440
31	3900	---	3060	5440	---	7330	---	4810	---	1400	1590	---
TOTAL	103150	104930	87180	162230	199860	268210	105190	78230	67610	41340	44980	55230
MEAN	3327	3498	2812	5233	7138	8652	3506	2524	2254	1334	1451	1841
MAX	4310	4920	3270	7970	13100	13700	7080	4820	4350	1750	1730	2440
MIN	2780	2650	2180	2180	3620	4990	2150	1480	1150	1090	1260	1560
AC-FT	204600	208100	172900	321800	396400	532000	208600	155200	134100	82000	89220	109500
CAL YR 1978 TOTAL	2517136	MEAN	6896	MAX	26200	MIN	574	AC-FT	4993000			
WTR YR 1979 TOTAL	1318140	MEAN	3611	MAX	13700	MIN	1090	AC-FT	2615000			

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 to current year.

SPECIFIC CONDUCTANCE: Water years 1951-63, 1973 to current year.

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 current year.

WATER TEMPERATURES: March 1951 to current year.

SEDIMENT RECORDS: November 1956 to current year.

INSTRUMENTATION.--Conductivity recorder since January 1973. Temperature recorder October 1961 to September 1963, and since December 1972.

REMARKS.--Mean daily specific conductance records since January 1973, furnished by Water and Power Resource Services; unpublished records are included in extremes and are available in files of district office.

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.--

SPECIFIC CONDUCTANCE: Maximum daily recorded, 960 micromhos Apr. 24; minimum daily recorded, 165 micromhos Nov. 4.

WATER TEMPERATURES: Maximum recorded, 28.0°C July 16, 17, 20, 24, 25; minimum recorded, 6.0°C Dec. 8, 9.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 180 mg/L Jan. 13; minimum daily mean, 16 mg/L Jan. 2.

SEDIMENT DISCHARGE: Maximum daily, 5,250 tons (4,760 metric tons) Feb. 23; minimum daily, 95 tons (86 metric tons) Jan. 2.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (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)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 04...	1300	4260	224	--	18.0	13	8.8	K1400	720	37	--	9.0
NOV 01...	1230	4140	206	7.2	15.0	--	9.4	800	K140	--	--	--
DEC 05...	1200	2870	463	7.4	9.5	5.5	10.8	480	K64	98	50	21
JAN 05...	1100	3620	300	8.0	10.0	9.5	11.0	150	390	67	27	14
FEB 09...	1300	4830	376	7.8	10.0	10	10.8	230	K75	85	34	18
MAR 09...	1200	9570	298	7.5	13.0	14	9.5	330	K56	84	43	20
APR 10...	1200	3180	775	8.0	15.0	13	9.3	430	K66	160	63	34
MAY 30...	1100	4840	243	8.2	18.0	21	9.1	--	--	56	19	12
JUN 01...	1100	4820	360	8.2	18.0	--	9.1	--	--	--	--	--
JUN 18...	1100	2040	628	7.4	20.0	33	4.5	110	K69	150	54	32
JUL 24...	1100	1640	630	7.5	27.0	22	6.2	2700	910	140	43	28
AUG 30...	1400	1680	760	7.9	23.5	18	6.4	--	--	170	51	37
SEP 19...	1325	1640	653	--	22.5	24	6.3	320	>400	140	33	31

See footnotes at end of table.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SURP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 04...	3.6	18	50	1.3	1.7	--	13	21	.0	12	--	112
NOV 01...	--	--	--	--	--	39	--	--	--	--	--	--
DEC 05...	11	51	52	2.2	2.3	63	57	65	.1	11	271	247
JAN 05...	7.7	35	53	1.9	1.6	40	36	41	.1	9.4	168	169
FEB 09...	9.6	47	54	2.2	1.7	51	62	52	.1	11	231	232
MAR 09...	8.3	33	45	1.6	1.9	41	53	39	.1	12	187	192
APR 10...	19	98	56	3.3	3.5	100	110	110	.1	16	489	451
MAY 30...	6.2	23	46	1.3	1.7	37	27	29	.2	11	148	132
JUN 01...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 18...	16	71	51	2.6	2.7	92	68	88	.2	16	363	349
JUL 24...	17	77	54	2.8	4.0	97	93	86	.1	18	394	382
AUG 30...	19	85	51	2.8	4.3	120	83	100	.2	20	436	421
SEP 19...	16	71	51	2.6	4.6	110	67	85	.2	20	367	366

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+N03 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, KJEL- DAHL TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 04...	.18	.51	.08	.74	.82	.35	.47	1.3	.23	.11	6.0
NOV 01...	--	.33	.12	.48	.60	--	.43	.93	.16	.09	--
DEC 05...	.37	.67	.17	.58	.75	.11	.64	1.4	.26	.09	--
JAN 05...	.23	.42	.06	.57	.63	.28	.35	1.1	.09	.07	--
FEB 09...	.31	--	--	--	--	--	.27	--	--	.07	--
MAR 09...	.25	.58	.08	.77	.85	.41	.44	1.4	.15	.14	--
APR 10...	.67	1.2	.07	.59	.66	.63	.03	1.9	.18	.03	--
MAY 30...	.20	.38	.06	.46	.52	.09	.43	.90	.13	.08	4.8
JUN 01...	--	--	--	--	--	--	--	--	--	--	--
JUL 18...	.49	1.1	.18	.82	1.0	.57	.43	2.1	--	.16	7.2
JUL 24...	.54	1.4	.11	1.4	1.5	.75	.75	2.9	.35	.20	--
AUG 30...	.59	1.5	.30	.47	.77	.00	.83	2.3	.34	.02	9.1
SEP 19...	.50	1.2	.29	1.0	1.3	.35	.95	2.5	.36	.22	13

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB 09...	1300	1	2	100	60	40	1	0	6	0
APR 10...	1200	2	1	100	30	70	1	0	<1	0
JUL 24...	1100	2	2	100	30	70	5	4	<1	10

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
FEB 09...	0	0	0	0	0	18	15	3	1600	1600
APR 10...	0	0	0	0	<3	27	23	4	2600	2600
JUL 24...	10	0	3	0	<3	20	18	2	3600	3600

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
FEB 09...	20	8	6	2	90	70	20	1.9	.0	2.1
APR 10...	0	40	36	4	190	140	50	.1	.1	.0
JUL 24...	0	25	25	0	260	260	3	.1	.0	.1

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
FEB 09...	1	0	1	0	0	0	20	20	0
APR 10...	1	1	0	0	0	0	40	40	<3
JUL 24...	0	0	1	0	0	0	70	70	<3

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

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PHYTOPLANKTON

DATE TIME	NOV 1,78 1230	DEC 5,78 1200	MAR 9,79 1200	JUN 1,79 1100
TOTAL CELLS/ML	13000	12000	6700	11000
DIVERSITY: DIVISION	1.5	1.5	1.5	1.4
..CLASS	1.5	1.5	1.5	1.4
..ORDER	1.5	1.9	2.0	1.8
...FAMILY	1.7	2.1	2.4	1.9
....GENUS	2.6	2.5	2.9	2.3

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHARACIACEAE								
....SCHROEDERIA	--	--	--	--	--	--	8	0
....CHLOROCOCCACEAE								
....CHLOROCOCCUM	--	--	--	--	--	--	--	--
....COELASTRACEAE								
....COELASTRUM	--	--	--	--	--	--	--	--
....MICRACTINIACEAE								
....GOLENKINIA	--	--	250	2	--	--	--	--
....MICRACTINIUM	220	2	--	--	240	4	--	--
....OOCYSTACEAE								
....ANKISTRODESMUS	170	1	680	6	330	5	8	0
....CHODATELLA	--	--	--	--	8	0	--	--
....DICTYOSPHAERIUM	900	7	--	--	87	1	--	--
....FRANCEIA	--	--	190	2	--	--	--	--

See footnotes at end of table.



## 11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

DATE TIME	PHYTOPLANKTON							
	NOV 1,78 1230		DEC 5,78 1200		MAR 9,79 1200		JUN 1,79 1100	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
....KIRCHNERIELLA	--	-	250	2	170	3	--	-
....NEPHROCYTIUM	170	1	--	-	--	-	--	-
....OOCYSTIS	*	0	120	1	65	1	130	1
....SELENASTRUM	--	-	--	-	--	-	67	1
....TETRAEDRON	--	-	62	1	--	-	--	-
....SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	--	-	87	1	--	-
....SCENEDESMUS	390	3	--	-	300	5	670	6
....TETRASTRUM	--	-	500	4	200	3	--	-
..VOLVOCALES								
....CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	*	0	--	-	--	-	*	0
....CHLOROGONIUM	--	-	--	-	--	-	--	-
..VOLVOCAEAE								
....PANDORINA	--	-	--	-	--	-	--	-
..ZYGEMATALES								
....DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	43	1	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
..CENTRALES								
....COSCINODISCACEAE								
....CYCLOTELLA	4300#	32	4200#	35	910	14	2200#	20
....MELOSIRA	1800	14	430	4	590	9	1500	14
....SKELETONEMA	--	-	--	-	--	-	--	-
..PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	270	2
....COCONEIS	--	-	--	-	--	-	--	-
....CYMBELLACEAE								
....EPITHEMIA	--	-	--	-	*	0	--	-
....FRAGILARIACEAE								
....SYNEDRA	--	-	62	1	--	-	--	-
....NAVICULACEAE								
....ENTOMONEIS	--	-	62	1	--	-	--	-
....NAVICULA	110	1	62	1	--	-	--	-
....NITZSCHACEAE								
....NITZSCHIA	--	-	310	3	*	0	370	3
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
....CHROOCOCCALES								
....CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	1700	13	500	4	2500#	38	370	3
....GOMPHOSPHAERIA	3400#	26	--	-	--	-	--	-
..HORMOGONALES								
....NOSTOCACEAE								
....ANABAENA	--	-	--	-	1000#	16	--	-
....OSCILLATORACEAE								
....OSCILLATORIA	--	-	4300#	36	--	-	5400#	48
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
....EUGLENALES								
....EUGLENACEAE								
....EUGLENA	--	-	--	-	*	0	*	0
....TRACHELOMONAS	--	-	--	-	--	-	*	0

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PHYTOPLANKTON

DATE TIME	JUN 18,79 1100		JUL 24,79 1100		AUG 30,79 1400		SEP 19,79 1325	
TOTAL CELLS/ML	23000		32000		39000		20000	
DIVERSITY: DIVISION	0.4		1.2		1.4		1.2	
..CLASS	0.4		1.2		1.4		1.2	
...ORDER	0.6		1.5		2.0		1.9	
....FAMILY	0.6		1.6		2.3		2.0	
.....GENUS	1.2		1.8		3.1		2.1	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHARACIACEAE								
.....SCHROEDERIA	--	-	--	-	--	-	*	0
....CHLOROCOCCACEAE								
.....CHLOROCOCCUM	--	-	--	-	2200	6	--	-
....COELASTHACEAE								
.....COELASTRUM	--	-	1700	5	--	-	--	-
....MICRACTINIACEAE								
.....GOLENKINIA	*	0	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-
....OOCYSTACEAE								
.....ANKISTRODESMUS	--	-	--	-	740	2	--	-
....CHODATELLA	--	-	--	-	410	1	--	-
....DICTYOSPHAERIUM	--	-	--	-	2400	6	200	1
....FRANCEIA	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	*	0	--	-
....NEPHROCITIUM	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	*	0	--	-	400	2
....TETRAEDRON	--	-	--	-	--	-	--	-
....SCENEDESMACEAE								
.....ACTINASTRUM	--	-	460	1	--	-	--	-
....CRUCIGENIA			--	-	--	-	--	-
....SCENEDESMUS	1400	6	1200	4	660	2	1200	6
....TETRASTRUM	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	*	0	600	3
....CHLOROGONIUM	--	-	*	0	--	-	--	-
....VOLVOCAEAE								
.....PANDORINA	--	-	--	-	2600	7	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	--	-	--	-	--	-	--	-
CHRYSPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	16000#	73	4200	13	3700	10	3300#	16
.....MELOSIRA	4100#	18	1200	4	--	-	300	1
....SKELETONEMA	--	-	--	-	3100	8	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	*	0	--	-	--	-
....CYMBELLACEAE								
.....EPITHEMIA	--	-	--	-	--	-	--	-
....FRAGILARIACEAE								
.....SYNEDRA	--	-	--	-	--	-	--	-
....NAVICULACEAE								
.....ENTOMONEIS	--	-	--	-	--	-	--	-
.....NAVICULA	--	-	--	-	--	-	--	-
....NITZSCHIAEAE								
.....NITZSCHIA	400	2	290	1	--	-	300	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....AGMENELLUM			1800	6	8900#	23	--	-
....ANACYSTIS	200	1	--	-	10000#	27	10000#	51
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
..HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	--	-	--	-	500	1	--	-
....OSCILLATORIACEAE								
.....OSCILLATORIA	--	-	21000#	65	3000	8	3500#	17
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	*	0	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF  
BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
AUG 30...	35	480	437	13.2	1.60	3258	Polyethylene strip

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	357	209	494	425	375	294	396	897	287	858	721	747
2	370	---	476	575	381	262	394	885	392	818	689	743
3	357	174	468	632	385	269	476	870	428	837	736	685
4	248	165	453	314	416	255	426	811	440	811	704	710
5	303	169	461	313	421	272	427	810	396	775	693	740
6	321	196	449	325	---	315	465	---	375	774	644	764
7	324	245	453	342	431	302	556	874	384	746	665	739
8	325	262	458	408	419	318	655	808	398	744	723	661
9	321	248	492	532	---	330	---	783	347	792	745	602
10	318	206	513	337	---	347	---	819	369	837	806	575
11	334	208	368	386	---	362	---	839	417	848	811	627
12	310	242	332	263	557	369	---	---	473	831	823	651
13	304	291	343	201	559	401	---	---	518	848	750	670
14	309	331	394	235	423	346	---	771	437	878	746	617
15	321	368	441	216	352	332	---	810	434	855	789	604
16	323	408	476	262	348	313	---	886	397	799	839	593
17	337	434	478	215	203	317	---	889	526	773	833	581
18	360	431	495	227	237	326	---	880	601	840	817	581
19	354	447	492	241	273	336	---	732	632	791	768	584
20	344	438	541	285	316	356	---	599	669	727	677	518
21	336	425	548	289	303	321	922	532	720	754	741	561
22	---	440	423	318	215	335	892	516	756	705	734	560
23	282	462	349	395	205	349	927	548	797	650	738	473
24	220	494	344	346	189	377	960	557	811	654	726	412
25	201	529	405	359	195	384	891	444	781	688	707	430
26	202	547	539	370	230	462	820	306	822	709	699	453
27	206	558	647	395	293	527	791	301	830	658	---	385
28	192	561	424	398	292	462	750	265	871	685	---	389
29	187	543	380	427	---	376	847	254	888	747	---	372
30	210	548	377	488	---	383	882	249	880	736	---	363
31	221	---	390	392	---	403	---	251	---	701	768	---
MONTH	293	365	448	352	334	348	---	650	569	770	744	580

## SAN JOAQUIN RIVER BASIN

11030500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER			NOVEMBER			DECEMBER		
	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	3180	88	756	4090	70	773	2900	40	313
2	3180	86	738	4160	60	674	2920	41	323
3	3200	90	778	4650	74	929	2920	38	300
4	4120	117	1300	4920	82	1090	2910	34	267
5	3580	81	783	4870	83	1090	2880	34	264
6	3240	81	709	4520	69	842	2830	42	321
7	3210	83	719	3830	54	558	2760	32	238
8	3240	77	674	3600	62	603	2760	27	201
9	3230	76	663	3670	60	595	2790	27	203
10	3100	74	619	3910	76	802	2940	34	270
11	3130	74	625	4000	63	680	3060	47	388
12	3340	75	676	3950	48	512	3110	42	353
13	3300	72	642	3730	50	504	3050	39	321
14	3200	76	657	3540	43	411	2870	38	294
15	3140	68	577	3360	41	372	2690	34	247
16	3120	68	573	3200	37	320	2570	26	180
17	3010	64	520	3100	41	343	2520	23	156
18	2860	65	502	3050	35	288	2540	28	192
19	2820	64	487	3030	39	319	2530	28	191
20	2790	60	452	2990	44	355	2390	27	174
21	2780	58	435	3060	38	314	2420	26	170
22	2800	56	423	3080	40	333	2840	42	322
23	2990	69	557	3070	38	315	3120	38	320
24	3170	77	659	2980	40	322	3270	52	459
25	3490	78	735	2890	39	304	2950	40	319
26	3670	76	753	2780	33	248	2360	27	172
27	3840	90	933	2690	37	269	2180	25	147
28	4110	81	899	2650	33	236	2830	34	260
29	4310	71	826	2720	39	286	3090	36	300
30	4100	63	697	2840	40	307	3120	39	329
31	3900	62	653	---	---	---	3060	35	289
TOTAL	103150	---	21020	104930	---	14994	87180	---	8283

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	2800	24	181	5750	54	838	10900	68	2000
2	2210	16	95	5810	53	831	12200	106	3490
3	2180	21	124	5910	43	686	13700	82	3030
4	3330	52	468	5990	56	906	12400	71	2380
5	3580	58	561	5640	54	822	11200	63	1910
6	3530	59	562	4710	55	699	10200	58	1600
7	3470	59	553	4860	63	827	10200	57	1570
8	3140	47	398	4920	66	879	9950	55	1480
9	2610	46	324	4870	68	894	9590	49	1270
10	3630	76	745	4750	65	834	9280	53	1330
11	4070	86	945	4530	59	722	8970	56	1360
12	4420	110	1310	4180	55	621	8390	54	1220
13	6610	180	3210	3620	62	606	7590	59	1210
14	6660	124	2230	4560	57	700	7950	56	1200
15	6050	128	2090	5640	81	1230	8060	55	1200
16	6360	139	2390	6840	103	1900	8090	51	1110
17	7600	134	2750	7410	99	1980	8160	56	1230
18	7760	129	2700	7800	80	1680	8430	49	1120
19	7970	100	2150	7540	95	1930	8290	44	985
20	7790	98	2060	6670	74	1330	7690	53	1100
21	7250	83	1620	7050	86	1640	8140	54	1190
22	6620	74	1320	9210	157	3900	8050	48	1040
23	5810	78	1220	11500	169	5250	7820	51	1080
24	5390	74	1080	12800	113	3910	7470	58	1170
25	6590	69	1230	13100	104	3680	6730	49	890
26	6550	72	1270	12300	93	3090	5710	69	1060
27	6400	57	985	11000	81	2410	4990	76	1020
28	6130	64	1060	10900	77	2270	5740	69	1070
29	5480	64	947	---	---	---	7190	81	1570
30	4800	64	829	---	---	---	7800	71	1500
31	5440	66	969	---	---	---	7330	59	1170
TOTAL	162230	---	38376	199860	---	47065	268210	---	44555

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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	7080	50	956	2100	45	255	4350	115	1350
2	6840	59	1090	2180	42	247	3220	107	930
3	6200	66	1100	1990	44	236	2790	100	753
4	6510	58	1020	1980	34	182	2700	94	685
5	6190	69	1150	1860	40	201	2820	97	739
6	5760	72	1120	1810	47	230	2960	103	823
7	4970	80	1070	1830	45	222	2930	105	831
8	4300	88	1020	1820	41	201	2890	113	882
9	3700	80	799	1790	46	222	3320	143	1280
10	3230	77	672	1710	34	157	3310	156	1390
11	3240	75	656	1690	33	151	2780	140	1050
12	3120	63	531	1670	42	189	2340	122	771
13	2970	66	529	1720	47	220	2150	103	598
14	2810	58	440	1810	52	254	2500	96	648
15	2660	59	424	1640	57	252	2550	97	668
16	2630	54	383	1480	62	248	2730	104	767
17	2450	64	423	1540	64	266	2250	102	620
18	2490	63	424	1600	63	272	2020	100	545
19	2420	64	418	1950	63	332	1890	102	521
20	2270	59	362	2400	62	402	1680	112	508
21	2310	49	306	2820	57	434	1560	119	501
22	2310	56	349	2760	58	432	1480	120	480
23	2300	47	292	2770	59	441	1360	117	430
24	2150	51	296	3190	63	543	1410	120	457
25	2190	56	331	3690	88	877	1440	118	459
26	2300	55	342	3960	101	1080	1320	117	417
27	2570	46	319	3830	92	951	1290	113	394
28	2600	44	309	4310	110	1280	1230	103	342
29	2330	43	271	4690	140	1770	1150	113	351
30	2290	40	247	4820	120	1560	1190	120	386
31	---	---	---	4810	114	1480	---	---	---
TOTAL	105190	---	17649	78220	---	15587	67610	---	20576
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	1230	105	349	1370	129	477	1670	78	352
2	1340	114	412	1420	78	299	1690	90	411
3	1310	123	435	1410	94	358	1760	94	447
4	1260	128	435	1430	125	483	1670	98	442
5	1290	127	442	1470	107	425	1640	92	407
6	1310	140	495	1690	91	415	1560	86	362
7	1380	152	566	1600	102	441	1570	82	348
8	1380	128	477	1440	102	397	1750	99	468
9	1370	124	459	1390	82	308	1880	96	487
10	1240	130	435	1290	85	296	1910	91	469
11	1150	126	391	1260	107	364	1770	90	430
12	1210	137	448	1270	102	350	1700	94	431
13	1140	118	363	1430	104	402	1610	94	409
14	1090	128	377	1380	103	384	1620	83	363
15	1180	148	472	1280	94	325	1620	87	381
16	1320	143	510	1260	115	391	1660	87	390
17	1280	149	515	1260	117	398	1680	79	358
18	1150	148	460	1270	113	387	1620	79	346
19	1220	143	471	1450	122	478	1620	92	402
20	1250	133	449	1570	115	487	1770	85	406
21	1280	154	532	1460	104	410	1750	80	378
22	1530	162	669	1440	104	404	1770	83	397
23	1750	147	695	1410	94	358	2040	102	562
24	1590	148	635	1510	101	412	2210	94	561
25	1480	156	623	1540	90	374	2070	99	553
26	1480	148	591	1610	94	409	2090	91	514
27	1520	121	497	1730	102	476	2420	97	634
28	1420	109	418	1540	84	349	2290	86	532
29	1330	101	363	1570	93	394	2380	102	655
30	1460	104	410	1640	82	363	2440	85	560
31	1400	128	484	1590	85	365	---	---	---
TOTAL	41340	---	14878	44980	---	12179	55230	---	13455
YEAR	1318140		268617.0						

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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
OCT						
04...	1300	4250	18.0	122	1400	73
NOV						
01...	1230	4140	15.0	76	850	70
DEC						
05...	1200	2870	9.5	64	496	79
JAN						
05...	1100	3620	10.0	52	508	67
APR						
10...	1200	3180	15.0	83	713	90
MAY						
30...	1100	4840	18.0	106	1390	66
JUN						
18...	1100	2040	20.0	93	512	94
JUL						
24...	1100	1640	27.0	149	660	97
AUG						
30...	1400	1680	23.5	88	399	94
SEP						
19...	1325	1640	22.5	90	399	93

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
OCT						
01...	0735	3150	20.0	88	748	18
02...	0815	3190	20.5	86	741	20
03...	0840	3000	20.0	85	688	23
04...	0845	4200	18.5	130	1470	27
04...	1300	4260	18.0	122	1400	13
05...	0845	3650	20.0	79	779	19
06...	0900	3220	20.5	81	704	18
07...	0855	3210	20.0	84	728	21
08...	0730	3230	20.0	77	672	17
09...	0800	3240	19.5	76	665	16
10...	0840	3120	19.5	74	623	17
11...	0845	3120	19.5	74	623	16
12...	0850	3340	19.5	76	685	16
13...	0855	3300	19.5	72	642	17
14...	0905	3180	19.5	78	670	17
15...	0800	3150	20.0	68	578	17
16...	0100	3120	19.0	68	573	17
17...	0845	3060	17.5	63	521	14
18...	0845	2890	17.5	65	507	17
19...	0855	2810	17.5	65	493	14
20...	0830	2790	17.5	61	460	15
21...	0835	2770	17.0	58	434	14
22...	0745	2780	17.0	56	420	13
23...	0825	2930	16.5	67	530	16
24...	0850	3140	16.0	77	653	18
25...	0900	3450	16.0	79	736	17
26...	1135	3660	15.5	76	751	16
27...	0900	3820	16.0	93	959	16
28...	0855	4070	16.0	82	901	17
29...	0855	4360	16.0	73	859	18
30...	0835	4160	15.0	63	708	17
31...	0855	3890	14.5	61	641	17
NOV						
01...	0900	4110	14.5	69	766	17
02...	0815	4120	14.0	58	645	15
03...	0745	4620	14.0	70	873	17
04...	0805	4960	13.0	82	1100	15
05...	0700	4960	13.0	85	1140	15
06...	0845	4650	13.0	74	929	15
07...	0810	3900	13.5	52	548	15

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
NOV						
08...	0915	3590	14.0	63	611	17
09...	0805	3630	14.0	57	559	15
10...	0725	3870	13.5	78	815	17
11...	0805	4000	11.0	68	734	17
12...	0655	3970	11.0	48	515	14
13...	1100	3730	10.5	51	514	13
14...	0805	3570	10.0	43	414	13
15...	1015	3370	10.0	42	382	13
16...	0815	3210	10.0	37	321	11
17...	0920	3090	10.5	42	350	12
18...	0815	3070	11.0	36	298	12
19...	0755	3030	11.0	38	311	11
20...	0940	3040	11.5	46	378	12
21...	0810	3030	12.0	38	311	12
22...	0810	3090	12.0	40	334	13
23...	0730	3090	11.5	39	325	13
24...	0850	2990	11.5	40	323	20
25...	0800	2910	11.0	40	314	14
26...	0800	2790	11.0	33	249	12
27...	1325	2680	11.0	38	275	12
28...	0925	2640	11.5	32	228	11
29...	0915	2680	10.5	39	282	11
30...	1215	2840	11.5	40	307	12
DEC						
01...	0820	2900	12.0	40	313	14
02...	0810	2920	10.5	42	331	12
03...	0735	2910	10.0	38	299	12
04...	0745	2900	9.0	34	266	10
05...	0810	2890	9.5	21	164	11
05...	1200	2870	9.5	64	496	6.0
06...	0955	2820	8.0	44	335	16
07...	0815	2760	6.5	33	246	10
08...	0940	2760	6.5	27	201	11
09...	0810	2770	5.5	27	202	9.0
10...	0715	2890	6.0	31	242	11
11...	0800	3040	6.0	48	394	22
12...	0815	3110	7.0	44	369	18
13...	1050	3060	8.0	39	322	15
14...	0815	2910	7.0	38	299	13
15...	1320	2660	8.5	33	237	12
16...	1030	2570	8.0	26	180	9.0
17...	0735	2510	9.0	22	149	8.0
18...	0955	2520	9.0	28	191	10
19...	0805	2550	8.5	28	193	10
20...	1015	2390	9.5	28	181	9.0
21...	0810	2350	8.0	23	146	8.0
22...	1210	2870	8.5	44	341	10
23...	0810	3110	8.0	34	285	11
24...	0725	3370	9.0	56	510	13
25...	1325	2980	9.5	40	322	11
26...	0810	2430	8.0	27	177	9.0
27...	1220	2110	8.5	24	137	8.0
28...	0810	2830	8.5	34	260	10
29...	0940	3150	9.5	36	306	11
30...	1045	3170	8.0	40	342	12
31...	0735	3150	8.5	38	323	10
JAN						
01...	1135	2900	8.0	24	188	8.0
02...	0825	2220	7.5	16	96	7.0
03...	0830	2000	7.5	16	86	8.0
04...	0830	3310	9.0	53	474	12
05...	0855	3660	10.0	60	593	12
05...	1100	3620	10.0	52	508	10
06...	0845	3600	9.5	59	573	12
07...	0930	3560	10.0	61	586	10
08...	0845	3280	10.0	48	425	8.0
09...	0905	2470	11.0	42	280	8.0
10...	0820	3610	11.0	77	751	18
11...	0830	4070	11.0	87	956	20
12...	0820	4250	11.0	100	1150	25
13...	0755	6520	11.0	201	3540	70
14...	0800	6880	10.0	123	2290	28
15...	0740	6160	10.0	122	2030	34
16...	0805	6030	10.0	139	2260	45
17...	0730	7580	10.0	134	2740	37
18...	0810	7760	9.0	133	2790	50
19...	0750	7950	9.0	99	2130	35
20...	0920	7840	9.0	99	2100	31
21...	0745	7410	9.0	85	1700	32
22...	0940	6890	8.5	73	1360	29



11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
JAN						
23...	0750	5730	9.5	79	1220	25
24...	0755	6370	9.0	76	1310	21
25...	0810	6680	9.0	67	1210	18
26...	0810	6650	8.0	75	1350	17
27...	0920	6440	8.0	56	974	13
28...	0745	6250	8.0	65	1100	13
29...	1140	5650	9.0	64	976	12
30...	0815	4670	7.5	64	807	14
31...	0940	5480	8.0	67	991	12
FEB						
01...	0820	5830	8.0	55	866	11
02...	1610	5780	8.5	54	843	13
03...	0815	5960	8.0	41	660	11
04...	0730	6050	8.0	55	898	12
05...	1305	5710	9.0	53	817	12
06...	1430	4600	9.0	56	696	13
07...	1230	4860	10.5	64	840	13
08...	0815	4920	9.5	67	890	15
09...	0715	4910	10.0	65	862	13
09...	1300	4830	10.0	--	--	10
10...	0815	4810	10.5	66	857	14
11...	0755	4620	11.0	60	748	12
12...	1020	4280	11.5	54	624	12
13...	0810	3380	11.0	64	584	12
14...	0850	4480	10.5	55	665	14
15...	0805	5310	10.0	77	1100	13
16...	0810	6750	11.0	102	1860	27
17...	0805	7350	11.0	104	2060	31
18...	0750	7830	10.0	79	1670	23
19...	0820	7770	10.5	95	1990	20
20...	0800	7240	10.0	73	1430	24
21...	0830	6780	10.5	79	1450	29
22...	0735	8670	10.0	143	3350	50
23...	0845	11300	10.0	180	5490	55
24...	0820	12700	9.5	112	3840	50
25...	0750	13100	10.5	105	3710	40
26...	0900	12600	11.0	95	3230	30
27...	0815	11000	11.0	82	2440	25
28...	0825	10900	11.0	78	2300	22
MAR						
01...	0815	10900	10.0	68	2000	17
02...	0940	11800	11.0	111	3540	40
03...	0810	13900	11.0	83	3120	33
04...	0715	12700	11.0	73	2500	28
05...	1010	11300	12.0	64	1950	22
06...	0815	10200	12.0	59	1630	20
07...	0900	10200	13.0	57	1570	17
08...	0825	10000	13.0	55	1490	17
09...	0810	9630	13.5	49	1270	11
09...	1200	9570	13.0	--	--	14
10...	0815	9390	13.5	53	1340	17
11...	1015	9040	13.0	56	1370	13
12...	0800	8600	13.0	53	1230	15
13...	0815	7490	13.0	60	1210	15
14...	0725	7930	12.5	56	1200	14
15...	0815	8050	12.0	55	1200	14
16...	0955	8080	12.0	51	1110	12
17...	0820	8130	11.5	55	1210	12
18...	0735	8420	11.5	50	1140	13
19...	0920	8440	12.0	44	1000	10
20...	0835	7550	13.0	52	1060	12
21...	0915	8140	12.0	54	1190	12
22...	0820	8090	12.5	49	1070	12
23...	0955	7840	13.0	50	1060	13
24...	0815	7560	13.0	60	1230	13
25...	0655	6980	13.0	50	942	12
26...	0710	6110	14.0	58	957	14
27...	0820	4880	14.0	79	1040	17
28...	1015	5630	14.0	66	1000	14
29...	0815	6980	13.0	84	1580	21
30...	0820	7920	13.0	73	1560	16
31...	0815	7380	13.0	61	1220	17
APR						
01...	0645	7200	13.5	45	875	15
02...	0715	7010	14.0	54	1020	19
03...	0815	6100	14.0	70	1150	14
10...	1200	3180	15.0	83	713	13
MAY						
30...	1100	4840	18.0	106	1390	21
JUN						
18...	1100	2040	20.0	93	512	33

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
JUN						
21...	1215	1560	23.5	117	493	50
22...	0715	1520	21.0	121	497	50
23...	0925	1350	22.5	117	426	50
24...	0950	1420	23.0	121	464	50
25...	0750	1500	22.5	119	482	55
26...	0900	1340	22.0	117	423	50
27...	0840	1280	22.0	115	397	55
28...	0730	1280	22.0	103	356	50
29...	0705	1160	22.5	112	351	45
30...	1010	1180	21.5	122	389	55
JUL						
01...	0855	1180	22.0	104	331	50
02...	0650	1330	23.0	112	402	50
03...	1130	1340	23.5	123	445	50
04...	1040	1230	22.5	129	428	55
05...	0800	1280	22.0	127	439	55
06...	0855	1320	22.0	136	485	60
07...	1035	1390	22.5	156	585	70
08...	0925	1370	22.5	128	473	60
09...	0755	1380	23.0	122	455	55
10...	0810	1270	23.0	131	449	60
11...	0700	1100	22.0	126	374	60
12...	0835	1180	23.5	142	452	70
13...	0750	1160	24.0	119	373	60
14...	1045	1120	25.5	126	381	60
15...	1140	1200	26.0	149	483	65
16...	0710	1280	25.0	141	487	60
17...	0820	1310	25.5	150	531	60
18...	0805	1150	25.0	148	460	70
19...	0610	1150	25.0	146	453	65
20...	0630	1250	26.0	134	452	55
21...	1125	1250	25.0	125	422	65
22...	1835	1610	25.5	160	696	55
23...	0630	1760	25.0	149	708	55
24...	0715	1650	26.0	146	650	60
25...	0825	1490	26.0	156	628	70
26...	0925	1460	25.5	151	595	65
27...	1815	1550	26.5	113	473	55
28...	1835	1360	26.0	108	397	55
29...	1830	1330	26.5	97	348	50
30...	1855	1450	27.5	111	435	50
31...	0630	1420	26.0	124	475	55
AUG						
01...	0715	1350	25.5	136	496	70
02...	2000	1430	27.5	68	263	30
03...	1835	1440	27.0	108	420	55
04...	0745	1420	24.5	128	491	60
05...	1755	1490	25.0	100	402	40
06...	1920	1670	24.5	90	406	32
07...	0720	1640	23.5	99	438	45
08...	0720	1430	23.5	106	409	50
09...	1825	1380	26.0	76	283	36
10...	0920	1290	24.5	80	279	33
11...	0705	1270	24.5	107	367	55
12...	0950	1250	25.0	101	341	50
13...	0645	1390	23.5	102	383	50
14...	0720	1400	22.5	104	393	50
15...	1700	1260	24.0	94	320	38
16...	2010	1280	24.0	122	422	55
17...	0625	1280	22.5	119	411	55
18...	0700	1240	23.0	112	375	55
19...	0710	1380	23.0	122	455	55
20...	0655	1660	22.5	112	502	50
21...	0700	1480	21.0	104	416	45
22...	0650	1390	21.5	104	390	50
23...	1040	1400	22.0	94	355	45
24...	0850	1530	22.0	103	425	35
25...	1235	1580	24.0	88	375	33
26...	1225	1620	23.5	94	411	35
27...	0755	1840	23.0	105	522	38
28...	0705	1550	23.0	85	356	39
29...	0720	1550	22.0	92	385	35
30...	1510	1700	24.0	79	363	31
31...	1250	1610	24.0	89	387	30
SEP						
01...	1805	1680	24.5	76	345	25
02...	0845	1690	23.5	91	415	27
03...	0800	1820	23.5	92	452	29
04...	0645	1680	23.0	100	454	26
05...	0640	1650	22.5	94	419	32

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
SEP						
06...	0710	1560	22.5	86	362	32
07...	0700	1540	24.0	81	337	30
08...	1645	1810	25.0	104	508	33
09...	1740	1970	24.0	93	495	32
10...	0650	1950	22.5	92	484	30
11...	0705	1760	22.0	90	428	28
12...	0700	1730	23.0	94	439	30
13...	1735	1640	25.0	93	412	31
14...	0700	1610	23.5	84	365	29
15...	0645	1580	23.5	86	367	31
16...	0725	1650	24.0	89	396	28
17...	1815	1640	24.5	77	341	27
18...	1825	1600	24.0	82	354	26
19...	1325	1640	22.5	90	399	24
19...	1800	1670	23.5	93	419	33
20...	1815	1750	23.5	81	383	25
21...	0700	1720	21.5	79	367	24
22...	1845	1810	23.0	84	411	26
23...	1920	2120	22.5	112	641	36
24...	1815	2140	22.5	85	491	25
25...	1000	2070	21.5	104	581	27
26...	0900	1990	20.0	89	478	29
27...	0730	2410	19.0	99	644	28
28...	0740	2260	19.0	85	519	27
29...	0825	2370	20.0	104	665	22

## SAN JOAQUIN RIVER BASIN

11306000 SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°08'40", long 120°39'46", in SW¼NW¼ sec.4, T.3 N., R.12 E., Calaveras County, Hydrologic Unit 18040011, on right bank 0.1 mi (0.2 km) downstream from San Antonio Creek, and 3.7 mi (6.0 km) south of San Andreas.

DRAINAGE AREA.--118 mi<sup>2</sup> (306 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1950 to September 1979 (discontinued).

REVISED RECORDS.--WSP 1395: 1951(M).

GAGE.--Water-stage recorder. Altitude of gage is 860 ft (262 m), from topographic map. Prior to Feb. 13, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good. Some diversions for irrigation above station.

AVERAGE DISCHARGE.--29 years, 79.8 ft<sup>3</sup>/s (2.260 m<sup>3</sup>/s), 57,820 acre-ft/yr (71.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft<sup>3</sup>/s (498 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 10.29 ft (3.136 m), from rating curve extended above 5,700 ft<sup>3</sup>/s (161 m<sup>3</sup>/s) on basis of slope-area measurement of peak flow; maximum gage height, 11.41 ft (3.478 m) Mar. 1, 1974; no flow at times 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. 11	1400	4,360 123	8.21 2.502	Feb. 22	1715	3,990 113	8.00 2.438
Jan. 15	0600	1,030 29.2	5.06 1.542	Mar. 1	0315	*4,370 124	8.22 2.506
Feb. 14	0530	2,190 62.0	6.58 2.006	Mar. 28	0545	2,540 71.9	6.93 2.112

Minimum daily, 0.90 ft<sup>3</sup>/s (0.025 m<sup>3</sup>/s) Oct. 30 to Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	.90	15	12	111	1820	292	85	28	8.8	2.3	2.3
2	2.1	.91	26	12	139	548	260	81	27	8.4	2.2	2.0
3	2.0	.92	23	12	113	359	231	76	25	8.0	2.1	1.9
4	2.0	.95	20	12	88	291	208	72	25	7.8	2.0	1.9
5	2.0	.96	17	12	74	251	195	69	24	7.4	2.0	2.1
6	2.1	.98	16	12	65	225	190	78	23	7.0	1.9	2.2
7	2.1	1.0	14	10	59	209	179	90	22	6.8	1.9	2.2
8	2.1	1.1	11	28	54	218	168	118	21	6.4	1.9	2.1
9	2.0	1.1	9.5	124	50	209	161	103	20	6.2	1.9	2.1
10	1.9	1.2	9.0	49	48	200	149	87	20	6.0	1.7	2.0
11	2.0	1.3	8.0	1870	47	195	141	77	19	5.8	1.8	1.9
12	1.9	1.4	7.5	539	45	189	134	71	18	5.4	2.0	1.6
13	1.8	10	7.2	195	332	181	129	66	17	5.2	2.2	1.6
14	1.7	9.0	7.0	357	1130	170	123	62	17	5.0	2.3	1.3
15	1.6	7.5	7.0	767	370	348	117	59	16	4.8	2.4	1.3
16	1.5	6.5	11	326	319	516	115	55	16	4.6	2.3	1.1
17	1.4	6.0	15	197	248	305	120	49	15	4.5	2.2	1.1
18	1.3	5.8	44	342	215	261	114	48	14	4.2	2.2	1.3
19	1.3	6.0	47	187	521	247	102	46	14	4.0	2.1	1.4
20	1.2	9.0	31	130	589	213	95	44	13	3.9	2.1	1.7
21	1.2	15	24	106	1980	204	91	43	13	3.8	2.4	1.7
22	1.1	30	22	89	2020	200	89	42	13	3.6	2.6	1.8
23	1.1	20	18	76	1260	177	95	40	12	3.4	2.7	1.8
24	1.1	12	16	68	526	160	93	38	12	3.2	2.7	1.8
25	1.0	9.0	15	84	343	153	86	37	11	3.1	2.6	2.0
26	1.0	8.5	15	68	336	151	94	35	11	3.0	2.3	2.2
27	.98	8.0	14	58	282	800	126	34	10	2.9	1.7	2.0
28	.95	7.5	14	53	289	1750	108	33	10	2.8	1.8	2.0
29	.92	7.5	13	47	---	682	96	32	9.5	2.6	2.0	2.0
30	.90	8.0	13	47	---	431	90	31	9.0	2.5	2.3	2.0
31	.90	---	13	127	---	340	---	30	---	2.4	2.3	---
TOTAL	47.35	198.02	522.2	6016	11653	12003	4191	1831	504.5	153.5	66.9	54.4
MEAN	1.53	6.60	16.8	194	416	387	140	59.1	16.8	4.95	2.16	1.81
MAX	2.2	30	47	1870	2020	1820	292	118	28	8.8	2.7	2.3
MIN	.90	.90	7.0	10	45	151	86	30	9.0	2.4	1.7	1.1
AC-FT	94	393	1040	11930	23110	23810	8310	3630	1000	304	133	108
CAL YR 1978	TOTAL	45829.57	MEAN	126	MAX	2030	MIN	.90	AC-FT	90900		
WTR YR 1979	TOTAL	37240.87	MEAN	102	MAX	2020	MIN	.90	AC-FT	73870		

WATER-QUALITY RECORDS

SEDIMENT RECORDS: Water years 1974 to June 1979 (discontinued).

SEDIMENT RECORDS: October 1973 to June 1979 (discontinued).

SEDIMENT DISCHARGE: Maximum daily, 3,750 tons (3,400 metric tons) Mar. 2, 1974; minimum daily, 0 ton (0 metric ton) on many days in each year.

SEDIMENT DISCHARGE: Maximum daily, 1,740 tons (1,580 metric tons) Jan. 11; minimum daily, 0 ton (0 metric ton) on several days during October to December.

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	10.0	---	7.0	9.0	---	15.0	---			
2	---	---	---	---	---	10.6	---	---	---			
3	---	---	---	---	---	9.5	---	---	---			
4	---	---	---	---	---	---	---	---	---			
5	---	14.5	---	8.5	---	---	11.5	---	---			
6	21.5	---	6.0	---	---	---	---	---	---			
7	---	---	---	8.0	9.0	---	---	---	---			
8	---	---	---	8.5	7.0	---	---	---	---			
9	22.0	15.0	---	---	---	---	---	---	---			
10	---	---	---	---	---	---	10.0	---	---			
11	20.0	---	7.0	13.0	---	--?	---	19.0	---			
12	---	---	---	10.0	---	13.6	---	---	---			
13	---	9.5	---	8.0	8.5	--?	---	---	---			
14	21.5	---	---	9.0	9.5	---	---	---	---			
15	---	---	7.5	8.0	---	11.5	---	---	---			
16	---	---	---	8.0	---	9.0	---	22.0	---			
17	---	12.0	8.0	---	---	--?	12.5	---	---			
18	20.0	---	7.5	7.5	7.0	---	---	---	---			
19	---	---	8.0	---	11.0	---	---	---	---			
20	---	10.5	---	---	8.0	---	---	---	---			
21	---	10.5	---	---	8.0	---	--?	---	---			
22	---	11.0	---	---	8.0	--?	--?	---	---			
23	18.5	---	---	---	8.0	---	---	---	---			
24	---	---	---	8.0	---	14.0	---	---	---			
25	---	---	7.0	---	8.5	---	---	---	16.0			
26	---	---	---	---	---	---	14.5	---	---			
27	17.0	8.5	---	---	---	10.5	---	---	---			
28	---	---	---	---	10.0	11.0	---	---	---			
29	---	---	---	---	---	11.5	---	---	---			
30	---	---	---	---	---	---	---	---	---			
31	12.5	---	7.0	6.5	---	--?	---	---	---			
MONTH	---	---	---	---	---	--?	---	---	---			

## SAN JOAQUIN RIVER BASIN

11306000 SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), OCTOBER 1978 TO JUNE 1979

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	2.2	2	.01	.90	2	0	15	2	.08
2	2.1	2	.01	.91	2	0	26	5	.35
3	2.0	3	.02	.92	2	0	23	15	.93
4	2.0	3	.02	.95	2	.01	20	12	.65
5	2.0	4	.02	.96	2	.01	17	5	.23
6	2.1	4	.02	.98	2	.01	16	2	.09
7	2.1	4	.02	1.0	2	.01	14	0	0
8	2.1	3	.02	1.1	2	.01	11	1	.03
9	2.0	3	.02	1.1	2	.01	9.5	1	.03
10	1.9	3	.02	1.2	2	.01	9.0	1	.02
11	2.0	2	.01	1.3	3	.01	8.0	2	.04
12	1.9	2	.01	1.4	5	.02	7.5	2	.04
13	1.8	2	.01	10	8	.22	7.2	2	.04
14	1.7	2	.01	9.0	11	.27	7.0	2	.04
15	1.6	2	.01	7.5	10	.20	7.0	2	.04
16	1.5	2	.01	6.5	6	.11	11	2	.06
17	1.4	2	.01	6.0	3	.05	15	2	.08
18	1.3	2	.01	5.8	1	.02	44	3	.36
19	1.3	2	.01	6.0	1	.02	47	3	.38
20	1.2	2	.01	9.0	1	.02	31	3	.25
21	1.2	2	.01	15	4	.16	24	3	.19
22	1.1	2	.01	30	16	1.3	22	3	.18
23	1.1	2	.01	20	19	1.0	18	3	.15
24	1.1	2	.01	12	12	.39	16	3	.13
25	1.0	2	.01	9.0	6	.15	15	3	.12
26	1.0	2	.01	8.5	3	.07	15	3	.12
27	.98	2	.01	8.0	1	.02	14	3	.11
28	.95	2	.01	7.5	1	.02	14	3	.11
29	.92	2	0	7.5	1	.02	13	3	.11
30	.90	2	0	8.0	1	.02	13	3	.11
31	.90	2	0	---	---	---	13	3	.11
TOTAL	47.35	---	.36	198.02	---	4.16	522.2	---	5.18
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	12	3	.10	111	2	.60	1820	57	716
2	12	3	.10	139	3	1.1	548	7	10
3	12	3	.10	113	2	.61	359	5	4.8
4	12	3	.10	88	2	.48	291	5	3.9
5	12	3	.10	74	2	.40	251	4	2.7
6	12	3	.10	65	2	.35	225	4	2.4
7	10	3	.08	59	2	.32	209	4	2.3
8	28	8	1.5	54	1	.15	218	4	2.4
9	124	21	8.2	50	1	.14	209	4	2.3
10	49	8	1.1	48	1	.13	200	4	2.2
11	1870	195	1740	47	1	.13	195	4	2.1
12	539	18	34	45	1	.12	189	5	2.6
13	195	5	2.6	332	15	.37	181	5	2.4
14	357	14	19	1130	50	207	170	4	1.8
15	767	25	56	370	7	7.0	348	19	29
16	326	9	7.9	319	5	4.3	516	20	32
17	197	5	2.7	248	3	2.0	305	8	6.6
18	342	8	8.4	215	1	.58	261	7	4.9
19	187	3	1.5	521	5	7.0	247	5	3.3
20	130	2	.70	589	17	59	213	5	2.9
21	106	1	.29	1480	87	523	204	4	2.2
22	89	1	.24	2020	100	761	200	4	2.2
23	76	1	.21	1240	29	124	177	3	1.4
24	68	1	.18	526	10	14	150	3	1.3
25	84	2	.45	343	5	4.6	153	3	1.2
26	68	1	.18	336	3	2.7	151	2	.82
27	58	1	.16	282	2	1.5	800	65	327
28	53	1	.14	289	6	12	1750	109	623
29	47	1	.13	---	---	---	682	23	42
30	47	1	.13	---	---	---	431	17	20
31	127	4	1.7	---	---	---	340	12	11
TOTAL	6016	---	1888.09	11653	---	1771.21	12003	---	1868.72

11306000 SOUTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), OCTOBER 1978 TO JUNE 1979

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	292	8	6.3	45	10	2.3	28	3	.23
2	260	6	4.2	41	9	2.0	27	3	.22
3	231	5	3.1	76	8	1.6	25	3	.20
4	208	5	2.6	72	7	1.4	25	3	.20
5	195	4	2.1	69	5	.93	24	3	.19
6	190	4	2.1	78	7	1.5	23	2	.12
7	179	4	1.9	90	10	2.4	22	2	.12
8	168	4	1.8	118	15	4.8	21	2	.11
9	161	4	1.7	103	12	3.3	20	2	.11
10	149	4	1.6	87	8	1.9	20	2	.11
11	141	4	1.5	77	6	1.2	19	2	.10
12	134	4	1.4	71	5	.96	18	2	.10
13	129	4	1.4	66	5	.89	17	2	.09
14	123	4	1.3	62	5	.84	17	2	.09
15	117	4	1.3	59	5	.80	16	2	.09
16	115	4	1.2	55	5	.74	16	2	.09
17	120	4	1.3	49	5	.66	15	2	.08
18	114	4	1.2	48	4	.52	14	2	.08
19	102	3	.83	46	4	.50	14	2	.08
20	95	3	.77	44	4	.48	13	2	.07
21	91	3	.74	43	4	.46	13	2	.07
22	89	3	.72	42	4	.45	13	2	.07
23	95	3	.77	40	4	.43	12	2	.06
24	93	3	.75	38	4	.41	12	2	.06
25	86	3	.70	37	3	.30	11	3	.09
26	94	7	1.8	35	3	.28	11	3	.09
27	126	13	4.4	34	3	.28	10	3	.08
28	108	12	3.5	33	4	.36	10	3	.08
29	96	11	2.9	32	3	.26	9.5	3	.08
30	90	10	2.4	31	3	.25	9.0	3	.07
31	---	---	---	30	3	.24	---	---	---
TOTAL	4191	---	58.48	1831	---	33.44	504.5	---	3.23
PERIOD	36966.07	---	5632.87						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, OCTOBER 1978 TO JUNE 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN								
11...	1115	3100	13.0	274	2290	44	56	69
12...	1335	408	10.0	11	12	--	--	--
15...	1235	914	8.0	17	42	--	--	--
FEB								
14...	1445	948	9.5	28	72	--	--	--
MAR								
01...	1030	1590	9.0	32	137	--	--	--
27...	1730	1200	10.5	395	1280	30	40	56
28...	1530	1400	11.0	38	144	--	--	--
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
JAN								
11...		82	88	91	95	96	99	100
12...		--	--	92	95	97	100	--
15...		--	--	84	93	99	100	--
FEB								
14...		--	--	98	99	100	--	--
MAR								
01...		--	--	91	96	98	100	--
27...		76	90	96	99	100	--	--
28...		--	--	96	98	100	--	--

## SAN JOAQUIN RIVER BASIN

11308000 NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°13'17", long 120°41'54", in NE¼NW¼ sec.7, T.4 N., R.12 E., Calaveras County, Hydrologic Unit 18040011, on right bank 0.5 mi (0.8 km) upstream from Chile Gulch, and 1.8 mi (2.9 km) northwest of San Andreas.

DRAINAGE AREA.--85.2 mi<sup>2</sup> (220.7 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1950 to September 1979 (discontinued).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 750 ft (229 m), from topographic map. Prior to Feb. 14, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--29 years, 46.0 ft<sup>3</sup>/s (1.303 m<sup>3</sup>/s), 33,330 acre-ft/yr (41.1 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,200 ft<sup>3</sup>/s (176 m<sup>3</sup>/s) Dec. 23, 1955, gage height, 12.52 ft (3.816 m), from rating curve extended above 3,900 ft<sup>3</sup>/s (110 m<sup>3</sup>/s); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 800 ft<sup>3</sup>/s (22.7 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. 11	1715	*2,600 73.6	8.12 2.475	Mar. 1	0430	1,500 42.5	6.36 1.939
Feb. 14	0945	950 26.9	5.13 1.564	Mar. 28	0145	1,400 39.6	6.14 1.871
Feb. 21	2245	959 27.2	5.15 1.570				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	.64	9.7	9.8	31	881	136	30	9.5	3.0	.64	
2	1.6	.56	16	9.7	32	421	113	28	8.9	2.8	.45	
3	1.6	.68	10	9.8	34	286	96	27	8.3	2.6	.34	
4	1.5	.64	8.0	9.9	30	218	84	25	7.8	2.6	.24	
5	1.4	.67	7.4	10	27	164	76	25	7.6	3.2	.15	
6	1.3	.71	7.0	11	25	131	71	27	7.3	3.4	.02	
7	1.3	.83	6.4	11	24	110	65	33	7.3	3.6	0	
8	1.2	.82	5.9	16	23	96	60	48	7.0	3.6	0	
9	1.1	.85	5.6	72	21	84	57	44	7.2	3.2	0	
10	1.0	.91	5.6	28	20	73	54	35	6.4	2.8	0	
11	.92	.93	5.6	1170	19	65	52	29	5.7	3.0	0	
12	.93	1.1	5.7	275	19	60	49	26	5.3	2.8	0	
13	.92	3.9	5.6	84	27	55	46	24	5.1	2.2	0	
14	.78	5.6	5.6	85	445	51	43	22	5.1	1.9	0	
15	.70	4.6	5.6	225	183	127	41	21	5.5	1.2	0	
16	.76	3.9	5.6	186	162	327	40	19	5.6	1.1	0	
17	.75	3.6	6.8	85	145	168	45	19	5.9	.64	0	
18	.62	3.6	26	74	101	120	46	18	6.3	.60	0	
19	.73	3.7	45	65	313	120	40	17	6.2	.47	0	
20	.62	5.5	27	48	235	95	37	16	5.7	.42	0	
21	.62	16	20	39	747	107	35	16	5.3	.50	0	
22	.62	18	16	32	749	93	34	16	5.3	2.0	0	
23	.70	11	14	27	689	82	38	15	4.8	2.4	0	
24	.71	7.7	13	24	385	71	38	14	4.5	1.9	0	
25	.72	6.0	12	24	252	64	33	13	3.8	1.1	0	
26	.67	5.2	12	23	315	60	35	12	3.8	.56	0	
27	.68	4.8	11	20	242	253	50	12	3.6	.47	0	
28	.64	4.5	11	19	170	1050	39	11	3.6	.85	0	
29	.70	4.3	11	17	---	403	34	11	3.2	1.2	0	
30	.61	4.3	10	17	---	241	31	11	3.0	1.1	0	
31	.56	---	10	24	---	174	---	10	---	.96	0	---
TOTAL	28.66	125.54	360.1	2750.2	5465	6250	1618	674	174.6	58.17	1.84	0
MEAN	.92	4.18	11.6	88.7	195	202	53.9	21.7	5.82	1.88	.059	0
MAX	1.7	18	45	1170	749	1050	136	48	9.5	3.6	.64	0
MIN	.56	.56	5.6	9.7	19	51	31	10	3.0	.42	0	0
AC-FT	57	249	714	5460	10840	12400	3210	1340	346	115	3.6	0

CAL YR 1978 TOTAL 22149.43 MEAN 60.7 MAX 959 MIN 0 AC-FT 43930  
WTR YR 1979 TOTAL 17506.11 MEAN 48.0 MAX 1170 MIN 0 AC-FT 34720



WATER-QUALITY RECORDS

SEDIMENT RECORDS: October 1973 to June 1979 (discontinued).

SEDIMENT DISCHARGE: Maximum daily, 1,840 tons (1,670 metric tons) Jan. 11, 1979; minimum daily, 0 ton (0 metric ton) on many days each year.

SEDIMENT DISCHARGE: Maximum daily, 1,840 tons (1,670 metric tons) Jan. 11; minimum daily, 0 ton (0 metric tons) Oct. 13-17.

ONCE-DAILY

[illegible]

11308000 NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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	1.7	2	.01	.64	15	.03	9.7	13	.34
2	1.6	2	.01	.56	13	.02	16	13	.56
3	1.6	2	.01	.68	11	.02	10	8	.22
4	1.5	2	.01	.64	8	.01	8.0	5	.11
5	1.4	2	.01	.67	6	.01	7.4	4	.08
6	1.3	2	.01	.71	5	.01	7.0	3	.06
7	1.3	2	.01	.83	5	.01	6.4	3	.05
8	1.2	4	.01	.82	5	.01	5.9	3	.05
9	1.1	5	.01	.85	6	.01	5.6	3	.05
10	1.0	4	.01	.91	7	.02	5.6	3	.05
11	.92	3	.01	.93	7	.02	5.6	3	.05
12	.93	2	.01	1.1	8	.02	5.7	4	.06
13	.92	1	0	3.9	8	.08	5.6	6	.09
14	.78	1	0	5.6	8	.12	5.6	8	.12
15	.70	1	0	4.6	7	.09	5.6	8	.12
16	.76	2	0	3.9	5	.05	5.6	5	.08
17	.75	2	0	3.6	3	.03	6.8	4	.07
18	.62	3	.01	3.6	3	.03	26	9	.63
19	.73	4	.01	3.7	3	.03	45	8	.97
20	.62	4	.01	5.5	10	.15	27	6	.44
21	.62	5	.01	16	17	.73	20	6	.32
22	.62	6	.01	18	6	.29	16	6	.26
23	.70	7	.01	11	4	.12	14	6	.23
24	.71	8	.02	7.7	4	.08	13	5	.18
25	.72	9	.02	6.0	4	.06	12	5	.16
26	.67	12	.02	5.2	4	.06	12	5	.16
27	.68	16	.03	4.8	4	.05	11	5	.15
28	.64	17	.03	4.5	4	.05	11	5	.15
29	.70	18	.03	4.3	4	.05	11	5	.15
30	.61	18	.03	4.3	4	.05	10	5	.14
31	.56	17	.03	---	---	---	10	5	.14
TOTAL	28.66	---	.39	125.54	---	2.31	360.1	---	6.24
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	9.8	5	.13	31	4	.33	881	70	204
2	9.7	5	.13	32	5	.43	421	11	13
3	9.8	4	.11	34	6	.55	286	6	4.6
4	9.9	4	.11	30	3	.24	218	6	3.5
5	10	4	.11	27	2	.15	164	6	2.7
6	11	4	.12	25	1	.07	131	7	2.5
7	11	4	.12	24	1	.06	110	7	2.1
8	16	80	3.5	23	1	.06	96	8	2.1
9	72	100	19	21	1	.06	84	9	2.0
10	28	15	1.1	20	1	.05	73	10	2.0
11	1170	411	1840	19	1	.05	65	11	1.9
12	275	189	186	19	1	.05	60	11	1.8
13	84	10	2.3	27	11	.80	55	10	1.5
14	85	8	1.8	445	175	264	51	8	1.1
15	225	16	9.7	183	9	4.4	127	38	20
16	186	14	7.0	162	11	4.8	327	36	37
17	85	5	1.1	145	8	3.1	168	10	4.5
18	74	3	.60	101	5	1.4	120	7	2.3
19	65	3	.53	313	23	19	120	7	2.3
20	48	3	.39	235	17	14	95	6	1.5
21	39	3	.32	747	80	163	107	8	2.3
22	32	3	.26	749	56	119	93	7	1.8
23	27	3	.22	689	33	61	82	5	1.1
24	24	2	.13	385	13	14	71	5	.96
25	24	3	.19	252	7	4.8	64	4	.69
26	23	3	.19	315	10	8.5	60	4	.65
27	20	3	.16	242	6	3.9	253	80	84
28	19	2	.10	170	7	3.5	1050	114	368
29	17	2	.09	---	---	---	403	21	23
30	17	2	.09	---	---	---	241	13	8.5
31	24	2	.13	---	---	---	174	9	4.2
TOTAL	2750.2	---	2075.73	5465	---	691.30	6250	---	807.60

11308000 NORTH FORK CALAVERAS RIVER NEAR SAN ANDREAS, CA-Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL			MAY			JUNE		
	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	136	7	2.6	30	2	.16	9.5	2	.05
2	113	5	1.5	28	2	.15	8.9	2	.05
3	96	3	.78	27	2	.15	8.3	2	.04
4	84	2	.45	25	2	.14	7.8	2	.04
5	76	2	.41	25	2	.14	7.6	2	.04
6	71	2	.38	27	3	.22	7.3	2	.04
7	65	3	.53	33	6	.53	7.3	2	.04
8	60	4	.65	48	9	1.2	7.0	2	.04
9	57	5	.77	44	7	.83	7.2	2	.04
10	54	5	.73	35	6	.57	6.4	2	.03
11	52	5	.70	29	4	.31	5.7	2	.03
12	49	5	.66	26	3	.21	5.3	2	.03
13	46	5	.62	24	3	.19	5.1	2	.03
14	43	5	.58	22	3	.18	5.1	2	.03
15	41	5	.55	21	3	.17	5.5	2	.03
16	40	4	.43	19	3	.15	5.6	2	.03
17	45	4	.49	19	3	.15	5.9	2	.03
18	46	6	.75	18	3	.15	6.3	1	.02
19	40	5	.54	17	3	.14	6.2	1	.02
20	37	5	.50	16	3	.13	5.7	1	.02
21	35	5	.47	16	3	.13	5.3	1	.01
22	34	4	.37	16	3	.13	5.3	1	.01
23	38	5	.51	15	3	.12	4.8	1	.01
24	38	6	.62	14	3	.11	4.5	1	.01
25	33	5	.45	13	3	.11	3.8	1	.01
26	35	6	.57	12	3	.10	3.8	1	.01
27	50	10	1.4	12	3	.10	3.6	1	.01
28	39	9	.95	11	3	.09	3.6	1	.01
29	34	7	.64	11	3	.09	3.2	1	.01
30	31	5	.42	11	3	.09	3.0	1	.01
31	---	---	---	10	3	.08	---	---	---
TOTAL	1618	---	21.02	674	---	7.02	174.6	---	.78
PERIOD	17446.10	---	3612.39						

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.
						% FINER THAN .002 MM	% FINER THAN .004 MM
JAN							
11...	1240	2100	9.5	655	3710	--	42
FEB							
14...	1000	950	9.0	370	949	47	58
22...	1315	610	7.0	24	40	--	--
MAR							
01...	1130	844	7.0	55	125	--	--
28...	1225	1110	9.5	98	294	43	54
DATE		SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.	SED. SUSP. FALL DIAM.
		% FINER THAN .008 MM	% FINER THAN .016 MM	% FINER THAN .031 MM	% FINER THAN .062 MM	% FINER THAN .125 MM	% FINER THAN .250 MM
JAN							
11...	57	72	86	94	99	100	--
FEB							
14...	71	84	93	96	99	100	--
22...	--	--	--	96	100	--	--
MAR							
01...	--	--	--	92	98	99	100
28...	65	78	90	96	99	100	--

## SAN JOAQUIN RIVER BASIN

11308600 CALAVERAS RIVER ABOVE NEW HOGAN LAKE, NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°11'48", long 120°43'18", in NW¼SW¼ 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.--Backwater from New Hogan Dam Feb. 22 to Aug. 7.

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, 30.5°C Sept. 2; minimum recorded, 3.5°C Dec. 8, 9, Jan. 1, 2, 29.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.0	17.0	14.5	11.5	10.0	9.0	5.0	3.5	7.0	6.0		
2	22.0	17.0	15.5	12.0	9.5	8.0	4.5	3.5	7.5	6.0		
3	22.5	17.0	15.0	11.0	8.5	7.0	5.5	4.0	6.5	5.0		
4	22.5	17.0	14.5	11.0	8.0	6.5	7.0	5.0	6.5	4.5		
5	22.0	17.0	14.5	11.0	8.5	6.5	7.0	6.0	7.0	5.0		
6	22.0	16.5	15.0	11.0	7.0	5.0	7.0	5.5	7.5	5.5		
7	21.0	16.0	14.0	11.0	5.5	4.0	7.0	6.5	7.5	6.0		
8	21.5	15.5	13.5	10.5	5.0	3.5	8.5	7.0	8.5	7.0		
9	20.5	15.5	13.0	10.5	5.0	3.5	8.5	7.5	9.0	7.0		
10	21.0	15.5	11.5	10.5	5.5	4.0	8.5	8.0	9.0	7.0		
11	21.0	15.5	11.0	9.5	5.5	4.0	10.0	8.5	9.0	7.5		
12	21.0	15.5	10.0	8.5	6.0	4.5	10.0	9.0	9.0	8.5		
13	21.5	15.5	9.5	9.0	6.0	4.5	9.0	8.0	10.5	8.5		
14	21.0	15.5	10.5	8.5	6.0	4.5	8.5	8.0	10.5	8.5		
15	20.5	16.0	10.0	7.5	6.0	4.0	8.5	8.0	9.0	7.0		
16	21.0	15.5	10.0	8.5	6.0	4.0	8.5	7.5	9.5	8.0		
17	21.0	15.0	10.5	8.5	7.0	5.5	7.0	6.5	8.5	7.0		
18	21.0	15.0	10.0	7.5	6.5	6.5	7.5	7.0	8.5	7.5		
19	19.5	15.0	9.5	7.5	7.0	6.0	7.5	6.5	10.0	8.5		
20	19.5	14.0	11.5	9.5	6.5	5.0	7.0	6.0	9.0	8.5		
21	19.0	14.0	10.5	9.5	6.0	4.5	7.5	6.5	9.0	8.5		
22	19.0	13.5	10.5	9.5	5.5	4.0	7.0	6.0	---	---		
23	18.0	12.5	11.0	9.0	5.5	5.0	7.5	7.0	---	---		
24	17.5	12.5	10.5	8.5	6.0	5.0	7.5	7.5	---	---		
25	17.5	12.5	9.5	7.5	6.0	5.5	7.5	6.5	---	---		
26	17.5	13.0	9.0	7.5	6.0	5.0	6.5	5.5	---	---		
27	17.0	12.5	9.0	7.0	6.5	5.5	5.5	4.5	---	---		
28	16.5	12.5	9.0	7.0	6.0	5.0	6.0	4.5	---	---		
29	15.5	12.5	9.5	8.0	6.0	5.5	5.0	3.5	---	---		
30	14.0	11.5	9.5	8.0	6.0	4.5	5.0	4.0	---	---		
31	13.0	11.5	---	---	6.0	4.5	6.5	5.0	---	---		
MONTH	22.5	11.5	15.5	7.0	10.0	3.5	10.0	3.5	---	---		

11508600 CALAVERAS RIVER ABOVE NEW HOGAN LAKE, NEAR SAN ANDREAS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

## 11308700 NEW HOGAN LAKE NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°09'01", long 120°48'45", in SW¼SW¼ 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, 323,715 acre-ft (399 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. Capacity table revised Oct. 1, 1978. 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, 273,130 acre-ft (337 hm<sup>3</sup>) May 7, 1974, elevation, 700.88 ft (213.628 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), revised.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 246,746 acre-ft (304 hm<sup>3</sup>) May 1, elevation, 695.36 ft (211.946 m); minimum, 151,093 acre-ft (186 hm<sup>3</sup>) Dec. 16, elevation, 665.80 ft (202.936 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		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157969	152810	151542	151852	162958	202531	236744	246746	238292	223833	207938	190290
2	157682	152754	151542	151824	163339	206038	237427	246672	237895	223347	207370	189782
3	157395	152613	151542	151852	163691	208239	238003	246451	237499	222860	206704	189306
4	157136	152528	151542	151852	163955	209914	238473	246304	237103	222339	206005	188798
5	156821	152415	151486	151796	164190	211160	238761	246267	236708	221888	205374	188291
6	156592	152331	151458	151796	164425	211059	239340	246194	236169	221439	204844	187817
7	156392	152218	151430	151824	164601	210116	239918	246267	235596	221023	204313	187311
8	156192	152133	151401	152077	164778	209109	240425	246230	235165	220575	203752	186776
9	156020	152020	151345	152472	164807	208373	240897	246157	234736	220126	203223	186272
10	155849	151880	151290	152698	164955	208139	241297	245936	234307	219747	202662	185800
11	155649	151767	151262	162257	165013	207938	241733	245790	233843	219368	202103	185298
12	155507	151683	151233	163222	165101	207938	242097	245680	233272	218921	201479	184765
13	155364	151655	151205	162170	166194	208173	242461	245533	232738	218474	200953	184170
14	155221	151598	151205	161762	171142	208373	242789	245349	232170	217994	200495	183639
15	155050	151514	151205	162462	172980	210049	243118	245129	231637	217411	200069	183140
16	154908	151458	151093	162053	174555	212341	243446	244726	231105	216829	199481	182642
17	154766	151401	151373	161674	175772	213458	243738	244250	230573	216214	198861	182175
18	154624	151317	151627	162053	177116	214272	243994	243848	230078	215634	198339	181709
19	154482	151290	151824	161849	180099	214986	244250	243446	229584	215055	197754	181275
20	154340	151177	151908	161325	183171	215498	244506	243045	229089	214374	197104	180872
21	154169	151458	151936	160743	192654	216009	244689	242716	228631	213763	196553	180439
22	154028	151683	151965	160714	203289	216522	244946	242388	228173	213221	195970	180038
23	153914	151627	151993	160947	208173	216829	245239	241988	227752	212713	195389	179667
24	153801	151598	152020	161238	202860	217103	245422	241551	227259	212240	194873	179205
25	153687	151458	152020	161470	196100	217308	245569	241115	226768	211733	194324	178835
26	153574	151458	151993	161674	190960	217548	245899	240752	226277	211160	193810	178497
27	153460	151401	151993	161820	189909	219988	246157	240317	225823	210621	193264	178159
28	153348	151401	151993	161966	192046	229584	246341	239846	225264	210083	192654	177851
29	153178	151317	151965	162082	---	232845	246488	239448	224774	209546	192078	177484
30	153036	151149	151908	162374	---	234629	246709	239014	224287	209042	191439	177147
31	152980	---	151908	162608	---	235847	---	238652	---	208507	190854	---
MAX	157969	152810	152020	163222	208173	235847	246709	246746	238292	223833	207938	190290
MIN	152980	151149	151093	151796	162958	202531	236744	238652	224287	208507	190864	177147
†	666.47	665.82	666.09	669.82	679.44	692.36	695.35	693.14	689.09	684.47	679.07	674.68
‡	a -5248	-1831	+759	+10700	+29438	+43801	+10862	-8057	-14365	-15780	-17643	-13717
††	1286	470	250	258	320	643	1082	1845	2533	2672	2313	2155
CAL YR 1978	‡ a +137373											
WTR YR 1979	‡ a +18919											

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

a Computed on basis of revised capacity table put into use Oct. 1, 1978.

## 11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°08'53", long 120°49'26", in NW¼NE¼ 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.

DRAINAGE AREA.--363 mi<sup>2</sup> (940 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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

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.

REMARKS.--Records good. Flow regulated by New Hogan Lake (station 11308700). Some seepage of North Fork Stanislaus River water enters basin from diversion canals and reservoirs, normally not over 1.5 ft<sup>3</sup>/s (0.042 m<sup>3</sup>/s). Small diversions above station for irrigation.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from New Hogan Lake).--18 years, 213 ft<sup>3</sup>/s (6.032 m<sup>3</sup>/s), 154,300 acre-ft/yr (190 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,830 ft<sup>3</sup>/s (222 m<sup>3</sup>/s) Jan. 25, 26, 1969, gage height, 7.46 ft (2.274 m); no flow many days in 1961-65, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,500 ft<sup>3</sup>/s (127 m<sup>3</sup>/s) Feb. 25, gage height, 6.55 ft (1.996 m); minimum daily, 9.2 ft<sup>3</sup>/s (0.261 m<sup>3</sup>/s) Feb. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	45	31	36	27	30	211	119	216	222	245	241
2	149	46	30	33	28	14	213	193	216	213	258	230
3	122	46	30	30	28	11	204	225	216	226	288	219
4	119	46	30	30	28	10	216	192	216	226	298	219
5	127	47	29	30	28	28	226	149	224	210	273	219
6	103	46	26	30	28	596	105	151	261	210	238	219
7	80	46	24	31	28	993	45	151	249	210	234	219
8	80	46	29	30	28	995	45	169	223	210	249	220
9	81	46	34	30	36	826	45	236	223	211	234	219
10	80	47	34	30	43	492	50	250	223	184	235	219
11	80	48	34	244	40	498	54	225	235	178	235	219
12	65	47	34	1050	40	334	55	201	252	213	235	231
13	56	42	26	1040	42	205	57	201	252	226	220	242
14	55	29	20	1040	30	205	53	199	251	226	182	234
15	58	28	20	1030	9.2	208	54	197	249	249	189	234
16	58	29	20	1030	12	206	55	272	249	273	236	210
17	58	30	20	765	11	205	54	324	249	273	258	189
18	56	30	19	507	15	206	55	281	249	274	226	190
19	56	30	20	507	21	206	54	248	249	274	233	189
20	58	33	20	505	21	205	55	249	237	273	262	184
21	59	40	19	501	27	205	56	218	226	273	263	171
22	59	41	19	226	32	205	56	209	226	273	249	171
23	49	40	19	29	1260	207	56	267	226	250	242	172
24	43	40	19	29	4390	207	68	277	226	227	228	173
25	43	40	18	29	4440	208	85	264	226	227	236	161
26	43	40	18	29	3690	206	93	233	231	228	237	149
27	44	35	25	29	1470	208	92	230	244	236	237	150
28	44	30	38	29	16	211	92	230	240	249	237	149
29	44	31	36	29	---	210	92	230	226	250	253	149
30	44	31	36	29	---	210	92	230	226	243	276	148
31	45	---	36	29	---	210	---	225	---	234	261	---
TOTAL	2209	1175	813	9016	15868.2	8760	2688	6845	7036	7271	7547	5939
MEAN	71.3	39.2	26.2	291	567	283	89.6	221	235	235	243	198
MAX	151	48	38	1050	4440	995	226	324	261	274	298	242
MIN	43	28	18	29	9.2	10	45	119	216	178	182	148
AC-FT	4380	2330	1610	17880	31470	17380	5330	13580	13960	14420	14970	11780

CAL YR 1978 TOTAL 39243.6 MEAN 108 MAX 322 MIN 1.2 AC-FT 77840 MEAN ‡ 316 AC-FT ‡ 229100  
WTR YR 1979 TOTAL 75167.2 MEAN 206 MAX 4440 MIN 9.2 AC-FT 149100 MEAN ‡ 249 AC-FT ‡ 180300

‡ Adjusted for change in contents and evaporation from New Hogan Lake.

## SAN JOAQUIN RIVER BASIN

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, 14.0°C on several days during October; minimum recorded, 8.0°C Jan. 29, Feb. 3, 15, 17, Mar. 2.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	12.5	13.5	12.0	13.0	12.0	10.0	9.0	9.5	8.5	11.0	9.0
2	13.5	13.0	13.5	12.5	13.0	12.0	9.5	9.0	10.0	8.5	11.5	8.0
3	13.5	13.0	13.5	12.0	13.0	12.0	10.0	9.0	10.0	8.0	12.0	9.5
4	13.5	13.0	13.5	12.0	13.0	11.5	10.0	9.5	10.0	8.5	11.5	9.5
5	13.5	13.0	13.5	12.5	12.5	11.0	9.5	9.0	10.0	8.5	11.0	9.0
6	14.0	12.5	13.5	12.5	12.0	10.5	10.0	9.0	10.0	8.5	9.5	9.0
7	13.5	12.5	13.5	12.5	11.5	10.0	9.5	9.5	10.0	8.5	9.5	9.0
8	13.5	12.5	13.5	12.0	11.5	10.0	9.5	9.5	10.0	8.5	9.5	9.0
9	13.5	12.5	13.5	12.0	11.5	10.5	10.0	9.0	10.0	8.5	9.5	9.0
10	13.5	12.5	13.0	12.0	11.5	10.5	10.0	9.0	9.5	8.5	9.5	9.0
11	13.5	12.5	12.5	12.0	11.5	10.5	11.0	9.5	9.5	8.5	9.5	9.0
12	14.0	12.5	13.0	12.0	11.5	10.5	9.5	9.5	9.0	8.5	9.5	9.0
13	14.0	12.5	12.5	12.0	11.5	10.0	10.0	9.5	9.0	8.5	9.5	9.0
14	14.0	12.5	12.5	11.5	11.5	10.0	10.0	9.5	10.0	9.0	9.5	9.0
15	14.0	12.5	13.0	11.5	11.5	10.0	9.5	9.5	10.5	8.0	9.0	9.0
16	14.0	12.5	13.0	12.0	11.0	9.5	9.5	9.5	10.5	9.0	9.5	9.0
17	14.0	12.5	13.0	12.0	11.0	10.5	9.5	9.5	11.0	8.0	9.5	9.0
18	14.0	12.5	13.0	12.0	10.5	10.5	9.5	9.5	9.0	8.5	9.5	9.0
19	13.5	12.5	13.0	12.0	11.0	9.5	9.5	9.5	11.0	9.0	9.5	9.0
20	13.5	12.5	13.0	12.5	11.0	9.5	9.5	9.5	10.0	9.0	9.5	9.0
21	13.5	12.5	13.0	12.5	10.5	9.5	9.5	9.5	11.0	9.0	9.5	9.0
22	13.5	12.5	13.0	12.5	10.5	9.5	10.5	9.0	9.5	8.5	9.5	9.0
23	14.0	12.5	13.5	12.5	10.0	10.0	9.5	9.0	11.0	8.5	9.5	9.0
24	13.5	12.5	13.5	12.0	10.0	10.0	9.0	9.0	9.0	9.0	9.5	9.0
25	14.0	12.5	13.5	12.5	10.0	9.5	9.5	8.5	9.5	9.0	9.5	9.0
26	14.0	12.5	13.5	12.5	10.0	9.5	10.0	8.5	9.5	9.0	9.5	9.0
27	14.0	12.5	13.0	12.0	10.0	9.5	10.0	8.5	9.5	9.0	9.5	9.0
28	13.5	12.5	13.5	12.0	10.0	9.5	10.0	8.5	10.5	8.5	9.5	9.0
29	13.5	12.0	13.5	12.5	10.0	9.5	10.0	8.0	---	---	10.0	9.0
30	13.0	12.0	13.5	12.5	9.5	9.0	9.0	8.5	---	---	10.0	9.5
31	13.0	12.0	---	---	10.0	9.0	9.5	8.5	---	---	10.0	9.5
MONTH	14.0	12.0	13.5	11.5	13.0	9.0	11.0	8.0	11.0	8.0	12.0	8.0



11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	9.5	10.0	9.5	11.0	10.0	11.5	11.0	12.0	11.5	12.5	12.0
2	10.0	9.5	10.0	9.5	11.0	10.0	11.5	11.0	12.0	11.5	12.5	12.0
3	10.0	9.5	10.5	9.5	11.0	10.0	11.5	11.0	12.5	11.5	12.5	12.0
4	10.0	9.5	10.5	9.5	11.0	10.0	11.5	11.0	12.5	12.0	12.5	11.5
5	10.0	9.5	10.0	9.5	11.0	10.0	11.5	11.0	12.5	12.0	12.5	12.0
6	11.5	9.0	10.5	9.5	11.0	10.0	11.5	11.0	12.5	12.0	12.5	12.0
7	11.5	9.0	10.0	9.5	11.0	10.0	11.5	11.0	12.0	12.0	12.5	12.0
8	11.5	9.0	10.5	9.5	11.0	10.0	11.5	11.0	12.5	12.0	12.5	12.0
9	11.0	9.0	10.5	9.5	11.0	10.5	11.5	11.0	12.5	12.0	12.5	11.5
10	11.0	9.0	10.5	10.0	11.0	10.5	12.0	11.0	12.5	12.0	12.5	11.5
11	10.5	9.0	10.5	10.0	11.0	10.5	11.5	11.0	12.5	12.0	12.5	11.5
12	11.0	9.0	10.5	10.0	11.0	10.5	11.5	11.0	12.5	12.0	12.5	12.0
13	11.0	9.0	10.5	10.0	11.0	10.5	11.5	11.0	12.5	12.0	12.5	12.0
14	11.5	9.0	10.5	10.0	11.0	10.5	11.5	11.0	12.5	11.5	12.5	12.0
15	11.0	9.0	10.5	10.0	11.0	10.5	11.5	11.0	12.5	11.5	12.5	12.0
16	11.0	9.5	10.5	10.0	11.0	10.5	12.0	11.0	12.5	11.5	12.5	12.0
17	10.5	9.0	10.5	10.0	11.0	10.5	12.0	11.0	12.5	12.0	12.5	11.5
18	11.0	9.0	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.0	12.0	11.5
19	11.0	9.0	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.0	12.0	11.5
20	11.0	9.0	10.5	10.0	11.0	10.5	12.0	11.5	12.0	12.0	12.0	11.5
21	11.0	9.0	10.5	10.0	11.0	10.5	11.5	11.5	12.5	12.0	12.0	11.5
22	11.0	9.5	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.0	12.0	11.5
23	11.0	9.5	10.5	10.0	11.0	10.5	12.0	11.5	12.5	12.0	12.0	11.5
24	11.0	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
25	10.5	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
26	10.0	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
27	10.5	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
28	11.0	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
29	10.5	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
30	10.5	9.5	10.5	10.0	11.5	10.5	12.0	11.5	12.5	12.0	12.0	11.5
31	---	---	11.0	10.0	---	---	12.0	11.5	12.5	12.0	---	---
MONTH	11.5	9.0	11.0	9.5	11.5	10.0	12.0	11.0	12.5	11.5	12.5	11.5

## SAN JOAQUIN RIVER BASIN

11312000 BEAR CREEK NEAR LOCKEFORD, CA

LOCATION.--Lat 38°09'10", long 121°08'17", in NW¼SE¼ 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 good. 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.--49 years, 11.6 ft<sup>3</sup>/s (0.329 m<sup>3</sup>/s), 8,400 acre-ft/yr (10.4 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. 11	1700	606 17.2	7.02 2.140	Feb. 22	2330	*1,150 32.6	8.46 2.579
Feb. 20	2300	821 23.3	7.64 2.329	Mar. 1	0630	568 16.1	6.90 2.103

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.09	.16	0	2.7	442	6.1	.15	.21	.62	.96	.03
2	.03	.16	.03	0	5.9	117	4.9	.04	.03	.47	1.4	.11
3	.01	.86	.03	0	6.8	56	3.9	.02	.59	1.1	1.2	.27
4	.01	.68	.02	0	4.5	40	3.3	1.3	.26	.90	.18	.61
5	0	.10	.01	.02	3.0	28	3.2	.65	.03	.09	.04	.09
6	.15	.05	0	0	1.9	22	2.8	.09	.13	.06	.48	.05
7	.33	.02	0	.08	2.3	15	1.8	.14	.36	.11	.88	.04
8	.09	.02	0	1.6	2.4	12	1.1	.13	.25	.49	.13	.38
9	.06	.01	0	4.2	2.5	11	1.6	.03	.61	.18	.03	.93
10	.05	.01	0	3.9	2.5	8.3	1.7	.02	1.2	.03	.57	.26
11	.10	0	0	272	2.4	6.4	2.6	.49	.17	.02	.55	.73
12	.45	.06	0	124	1.8	5.3	1.6	.81	.15	.03	1.1	.95
13	.91	.02	0	25	3.6	4.8	.77	1.2	.30	.63	1.5	1.7
14	.91	0	0	64	86	4.9	1.7	.38	.71	.24	.17	1.1
15	.18	0	0	202	31	13	1.8	.02	.71	.91	.03	.67
16	.08	0	0	80	68	124	1.1	.27	.55	1.6	.15	.86
17	.12	0	.09	35	44	55	.59	.48	.38	1.1	.03	.58
18	.99	0	.02	110	29	28	2.8	.95	.44	.07	.02	.22
19	.71	.04	0	34	205	19	.06	1.1	1.6	.57	.03	.32
20	1.2	.06	0	15	234	15	.02	.41	.45	.14	.46	.58
21	.25	.71	0	9.6	529	11	.02	.04	.88	1.1	.62	.70
22	.06	.76	0	7.3	468	7.8	.01	.46	.06	.66	.80	.06
23	.04	.26	0	5.4	635	7.8	.02	.58	.38	.15	.20	.07
24	.02	.07	0	4.2	117	6.5	.90	.67	.46	.70	.04	1.1
25	.16	.04	0	12	62	5.6	.70	.61	1.2	1.1	.03	.63
26	.72	.02	0	12	74	4.9	.20	.31	.49	.17	.02	.06
27	.44	.01	0	4.9	49	6.7	.07	.59	.05	.58	.43	.31
28	.05	.02	0	3.4	44	19	.04	.51	.30	.35	1.6	.56
29	.04	.02	0	2.7	---	26	.60	.03	.08	.11	1.5	.06
30	.04	.01	0	2.2	---	13	1.4	.47	.44	.07	.84	.03
31	.05	---	0	2.1	---	8.2	---	1.3	---	.66	.14	---
TOTAL	8.31	4.10	.36	1036.60	2717.3	1143.2	47.40	14.25	13.47	15.01	16.13	14.06
MEAN	.27	.14	.012	33.4	97.0	36.9	1.58	.46	.45	.48	.52	.47
MAX	1.2	.86	.16	272	635	442	6.1	1.3	1.6	1.6	1.6	1.7
MIN	0	0	0	0	1.8	4.8	.01	.02	.03	.02	.02	.03
AC-FT	16	8.1	.7	2060	5390	2270	94	28	27	30	32	28

CAL YR 1978 TOTAL 8179.91 MEAN 22.4 MAX 869 MIN 0 AC-FT 16220  
WTR YR 1979 TOTAL 5030.19 MEAN 13.8 MAX 635 MIN 0 AC-FT 9980

## 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 Water and Power Resources Service).

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 Water and Power Resources Service, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--28 years, 2,160 ft<sup>3</sup>/s (61.17 m<sup>3</sup>/s), 1,565,000 acre-ft/yr (1.93 km<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,935 ft<sup>3</sup>/s (140 m<sup>3</sup>/s) Aug. 11, 1969; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3190	3210	3260	3270	1340	817	854	3440	3920	3980	4540	3750
2	1150	3210	3300	3650	1630	809	856	3180	3980	3980	4580	4350
3	821	3200	3240	3800	1620	804	853	3200	3970	4160	4640	4430
4	820	3190	3290	3910	1620	803	1290	3190	4010	4640	4600	4370
5	1020	3190	2990	3950	1660	803	1670	3190	3400	4610	4610	4350
6	3250	3190	2890	3910	1690	797	2050	3190	3140	4640	4600	4360
7	3250	3190	3170	3910	1190	1090	2370	3200	3130	4650	4610	4360
8	3270	3170	3170	3950	834	1910	2160	3190	3130	4660	4610	4370
9	3250	3200	3130	3450	832	2410	2400	3180	3130	4650	4560	4360
10	3270	3190	3150	3180	829	2410	2410	3190	3130	4630	4600	4360
11	3260	3200	3150	3180	1630	2390	2960	3190	3130	4660	4590	4370
12	3280	3200	3150	3160	1630	2430	3260	3180	2620	4640	4580	4370
13	3340	3200	3160	3170	1170	2430	3720	3180	2420	4610	4540	4380
14	3340	3190	3170	3150	829	2960	3940	3170	2430	4510	4620	4470
15	3350	3190	3140	3180	837	3340	3970	3180	2410	4570	4550	4470
16	3370	3180	3150	3150	826	3340	3930	3190	2420	4620	4620	4450
17	3300	3180	3160	2750	831	3350	3920	3170	2410	4610	4610	4440
18	3260	3180	3170	2460	1620	3340	3840	3190	2410	4610	4570	4470
19	3250	3180	3150	2460	1630	3330	3860	3180	2420	4610	4600	4530
20	3230	3210	3140	2440	1630	3350	3830	3190	2400	4570	4530	4470
21	3230	3190	3120	2450	1640	3340	3840	3200	2450	4610	4560	4430
22	3240	3180	3130	2350	1650	2750	3840	2670	2390	4590	4580	4430
23	3220	3150	3140	2300	1120	1950	3880	2420	2880	4580	4560	4430
24	3190	3240	3120	1860	808	1670	3850	2420	3140	4570	4550	4420
25	3210	3250	3130	1610	815	1680	3850	2420	3120	4580	4560	4370
26	3200	3260	3250	1440	809	1670	4340	2400	3120	4590	4530	4360
27	3190	3250	3300	1590	814	1680	4620	2410	3120	4590	4480	4380
28	3200	3280	3310	1580	818	1370	4540	2410	3120	4570	4540	4400
29	3190	3280	3310	715	---	857	4530	2420	3130	4570	4490	4400
30	3190	3260	3320	872	---	855	4040	2830	3120	4590	4430	4350
31	3190	---	3280	846	---	858	---	3130	---	4590	4260	---
TOTAL	91521	96190	98540	83693	34252	61593	95473	92700	89600	141040	141300	131450
MEAN	2952	3206	3179	2700	1227	1987	3182	2990	2987	4550	4558	4382
MAX	3370	3280	3320	3950	1690	3350	4620	3440	4010	4660	4640	4530
MIN	820	3150	2890	715	808	797	853	2400	2390	3980	4260	3750
AC-FT	181500	190800	195500	166000	68140	122200	189400	183900	177700	279800	280300	260700
CAL YR 1978 TOTAL	1295706			3550		4750		811		2570000		
WTR YR 1979 TOTAL	1157452			3171		4660		715		2296000		

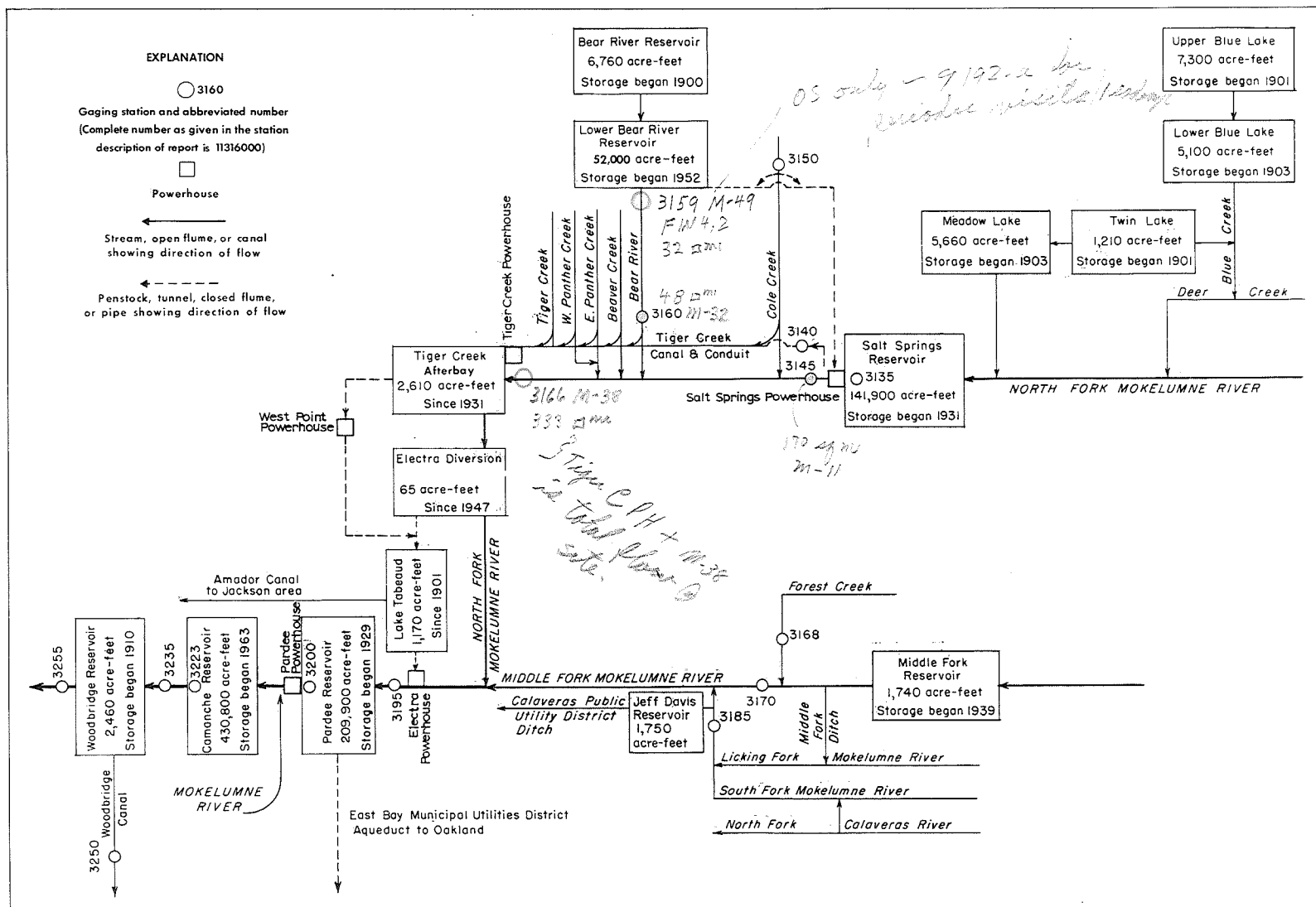


FIGURE 11.--Schematic diagram showing diversions and storage in Mokelumne River basin.

## 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 each year 1948-54, 1956-58, 1960, 1962-63, 1965, 1967, 1969-75, and 1978-79, 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, 141,900 acre-ft (175 hm<sup>3</sup>) June 9-13, elevation, 3,958.0 ft (1,206.40 m); minimum, 7,320 acre-ft (9.03 hm<sup>3</sup>) Feb. 9, elevation, 3,740.0 ft (1,139.95 m).

## Capacity table (elevation, in feet, 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 1500

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89280	68809	40468	17151	10845	8562	21388	42414	139173	138887	123542	105517
2	88886	67819	39669	16474	10287	8365	21348	43846	140992	138696	123089	104584
3	88492	66766	38930	16089	9852	8074	21070	46156	141472	138410	122546	103567
4	88099	65720	38093	15638	9403	7906	20912	49360	140992	138220	121914	102811
5	87707	64613	37213	15295	9144	7882	21110	53172	140416	138030	121103	102308
6	87393	63584	36342	14389	8687	8194	21870	56497	140897	137745	120295	101805
7	87002	62631	35582	13446	8243	8838	22275	58369	141184	137080	119846	101387
8	86534	61617	35080	12751	7788	9560	22684	59616	140512	136228	119399	100553
9	86144	60544	34333	12411	7324	10425	23347	60478	141857	135567	118952	99556
10	85756	59484	33593	12076	7600	11334	23767	61012	141857	135189	118505	98729
11	85290	58499	32861	15092	7788	12380	24062	61684	141857	134813	117704	98317
12	84594	57461	31897	18608	12939	24317	62970	141857	134530	116815	97659	101387
13	84517	56434	31086	19366	7670	14060	25003	64958	141857	134061	116018	97084
14	84054	55418	30236	19747	8513	14856	26048	68172	141184	133310	115576	96511
15	83208	54539	29257	20131	8939	15914	27293	72032	141376	132562	115135	96022
16	82666	53605	28842	20209	9118	17115	28612	76571	141472	131815	114694	95452
17	81909	52618	28474	20015	8838	17766	29536	80845	141568	131536	114254	94964
18	81452	51641	27972	19862	8587	18022	29536	85833	141280	131164	113815	94397
19	80996	50614	27114	19518	8762	18280	29862	91025	140800	130792	113201	93831
20	80466	49657	26224	19252	8513	18391	30096	96103	140608	130420	112502	93509
21	79786	49360	25349	18950	8292	18354	30613	101638	140704	129670	112065	92945
22	78809	47889	24573	18502	7906	18317	31276	108168	140704	129032	111629	92624
23	77836	47192	23935	17912	7764	18280	31753	112939	140608	128386	111104	92624
24	76720	46500	23306	17367	7624	18243	32233	116904	140512	128018	110586	92383
25	75831	45530	22725	16510	9041	18169	32474	120833	140416	127650	109720	91823
26	74947	44571	22112	15672	8838	18280	32861	125361	140129	127191	108857	91185
27	73921	43624	21229	14822	8662	18875	34581	130513	139842	126640	108082	90627
28	72901	42688	20403	13963	8612	19785	36700	135001	139460	125817	107567	89834
29	71815	41815	19518	13128	---	20520	38302	137175	139078	124996	107053	88807
30	70735	41058	18688	12258	---	20794	40201	137270	138982	124359	106540	87785
31	69663	---	17949	11835	---	21149	---	137650	---	123996	106455	---
MAX	89280	68809	40468	20209	10845	21149	40201	137650	141857	138887	123542	105517
MIN	69663	41058	17949	11835	7324	7882	20912	42414	138982	123996	106455	87785
(+)	3872.0	3826.3	3775.5	3757.2	3745.4	3783.9	3824.7	3953.6	3955.0	3938.9	3919.0	3896.2
(-)	-20000	-28600	-23100	-6110	-3220	+12500	+19100	+97400	+1330	-15000	-17500	-18700

CAL YR 1978 † +8680

WTR YR 1979 † -1890

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

## SAN JOAQUIN RIVER BASIN

## 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.--48 years, 351 ft<sup>3</sup>/s (9.940 m<sup>3</sup>/s), 254,300 acre-ft/yr (314 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 577 ft<sup>3</sup>/s (16.3 m<sup>3</sup>/s) June 22, 1945; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	551	469	449	546	481	415	.30	552	552	546	550
2	549	552	465	480	546	501	472	0	552	552	545	549
3	549	552	462	501	549	500	489	0	552	552	544	547
4	549	552	458	501	549	500	475	0	551	552	544	538
5	549	552	454	501	549	459	464	0	551	551	546	550
6	549	551	451	500	549	436	447	0	551	551	547	548
7	433	549	492	499	549	442	459	0	551	552	548	525
8	550	546	495	501	542	451	456	0	551	551	549	550
9	550	543	450	471	437	409	456	0	551	552	549	550
10	550	540	434	450	227	331	457	63	551	552	549	549
11	549	537	451	247	228	360	456	362	551	552	549	550
12	550	534	500	149	408	306	456	463	551	552	547	549
13	550	531	499	151	500	355	457	459	551	552	546	549
14	550	529	499	151	323	377	457	452	551	552	546	544
15	549	529	462	328	409	258	459	451	551	547	546	482
16	549	529	251	391	463	230	457	482	552	547	545	535
17	551	519	252	518	459	385	455	516	551	548	446	527
18	549	516	354	537	388	427	456	506	551	547	319	531
19	550	513	500	543	342	448	456	508	551	548	551	538
20	549	510	499	541	421	477	404	510	550	548	550	541
21	552	505	499	541	424	488	1.9	526	550	548	550	540
22	551	502	467	507	350	489	98	549	551	547	548	174
23	552	499	374	464	357	489	460	552	551	548	549	.40
24	552	495	369	493	413	488	465	552	551	548	551	386
25	552	491	363	547	476	489	466	550	551	547	551	547
26	552	488	445	548	500	484	461	552	552	548	551	541
27	552	485	501	548	430	342	251	552	552	546	547	548
28	553	481	508	548	469	144	7.8	552	552	545	525	545
29	553	477	484	548	---	355	8.5	532	551	544	554	546
30	552	473	448	543	---	428	2.1	551	552	547	552	544
31	552	---	449	539	---	363	---	552	---	550	344	---
TOTAL	16946	15631	13804	14235	12403	12692	11324.3	10792.30	16536	17028	16434	15173.40
MEAN	547	521	445	459	443	409	377	348	551	549	530	506
MAX	553	552	508	548	549	501	489	552	552	552	554	550
MIN	433	473	251	149	227	144	1.9	0	550	544	319	.40
AC-FT	33610	31000	27380	28240	24600	25170	22460	21410	32800	33780	32600	30100
CAL YR 1978	TOTAL	174413.00	MEAN	478	MAX	554	MIN	0	AC-FT	345900		
WTR YR 1979	TOTAL	172999.00	MEAN	474	MAX	554	MIN	0	AC-FT	343100		

## 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 140 ft<sup>3</sup>/s (3.96 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).--53 years, 465 ft<sup>3</sup>/s (13.17 m<sup>3</sup>/s), 336,900 acre-ft/yr (415 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, 2,900 ft<sup>3</sup>/s (82.1 m<sup>3</sup>/s) May 30, gage height, 8.47 ft (2.582 m); minimum daily, 4.2 ft<sup>3</sup>/s (0.12 m<sup>3</sup>/s) Jan. 31, Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	6.0	5.9	4.2	7.9	5.3	673	471	20	15	12
2	11	7.8	6.0	6.0	4.6	7.2	28	681	593	20	15	12
3	11	7.5	6.0	6.0	5.6	7.4	78	692	1520	20	15	12
4	11	7.5	6.0	6.0	5.9	7.6	65	637	2140	19	15	12
5	11	7.1	5.9	6.1	6.0	8.1	33	724	2060	19	15	11
6	11	7.0	6.0	6.1	5.9	9.6	58	738	1550	19	15	11
7	12	6.8	6.0	6.0	5.8	8.9	121	746	1580	19	14	11
8	11	6.8	6.0	6.6	5.8	7.7	127	750	1060	18	14	11
9	11	6.8	5.8	6.5	5.6	7.8	131	754	407	18	14	11
10	11	7.0	5.8	6.9	4.9	6.7	134	699	859	18	14	11
11	11	7.1	5.8	17	4.8	7.0	137	427	1080	17	14	11
12	11	7.0	6.0	11	4.8	6.8	139	322	1120	17	14	11
13	11	6.9	6.0	8.4	6.5	6.6	143	330	1160	17	14	11
14	11	6.8	6.0	7.9	9.2	6.5	150	347	1030	16	14	11
15	11	6.6	6.0	8.1	7.4	7.6	158	358	402	16	14	11
16	12	6.6	5.5	8.9	7.0	7.8	170	342	401	16	14	11
17	14	6.4	5.9	7.0	6.6	26	427	314	401	16	14	11
18	11	6.3	6.3	6.7	6.5	18	348	336	401	16	14	10
19	11	6.0	6.0	7.0	6.9	14	177	347	401	16	13	10
20	11	6.0	6.0	6.1	7.2	43	231	353	277	16	13	10
21	11	7.0	5.8	6.0	7.7	54	469	351	235	16	13	10
22	11	6.8	5.8	5.7	7.0	38	518	339	265	16	13	10
23	11	6.6	5.7	5.3	6.6	37	176	344	265	15	13	10
24	11	6.5	5.9	5.1	6.4	83	181	352	265	15	13	10
25	11	6.5	6.0	5.0	6.5	105	182	354	265	15	13	10
26	11	6.3	6.3	4.8	7.4	47	191	369	264	15	13	10
27	11	6.2	6.3	4.7	7.5	45	396	377	261	15	12	10
28	11	6.0	6.0	4.5	7.6	83	636	597	259	15	12	9.9
29	11	5.8	6.0	4.4	---	7.2	645	1390	115	15	12	9.8
30	11	5.5	5.8	4.3	---	6.2	661	1400	20	15	12	9.8
31	11	---	5.8	4.2	---	5.6	---	899	---	15	12	---
TOTAL	347	204.2	184.4	204.2	177.9	733.2	6915.3	17342	21127	520	422	320.5
MEAN	11.2	6.81	5.95	6.59	6.35	23.7	231	559	704	16.8	13.6	10.7
MAX	14	11	6.3	17	9.2	105	661	1400	2140	20	15	12
MIN	11	5.5	5.5	4.2	4.2	5.6	5.3	314	20	15	12	9.8
AC-FT	688	405	366	405	353	1450	13720	34400	41910	1030	837	636
CAL YR 1978 TOTAL		102972.3		MEAN 282	MAX 3080	MIN 2.7	AC-FT 204200					
WTR YR 1979 TOTAL		48497.7		MEAN 133	MAX 2140	MIN 4.2	AC-FT 96200					

## 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.--51 years, 63.6 ft<sup>3</sup>/s (1.801 m<sup>3</sup>/s), 46,080 acre-ft/yr (56.8 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 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. 11	1500	*1,900 53.8	4.93 1.503	May 21	2030	934 26.5	3.90 1.189
May 4	2015	612 17.3	3.44 1.049	May 26	2015	751 21.3	3.65 1.113

Minimum daily discharge, 0.04 ft<sup>3</sup>/s (0.001 m<sup>3</sup>/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	.26	17	6.2	17	17	42	225	196	13	.59	.16
2	.82	.45	13	6.0	15	15	46	225	207	11	.52	.14
3	.76	.45	12	5.7	15	17	53	348	223	10	.46	.13
4	.68	.41	12	5.5	14	21	78	393	230	9.7	.45	.12
5	.62	.37	8.7	6.1	14	33	116	382	212	8.9	.43	.11
6	.56	.32	6.6	6.0	14	67	126	257	212	8.1	.36	.10
7	.53	.30	4.9	5.6	14	103	87	164	157	7.2	.36	.10
8	.46	.27	5.2	6.0	15	97	110	125	115	6.5	.34	.10
9	.43	.24	4.9	6.8	19	95	118	109	107	5.7	.31	.10
10	.41	.24	5.6	8.9	18	113	85	119	114	5.0	.29	.09
11	.41	.38	5.7	864	17	106	82	168	117	4.6	.36	.09
12	.39	.38	5.0	198	17	99	96	241	115	4.2	.28	.07
13	.36	.46	4.1	101	33	94	155	348	108	3.8	.25	.06
14	.32	.49	3.8	68	43	83	176	400	86	3.4	.24	.06
15	.31	.52	3.8	53	24	80	190	450	69	3.1	.22	.07
16	.31	.54	3.6	45	23	61	177	437	62	2.8	.22	.07
17	.31	.60	3.6	40	19	56	128	466	57	2.4	.20	.07
18	.29	.56	4.0	35	18	49	90	517	45	2.1	.21	.05
19	.27	.53	4.9	30	17	45	76	512	42	1.8	.21	.04
20	.26	.64	6.5	26	16	42	82	499	47	1.7	.18	.05
21	.26	1.1	6.4	26	16	40	98	538	46	3.0	.18	.05
22	.26	1.8	7.7	26	16	37	116	443	41	5.4	.19	.06
23	.23	2.3	8.6	25	15	37	94	363	38	4.0	.17	.07
24	.23	2.8	8.6	24	16	48	83	315	37	2.6	.16	.06
25	.23	3.0	12	22	17	63	86	374	32	1.9	.16	.07
26	.23	3.0	15	18	17	66	163	426	26	1.4	.15	.07
27	.23	3.0	14	19	16	58	369	385	23	1.1	.12	.08
28	.23	2.8	10	19	17	49	256	309	19	1.0	.11	.07
29	.23	6.6	8.7	19	---	42	246	239	17	.81	.18	.07
30	.22	18	7.7	19	---	38	269	204	15	.73	.18	.07
31	.22	---	6.9	18	---	39	---	188	---	.66	.18	---
TOTAL	11.96	52.81	240.5	1757.8	512	1810	3893	10169	2815	137.60	8.26	2.45
MEAN	.39	1.76	7.76	56.7	18.3	58.4	130	328	93.8	4.44	.27	.082
MAX	.89	18	17	864	43	113	369	538	230	13	.59	.16
MIN	.22	.24	3.6	5.5	14	15	42	109	15	.66	.11	.04
AC-FT	24	105	477	3490	1020	3590	7720	20170	5580	273	16	4.9
CAL YR 1978	TOTAL	31779.63	MEAN	87.1	MAX	719	MIN	.22	AC-FT	63030		
WTR YR 1979	TOTAL	21410.38	MEAN	58.7	MAX	864	MIN	.04	AC-FT	42470		



## 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), revised, 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.--28 years, 52.0 ft<sup>3</sup>/s (1.473 m<sup>3</sup>/s), 37,670 acre-ft/yr (46.4 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, 604 ft<sup>3</sup>/s (17.1 m<sup>3</sup>/s) May 29, gage height, 2.94 ft (0.896 m); minimum daily, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Nov. 7-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	5.1	11	3.9	19	19	41	97	206	7.4	5.9	5.1
2	5.3	4.4	8.4	3.8	16	14	40	88	104	7.3	5.9	5.1
3	5.3	3.3	4.8	3.9	11	16	41	93	277	7.2	5.8	5.1
4	5.3	2.7	4.4	4.2	8.6	18	47	99	478	7.2	5.8	5.1
5	5.2	2.6	4.9	4.5	8.0	21	58	112	518	7.0	5.7	5.0
6	5.2	2.6	4.0	4.1	8.1	34	67	109	476	6.9	5.7	4.9
7	5.2	2.5	3.1	4.4	7.9	43	61	106	250	6.8	5.7	4.9
8	5.2	2.5	3.5	7.7	7.9	50	64	87	19	6.7	5.6	4.9
9	5.1	2.5	3.8	7.2	8.3	56	67	78	18	6.6	5.6	4.9
10	5.1	2.5	3.6	11	8.6	65	62	76	18	6.5	5.5	4.8
11	5.1	3.3	3.6	196	8.4	73	60	78	18	6.5	5.4	4.7
12	5.1	4.5	3.6	73	8.6	71	61	82	18	6.5	5.5	4.7
13	5.0	3.5	3.5	31	23	74	68	87	17	6.4	5.4	4.6
14	4.9	4.9	3.4	23	46	71	74	87	16	6.4	5.4	4.6
15	4.9	3.9	3.3	19	24	77	78	85	15	6.3	5.4	4.8
16	4.9	3.5	3.3	16	21	64	87	79	15	6.3	5.3	4.8
17	4.9	4.2	4.3	14	19	55	81	73	14	6.2	5.2	4.7
18	4.9	3.5	5.3	13	18	50	67	68	13	6.1	5.2	4.7
19	4.9	3.2	5.1	12	19	44	59	64	12	6.1	5.2	4.7
20	4.9	3.5	4.4	11	17	41	57	109	12	6.3	5.3	4.7
21	5.0	7.2	4.6	11	19	39	57	280	11	7.7	5.3	4.7
22	5.0	6.1	5.2	11	16	38	59	459	11	6.7	5.2	4.7
23	4.9	5.2	4.8	10	16	36	69	422	9.9	6.4	5.2	4.7
24	4.9	4.5	4.8	9.9	15	37	63	144	9.4	6.3	5.1	4.7
25	4.9	3.7	5.0	9.6	16	41	60	202	8.8	6.2	5.2	4.8
26	4.9	3.4	4.9	8.9	16	44	79	435	8.3	6.2	5.2	4.7
27	4.9	3.3	4.8	8.9	15	62	130	512	8.1	6.1	5.1	4.7
28	4.9	3.2	4.4	9.0	15	55	110	532	7.9	6.1	5.2	4.6
29	4.9	3.9	4.3	15	---	47	104	543	7.7	6.0	5.4	4.6
30	4.9	4.5	3.9	20	---	44	105	518	7.6	6.0	5.3	4.6
31	4.9	---	4.7	19	---	42	---	458	---	6.0	5.2	---
TOTAL	155.8	113.7	142.7	595.0	435.4	1441	2076	6262	2603.7	202.4	167.9	143.6
MEAN	5.03	3.79	4.60	19.2	15.6	46.5	69.2	202	86.8	6.53	5.42	4.79
MAX	5.3	7.2	11	196	46	77	130	543	518	7.7	5.9	5.1
MIN	4.9	2.5	3.1	3.8	7.9	14	40	64	7.6	6.0	5.1	4.6
AC-FT	309	226	283	1180	864	2860	4120	12420	5160	401	333	285
CAL YR 1978 TOTAL	28896.6			MEAN 79.2	MAX 792	MIN 2.5	AC-FT 57320					
WTR YR 1979 TOTAL	14339.2			MEAN 39.3	MAX 543	MIN 2.5	AC-FT 28440					

## 11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW¼NW¼ 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 good. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--19 years, 22.1 ft<sup>3</sup>/s (0.626 m<sup>3</sup>/s), 16,010 acre-ft/yr (19.7 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)
Jan. 11	1400	*319 9.03	4.98 1.518	Mar. 27	2030	174 4.93	4.48 1.366
Mar. 15	1600	138 3.91	4.38 1.335				

Minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.3	11	5.2	9.9	34	66	77	23	7.6	4.9	3.2
2	3.7	3.8	7.4	5.0	9.5	29	62	72	22	7.6	3.8	3.0
3	3.8	3.7	5.3	4.2	9.4	31	59	69	21	7.7	3.4	3.0
4	3.4	3.6	5.1	4.3	9.3	32	57	69	20	8.0	3.8	2.8
5	3.7	3.4	5.5	4.5	9.4	34	60	74	19	7.7	4.0	3.4
6	3.8	3.4	5.0	4.4	9.5	40	66	78	18	7.4	4.2	3.2
7	3.7	3.4	4.2	4.6	9.4	45	63	89	17	7.7	4.1	3.0
8	3.6	2.9	4.5	11	9.3	50	63	81	16	7.3	4.1	3.0
9	3.6	2.9	4.5	10	9.4	53	66	71	16	7.2	4.0	3.2
10	3.5	3.2	4.7	8.7	9.5	57	61	65	15	7.0	3.9	3.2
11	3.4	4.2	4.3	168	9.5	64	60	62	15	7.3	4.0	3.0
12	3.4	4.3	4.2	58	9.7	66	59	61	14	7.0	4.0	2.8
13	3.4	5.4	4.1	32	22	66	61	61	13	6.6	4.1	2.7
14	3.2	4.9	3.9	24	61	63	63	62	12	6.2	4.1	2.7
15	3.1	4.7	3.9	25	35	90	64	62	12	5.6	3.8	2.7
16	3.2	6.2	3.7	21	30	83	68	60	12	5.0	3.9	2.5
17	3.5	5.8	5.6	17	25	66	68	56	12	4.9	3.9	1.8
18	3.3	5.5	6.1	16	29	61	62	53	12	5.0	3.7	2.0
19	3.1	5.3	5.4	13	36	55	57	50	12	5.1	3.6	2.2
20	3.2	6.7	5.2	13	33	50	55	47	12	5.3	3.6	2.5
21	3.2	10	5.4	12	40	49	53	45	12	7.6	4.1	2.5
22	3.2	7.5	5.2	12	31	49	54	42	11	7.1	4.1	2.2
23	2.9	6.0	5.0	11	28	45	61	39	10	6.1	3.8	2.4
24	2.9	5.1	4.9	11	25	44	58	36	10	5.5	3.8	2.2
25	2.9	4.5	4.8	11	26	44	56	34	9.7	5.3	3.6	2.4
26	3.1	4.8	4.7	8.9	37	45	63	32	9.3	5.2	3.6	2.5
27	3.0	4.4	4.6	9.7	31	103	88	30	8.5	5.0	3.6	2.5
28	3.0	4.8	4.5	9.7	31	122	84	29	8.5	4.9	3.2	2.5
29	2.9	4.7	4.2	9.5	---	89	80	27	8.5	5.2	3.2	2.5
30	2.9	4.5	4.4	11	---	78	80	25	7.6	5.2	2.8	2.7
31	3.0	---	5.0	10	---	71	---	24	---	5.1	2.8	---
TOTAL	102.1	142.9	156.3	564.7	633.8	1808	1917	1682	408.1	195.4	117.5	80.3
MEAN	3.29	4.76	5.04	18.2	22.6	58.3	63.9	54.3	13.6	6.30	3.79	2.68
MAX	3.8	10	11	168	61	122	88	89	23	8.0	4.9	3.4
MIN	2.9	2.9	3.7	4.2	9.3	29	53	24	7.6	4.9	2.8	1.8
AC-FT	203	283	310	1120	1260	3590	3800	3340	809	388	233	159
CAL YR 1978	TOTAL	10389.5	MEAN 28.5	MAX 199	MIN 2.4	AC-FT 20610						
WTR YR 1979	TOTAL	7808.1	MEAN 21.4	MAX 168	MIN 1.8	AC-FT 15490						

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 power-house conduit and highway bridge, 1.5 mi (2.4 km) upstream from mouth, and 4 mi (6 km) west of Salt Springs Dam.

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.

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 FOR CURRENT YEAR.--Maximum discharge, 604 ft<sup>3</sup>/s (17.1 m<sup>3</sup>/s) May 29, gage height, 2.94 ft (0.896 m); minimum daily, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Nov. 7-10.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	5.1	11	3.9	19	19	41	97	206	7.4	5.9	5.1
2	5.3	4.4	8.4	3.8	16	14	40	88	104	7.3	5.9	5.1
3	5.3	3.3	4.8	3.9	11	16	41	93	277	7.2	5.8	5.1
4	5.3	2.7	4.4	4.2	8.6	18	47	99	478	7.2	5.8	5.1
5	5.2	2.6	4.9	4.5	8.0	21	58	112	518	7.0	5.7	5.0
6	5.2	2.6	4.0	4.1	8.1	34	67	109	476	6.9	5.7	4.9
7	5.2	2.5	3.1	4.4	7.9	43	61	106	250	6.8	5.7	4.9
8	5.2	2.5	3.5	7.7	7.9	50	64	87	19	6.7	5.6	4.9
9	5.1	2.5	3.8	7.2	8.3	56	67	78	18	6.6	5.6	4.9
10	5.1	2.5	3.6	11	8.6	65	62	76	18	6.5	5.5	4.8
11	5.1	3.3	3.6	196	8.4	73	60	78	18	6.5	5.4	4.7
12	5.1	4.5	3.6	73	8.6	71	61	82	18	6.5	5.5	4.7
13	5.0	3.5	3.5	31	23	74	68	87	17	6.4	5.4	4.6
14	4.9	4.9	3.4	23	46	71	74	87	16	6.4	5.4	4.6
15	4.9	3.9	3.3	19	24	77	78	85	15	6.3	5.4	4.8
16	4.9	3.5	3.3	16	21	64	87	79	15	6.3	5.3	4.8
17	4.9	4.2	4.3	14	19	55	81	73	14	6.2	5.2	4.7
18	4.9	3.5	5.3	13	18	50	67	68	13	6.1	5.2	4.7
19	4.9	3.2	5.1	12	19	44	59	64	12	6.1	5.2	4.7
20	4.9	3.5	4.4	11	17	41	57	109	12	6.3	5.3	4.7
21	5.0	7.2	4.6	11	19	39	57	280	11	7.7	5.3	4.7
22	5.0	6.1	5.2	11	16	38	59	459	11	6.7	5.2	4.7
23	4.9	5.2	4.8	10	16	36	69	422	9.9	6.4	5.2	4.7
24	4.9	4.5	4.8	9.9	15	37	63	144	9.4	6.3	5.1	4.7
25	4.9	3.7	5.0	9.6	16	41	60	202	8.8	6.2	5.2	4.8
26	4.9	3.4	4.9	8.9	16	44	79	435	8.3	6.2	5.2	4.7
27	4.9	3.3	4.8	8.9	15	62	130	512	8.1	6.1	5.1	4.7
28	4.9	3.2	4.4	9.0	15	55	110	532	7.9	6.1	5.2	4.6
29	4.9	3.9	4.3	15	---	47	104	543	7.7	6.0	5.4	4.6
30	4.9	4.5	3.9	20	---	44	105	518	7.6	6.0	5.3	4.6
31	4.9	---	4.7	19	---	42	---	458	---	6.0	5.2	---
TOTAL	155.8	113.7	142.7	595.0	435.4	1441	2076	6262	2603.7	202.4	167.9	143.6
MEAN	5.03	3.79	4.60	19.2	15.6	46.5	69.2	202	86.8	6.53	5.42	4.79
MAX	5.3	7.2	11	196	46	77	130	543	518	7.7	5.9	5.1
MIN	4.9	2.5	3.1	3.8	7.9	14	40	64	7.6	6.0	5.1	4.6
AC-FT	309	226	283	1180	864	2860	4120	12420	5160	401	333	285
CAL YR 1978	TOTAL	28896.6	MEAN	79.2	MAX	792	MIN	2.5	AC-FT	57320		
WTR YR 1979	TOTAL	14339.2	MEAN	39.3	MAX	543	MIN	2.5	AC-FT	28440		

## SAN JOAQUIN RIVER BASIN

11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW¼NW¼ 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 good. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--19 years, 22.1 ft<sup>3</sup>/s (0.626 m<sup>3</sup>/s), 16,010 acre-ft/yr (19.7 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)
Jan. 11	1400	*319 9.03	4.98 1.518	Mar. 27	2030	174 4.93	4.48 1.366
Mar. 15	1600	138 3.91	4.38 1.335				

Minimum daily, 1.8 ft<sup>3</sup>/s (0.051 m<sup>3</sup>/s) Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	3.3	11	5.2	9.9	34	66	77	23	7.6	4.9	3.2
2	3.7	3.8	7.4	5.0	9.5	29	62	72	22	7.6	3.8	3.0
3	3.8	3.7	5.3	4.2	9.4	31	59	69	21	7.7	3.4	3.0
4	3.4	3.6	5.1	4.3	9.3	32	57	69	20	8.0	3.8	2.8
5	3.7	3.4	5.5	4.5	9.4	34	60	74	19	7.7	4.0	3.4
6	3.8	3.4	5.0	4.4	9.5	40	66	78	18	7.4	4.2	3.2
7	3.7	3.4	4.2	4.6	9.4	45	63	89	17	7.7	4.1	3.0
8	3.6	2.9	4.5	11	9.3	50	63	81	16	7.3	4.1	3.0
9	3.6	2.9	4.5	10	9.4	53	66	71	16	7.2	4.0	3.2
10	3.5	3.2	4.7	8.7	9.5	57	61	65	15	7.0	3.9	3.2
11	3.4	4.2	4.3	168	9.5	64	60	62	15	7.3	4.0	3.0
12	3.4	4.3	4.2	58	9.7	66	59	61	14	7.0	4.0	2.8
13	3.4	5.4	4.1	32	22	66	61	61	13	6.6	4.1	2.7
14	3.2	4.9	3.9	24	61	63	63	62	12	6.2	4.1	2.7
15	3.1	4.7	3.9	25	35	90	64	62	12	5.6	3.8	2.7
16	3.2	6.2	3.7	21	30	83	68	60	12	5.0	3.9	2.5
17	3.5	5.8	5.6	17	25	66	68	56	12	4.9	3.9	1.8
18	3.3	5.5	6.1	16	29	61	62	53	12	5.0	3.7	2.0
19	3.1	5.3	5.4	13	36	55	57	50	12	5.1	3.6	2.2
20	3.2	6.7	5.2	13	33	50	55	47	12	5.3	3.6	2.5
21	3.2	10	5.4	12	40	49	53	45	12	7.6	4.1	2.5
22	3.2	7.5	5.2	12	31	49	54	42	11	7.1	4.1	2.2
23	2.9	6.0	5.0	11	28	45	61	39	10	6.1	3.8	2.4
24	2.9	5.1	4.9	11	25	44	58	36	10	5.5	3.8	2.2
25	2.9	4.5	4.8	11	26	44	56	34	9.7	5.3	3.6	2.4
26	3.1	4.8	4.7	8.9	37	45	63	32	9.3	5.2	3.6	2.5
27	3.0	4.4	4.6	9.7	31	103	88	30	8.5	5.0	3.6	2.5
28	3.0	4.8	4.5	9.7	31	122	84	29	8.5	4.9	3.2	2.5
29	2.9	4.7	4.2	9.5	---	89	80	27	8.5	5.2	3.2	2.5
30	2.9	4.5	4.4	11	---	78	80	25	7.6	5.2	2.8	2.7
31	3.0	---	5.0	10	---	71	---	24	---	5.1	2.8	---
TOTAL	102.1	142.9	156.3	564.7	633.8	1808	1917	1682	408.1	195.4	117.5	80.3
MEAN	3.29	4.76	5.04	18.2	22.6	58.3	63.9	54.3	13.6	6.30	3.79	2.68
MAX	3.8	10	11	168	61	122	88	89	23	8.0	4.9	3.4
MIN	2.9	2.9	3.7	4.2	9.3	29	53	24	7.6	4.9	2.8	1.8
AC-FT	203	283	310	1120	1260	3590	3800	3340	809	388	233	159
CAL YR 1978	TOTAL	10389.5	MEAN 28.5	MAX 199	MIN 2.4	AC-FT 20610						
WTR YR 1979	TOTAL	7808.1	MEAN 21.4	MAX 168	MIN 1.8	AC-FT 15490						

## 11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA

LOCATION.--Lat 38°23'23", long 120°31'32", in SE¼NE¼ 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 fair. 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, 15 ft<sup>3</sup>/s (0.42 m<sup>3</sup>/s) and Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--68 years, 60.5 ft<sup>3</sup>/s (1.713 m<sup>3</sup>/s), 43,830 acre-ft/yr (54.0 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 Aug. 23 to Sept. 14, 1931, 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)
Jan. 11	1500	*1,150 32.6	5.21 1.588
Mar. 28	0030	573 16.2	3.91 1.192

Minimum daily, 5.9 ft<sup>3</sup>/s (0.17 m<sup>3</sup>/s) Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	12	28	8.7	30	159	189	212	74	26	12	8.6
2	8.1	13	24	9.9	28	115	177	198	71	25	12	8.2
3	8.4	12	17	12	24	115	165	193	68	24	12	7.9
4	8.5	12	15	12	26	113	159	198	63	24	12	7.9
5	8.6	12	15	12	26	112	170	214	60	23	11	8.5
6	9.2	12	13	12	25	122	186	230	58	23	11	8.2
7	9.2	12	10	12	25	141	180	247	54	22	11	7.3
8	9.0	12	11	30	25	156	177	239	51	22	10	7.6
9	9.3	12	12	41	25	166	184	208	48	21	10	7.3
10	9.2	10	13	26	25	174	173	190	46	21	10	7.6
11	8.2	11	13	589	25	188	167	183	45	20	11	7.9
12	8.7	12	13	247	26	189	161	182	42	20	11	7.6
13	8.5	13	12	112	55	187	167	185	40	19	12	7.6
14	8.6	15	11	91	261	180	170	190	39	19	12	7.6
15	9.0	14	10	103	135	255	175	192	37	19	31	7.9
16	9.4	15	9.8	78	110	289	184	191	36	18	51	7.6
17	9.7	15	14	57	88	212	189	184	37	18	35	6.7
18	10	12	23	51	94	188	172	181	36	18	8.5	5.9
19	11	12	17	42	146	171	155	177	35	17	8.8	7.0
20	11	14	14	39	127	156	148	171	34	18	9.1	7.3
21	9.7	26	14	36	192	146	144	165	33	20	9.5	7.3
22	10	25	13	35	147	146	144	159	32	24	9.5	6.7
23	9.8	20	12	32	128	133	161	146	31	22	9.1	6.7
24	11	16	12	30	103	128	155	133	30	19	9.1	6.7
25	11	14	12	30	96	130	144	123	29	16	8.5	7.6
26	11	13	12	26	140	133	167	115	29	15	7.9	7.6
27	10	13	12	25	115	304	249	110	28	14	7.3	7.5
28	9.4	14	12	25	116	436	234	102	27	14	7.6	7.4
29	10	14	11	20	---	288	222	95	27	13	7.3	7.2
30	11	14	9.9	27	---	237	216	87	27	13	7.6	7.1
31	11	---	9.0	31	---	206	---	80	---	13	7.9	---
TOTAL	295.5	421	423.7	1901.6	2363	5675	5284	5280	1267	600	391.7	224.0
MEAN	9.53	14.0	13.7	61.3	84.4	183	176	170	42.2	19.4	12.6	7.47
MAX	11	26	28	589	261	436	249	247	74	26	51	8.6
MIN	8.0	10	9.0	8.7	24	112	144	80	27	13	7.3	5.9
AC-FT	586	835	840	3770	4690	11260	10480	10470	2510	1190	777	444
CAL YR 1978	TOTAL	33557.7	MEAN 91.9	MAX 714	MIN 8.0	AC-FT 66560						
WTR YR 1979	TOTAL	24126.5	MEAN 66.1	MAX 589	MIN 5.9	AC-FT 47850						

## 11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA

LOCATION.--Lat 38°22'06", long 120°32'40", in SE¼SE¼ 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.--46 years, 81.4 ft<sup>3</sup>/s (2.305 m<sup>3</sup>/s), 58,970 acre-ft/yr (72.7 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)
Jan. 11	1500	*1360 38.5	6.56 2.000	Mar. 15	1730	513 14.5	4.98 1.518
Feb. 14	0630	648 18.4	5.29 1.612	Mar. 27	2400	857 24.3	5.72 1.743
Feb. 28	2400	526 14.9	5.01 1.527				

Minimum daily, 2.5 ft<sup>3</sup>/s (0.071 m<sup>3</sup>/s) Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	7.1	29	44	35	330	244	240	71	27	11	10
2	10	7.2	30	38	34	200	222	226	68	28	11	9.6
3	10	7.7	21	20	31	170	205	225	64	28	11	9.9
4	10	8.4	16	17	31	155	197	228	59	28	11	9.8
5	11	7.7	13	19	31	145	203	234	56	27	9.9	9.2
6	10	7.7	12	20	31	153	218	249	54	28	10	8.4
7	10	7.3	8.9	20	32	178	209	264	53	29	9.5	7.9
8	9.0	7.5	9.7	51	32	198	208	248	53	28	10	7.0
9	9.1	6.8	13	58	32	207	214	219	54	25	7.6	7.8
10	9.2	7.2	12	37	32	214	203	204	51	23	9.2	7.5
11	9.8	9.6	11	726	33	226	195	198	48	22	8.0	6.9
12	10	13	11	251	33	225	191	198	44	20	8.5	6.5
13	10	18	10	114	76	220	197	201	43	20	9.2	6.1
14	9.6	11	11	107	383	212	203	197	42	19	9.3	6.3
15	9.6	9.4	11	147	177	323	208	192	42	18	10	5.8
16	9.6	9.1	11	106	156	338	217	186	41	19	8.6	6.1
17	9.7	9.6	20	71	121	252	224	175	40	19	8.4	6.4
18	10	9.8	44	62	122	227	196	168	39	19	7.8	6.9
19	9.8	9.9	31	53	181	202	178	160	38	16	6.9	6.6
20	9.6	14	25	48	179	186	169	151	36	16	7.2	6.2
21	10	43	23	44	329	174	165	142	34	20	8.4	7.4
22	11	30	22	41	265	168	166	135	33	23	8.5	7.2
23	10	24	20	39	242	152	182	124	33	19	8.4	7.3
24	9.2	19	20	38	173	145	175	113	32	17	9.2	5.2
25	8.8	17	20	38	143	147	171	106	31	15	8.6	2.5
26	8.9	16	20	34	193	153	196	99	31	14	8.0	3.3
27	7.8	14	20	33	162	429	295	95	30	13	9.5	3.5
28	9.8	10	20	33	172	685	269	90	30	13	11	3.0
29	10	9.8	19	30	---	407	254	83	28	13	11	3.3
30	9.9	10	21	35	---	315	250	79	28	13	10	3.3
31	8.8	---	30	35	---	271	---	75	---	12	11	---
TOTAL	300.2	380.8	584.6	2409	3461	7407	6224	5304	1306	631	287.7	196.9
MEAN	9.68	12.7	18.9	77.7	124	239	207	171	43.5	20.4	9.28	6.56
MAX	11	43	44	726	383	685	295	264	71	29	11	10
MIN	7.8	6.8	8.9	17	31	145	165	75	28	12	6.9	2.5
AC-FT	595	755	1160	4780	6860	14690	12350	10520	2590	1250	571	391
CAL YR 1978	TOTAL	40755.7	MEAN 112	MAX 1090	MIN 6.8	AC-FT 80840						
WTR YR 1979	TOTAL	28492.2	MEAN 78.1	MAX 726	MIN 2.5	AC-FT 56510						

## 11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.--Lat 38°18'46", long 120°43'09", in SW¼SW¼ 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>).

## WATER-DISCHARGE RECORDS

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.--53 years (water years 1904, 1928-79), 960 ft<sup>3</sup>/s (27.19 m<sup>3</sup>/s), 695,500 acre-ft/yr (858 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, 7,050 ft<sup>3</sup>/s (200 m<sup>3</sup>/s) Jan. 11, gage height, 13.57 ft (4.136 m); minimum daily, 73 ft<sup>3</sup>/s (2.07 m<sup>3</sup>/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	600	581	577	390	729	1570	1350	1590	1790	732	657	456
2	595	586	569	690	741	1300	1310	1660	1290	650	502	617
3	635	546	526	511	616	1100	1280	1600	2360	648	631	585
4	553	553	528	534	659	1020	1230	1640	3300	553	585	538
5	566	613	644	568	664	1000	1310	1650	3520	714	584	594
6	545	559	476	520	679	1050	1350	1920	2950	669	538	730
7	540	675	472	564	759	1130	1270	1890	2790	625	626	561
8	589	566	515	579	651	1290	1520	1810	2160	626	538	524
9	593	434	575	823	572	1180	1420	1680	1180	695	690	491
10	596	661	403	644	340	1250	1430	1630	1430	593	605	548
11	631	555	442	3380	383	1240	1420	1660	1840	618	494	613
12	566	588	557	1920	481	1330	1320	1600	1780	642	596	559
13	673	548	587	770	853	1200	1340	1620	1890	669	562	530
14	497	556	564	671	1470	1270	1440	1710	1860	615	524	607
15	575	502	463	542	1020	1420	1410	1750	1350	591	608	471
16	536	679	249	809	957	1750	1480	1770	1040	634	568	596
17	621	514	225	868	947	1390	1620	1750	1130	696	622	494
18	631	537	410	726	864	1280	1870	1810	1120	539	424	556
19	579	566	710	716	1110	1280	1360	1780	1110	625	447	514
20	709	519	530	793	1010	1280	1360	1830	1110	624	569	547
21	658	720	576	759	1440	1170	1270	2060	938	687	641	556
22	524	629	560	652	1390	1240	1220	2300	930	653	543	392
23	560	552	434	710	1240	1080	1320	2270	928	499	593	73
24	542	554	413	682	1050	1170	1400	1910	914	613	533	393
25	542	587	445	607	907	1210	1320	1630	921	624	620	531
26	542	529	320	738	1060	1160	1360	2030	926	621	563	430
27	669	584	620	648	994	1490	1820	2180	899	603	573	521
28	594	345	545	674	1000	2400	1920	2230	923	551	605	591
29	619	571	620	651	---	1700	1800	2830	876	581	540	479
30	709	521	500	729	---	1490	1700	3030	674	623	681	600
31	433	---	560	657	---	1380	---	2610	---	543	366	---
TOTAL	18222	16930	15615	24525	24586	40820	43220	59430	45929	19356	17628	15697
MEAN	588	564	504	791	878	1317	1441	1917	1531	624	569	523
MAX	709	720	710	3380	1470	2400	1920	3030	3520	732	690	730
MIN	433	345	225	390	340	1000	1220	1590	674	499	366	73
AC-FT	36140	33580	30970	48650	48770	80970	85730	117900	91100	38390	34970	31130
CAL YR 1978 TOTAL	458300			1256	MAX 5120	MIN 225	AC-FT 909000					
WTR YR 1979 TOTAL	341958			937	MAX 3520	MIN 73	AC-FT 678300					

## SAN JOAQUIN RIVER BASIN

11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1961 to January 1979 (discontinued).

INSTRUMENTATION.--Temperature recorder from February 1961 to January 1979.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 29.5°C July 18, 1977; minimum recorded, 1.0°C Jan. 31, Feb. 1, 1968.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 18.0°C Oct. 1; minimum recorded, 2.5°C Jan. 29.

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO JANUARY 1979

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



## 11320000 PARDEE RESERVOIR NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°15'25", long 120°50'59", in NW¼SW¼ 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.--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. October 1961 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 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 593.50 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 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, 211,300 acre-ft (261 hm<sup>3</sup>) June 8, elevation, 568.25 ft (173.203 m); minimum, 172,900 acre-ft (213 hm<sup>3</sup>) Oct. 13, elevation, 550.10 ft (167.670 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	177500	176000	181600	182900	186100	185300	197800	197800	203100	206200	191000	184300
2	176900	176000	182300	183200	186200	186000	197600	198100	203400	205800	190500	184900
3	176400	175900	183000	183300	185400	186300	198000	198400	204600	204800	190300	184600
4	175700	176400	182700	183500	184700	186500	198100	198800	204600	204700	190500	184100
5	175100	177200	182700	183700	184000	186600	198000	198900	206000	204100	190600	183800
6	174400	176900	182200	184300	183300	186700	198000	199300	207400	203400	190300	183800
7	174800	177100	181900	185200	182800	186900	197800	199200	210600	203600	190200	183500
8	175400	177000	181400	185600	182000	187500	198100	198900	211300	203700	189900	183100
9	174800	176600	182100	186300	181100	187900	198200	199000	210500	203100	189800	183500
10	174300	176700	182500	186800	179700	188400	198100	199000	210700	202300	189600	183100
11	173800	177300	182200	193500	178300	188800	198000	199100	211100	201500	189600	182800
12	173100	178000	182000	196400	177200	189500	197700	199000	211100	200800	189800	182400
13	172900	178000	181800	196000	177000	189900	198000	198900	211200	200100	189500	182000
14	173300	178000	181600	195700	177900	190400	198300	199000	211100	200200	189000	181700
15	174000	177800	181400	195000	178000	191600	198300	199200	210700	200300	188800	181100
16	173800	178000	181300	194600	177900	193300	198400	199200	210300	199500	188400	181700
17	173700	177900	181500	194600	177700	194100	197900	199000	210200	198900	188200	181200
18	173600	178600	181200	194100	177700	194800	197900	199300	210100	198000	188100	180800
19	173500	179300	181300	193600	178200	195200	197700	199600	210100	197200	187900	180300
20	173500	179300	181300	193200	178400	195500	198100	199900	210100	196300	187600	180000
21	174400	179700	180900	192800	180000	195800	198100	200800	209700	196600	187300	179500
22	174900	179900	180600	192200	181700	196400	197900	200900	209300	196900	186900	178900
23	174700	180700	181100	191800	182600	196500	197900	201000	208900	195800	186600	178400
24	174500	180700	181500	191000	182800	196900	198000	201000	208500	195000	186400	177700
25	174400	181400	182000	190300	182700	197400	198000	201500	208100	194200	186600	177300
26	174500	182100	181400	189800	182900	197700	198200	202700	207700	193400	186800	176600
27	174600	182100	181300	189100	182900	198200	198200	202300	207400	192600	186400	176200
28	175300	181700	181100	188400	183400	197100	198100	202500	207100	192600	186200	175900
29	176000	181700	181100	187700	---	197500	198100	202900	206700	192700	185800	175400
30	176200	181600	181700	187200	---	197800	198100	202700	205800	191900	185700	176000
31	175800	---	182400	186600	---	197800	---	203000	---	191100	185000	---
MAX	177500	182100	183000	196400	186200	198200	198400	203000	211300	206200	191000	184900
MIN	172900	175900	180600	182900	177000	185300	197600	197800	203100	191100	185000	175400
†	551.59	554.47	554.83	556.89	555.32	562.15	562.31	564.54	565.80	559.04	556.10	551.66
‡	-1100	+5800	+800	+4200	-3200	+14400	+300	+4900	+2800	-14700	-6100	-9000
††	520	194	90	139	174	319	585	1137	1580	1499	1214	871
†††	15832	12771	11899	11545	11475	12808	15152	17231	19540	20279	18161	17070

CAL YR 1978 ‡ +92600

WTR YR 1979 ‡ -900

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

††† Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

## SAN JOAQUIN RIVER BASIN

## 11322300 CAMANCHE RESERVOIR NEAR CLEMENTS, CA

LOCATION.--Lat 38°13'31", long 121°01'17", in NE&SE<sup>4</sup> 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 initial season of operation, 42,800 acre-ft (52.8 hm<sup>3</sup>) Jan. 2, 3, 1978, elevation, 152.44 ft (46.464 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 430,300 acre-ft (531 hm<sup>3</sup>) June 6, elevation, 235.42 ft (71.756 m); minimum, 292,800 acre-ft (361 hm<sup>3</sup>) Dec. 10, 25, elevation, 215.62 ft (65.721 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 1978 TO SEPTEMBER 1979  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	337000	306600	295200	293100	310900	323000	337000	376700	423100	418100	396800	365400
2	336000	306400	294400	293200	310900	322800	338200	378400	422200	417200	395900	363900
3	335100	306100	293600	293600	311500	322700	339000	379600	422200	417000	394900	363300
4	334300	305000	293600	293800	312300	322400	339900	381000	425900	415800	393500	362800
5	333300	304000	293600	293900	313100	321900	340900	382300	429000	415300	392000	362200
6	332700	303700	293600	293600	313700	321500	342100	384300	430300	415000	391200	361600
7	330800	303400	293600	293400	314200	321300	343300	386400	428400	413600	390400	361000
8	329000	303100	293800	294100	314900	320900	344500	388600	427500	412400	389400	360400
9	328300	302800	293400	294100	315700	320500	345500	390400	426300	411900	388400	358900
10	327700	302400	292800	294400	316400	320100	346800	391900	424700	411500	387500	358300
11	327100	301300	293000	295800	316900	319700	348100	393300	423800	411100	386200	357600
12	326500	300400	293200	296000	317700	319500	349500	394800	423800	410600	384700	357000
13	325700	300000	293600	297000	318700	319200	350400	396300	424100	410300	383800	356400
14	323900	299600	293900	298200	319400	319300	351500	397700	424700	409100	382800	355800
15	322000	299400	294100	299400	320200	320700	352800	398900	425000	407800	381900	355100
16	320900	299200	293500	300400	320700	321300	353900	400300	424800	407400	381100	353700
17	319900	299000	293400	301600	321400	323000	356100	402200	424100	407000	380200	353100
18	318800	298200	293500	302500	322500	323400	358300	403200	423700	406600	378700	352400
19	317600	297600	293600	303300	323600	323600	359700	403900	423400	406100	377300	351800
20	316700	297500	293700	303900	324900	323800	360200	404600	422900	405700	376400	351200
21	315000	297800	294100	304500	325900	323700	361400	405400	422600	404500	375600	350600
22	313400	297900	294500	305100	326800	323900	362300	407400	422200	403200	374700	350000
23	312600	297100	294000	305700	326600	324300	363300	409400	421900	402900	373800	348600
24	311700	297000	293400	306300	325500	324800	364300	410900	421300	402700	372900	347800
25	311000	296200	292800	306900	324300	325100	365400	411400	420900	402200	371500	347200
26	310300	295300	293100	307400	323400	325800	366500	411900	420600	401600	370200	346700
27	310000	295100	293500	308000	322800	326700	368900	414400	420200	401200	369400	346000
28	309000	295000	293900	308400	322800	331500	371300	416300	419800	399900	368500	345500
29	307900	294900	294300	308900	---	333400	373200	418700	419500	398600	367600	344900
30	307500	294900	293900	309500	---	334400	374900	421600	419300	398200	366700	343600
31	307100	---	293500	310200	---	335800	---	422800	---	397700	366000	---
MAX	337000	306600	295200	310200	326800	335800	374900	422800	430300	418100	396800	365400
MIN	307100	294900	292800	293100	310900	319200	337000	376700	419300	397700	366000	343600
†	217.88	215.95	215.73	218.35	220.28	222.24	227.90	234.43	233.97	231.06	226.63	223.39
‡	-32100	-12200	-1400	+16700	+12600	+13000	+39100	+47900	-3500	-21600	-31700	-22400
††	2818	1162	652	763	1057	1510	2715	4749	6688	5933	5486	4666

CAL YR 1978 ‡ +250400  
WTR YR 1979 ‡ +4400

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

## 11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, CA

LOCATION.--Lat 38°13'14", long 121°02'19", in NW¼NW¼ 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); 51 years (water years 1929-79), 787 ft<sup>3</sup>/s (22.29 m<sup>3</sup>/s), 570,200 acre-ft/yr (703 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 July 9, Aug. 15, 20-23, 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft<sup>3</sup>/s (54.4 m<sup>3</sup>/s) June 7-10, gage height 6.43 ft (1.960 m); minimum daily, 196 ft<sup>3</sup>/s (5.55 m<sup>3</sup>/s) Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1140	517	406	202	493	1070	503	497	1460	811	809	701
2	1090	517	405	203	494	1030	503	497	1260	810	810	701
3	1040	517	404	196	494	1030	503	497	1260	811	810	701
4	1030	517	402	201	493	1030	503	497	1030	811	811	701
5	1030	517	405	203	492	1030	503	497	887	811	811	701
6	983	514	406	202	497	1020	502	497	1250	812	813	701
7	928	512	406	202	496	1020	503	497	1800	813	816	701
8	927	512	353	214	497	1020	502	497	1920	811	814	701
9	926	512	305	207	497	1020	503	497	1910	814	811	701
10	926	515	303	204	497	1020	503	547	1910	818	811	701
11	923	517	303	284	497	1020	502	593	1750	817	811	696
12	914	517	306	218	497	1020	502	596	1370	816	811	691
13	914	516	306	299	499	906	502	599	1260	814	806	691
14	916	515	305	412	505	691	503	595	1200	818	807	673
15	919	513	305	437	503	435	502	597	1090	818	805	691
16	920	515	307	412	511	219	500	593	1030	813	805	691
17	921	461	308	411	503	340	498	672	1030	811	805	690
18	920	401	308	416	506	664	497	831	975	811	804	689
19	915	401	308	451	523	809	501	915	918	811	804	688
20	873	402	304	495	585	811	499	918	918	812	804	688
21	822	405	303	493	749	811	497	918	918	811	804	687
22	822	402	303	494	1100	704	500	918	918	811	804	687
23	823	402	303	494	1450	599	500	918	918	811	804	687
24	775	402	303	492	1600	599	499	918	918	811	804	687
25	677	402	303	495	1590	599	497	843	918	810	804	687
26	574	401	279	495	1430	599	498	756	918	811	804	690
27	528	401	255	493	1250	557	497	757	914	810	804	692
28	525	402	232	495	1150	503	497	757	917	810	804	692
29	523	401	202	494	---	503	500	945	853	808	804	694
30	517	402	202	493	---	503	500	1450	811	806	804	694
31	517	---	202	492	---	503	---	1600	---	808	753	---
TOTAL	26258	13928	9742	11299	20398	23685	15019	22709	35231	25170	24971	20795
MEAN	847	464	314	364	729	764	501	733	1174	812	806	693
MAX	1140	517	406	495	1600	1070	503	1600	1920	818	816	701
MIN	517	401	202	196	492	219	497	497	811	806	753	673
AC-FT	52080	27630	19320	22410	40460	46980	29790	45040	69880	49920	49530	41250
MEAN ‡	371	279	302	648	974	1000	1203	1589	1228	557	379	395
AC-FT ‡	22800	16590	18570	39870	54120	61490	71600	97690	73070	34250	23320	23520
CAL YR 1978 TOTAL	220127											
WTR YR 1979 TOTAL	249205											
MEAN 603												
MAX 1920												
MIN 66												
AC-FT 436600												
MEAN ‡ 994												
AC-FT ‡ 719400												
MEAN ‡ 742												
AC-FT ‡ 536900												

‡ Adjusted for change in contents and evaporation from Camanche Reservoir.

## SAN JOAQUIN RIVER BASIN

11325000 WOODBRIDGE CANAL AT WOODBRIDGE, CA

LOCATION.--Lat 38°09'07", long 121°18'00", in NE4SE4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, at point of diversion from Woodbridge Reservoir.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 32.18 ft (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.

REMARKS.--Records good. Discharge computed from records of gate openings and effective head as shown by differential recorder. Canal diverts from Woodbridge Reservoir on Mokelumne River for irrigation south and west of Woodbridge. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--53 years, 134 ft<sup>3</sup>/s (3.795 m<sup>3</sup>/s), 97,080 acre-ft/yr (120 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80						0	137	218	225	282	206
2	77						0	142	216	263	282	195
3	84						0	138	205	269	271	175
4	83						0	139	217	238	267	152
5	81						0	156	234	220	259	140
6	79						11	159	240	238	264	170
7	79						14	156	242	244	281	185
8	79						10	165	222	234	270	185
9	79						29	165	206	240	278	184
10	79						35	160	206	254	287	174
11	70						57	176	232	272	297	172
12	82						75	193	244	275	286	160
13	90						70	192	260	285	284	145
14	89						66	203	268	280	283	146
15	83						63	234	255	272	265	149
16	80						84	204	269	276	247	158
17	80						106	185	235	278	241	144
18	80						121	198	224	280	238	144
19	81						159	209	245	297	222	145
20	86						192	199	262	305	232	148
21	88						205	186	271	301	233	144
22	90						174	185	259	287	228	145
23	86						142	193	247	281	235	144
24	85						144	196	228	286	241	147
25	86						170	203	238	297	247	145
26	79						162	209	245	303	231	140
27	24						133	211	237	299	187	135
28	0						116	199	249	283	189	134
29	0				---		115	196	250	281	187	125
30	0				---		137	199	251	282	197	124
31	0	---			---		---	203	---	281	215	---
TOTAL	2159	0	0	0	0	0	2590	5690	7175	8426	7726	4660
MEAN	69.6	0	0	0	0	0	86.3	184	239	272	249	155
MAX	90	0	0	0	0	0	205	234	271	305	297	206
MIN	0	0	0	0	0	0	0	137	205	220	187	124
AC-FT	4280	0	0	0	0	0	5140	11290	14230	16710	15320	9240
CAL YR 1978	TOTAL	33143.00	MEAN	90.8	MAX	292	MIN	0	AC-FT	65740		
WTR YR 1979	TOTAL	38426.00	MEAN	105	MAX	305	MIN	0	AC-FT	76220		

LOCATION.--Lat 38°09'31", long 121°18'09", in NW¼NE¼ 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.

WATER-DISCHARGE RECORDS

REVISÉD RECORDS.--WSP 1930: Drainage area.

REMARKS.--Records good. Concerning regulation and diversions see REMARKS for Mokelumne River below Camanche Dam (station 11323500). Between Woodbridge and Camanche Dam there are many additional diversions for irrigation, including Woodbridge Canal (station 11325000). Nearest diversion is 0.5 mi (0.8 km) upstream. See schematic diagram of Mokelumne River basin.

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 discharge, 1,570 ft<sup>3</sup>/s (44.5 m<sup>3</sup>/s) Oct. 27, gage height, 13.11 ft (3.996 m); minimum daily, 146 ft<sup>3</sup>/s (4.135 m<sup>3</sup>/s) Jan. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	927	448	348	146	435	1030	439	261	1080	446	318	386
2	943	444	345	149	435	966	319	258	905	387	333	380
3	869	441	346	149	433	945	398	252	860	369	368	397
4	842	437	347	147	433	937	408	252	828	418	362	469
5	842	433	344	151	431	934	414	239	536	456	371	451
6	841	430	350	149	431	933	388	230	588	416	381	404
7	779	430	352	150	434	932	399	240	937	409	371	387
8	751	428	351	168	429	932	404	238	1260	431	364	392
9	747	431	288	166	431	932	361	230	1330	456	352	397
10	729	431	260	151	431	930	376	221	1340	442	358	408
11	743	432	255	225	431	929	371	265	1310	399	367	414
12	736	435	252	240	431	928	315	236	1110	400	364	417
13	728	434	251	169	447	924	340	257	817	389	381	426
14	734	431	250	286	449	790	346	274	785	380	373	449
15	738	430	250	395	439	621	350	244	720	392	375	417
16	747	429	250	382	455	368	344	252	598	402	411	413
17	748	429	254	361	447	205	319	283	612	396	403	428
18	747	365	259	369	445	377	271	376	645	378	408	428
19	745	344	252	357	456	411	221	492	549	347	426	428
20	743	349	250	412	481	642	208	540	508	354	454	425
21	687	380	250	432	590	695	198	579	500	431	418	433
22	656	367	250	434	751	703	217	602	499	428	430	430
23	638	353	249	434	1090	576	253	584	505	422	432	431
24	643	349	248	435	1260	531	254	579	513	380	429	426
25	585	350	247	436	1310	531	239	573	522	351	419	428
26	495	349	247	434	1320	538	239	431	509	338	428	434
27	840	345	218	434	1150	543	270	409	520	349	483	444
28	527	340	239	435	1110	497	281	421	525	390	485	440
29	482	338	181	434	---	446	285	425	508	386	474	460
30	504	338	158	434	---	441	275	764	437	401	464	455
31	457	---	149	435	---	440	---	1080	---	349	437	---
TOTAL	22193	11940	8290	9499	17385	21607	9502	12087	22356	12292	12439	12697
MEAN	716	398	267	306	621	697	317	390	745	397	401	423
MAX	943	448	352	436	1320	1030	439	1080	1340	456	485	469
MIN	457	338	149	146	429	205	198	221	437	328	318	380
AC-FT	44020	23680	16440	18840	34480	42860	18850	23970	44340	24380	24670	25180
CAL YR 1978	TOTAL	148638	MEAN	407	MAX	1350	MIN	13	AC-FY	294800		
WTR YR 1979	TOTAL											

## 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 to current year.

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.

COOPERATION.--The letter "A" following a date indicates chemical-quality data furnished by California Department of Water Resources.

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, 21.5°C July 30-Aug. 2, Sept. 13; minimum recorded, 5.5°C Jan. 1.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (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)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT												
04... A	1245	840	60	7.2	17.5	--	9.4	--	--	--	--	--
17...	1215	748	49	7.7	15.5	1.1	10.2	62	K36	18	2	4.7
NOV												
06... A	1100	430	55	7.1	14.0	--	10.1	--	--	--	--	--
22...	1045	365	49	7.5	13.0	3.2	10.1	350	1200	17	0	4.4
DEC												
06... A	1415	352	52	7.0	10.0	--	11.4	--	--	15	--	4.0
19...	1000	251	46	7.8	9.0	.80	11.2	59	32	17	0	4.4
JAN												
17...	1100	356	49	7.5	9.5	4.6	11.6	54	40	17	0	4.3
FEB												
16...	1030	466	47	7.3	10.5	8.5	10.2	--	300	14	2	3.8
MAR												
20...	1100	660	47	7.2	11.0	2.6	11.2	K130	75	19	8	5.1
APR												
11...	1045	379	48	7.6	12.0	1.6	10.8	29	30	19	3	5.8
MAY												
16...	1045	235	47	7.4	15.0	1.5	10.2	31	25	19	3	5.1
JUN												
13...	1100	716	50	7.3	15.0	18	10.2	110	45	13	0	2.9
JUL												
24...	1100	362	51	7.2	20.0	1.5	8.5	K500	28	17	0	4.3
AUG												
22...	1030	430	42	7.4	19.0	.70	9.0	60	K16	17	4	4.5
SEP												
12...	1100	417	44	7.6	20.0	1.3	8.7	36	K10	18	2	4.6

See footnotes at end of table.

11325500 MOSELUMNE RIVER AT WOODBRIDGE, CA--Continued

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 04... A	--	--	--	--	--	--	--	--	--	--	--
17...	1.4	2.4	22	.3	.9	16	2.6	2.2	.0	11	32
NOV 06... A	--	--	--	--	--	--	--	--	--	--	--
22...	1.4	2.5	23	.3	1.2	18	2.8	2.4	.0	9.7	32
DEC 06... A	--	2.4	--	--	--	17	--	2.4	--	--	25
19...	1.4	2.5	23	.3	1.0	18	3.7	2.3	.0	8.8	30
JAN 17...	1.5	2.5	23	.3	.9	17	2.4	2.2	.0	8.9	39
FEB 16...	1.2	2.4	25	.3	.8	12	5.2	2.0	.0	7.6	28
MAR 20...	1.4	2.4	21	.2	.8	17	5.6	2.1	.0	9.0	33
APR 11...	1.1	2.4	21	.2	.7	16	5.2	2.2	.1	8.1	34
MAY 16...	1.4	2.5	22	.3	.7	16	3.3	2.2	.0	8.0	36
JUN 13...	1.5	2.8	29	.3	1.1	14	5.6	3.4	.2	8.8	37
JUL 24...	1.4	2.3	22	.2	.7	17	4.3	2.0	.0	8.9	--
AUG 22...	1.3	2.5	23	.3	1.0	13	10	2.0	.0	--	--
SEP 12...	1.6	2.8	24	.3	.7	16	7.9	1.9	.1	8.7	38

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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, KJEL- DAHL TOTAL (MG/L AS N)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (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)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 04... A	--	--	.00	.20	--	--	--	--	.01	--	--
17...	.04	.11	.01	.14	.15	.04	.11	.26	.01	.01	--
NOV 06... A	--	--	.00	.10	--	--	--	--	.02	--	--
22...	.04	.10	.01	.33	.34	.04	.30	.44	.05	.03	2.8
DEC 06... A	.03	--	.00	.20	--	--	--	--	.02	--	--
19...	.04	.02	.00	.22	.22	.06	.16	.24	.02	.02	1.8
JAN 17...	.05	.15	.02	.72	.74	.34	.40	.89	.04	.03	--
FEB 16...	.04	.05	.03	.15	.18	.08	.10	.23	.06	.03	2.6
MAR 20...	.04	.05	.01	.19	.20	.08	.12	.25	.01	.01	2.3
APR 11...	.05	.02	.01	.14	.15	.03	.12	.17	.01	.01	--
MAY 16...	.05	.06	.01	.20	.21	.11	.10	.27	.00	.00	1.7
JUN 13...	.05	.08	.01	.41	.42	.12	.30	.50	.01	.01	2.1
JUL 24...	.03	.05	.08	.32	.40	.26	.14	.45	.03	.02	--
AUG 22...	.05	.04	.00	.51	.51	.34	.17	.55	.01	.01	2.5
SEP 12...	.05	.08	.01	.31	.32	.00	.32	.40	.02	.02	1.8

See footnotes at end of table.

## SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
OCT 17...	1215	1	1	0	0	20	0	0	<1	0
JAN 17...	1100	1	0	0	0	20	1	0	2	10
APR 11...	1045	1	1	0	0	0	1	1	0	10
JUL 24...	1100	1	1	0	0	20	1	0	<1	0

DATE	CHRO- MIUM, SUS- PENDED RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)
OCT 17...	0	0	0	0	<1	11	7	4	150	140
JAN 17...	10	0	1	0	<3	6	3	3	360	340
APR 11...	10	0	2	2	0	6	3	3	170	130
JUL 24...	0	0	0	0	<3	18	15	3	150	130

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PR)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
OCT 17...	10	3	3	0	40	40	5	.0	.0	.0
JAN 17...	20	3	1	2	40	30	6	.3	.0	.5
APR 11...	40	6	6	0	20	20	0	.1	.1	.0
JUL 24...	20	6	6	0	20	20	3	.1	.0	.2

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 17...	0	0	0	0	0	0	30	10	20
JAN 17...	0	0	0	0	0	0	50	20	30
APR 11...	0	0	0	0	0	0	20	10	10
JUL 24...	0	0	0	0	0	0	40	40	4

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



## 11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PHYTOPLANKTON

DATE TIME	OCT 17,78 1215		DEC 19,78 1000		MAY 20,79 1100		MAY 16,79 1045	
TOTAL CELLS/ML	160		690		660		0	
DIVERSITY: DIVISION	1.6		1.7		1.3		0.0	
..CLASS	1.6		1.7		1.3		0.0	
...ORDER	2.4		2.2		1.8		0.0	
...FAMILY	2.7		3.1		2.1		0.0	
....GENUS	3.0		3.6		2.5		0.0	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	66	9	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
...PEDIASTRUM	--	-	51	7	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	4	2	--	-	--	-	--	-
....CHLORELLA	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	5	1	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	20	3	--	-	--	-
....CRUCIGENIA	7	4	86	12	20	3	--	-
....SCENEDESMUS	25#	16	10	1	5	1	--	-
..TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	28#	18	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	5	3	10	1	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	5	3	30	4	190#	29	--	-
...MELOSIHA	9	6	120#	18	76	11	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
...CYMBELLA	2	1	51	7	30	5	--	-
...RHOPALUDIA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	7	4	--	-	--	-	--	-
...FRAGILARIA	--	-	66	9	20	3	--	-
...SYNEDRA	4	2	10	1	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	2	1	10	1	20	3	--	-
...NITZSCHIACEAE								
....NITZSCHIA	5	3	10	1	30	5	--	-
...TABELLARIACEAE								
....TABELLARIA	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	5	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	40	6	--	-	--	-
....ANACYSTIS	--	-	86	12	--	-	--	-
....COCCOCHLORIS	2	1	--	-	--	-	--	-
..HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	53#	33	--	-	250#	38	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	2	1	--	-	--	-	--	-
....TRACHELOMONAS	--	-	10	1	15	2	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...GYMNODINIALES								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	10	1	--	-	--	-

See footnotes at end of table.

11325500 NOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

## QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

## PHYTOPLANKTON

DATE TIME	JUN 13,79 1100		JUL 24,79 1100		AUG 22,79 1030		SEP 12,79 1100	
TOTAL CELLS/ML	0		2900		150		1000	
DIVERSITY: DIVISION	0.0		0.2		0.8		0.8	
..CLASS	0.0		0.2		0.8		0.8	
...ORDER	0.0		0.3		0.8		1.0	
...FAMILY	0.0		2.0		0.8		2.6	
....GENUS	0.0		2.0		0.8		3.0	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	--	-	81	8
...HYDRODICTYACEAE								
...PEDIATRUM	--	-	73	3	--	-	20	2
...OOCYSTACEAE								
...ANKISTRODESMUS	--	-	24	1	--	-	35	3
...CHLORELLA	--	-	--	-	--	-	15	1
...DICTYOSPHAERIUM	--	-	--	-	--	-	81	8
...KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	130#	83	--	-
...SCENEDESMACEAE								
...ACTINASTRUM	--	-	--	-	--	-	--	-
...CRUCIGENIA	--	-	--	-	--	-	20	2
...SCENEDESMUS	--	-	--	-	--	-	10	1
...TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
...CYCLOTELLA	--	-	--	-	--	-	10	1
...MELOSIRA	--	-	37	1	--	-	35	3
...PENNALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	430	15	--	-	61	6
...COCCONEIS	--	-	24	1	--	-	*	0
...CYMBELLACEAE								
...CYMBELLA	--	-	230	8	--	-	55	5
...RHOPALODIA	--	-	--	-	--	-	*	0
...FRAGILARIACEAE								
...ASTERIONELLA	--	-	--	-	--	-	--	-
...FRAGILARIA	--	-	1800#	61	--	-	470#	45
...SYNEDRA	--	-	--	-	13	8	35	3
...GOMPHONEMATACEAE								
...GOMPHONEMA	--	-	37	1	--	-	--	-
...NAVICULACEAE								
...NAVICULA	--	-	160	5	--	-	66	6
...NITZSCHACEAE								
...NITZSCHIA	--	-	98	3	--	-	30	3
...TABELLARIACEAE								
...TABELLARIA	--	-	24	1	--	-	10	1
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	13	8	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...AGMENELLUM	--	-	--	-	--	-	--	-
...ANACYSTIS	--	-	--	-	--	-	--	-
...COCCOCHLORIS	--	-	--	-	--	-	--	-
...HORMOGONALES								
...OSCILLATORACEAE								
...OSCILLATORIA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...EUGLENA	--	-	--	-	--	-	--	-
...TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...GYMNODINIALES								
...GYMNODINIACEAE								
...GYMNODINIUM	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

\* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

## 11325500 MOKELUNNE RIVER AT WOODBRIDGE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
MAY 16...	35	1.97	1.73	.510	.120	471	Polyethylene strip
JUL 24...	69	2.76	1.89	3.68	.340	236	do
AUG 22...	29	34.9	32.4	17.2	.510	145	do

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	17.5	14.5	13.0	14.0	12.5	7.0	5.5	9.0	8.0	10.5	9.0
2	18.0	17.5	15.0	13.5	13.0	11.5	7.0	6.0	9.5	8.0	10.0	9.0
3	18.0	17.5	15.0	13.5	12.0	10.5	8.0	7.0	9.0	7.5	10.5	9.5
4	18.0	17.5	15.0	13.5	12.0	10.5	9.5	8.0	9.5	7.5	10.5	9.5
5	18.0	17.5	15.5	13.5	12.0	11.0	10.0	9.0	10.0	8.0	10.5	9.0
6	18.0	17.5	15.5	13.5	10.5	9.0	9.5	8.5	10.0	8.5	11.0	10.0
7	17.5	17.0	15.5	13.5	9.5	8.0	9.5	9.0	10.0	8.5	10.5	10.0
8	17.5	17.0	15.5	13.5	9.5	8.0	10.0	9.5	10.0	8.5	10.5	10.0
9	17.5	17.0	15.0	13.5	9.5	8.0	10.5	9.0	10.5	8.5	10.5	10.0
10	17.5	17.0	14.0	12.5	9.5	8.5	11.0	9.5	10.5	9.0	10.5	10.0
11	17.5	17.0	13.0	12.5	10.0	8.5	11.5	11.0	10.0	9.0	10.5	10.0
12	17.5	17.0	12.5	11.5	10.0	9.0	11.5	10.0	9.5	9.0	10.0	10.0
13	18.0	17.5	13.0	12.0	10.0	9.0	11.0	10.0	9.5	9.0	10.0	10.0
14	18.0	16.5	13.0	12.0	10.0	8.5	10.0	9.0	11.5	9.0	10.0	9.5
15	16.5	16.0	13.5	12.0	10.0	8.5	10.0	9.0	11.0	9.5	10.0	9.5
16	16.0	15.5	14.5	12.5	9.5	8.0	10.5	9.0	11.0	10.0	10.0	9.0
17	16.0	15.0	14.5	13.0	10.0	9.0	9.5	8.5	10.5	9.0	11.0	9.5
18	16.0	15.0	14.0	12.5	10.0	9.5	10.0	8.5	10.0	9.5	11.0	10.5
19	15.5	15.0	13.5	12.5	10.0	9.0	10.0	8.5	11.0	9.0	11.0	10.0
20	15.5	14.5	14.0	13.0	9.5	8.0	9.5	8.5	10.5	9.5	11.0	10.5
21	15.5	14.5	14.0	13.5	9.0	8.0	10.0	9.0	10.5	9.0	11.0	10.0
22	15.5	14.5	14.0	13.0	8.5	7.5	10.0	8.5	10.0	9.5	10.5	10.0
23	15.5	14.5	14.0	13.0	9.0	7.5	9.5	9.0	10.5	9.0	11.0	10.0
24	15.5	14.5	13.5	12.5	9.0	8.5	9.5	9.0	10.0	9.5	11.5	11.0
25	15.5	14.5	13.0	11.5	9.0	8.5	9.5	8.5	10.5	9.5	12.0	11.0
26	15.5	14.5	13.0	12.0	9.0	8.0	9.0	7.5	10.5	9.5	12.0	11.0
27	15.5	14.5	12.5	11.0	8.5	8.0	9.0	7.5	10.0	9.0	11.5	10.5
28	15.5	14.5	13.0	11.0	9.0	8.0	9.0	8.0	10.0	9.0	12.0	11.5
29	15.0	14.0	13.5	12.0	9.0	8.0	8.5	7.0	---	---	12.5	11.5
30	14.5	13.0	13.5	12.5	8.0	6.5	8.0	7.5	---	---	12.5	11.5
31	14.0	13.0	---	---	7.0	6.0	9.0	8.0	---	---	13.0	12.0
MONTH	18.0	13.0	15.5	11.0	14.0	6.0	11.5	5.5	11.5	7.5	13.0	9.0

## SAN JOAQUIN RIVER BASIN

11325500 MOKELUNNE RIVER AT WOODBRIDGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	12.0	14.0	13.5	13.5	13.0	16.0	15.0	21.5	20.0	20.0	19.0
2	13.0	12.0	14.0	13.0	14.5	13.0	16.0	15.0	21.5	19.5	20.5	19.5
3	13.0	12.0	15.5	13.0	14.5	13.5	16.0	15.0	21.0	19.5	20.5	19.5
4	13.0	12.0	15.5	14.0	14.5	13.5	16.0	15.0	20.5	19.5	21.0	20.0
5	13.0	12.5	14.5	14.0	16.0	13.5	16.0	15.0	20.5	19.0	20.5	19.5
6	13.0	12.5	14.0	13.0	16.0	14.5	16.0	15.0	20.5	18.5	21.0	19.5
7	13.0	12.0	13.5	12.5	15.0	13.5	16.0	15.0	20.5	19.0	21.0	20.0
8	13.5	12.0	13.5	12.5	13.5	13.0	16.0	15.0	20.5	19.0	21.0	20.0
9	13.5	12.5	14.0	12.5	13.5	13.0	16.0	15.5	20.5	19.0	21.0	20.0
10	13.0	12.0	15.0	13.5	13.5	13.0	16.5	15.5	21.0	19.5	20.5	19.5
11	12.5	12.0	15.5	14.5	14.0	13.0	18.5	16.5	21.0	19.5	20.5	19.5
12	13.5	12.0	15.5	14.5	14.0	13.5	19.0	17.5	20.5	19.5	21.0	20.0
13	14.0	12.5	16.5	15.0	15.0	13.5	19.5	18.5	20.0	19.0	21.5	20.5
14	14.5	13.0	16.5	15.5	14.5	13.5	20.0	19.0	20.0	18.5	21.0	20.0
15	14.5	13.0	16.5	15.0	14.5	13.5	20.0	19.0	20.0	18.5	21.0	20.0
16	14.0	13.5	16.0	14.5	15.0	13.5	20.0	19.0	20.0	18.5	21.0	20.0
17	13.5	12.0	16.0	14.5	14.5	13.5	20.5	19.0	20.0	18.5	21.0	20.0
18	12.5	11.5	16.5	15.0	14.5	14.0	20.5	19.0	20.5	19.0	20.5	20.0
19	12.5	11.5	16.0	14.5	15.0	14.0	20.5	19.0	20.0	19.0	20.5	19.5
20	13.5	12.0	15.0	14.0	15.0	14.5	20.5	19.5	19.5	19.0	20.0	19.5
21	13.5	12.0	14.5	13.5	15.0	14.5	20.5	19.0	19.5	17.5	20.0	19.0
22	13.5	12.5	14.5	13.0	15.0	14.5	19.0	17.5	19.5	18.5	20.0	19.0
23	13.5	12.5	15.0	13.0	15.5	14.5	21.0	19.0	20.0	18.5	20.0	19.0
24	13.5	12.5	15.0	13.5	15.5	15.0	21.0	20.0	20.0	18.5	20.0	19.0
25	14.0	12.5	15.5	14.0	15.5	15.0	21.0	20.0	20.0	18.5	19.5	19.0
26	13.5	13.0	16.0	14.0	15.5	14.5	21.0	19.5	20.0	18.5	19.5	18.5
27	13.5	12.5	16.0	14.5	15.5	14.5	20.0	19.0	20.5	19.0	19.0	18.0
28	14.5	12.5	15.0	14.0	15.5	15.0	20.5	18.5	20.0	19.0	19.5	18.0
29	14.5	13.5	15.0	13.5	15.5	15.0	21.0	19.0	19.5	19.0	19.5	18.5
30	14.5	8.5	14.5	13.5	15.5	15.0	21.5	19.5	19.5	18.5	19.5	18.5
31	---	---	13.5	13.0	---	---	21.5	19.5	20.0	18.5	---	---
MONTH	14.5	8.5	16.5	12.5	16.0	13.0	21.5	15.0	21.5	17.5	21.5	18.0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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)	SFO. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT						
17...	1215	748	15.5	4	8.1	77
NOV						
22...	1045	365	13.0	12	12	81
DEC						
19...	1000	251	9.0	7	4.7	48
JAN						
17...	1100	356	9.5	14	13	62
MAR						
20...	1100	660	11.0	10	18	46
APR						
11...	1045	379	12.0	3	3.1	83
MAY						
16...	1045	235	15.0	3	1.9	81
JUN						
13...	1100	716	15.0	6	12	62
JUL						
24...	1100	362	20.0	6	5.9	79
AUG						
22...	1030	430	19.0	6	7.0	54
SEP						
12...	1100	417	20.0	4	4.5	84

## 11327000 SUTTER CREEK NEAR SUTTER CREEK, CA

LOCATION.--Lat 38°23'45", long 120°46'49", in SE¼SE¼ sec.5, T.6 N., R.11 E., Amador County, Hydrologic Unit 18040012, on left bank 1.3 mi (2.1 km) east of town of Sutter Creek.

DRAINAGE AREA.--48.1 mi<sup>2</sup> (124.6 km<sup>2</sup>).

PERIOD OF RECORD.--October 1935 to December 1941, March 1960 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,220 ft (372 m), from topographic map. Prior to Oct. 29, 1937, nonrecording gage 15 ft (5 m) downstream at datum 4.00 ft (1.219 m) lower. Oct. 29, 1937, to Dec. 7, 1938, nonrecording gage at present site at datum 4.00 ft (1.219 m) lower.

REMARKS.--Small diversion above station for irrigation.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--25 years, 29.8 ft<sup>3</sup>/s (0.844 m<sup>3</sup>/s), 21,590 acre-ft/yr (26.6 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,770 ft<sup>3</sup>/s (163 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 6.27 ft (1.911 m), from rating curve extended above 1,200 ft<sup>3</sup>/s (34.0 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 4.77 ft (1.454 m); no flow at times in each year except 1938, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,030 ft<sup>3</sup>/s (29.2 m<sup>3</sup>/s) Jan. 11, gage height, 3.59 ft (1.094 m); no flow during July to September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	1.3	7.7	4.3	15	414	73	21	7.1	2.4		
2	.60	1.3	9.2	4.4	15	194	66	20	6.7	2.3		
3	.60	1.3	5.2	4.4	14	143	57	18	6.4	2.4		
4	.70	1.5	4.2	4.4	12	113	51	17	6.3	2.5		
5	.60	1.6	4.1	4.8	12	93	49	18	5.9	2.6		
6	.60	1.5	4.0	5.0	12	81	46	21	5.8	2.4		
7	.80	1.6	3.7	5.3	12	72	40	30	5.5	2.4		
8	.80	1.6	3.4	17	11	65	36	34	5.3	2.3		
9	.70	1.7	3.4	38	11	58	34	26	5.0	2.1		
10	.70	1.7	3.4	15	11	48	32	23	4.8	2.0		
11	.60	1.9	3.4	455	10	42	30	21	4.5	1.9		
12	.60	2.3	3.4	110	9.9	38	29	19	4.2	1.7		
13	.60	3.2	3.4	48	23	35	27	17	4.2	1.5		
14	.50	3.4	3.3	52	181	32	27	16	4.2	1.3		
15	.50	3.0	3.2	81	80	152	24	16	4.3	1.1		
16	.60	2.9	3.2	63	83	192	25	15	4.3	.90		
17	.80	2.9	5.0	39	66	107	32	14	4.4	.70		
18	.80	2.9	16	36	60	84	31	13	4.6	.40		
19	.80	3.0	15	29	210	76	25	13	4.5	.40		
20	1.0	4.0	11	23	152	66	24	12	4.2	.40		
21	1.0	11	8.4	20	327	64	23	12	3.9	1.3		
22	1.1	9.5	7.1	18	278	62	22	12	3.7	2.8		
23	1.1	6.3	6.5	16	303	52	31	12	3.7	2.8		
24	1.0	4.7	6.1	15	163	43	27	11	3.5	1.9		
25	.90	3.9	5.6	14	111	40	24	10	3.4	1.1		
26	.90	3.5	5.5	13	122	39	26	9.6	3.2	.50		
27	.90	3.2	5.2	11	97	84	36	9.4	3.0	.20		
28	1.0	3.0	5.2	10	97	252	26	9.3	2.8	0		
29	1.1	2.9	5.1	9.5	---	141	23	8.4	2.6	0		
30	1.2	2.9	4.8	9.8	---	102	22	7.9	2.5	0		
31	1.3	---	4.5	12	---	84	---	7.5	---	0		---
TOTAL	25.10	95.5	179.2	1186.9	2497.9	3068	1018	493.1	134.5	44.30	0	0
MEAN	.81	3.18	5.78	38.3	89.2	99.0	33.9	15.9	4.48	1.43	0	0
MAX	1.3	11	16	455	327	414	73	34	7.1	2.8	0	0
MIN	.50	1.3	3.2	4.3	9.9	32	22	7.5	2.5	0	0	0
AC-FT	50	189	355	2350	4950	6090	2020	978	267	88	0	0
CAL YR 1978 TOTAL	12487.70			MEAN 34.2	MAX 677	MIN 0	AC-FT 24770					
WTR YR 1979 TOTAL	8742.50			MEAN 24.0	MAX 455	MIN 0	AC-FT 17340					

## SAN JOAQUIN RIVER BASIN

11329500 DRY CREEK NEAR GALT, CA

LOCATION.--Lat 38°14'53", long 121°13'33", in NE¼NE¼ 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 52.83 ft (16.103 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 right bank at datum 3.00 ft (0.914 m) higher. Oct. 1, 1945, to June 15, 1966, on right bank at same datum.

REMARKS.--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.--42 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, 24,000 ft<sup>3</sup>/s (680 m<sup>3</sup>/s) Apr. 3, 1958, gage height, 15.28 ft (4.657 m); 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)
Jan. 11	2200	3,310 93.7	22.93 6.989	Feb. 23	0730	6,040 171	24.02 7.321
Feb. 19	1430	2,770 78.4	21.93 6.684	Mar. 1	1400	*6,150 174	24.04 7.327
Feb. 21	1300	4,680 133	23.72 7.230				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0		0	70	3540	268	59	16	1.4		0
2	0	0		0	77	1610	234	56	25	1.4		0
3	0	0		0	77	894	205	47	8.6	.85		0
4	0	0		0	68	700	178	58	4.5	1.1		0
5	0	0		0	60	543	165	34	4.2	.62		0
6	0	.50		0	45	416	153	41	2.5	.35		0
7	0	1.5		0	38	331	141	54	2.4	.41		0
8	0	.50		0	36	287	129	68	1.8	.23		0
9	0	0		108	31	258	121	77	.20	0		0
10	0	0		60	25	226	107	76	0	0		.79
11	0	0		1220	25	204	93	59	0	1.3		2.2
12	0	0		1120	25	186	90	54	.34	1.7		.90
13	0	0		239	28	168	88	54	.59	2.0		.71
14	0	0		212	507	158	85	56	1.6	1.6		0
15	0	0		795	467	235	80	21	1.8	1.7		0
16	1.0	0		621	476	1220	75	3.3	.42	2.0		0
17	2.0	0		278	509	726	79	25	0	1.5		1.2
18	5.0	0		443	291	501	87	9.6	0	1.4		1.2
19	5.0	0		278	1970	414	82	14	.03	2.0		0
20	4.0	0		168	1260	347	71	17	1.7	.47		0
21	3.0	0		126	3520	292	67	21	.95	0		1.1
22	2.0	0		115	2990	269	63	14	.59	0		2.5
23	1.0	0		107	4660	251	62	23	.02	0		.66
24	0	.50		101	1480	215	74	45	0	0		0
25	0	.50		100	816	188	63	34	0	.54		0
26	0	.50		95	698	176	59	18	0	.32		0
27	0	.50		77	604	217	88	16	0	0		0
28	0	.50		64	473	727	92	5.6	0	0		0
29	0	0		53	---	709	73	7.0	0	0		0
30	0	0		43	---	441	62	6.2	1.1	0		0
31	0	---		53	---	329	---	3.7	---	0		---
TOTAL	23.0	5.00	0	6476	21326	16778	3234	1076.4	74.34	22.89	0	11.26
MEAN	.74	.17	0	209	762	541	108	34.7	2.48	.74	0	.38
MAX	5.0	1.5	0	1220	4660	3540	268	77	25	2.0	0	2.5
MIN	0	0	0	0	25	158	59	3.3	0	0	0	0
AC-FT	46	9.9	0	12850	42300	33280	6410	2140	147	45	0	22
CAL YR 1978 TOTAL	64428.99		MEAN 177	MAX 3420	MIN 0	AC-FT 127800						
WTR YR 1979 TOTAL	49026.89		MEAN 134	MAX 4660	MIN 0	AC-FT 97240						

## 11333000 CAMP CREEK NEAR SOMERSET, CA

LOCATION.--Lat 38°39'26", long 120°39'46", in SW¼SW¼ 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 good. 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).--25 years (water years 1955-79), 77.3 ft<sup>3</sup>/s (2.189 m<sup>3</sup>/s), 56,000 acre-ft/yr (69.0 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,040 ft<sup>3</sup>/s (171 m<sup>3</sup>/s) Dec. 23, 1964, gage height, 12.50 ft (3.810 m); no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 432 ft<sup>3</sup>/s (12.2 m<sup>3</sup>/s) Jan. 11, gage height, 4.88 ft (1.488 m); minimum daily, 2.2 ft<sup>3</sup>/s (0.062 m<sup>3</sup>/s) Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	14	9.4	5.5	7.9	73	196	246	24	5.3	5.8	5.1
2	4.8	14	6.9	5.6	7.9	49	177	220	19	13	5.7	5.1
3	4.7	14	5.6	5.3	6.8	42	161	209	15	13	5.5	4.6
4	4.7	14	5.2	6.4	7.1	39	150	211	12	13	5.4	4.5
5	4.7	3.5	5.4	8.2	6.4	36	149	229	9.9	12	5.4	5.9
6	4.7	2.6	5.2	8.9	6.8	34	168	259	9.3	12	5.4	15
7	4.5	2.5	4.5	8.9	6.9	33	175	294	7.5	12	5.3	15
8	4.5	2.5	4.9	15	6.7	31	171	283	6.8	11	5.3	15
9	4.5	2.4	5.3	21	6.7	27	177	252	6.3	11	5.1	15
10	4.5	2.4	5.1	9.6	6.8	23	171	226	6.8	13	4.8	15
11	4.5	3.2	5.1	150	6.8	20	161	201	5.9	22	4.7	15
12	4.3	3.6	5.2	59	6.7	18	155	189	6.9	22	4.7	15
13	4.3	4.2	5.1	21	12	18	152	189	7.2	22	4.6	15
14	4.3	4.2	5.1	24	49	19	156	198	7.2	22	4.8	15
15	4.2	3.6	4.9	32	27	54	159	198	7.5	21	4.8	15
16	4.2	3.3	4.9	27	23	53	172	207	7.7	21	4.8	15
17	4.2	3.3	6.9	18	19	38	191	193	7.8	21	4.8	15
18	4.7	3.3	15	15	22	33	178	176	7.9	21	4.8	15
19	4.2	3.2	8.7	12	57	29	155	178	7.3	21	4.8	15
20	4.2	3.6	7.1	10	40	29	138	182	7.3	21	5.0	15
21	4.2	8.6	6.2	9.0	54	26	129	169	7.0	23	5.2	13
22	4.2	7.4	5.8	8.5	52	24	128	133	6.8	23	5.2	4.0
23	4.2	5.0	5.7	8.1	49	24	154	142	6.9	22	5.3	3.8
24	4.0	3.9	5.5	7.8	37	26	158	124	6.9	22	5.1	3.7
25	4.0	3.4	5.5	7.8	30	81	152	105	6.6	18	4.9	3.6
26	4.0	3.2	5.5	7.3	39	118	171	97	6.4	7.5	4.7	4.0
27	4.0	3.1	5.5	6.5	38	217	238	83	6.2	6.7	4.6	4.1
28	4.0	3.1	5.5	6.7	43	351	264	66	6.1	6.6	4.5	4.1
29	2.8	3.1	5.4	5.6	---	297	278	61	4.6	6.6	5.3	3.9
30	2.2	3.1	4.9	7.6	---	251	260	49	3.1	6.4	5.4	3.8
31	13	---	4.9	8.1	---	221	---	38	---	6.2	5.4	---
TOTAL	140.1	151.3	185.9	545.4	674.5	2334	5244	5407	249.9	477.3	157.1	298.2
MEAN	4.52	5.04	6.00	17.6	24.1	75.3	175	174	8.33	15.4	5.07	9.94
MAX	13	14	15	150	57	351	270	294	24	23	5.8	15
MIN	2.2	2.4	4.5	5.3	6.4	18	128	38	3.1	5.3	4.5	3.6
AC-FT	278	300	369	1080	1340	4630	10400	10720	496	947	312	591
†	-2417	-792	-209	+2197	+3295	+7718	-6	+6	-2360	-4380	-3807	-3712
‡	1729	800	467	310	252	232	456	1336	3859	3947	3673	3306
††	138	25	12	8	25	56	94	226	294	288	242	195

CAL YR 1978 TOTAL 19759.6 MEAN 54.1 MAX 656 MIN 2.2 AC-FT 39190 MEAN †† 105 AC-FT †† 75860  
WTR YR 1979 TOTAL 15864.7 MEAN 43.5 MAX 351 MIN 2.2 AC-FT 31470 MEAN †† 67.6 AC-FT †† 48970

† Change in contents, in acre-feet, in Jenkinson Lake, furnished by Water and Power Resources Service.

‡ Diversion, in acre-feet, from Jenkinson Lake, furnished by Water and Power Resources Service.

†† Evaporation, in acre-feet, from Jenkinson Lake, furnished by Water and Power Resources Service.

†† Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

## SAN JOAQUIN RIVER BASIN

11333500 NORTH FORK COSUMNES RIVER NEAR EL DORADO, CA

LOCATION.--Lat 38°35'20", long 120°50'38", in NE¼SW¼ 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 except those for summer months, which are fair. 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.--61 years, 198 ft<sup>3</sup>/s (5.607 m<sup>3</sup>/s), 143,500 acre-ft/yr (177 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)	
Jan. 11	1600	*2,420	68.5	7.88	2.402
Mar. 1	0430	1,840	52.1	6.98	2.128

Minimum daily, 8.0 ft<sup>3</sup>/s (0.23 m<sup>3</sup>/s) Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	16	31	19	67	1100	503	601	160	27	19	29
2	14	17	63	24	63	472	463	543	145	31	18	28
3	14	17	37	26	55	362	426	518	135	37	18	27
4	16	17	27	25	53	307	403	526	129	36	19	23
5	16	16	25	26	52	270	405	560	122	36	20	21
6	16	17	26	29	51	255	448	670	110	35	20	22
7	17	17	22	29	50	258	471	694	104	33	20	32
8	16	16	15	44	49	279	459	672	93	32	20	31
9	17	16	19	101	48	301	468	588	84	31	20	31
10	17	16	22	59	49	319	457	523	76	31	20	30
11	17	17	22	1220	50	342	434	486	74	38	20	29
12	17	16	21	580	50	356	414	476	69	41	22	27
13	17	16	20	245	73	353	409	483	67	40	20	27
14	16	16	20	220	474	351	423	503	63	38	21	26
15	16	16	19	306	316	644	433	511	61	37	24	25
16	16	16	19	235	316	725	456	519	58	35	24	25
17	16	16	23	154	247	488	505	497	57	33	25	23
18	16	16	53	135	252	410	464	473	56	33	25	23
19	18	16	45	106	689	374	411	473	57	32	25	23
20	17	21	34	90	409	329	373	466	51	31	26	22
21	17	38	28	81	812	302	351	465	48	35	27	22
22	18	56	27	75	697	283	349	399	46	43	28	20
23	19	36	26	69	635	264	402	394	44	43	27	11
24	18	26	25	66	370	248	422	356	43	37	27	8.2
25	18	21	25	65	276	282	401	320	40	33	26	8.2
26	18	18	25	61	279	335	411	303	38	24	25	8.4
27	18	17	24	53	261	566	604	295	37	16	26	8.0
28	18	16	24	54	259	1110	672	261	35	14	26	8.6
29	18	16	25	43	---	813	649	242	33	15	26	12
30	16	16	22	47	---	647	632	211	29	20	28	14
31	15	---	17	70	---	561	---	187	---	20	29	---
TOTAL	515	591	831	4357	7002	13706	13718	14215	2164	987	721	644.4
MEAN	16.6	19.7	26.8	141	250	442	457	459	72.1	31.8	23.3	21.5
MAX	19	56	63	1220	812	1110	672	694	160	43	29	32
MIN	13	16	15	19	48	248	349	187	29	14	18	8.0
AC-FT	1020	1170	1650	8640	13890	27190	27210	28200	4290	1960	1430	1280
CAL YR 1978	TOTAL	90807.4	MEAN 249	MAX	2090	MIN 8.3	AC-FT	180100				
WTR YR 1979	TOTAL	59451.4	MEAN 163	MAX	1220	MIN 8.0	AC-FT	117900				



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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.2	9.1	4.8	18	574	130	34	15	4.4	.37	.04
2	.97	1.4	15	6.2	18	254	113	33	14	4.2	.33	.04
3	.97	1.6	9.8	6.5	16	191	103	31	13	4.0	.27	.04
4	.97	1.7	7.9	6.5	16	167	91	29	12	3.8	.18	.04
5	.97	1.8	7.3	6.2	16	148	82	29	12	3.8	.18	.04
6	.90	1.8	6.8	6.5	15	136	77	35	11	3.8	.14	.04
7	.90	1.8	5.3	6.5	15	132	73	43	11	3.6	.12	.03
8	.90	1.7	4.6	9.6	15	132	67	57	10	3.5	.10	.03
9	.83	1.7	5.0	36	15	128	62	50	9.8	3.3	.04	.03
10	.83	1.7	5.3	20	15	117	60	44	9.2	3.1	.02	.03
11	.83	1.8	5.3	571	15	108	58	39	8.8	3.0	.02	.03
12	.83	2.0	5.0	175	15	99	53	34	8.2	2.8	.02	.02
13	.83	3.1	5.0	64	22	91	50	29	7.9	2.7	.02	.02
14	.77	4.0	4.8	73	323	81	46	28	7.6	2.5	.02	.02
15	.71	3.8	4.8	146	144	262	44	28	7.3	2.1	.02	.02
16	.71	3.5	4.8	109	131	346	42	29	7.3	1.6	.02	.02
17	.77	3.3	6.0	61	101	186	49	28	7.3	1.4	.01	.01
18	.83	3.3	16	52	100	146	50	27	7.3	1.2	.03	.01
19	.90	3.3	18	40	389	130	44	26	7.6	1.1	.03	.01
20	.97	4.4	13	33	202	113	41	25	7.3	.97	.03	.01
21	.97	11	10	28	556	119	40	25	6.8	1.0	.03	.01
22	1.0	16	9.2	25	453	104	37	23	6.5	1.8	.03	.01
23	1.0	12	8.5	23	405	93	42	22	6.2	2.5	.03	.01
24	1.0	8.8	7.9	21	212	84	46	22	6.0	2.0	.03	.01
25	.97	7.0	7.3	20	150	77	40	21	5.7	1.5	.05	.01
26	.97	6.0	7.3	18	156	73	40	20	5.5	1.1	.05	0
27	.97	5.3	7.0	17	146	116	51	19	5.3	.83	.05	0
28	.97	4.8	7.0	16	132	377	44	18	5.0	.77	.05	0
29	.97	4.8	6.5	13	---	242	40	18	4.6	.65	.05	0
30	1.0	4.8	6.0	16	---	179	37	17	4.6	.55	.05	0
31	1.0	---	4.8	18	---	150	---	16	---	.50	.05	---
TOTAL	28.31	129.4	240.3	1647.8	3811	5155	1752	899	249.8	70.07	2.44	.58
MEAN	.91	4.31	7.75	53.2	136	166	58.4	29.0	8.33	2.26	.079	.019
MAX	1.1	16	18	571	556	574	130	57	15	4.4	.37	.04
MIN	.71	1.2	4.6	4.8	15	73	37	16	4.6	.50	.01	0
AC-FT	56	257	477	3270	7560	10220	3480	1780	495	139	4.8	1.2
CAL YR 1978	TOTAL	24621.91	MEAN	67.5	MAX	1170	MIN	.10	AC-FT	48840		
WTR YR 1979	TOTAL	13985.70	MEAN	38.3	MAX	574	MIN	0	AC-FT	27740		

## SAN JOAQUIN RIVER BASIN

11335000 COSUMNES RIVER AT MICHIGAN BAR, CA

LOCATION.--Lat 38°30'01", long 121°02'39", in NW¼SE¼ 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.--530 mi<sup>2</sup> (1,388 km<sup>2</sup>).

## WATER-DISCHARGE RECORDS

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.--72 years, 476 ft<sup>3</sup>/s (13.48 m<sup>3</sup>/s), 344,900 acre-ft/yr (425 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 (4.447 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)
Jan. 11	1745	*6,990 198	7.52 2.292
Feb. 21	1215	4,660 132	6.73 2.051
Mar. 1	0700	6,470 183	7.36 2.243

Minimum daily, 11 ft<sup>3</sup>/s (0.312 m<sup>3</sup>/s) Sept. 26, 27, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	20	56	40	212	3900	1240	1270	392	74	29	20
2	23	26	125	46	202	1780	1130	1160	362	73	28	19
3	22	33	111	54	181	1280	1040	1090	344	79	26	22
4	23	36	76	57	159	1050	977	1110	330	79	28	21
5	22	37	61	55	160	894	969	1180	315	77	27	20
6	21	35	58	57	155	810	1040	1400	294	77	27	16
7	22	27	56	62	151	796	1100	1410	276	74	24	17
8	22	26	43	128	145	860	1060	1370	252	71	23	22
9	22	25	35	250	141	934	1060	1200	229	69	22	24
10	21	22	44	195	139	984	1040	1070	214	66	22	24
11	21	22	51	3330	141	1040*	985	1000	202	64	21	23
12	21	23	49	2100	140	1080	941	987	189	73	19	23
13	22	29	47	750	256	1060	921	1010	180	71	22	21
14	24	37	47	736	1460	1040	946	1060	172	67	22	21
15	21	40	45	1530	1070	1660	967	1090	166	64	22	21
16	20	39	44	970	1220	2420	1010	1110	156	64	21	20
17	20	35	52	559	919	1560	1120	1070	151	59	21	20
18	20	35	95	595	863	1260	1050	1040	148	54	19	21
19	20	37	136	421	2770	1180	920	1030	144	52	18	21
20	21	43	92	329	1690	1000	834	1020	138	52	19	20
21	23	69	79	287	3770	937	782	1020	123	55	19	21
22	22	143	69	257	3210	877	769	923	120	66	19	20
23	22	112	65	229	2750	800	855	886	114	78	20	20
24	22	82	62	215	1480	734	922	791	108	68	21	16
25	22	59	60	210	1030	733	855	716	104	58	19	13
26	22	49	59	197	949	799	862	677	100	53	18	11
27	21	45	56	167	878	1290	1290	670	93	43	17	11
28	21	43	55	165	858	2750	1450	615	88	36	17	12
29	21	41	55	150	---	2010	1350	556	85	32	16	11
30	21	43	53	134	---	1590	1310	490	80	30	15	12
31	21	---	45	219	---	1390	---	436	---	30	17	---
TOTAL	670	1313	1981	14494	27099	40498	30795	30457	5669	1908	658	563
MEAN	21.6	43.8	63.9	468	968	1306	1027	982	189	61.5	21.2	18.8
MAX	24	143	136	3330	3770	3900	1450	1410	392	79	29	24
MIN	20	20	35	40	139	733	769	436	80	30	15	11
AC-FT	1330	2600	3930	28750	53750	80330	61080	60410	11240	3780	1310	1120
CAL YR 1978	TOTAL	225456	MEAN 618	MAX 5980	MIN 12	AC-FT 447200						
WTR YR 1979	TOTAL	156105	MEAN 428	MAX 3900	MIN 11	AC-FT 309600						

## 11335000 COSUMNES RIVER AT MICHIGAN BAR, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953 to current year.

CHEMICAL ANALYSES: Water years 1953 to current year.

WATER TEMPERATURES: Water years 1963 to January 1979 (discontinued).

SEDIMENT RECORDS: Water years 1958-74.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to January 1979 (discontinued).

SEDIMENT RECORDS: October 1962 to September 1970.

INSTRUMENTATION.--Temperature recorder from October 1962 to January 1979.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 32.5°C Aug. 8-10, 1978; minimum recorded, 1.5°C on several days in 1965, 1968, and 1973.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 24.5°C Oct. 1-5; minimum recorded, 3.0°C Dec. 9, Jan. 1-3.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)
APR 16...	0945	1010	54	7.2	13.0	.00	10.3	20
SEP 28...	1015	12	78	7.9	21.0	--	9.8	27

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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	ALKA- LITY (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 AC-FT)
APR 16...	5.0	2.0	3.0	.3	24	1.0	49	.07
SEP 28...	7.0	--	4.0	--	31	2.0	55	.07

## TEMPERATURE (DEG. C) OF WATER, OCTOBER 1978 TO JANUARY 1979

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.5	20.5	15.0	12.5	11.0	9.0	5.5	3.0				
2	24.5	20.0	15.5	12.5	9.5	8.0	4.0	3.0				
3	24.5	20.5	15.5	12.0	8.5	7.0	4.5	3.0				
4	24.5	20.5	15.0	12.0	8.0	6.5	6.0	4.0				
5	24.5	20.5	15.5	12.0	8.0	6.5	6.0	5.0				
6	24.0	19.5	15.0	12.0	7.0	5.0	6.5	5.5				
7	23.0	18.5	15.0	12.0	5.5	4.0	7.0	6.0				
8	22.5	18.5	15.0	11.5	5.5	3.5	9.0	7.0				
9	22.0	18.0	15.0	11.5	5.5	3.0	8.5	8.0				
10	22.0	18.0	13.5	10.5	5.5	3.5	8.5	8.0				
11	21.5	18.0	12.0	10.0	5.5	4.0	10.5	8.5				
12	22.0	18.0	10.0	8.5	5.5	4.0	9.0	7.5				
13	22.0	18.5	10.0	8.5	6.5	4.5	7.5	6.5				
14	22.0	18.5	10.5	8.0	6.5	4.5	8.0	6.5				
15	22.5	18.5	10.5	7.5	6.5	4.5	8.5	7.5				
16	22.0	18.5	10.5	8.0	6.0	4.5	8.0	6.5				
17	21.5	18.0	11.0	8.0	6.5	4.5	7.0	6.0				
18	21.5	18.0	10.5	8.0	7.0	6.0	7.0	6.5				
19	20.0	17.5	10.0	8.0	7.5	6.5	7.0	6.0				
20	20.5	17.0	10.5	9.0	6.5	5.0	7.0	5.5				
21	20.0	16.5	10.5	10.0	6.0	4.5	7.0	5.5				
22	19.5	15.5	10.5	9.5	5.0	4.0	6.5	5.5				
23	18.5	15.0	10.5	9.0	5.0	4.5	6.5	6.0				
24	17.5	14.5	10.0	8.5	5.5	5.0	6.0	5.5				
25	18.0	14.5	9.5	8.0	5.5	5.0	6.5	5.5				
26	18.0	14.0	9.5	7.5	5.5	5.0	6.0	4.5				
27	17.5	14.0	9.0	7.0	5.5	5.0	5.5	4.0				
28	17.5	14.0	9.5	7.0	5.5	5.0	5.5	4.0				
29	16.5	13.5	10.5	7.0	5.5	4.5	5.0	3.5				
30	15.5	12.5	9.5	8.0	5.0	4.0	4.5	3.5				
31	13.5	12.5	---	---	5.5	3.5	5.5	4.0				
MONTH	24.5	12.5	15.5	7.0	11.0	3.0	10.5	3.0				

11336000 COSUMNES RIVER AT McCONNELL, CA

LOCATION.--Lat 38°21'29", long 121°20'34", in NE¼NE¼ 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 current year. 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 good except those for the summer months, which are poor. Diversions for irrigation of about 2,100 acres (8.50 km<sup>2</sup>) between stations at Michigan Bar and at McConnell.

AVERAGE DISCHARGE.--38 years, 526 ft<sup>3</sup>/s (14.90 m<sup>3</sup>/s), 381,100 acre-ft/yr (470 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1944-79).--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.--Peak discharges above base of 3,600 ft<sup>3</sup>/s (102 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. 12	0600	5,520 156	42.12 12.838	Feb. 21	2200	*5,540 157	42.14 12.844
Feb. 19	1630	3,990 113	40.15 12.238	Mar. 1	1900	5,430 154	42.03 12.811

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	16	21	211	3580	1250	1210	370	21	4.9	
2		0	37	17	208	3450	1130	1130	324	19	2.1	
3		0	104	23	182	1680	1030	1040	311	18	.22	
4		0	72	30	155	1380	951	1030	295	25	.11	
5		0	43	31	142	1110	908	1080	279	21	7.5	
6		0	31	29	137	940	925	1230	249	8.9	12	
7		0	28	32	131	820	1010	1280	230	15	2.3	
8		0	27	43	125	880	975	1320	222	19	13	
9		0	17	178	121	936	963	1170	190	15	13	
10		0	9.6	213	118	962	971	1050	174	13	14	
11		0	16	1200	115	995	916	970	163	12	15	
12		0	22	4130	114	1030	875	944	133	9.9	11	
13		0	20	1380	125	1020	834	952	118	8.8	1.3	
14		0	19	803	1070	993	845	987	115	5.4	.14	
15		0	21	2440	1730	1050	875	1020	99	3.3	8.7	
16		0	19	2630	1190	2520	905	1040	99	.45	1.4	
17		0	21	1050	1640	1920	1000	1030	99	.22	6.7	
18		0	32	844	912	1370	1000	980	94	.19	6.9	
19		0	80	737	2810	1210	884	962	85	6.4	.71	
20		0	90	478	2330	1050	781	964	59	7.5	.03	
21		46	56	377	4200	939	721	945	61	7.5	.03	
22		100	42	315	4720	858	704	888	57	6.2	.01	
23		145	41	269	4810	797	726	837	44	.36	.01	
24		72	38	235	2660	715	840	780	40	.07	.01	
25		42	35	214	1460	674	794	760	28	.07	0	
26		27	34	201	1160	717	778	637	28	.07	0	
27		23	32	179	1150	914	991	624	37	.07	0	
28		19	31	155	976	2320	1310	509	40	3.0	0	
29		15	30	152	---	2510	1260	534	36	6.3	0	
30		13	31	132	---	1700	1240	441	29	4.5	0	
31		---	28	157	---	1420	---	418	---	2.3	0	---
TOTAL	0	502	1122.6	18695	34702	42460	28392	28832	4108	259.50	121.07	0
MEAN	0	16.7	36.2	603	1239	1370	946	930	137	8.37	3.91	0
MAX	0	145	104	4130	4810	3580	1310	1320	370	25	15	0
MIN	0	0	9.6	17	114	674	704	418	28	.07	0	0
AC-FT	0	996	2230	37080	68830	84220	56320	57190	8150	515	240	0
CAL YR 1978	TOTAL	252843.05	MEAN	693	MAX	8780	MIN	0	AC-FT	501500		
WTR YR 1979	TOTAL	159194.17	MEAN	436	MAX	4810	MIN	0	AC-FT	315800		

## 11336580 MORRISON CREEK NEAR SACRAMENTO, CA

LOCATION.--Lat 38°29'55", long 121°27'06", in SW4SE4 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 good. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

AVERAGE DISCHARGE.--20 years, 18.1 ft<sup>3</sup>/s (0.513 m<sup>3</sup>/s), 13,110 acre-ft/yr (16.2 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,610 ft<sup>3</sup>/s (45.6 m<sup>3</sup>/s) Jan. 26, 1969, gage height, 8.53 ft (2.600 m); no flow at times in 1960, 1962, 1965.

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. 21	1700	451 12.8	4.57 1.393	Jan. 15	0245	*979 27.7	6.31 1.923
Jan. 8	1445	484 13.7	4.65 1.417	Feb. 21	0700	868 24.6	5.84 1.780
Jan. 11	1130	503 14.2	4.74 1.445	Mar. 1	1045	360 10.2	3.83 1.167

Minimum daily, 1.1 ft<sup>3</sup>/s (0.229 m<sup>3</sup>/s) June 17, July 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	5.0	22	2.5	19	249	3.2	4.5	4.3	1.2	6.5	1.9
2	3.2	5.2	10	4.7	12	92	5.0	4.5	2.0	1.7	6.3	1.8
3	5.4	5.6	6.9	5.6	7.3	59	8.8	4.3	1.3	1.7	5.6	2.3
4	6.1	3.7	6.6	8.1	5.2	37	6.9	4.1	3.4	1.8	2.7	4.2
5	6.0	4.2	5.3	10	5.6	23	5.8	1.7	5.6	1.1	1.8	5.1
6	5.6	6.5	4.3	5.5	7.2	18	11	2.0	7.6	3.6	4.8	5.1
7	2.8	6.6	3.9	25	7.1	14	2.8	7.1	3.8	2.9	4.7	4.9
8	2.1	6.4	3.7	122	7.3	13	2.1	4.2	3.7	1.9	4.3	2.7
9	1.9	5.9	6.1	68	7.5	13	3.3	3.2	2.7	3.7	4.1	1.9
10	4.1	4.5	5.4	45	6.6	9.0	3.5	4.2	1.4	7.2	5.2	3.7
11	5.3	2.3	4.3	346	4.2	7.4	6.3	4.5	2.7	7.5	3.0	4.9
12	5.7	11	4.5	141	4.0	8.1	5.8	2.8	4.4	8.4	1.8	4.7
13	5.7	9.2	4.2	35	16	8.8	3.2	2.2	4.5	10	3.7	4.5
14	2.7	4.9	3.9	218	113	8.0	2.1	3.6	4.8	7.7	6.0	4.4
15	1.3	8.4	3.7	630	41	55	2.1	4.1	5.1	3.7	5.8	2.9
16	4.4	6.6	3.0	163	94	42	4.4	4.1	2.6	6.5	6.3	1.6
17	5.2	5.2	43	68	56	36	5.7	4.1	1.1	11	9.0	3.8
18	6.1	2.5	17	55	54	15	5.2	4.9	3.2	11	4.8	4.9
19	5.5	32	6.9	30	56	14	4.7	1.8	5.9	8.7	3.2	4.9
20	5.3	94	4.5	16	192	11	5.2	1.3	8.1	5.9	2.6	5.2
21	2.5	224	3.2	13	444	8.9	2.9	2.9	9.6	17	4.1	4.5
22	2.1	223	2.5	14	267	10	1.3	3.4	10	6.1	3.1	2.8
23	4.1	81	2.2	11	207	8.4	4.3	4.3	5.1	5.4	3.7	2.0
24	5.5	28	3.7	12	70	5.5	4.3	3.7	5.5	4.8	3.7	3.9
25	4.5	13	2.5	10	39	4.7	6.4	5.7	7.5	5.6	3.4	4.8
26	4.7	8.2	2.2	9.0	58	17	40	5.7	8.8	5.6	2.5	4.0
27	5.6	8.6	2.0	7.1	32	59	9.9	1.8	10	4.0	3.9	4.6
28	4.4	8.0	1.7	5.9	55	59	6.9	1.2	11	1.9	4.5	4.3
29	3.0	7.0	1.9	6.6	---	25	3.4	2.6	9.5	2.2	3.1	2.2
30	4.7	6.6	2.0	35	---	12	4.5	4.3	4.1	4.6	2.4	1.9
31	5.3	---	1.7	23	---	6.2	---	5.3	---	5.7	3.0	---
TOTAL	132.0	837.1	194.8	2145.0	1887.0	948.0	181.0	114.1	159.3	170.1	130.1	110.4
MEAN	4.26	27.9	6.28	69.2	67.4	30.6	6.03	3.68	5.31	5.49	4.20	3.68
MAX	6.1	224	43	630	444	249	40	7.1	11	17	9.0	5.2
MIN	1.2	2.3	1.7	2.5	4.0	4.7	1.3	1.2	1.1	1.1	1.8	1.6
AC-FT	262	1660	386	4250	3740	1880	359	226	316	337	258	219
CAL YR 1978 TOTAL	11760.5			MEAN 32.2	MAX 992	MIN 1.2	AC-FT 23330					
WTR YR 1979 TOTAL	7008.9			MEAN 19.2	MAX 630	MIN 1.1	AC-FT 13900					

## SAN JOAQUIN RIVER BASIN

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 Water and Power Resources Service).

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 Water and Power Resources Service and reviewed by Geological Survey.

AVERAGE DISCHARGE.--29 years, 98.8 ft<sup>3</sup>/s (2.798 m<sup>3</sup>/s), 71,580 acre-ft/yr (88.3 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 255 ft<sup>3</sup>/s (7.22 m<sup>3</sup>/s) June 23, 1972; 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 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	87	84	85	50	50	60	143	174	220	226	200
2	135	93	79	90	52	51	66	145	183	214	231	195
3	129	91	79	95	42	43	70	144	182	217	229	198
4	133	89	83	97	48	42	68	154	187	209	219	201
5	131	90	85	91	55	66	67	144	188	210	227	199
6	131	85	89	88	55	78	61	138	191	211	224	192
7	114	81	89	91	59	80	58	139	186	211	217	181
8	110	84	85	96	63	82	52	138	193	211	215	177
9	113	85	82	77	70	81	58	143	184	215	213	176
10	108	84	85	66	71	84	62	147	186	223	213	175
11	112	75	90	65	66	81	67	149	191	238	211	171
12	118	75	89	67	71	79	67	144	192	240	204	172
13	113	84	92	66	71	84	73	139	196	244	207	173
14	74	87	89	56	66	81	72	147	195	239	212	166
15	120	91	85	56	52	82	72	154	199	236	208	169
16	109	101	83	55	59	80	77	153	195	238	208	166
17	109	109	79	58	56	74	86	157	194	221	210	166
18	83	72	88	58	47	75	91	172	199	214	202	170
19	82	103	89	56	48	80	93	176	192	223	203	166
20	72	102	88	52	49	72	88	164	198	227	201	167
21	57	102	97	49	35	59	90	170	199	214	199	159
22	53	99	96	57	33	57	104	170	204	213	195	160
23	78	97	94	54	37	55	126	172	213	222	195	155
24	96	86	86	54	48	57	123	173	213	222	198	159
25	87	81	87	56	43	57	118	175	215	227	198	155
26	85	78	92	51	53	62	124	174	218	231	197	163
27	86	84	95	46	52	59	138	166	216	224	202	163
28	80	92	90	46	52	58	140	169	220	222	204	157
29	74	88	94	49	---	58	141	169	219	218	204	157
30	97	86	87	51	---	61	138	174	214	225	203	157
31	90	---	85	53	---	61	---	174	---	228	202	---
TOTAL	3115	2661	2715	2031	1503	2089	2650	4876	5936	6907	6477	5165
MEAN	100	88.7	87.6	65.5	53.7	67.4	88.3	157	198	223	209	172
MAX	136	109	97	97	71	84	141	176	220	244	231	201
MIN	53	72	79	46	33	42	52	138	174	209	195	155
AC-FT	6180	5280	5390	4030	2980	4140	5260	9670	11770	13700	12850	10240

CAL YR 1978	TOTAL	36174	MEAN	99.1	MAX	211	MIN	26	AC-FT	71750
WTR YR 1979	TOTAL	46125	MEAN	126	MAX	244	MIN	33	AC-FT	91490

## 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.--26 years, 8.13 ft<sup>3</sup>/s (0.230 m<sup>3</sup>/s), 5,890 acre-ft/yr (7.26 hm<sup>3</sup>/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,880 ft<sup>3</sup>/s (110 m<sup>3</sup>/s) Jan. 31, 1963, gage height, 11.62 ft (3.542 m), from rating curve extended above 880 ft<sup>3</sup>/s (24.9 m<sup>3</sup>/s) on basis of slope-area measurement at gage height 10.90 ft (3.322 m); maximum gage height, 12.98 ft (3.956 m) Dec. 23, 1955; no flow for long periods in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 140 ft<sup>3</sup>/s (4.0 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)	
Jan. 11	1545	198	5.61	4.82	1.469	Feb. 21	0615	*642	18.2	6.42	1.957
Jan. 15	0315	397	11.2	5.64	1.719						

Minimum daily discharge, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	1.7	43	9.0	2.6	.08			
2				0	1.5	24	8.4	2.6	0			
3				0	1.3	21	7.5	2.2	0			
4				0	1.2	18	7.1	2.1	0			
5				0	1.2	16	6.7	2.0	0			
6				0	1.2	15	6.6	3.3	0			
7				0	1.1	14	6.3	5.5	0			
8				.96	1.0	13	5.9	3.8	0			
9				1.6	.94	12	5.6	2.5	0			
10				.47	.94	11	5.2	2.0	0			
11				56	.88	9.6	4.9	1.8	0			
12				25	.86	9.1	4.6	1.6	0			
13				7.1	2.7	8.9	4.3	1.4	0			
14				32	17	8.1	4.3	1.3	0			
15				183	3.9	8.2	3.8	1.0	0			
16				49	10	9.8	4.1	1.0	0			
17				24	6.6	14	4.5	1.1	0			
18				20	7.7	9.0	4.0	1.0	0			
19				12	13	8.3	3.5	.87	0			
20				8.5	99	7.4	3.6	.80	0			
21				6.5	284	7.0	3.6	.60	0			
22				4.9	184	6.3	3.8	.59	0			
23				4.0	112	5.9	4.8	.57	0			
24				3.5	62	5.6	4.2	.51	0			
25				3.1	45	5.3	3.7	.38	0			
26				2.4	36	5.7	4.9	.35	0			
27				2.1	27	17	5.8	.25	0			
28				2.1	25	20	3.4	.28	0			
29				1.9	---	15	3.0	.24	0			
30				1.8	---	11	2.6	.16	0			
31		---		1.9	---	9.9	---	.18	---			---
TOTAL	0	0	0	453.83	948.72	388.1	149.7	44.58	.08	0	0	0
MEAN	0	0	0	14.6	33.9	12.5	4.99	1.44	.003	0	0	0
MAX	0	0	0	183	284	43	9.0	5.5	.08	0	0	0
MIN	0	0	0	0	.86	5.3	2.6	.16	0	0	0	0
AC-FT	0	0	0	900	1880	770	297	88	.2	0	0	0
CAL YR 1978 TOTAL	5197.21			MEAN 17.0	MAX 433	MIN 0	AC-FT 12290					
WTR YR 1979 TOTAL	1985.01			MEAN 5.44	MAX 284	MIN 0	AC-FT 3940					

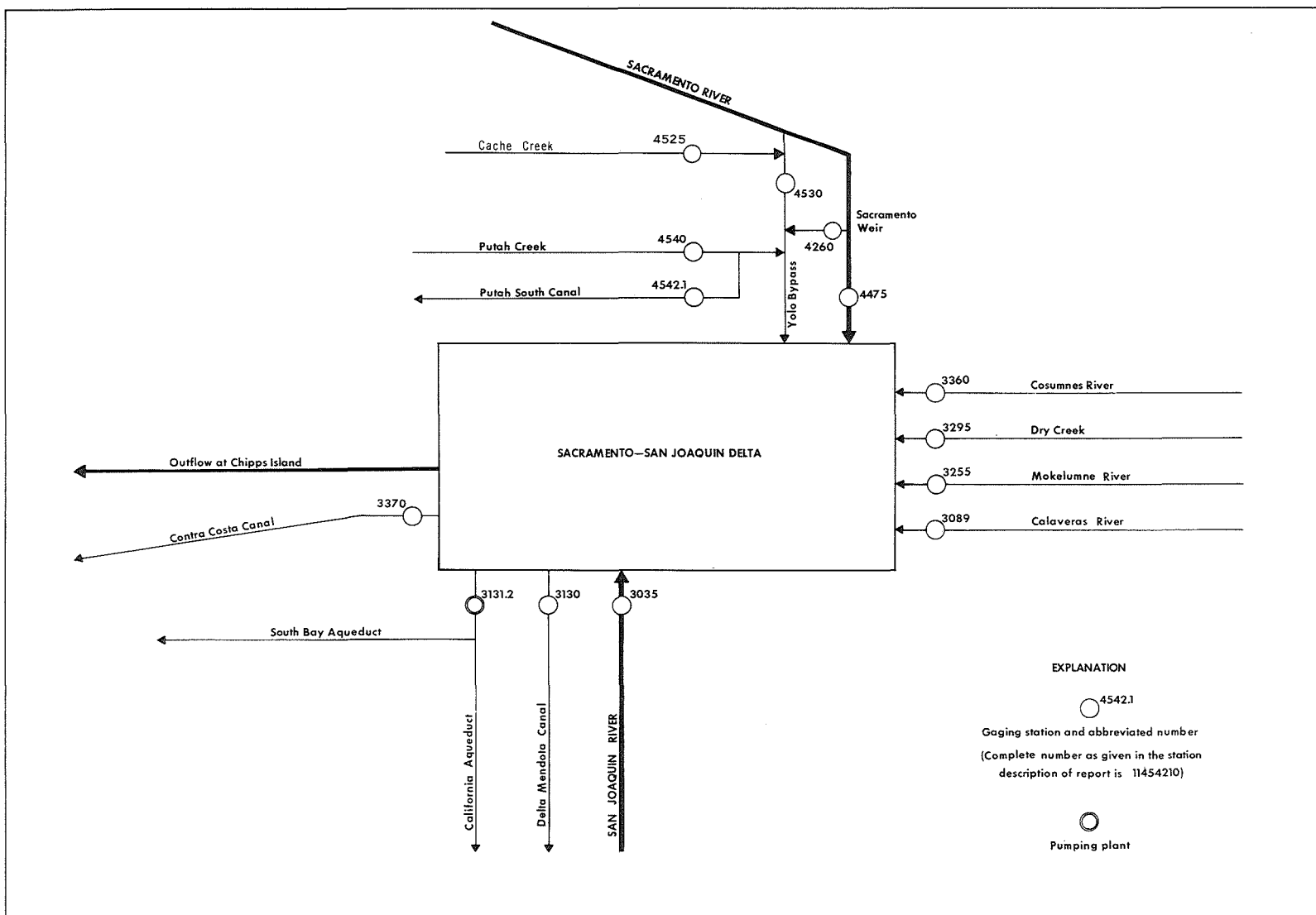


FIGURE 12.—Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.



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 Water and Power Resources Service, California Aqueduct by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE  
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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													
204.6	208.1	172.9	321.8	396.4	532.0	208.6	155.2	134.1	82.00	89.22	109.5	2615	
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM													
4.38	2.33	1.61	17.88	31.47	17.38	5.33	13.58	13.96	14.42	14.97	11.78	149.1	
11325500 MOKELUMNE RIVER AT WOODBRIDGE													
44.02	23.68	16.44	18.84	34.48	42.86	18.85	23.97	44.34	24.38	24.67	25.18	341.7	
11329500 DRY CREEK NEAR GALT													
0.05	0.01	0	12.85	42.30	33.28	6.41	2.14	0.15	0.04	0	0.02	97.24	
11336000 COSUMNES RIVER AT MCCONNELL													
0	1.00	2.23	37.08	68.83	84.22	56.32	57.19	8.15	0.52	0.24	0	315.8	
11426000 SACRAMENTO WEIR SPILL													
0	0	0	0	0.39	0	0	0	0	0	0	0	0.39	
11447500 SACRAMENTO RIVER AT SACRAMENTO													
767.8	740.4	811.8	1426	1802	1793	984.6	1106	726.4	1009	946.0	866.8	13000	
114530000 YOLO BYPASS NEAR WOODLAND <sup>1/</sup>													
--	--	--	23.72	87.35	19.10	--	--	--	--	--	--	130.2	
11454000 PUTAH CREEK NEAR WINTERS													
13.55	4.75	4.28	3.87	2.51	3.31	15.41	33.89	39.35	41.16	38.00	27.54	227.6	
Total	1034	980.3	1009	1862	2466	2525	1296	1392	966.4	1172	1113	1041	16877

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												
181.5	190.8	195.5	166.0	68.14	122.2	189.4	183.9	177.7	279.8	280.3	260.7	2296
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
126.9	135.2	168.8	80.75	90.34	143.4	156.9	184.5	178.6	282.4	346.5	277.7	2172
11337000 CONTRA COSTA CANAL												
6.18	5.28	5.39	4.03	2.98	4.14	5.26	9.67	11.77	13.70	12.85	10.24	91.49
11454210 PUTAH SOUTH CANAL												
10.62	2.22	1.73	1.81	1.32	1.63	12.46	31.08	36.28	37.55	34.39	25.56	196.7
Total	325.2	333.5	371.4	252.6	162.8	271.4	364.0	409.2	404.4	613.4	674.0	4756

1. Flow not computed below 1000 ft<sup>3</sup>/s.

NOTE.--Minor inflow streams and diversions are not included.

## DISCHARGE AT PARTIAL-RECORD STATIONS

## 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 1979

					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)
Tulare Lake basin							
11205680	Frazier 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	1974-79	3-28-79	>5.02	--
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, 1974-79	3-28-79	10.38	163
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. Prior to water year 1978, at site 1 mi (2 km) downstream at State Highway 216.	19.2	1969a, 1974-79	3-28-79	--	8.7
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	1972-79	1-15-79	39.98	390
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	1972-79	1-15-79	39.03	260
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	1972-79	1-15-79	38.97	72
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	1972-79	2-21-79	19.13	--

See footnote at end of table.

## DISCHARGE AT PARTIAL-RECORD STATIONS

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Annual maximum discharge at crest-stage partial-record stations during water year 1979--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	1972-79	3-1-79	37.93	3,300
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 mi (2.6 km) upstream from U.S. Highway 99, and 3.1 mi (5.0 km) north of Galt.	11.7	1972-79	3-1-79	38.80	125
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	1972-79	2-21-79	18.51	--
11336560	Deadman Gulch at Christenson 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	1972-79	3-1-79	24.60	230

a Published as miscellaneous measurement.

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

## WATER QUALITY DATA, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978

CARSON RIVER BASIN  
10305500 EAST FORK CARSON RIVER NEAR MARKLEEVILLE, CA

LOCATION.--Lat 38°41'20", long 119°45'52", in NW¼NE¼ sec.27, T.10 N., R.20 E., Alpine County, Hydrologic Unit 16050201.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1959 to current year. Published as 10308200 in water years 1966-68, 1970.  
COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)
APR 25...	1130	E440	111	7.5	5.0	4.0	10.3	40
SEP 13...	0915	E70	118	8.0	13.0	2.0	8.7	40

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	ALKA- LINITY (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
APR 25...	11	3.0	7.0	.5	46	1.0	78
SEP 13...	11	3.0	7.0	.5	50	.0	85

PYRAMID AND WINNEMUCCA LAKES BASIN  
UPPER TRUCKEE RIVER AT MOUTH, AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°56'30", long 119°59'42", in SW¼SE¼ sec.31, T.13 N., R.18 E., El Dorado County, Hydrologic Unit 16050101.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)
JUN 21...	1046	34	7.4	10.0	8.8	13	.02	.00

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, 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, ORTHU, DIS- SOLVED (MG/L AS P)
JUN 21...	.02	.01	.01	.13	.14	.16	.03

E estimated.

## ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

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WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

PYRAMID AND WINNEMUCCA LAKES BASIN--Continued  
10336700 INCLINE CREEK NEAR CRYSTAL BAY, NV

LOCATION.--Lat 39°14'25", long 119°56'38", in SW¼NE¼ sec.22, T.16 N., R.18 E., Washoe County, Hydrologic Unit 16050101.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
FEB 27...	1020	2.8	103	8.1	.0	11.6	--	.19
JUN 19...	1150	7.4	64	7.5	7.5	9.3	22	.03

DATE	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, 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, ORTHO, DIS- SOLVED (MG/L AS P)
FEB 27...	.02	.21	.06	.01	.06	.07	.28	.01
JUN 19...	.00	.03	.02	.01	.10	.11	.14	.03

TULARE LAKE BASIN  
11222700 KINGS RIVER AT PEOPLES WEIR, NEAR KINGSBURG, CA

LOCATION.--Lat 36°29'06", long 119°32'22", in NW¼NE¼ sec.1, T.17 S., R.22 E., Kings County, Hydrologic Unit 18030012.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1951 to current year.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	OXYGEN DEMAND, BIO- CHEM- ICAL, 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 25...	0815	53	7.0	15.0	9.5	2	.8	18	5.0
DEC 27...	1330	47	7.1	7.5	11.2	--	--	--	--
JAN 24...	1620	--	7.1	9.0	11.0	--	--	32	7.6
MAR 07...	1445	64	7.3	13.0	10.4	--	1.1	23	6.0
MAY 23...	1135	30	7.1	19.0	9.8	--	--	--	--
JUN 27...	0815	26	7.1	19.0	8.9	--	--	--	--
JUL 25...	1240	48	7.2	15.0	9.9	3	.7	14	4.0
SEP 26...	1300	52	7.3	22.5	8.9	2	.4	23	6.0

## WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

TULARE LAKE BASIN--Continued  
 11222700 KINGS RIVER AT PEOPLES WEIR, NEAR KINGSBURG, CA--Continued

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
OCT 25...	1.3	2.6	.3	18	.5	2.4	36	5	.21
DEC 27...	--	--	--	--	--	--	--	--	.20
JAN 24...	3.2	5.1	.4	32	5.6	2.6	66	--	.34
MAR 07...	2.0	3.0	.3	23	2.0	.0	50	--	--
MAY 23...	--	--	--	--	--	--	--	--	--
JUN 27...	--	--	--	--	--	--	--	--	--
JUL 25...	1.0	2.0	.2	16	2.0	.0	35	5	--
SEP 26...	1.8	3.9	.4	24	3.0	.0	45	2	--

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, KJEL- DAHL, TOTAL (MG/L AS N)	PHOS- PHORUS, DAHL, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	BORON, DIS- SOLVED (UG/L AS B)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 25...	--	.06	--	.00	--	.03	.03	0	2.1
DEC 27...	--	.03	--	.10	--	.08	.05	--	--
JAN 24...	--	.01	--	.10	--	.04	.02	0	--
MAR 07...	.16	--	.01	--	.20	.03	.01	0	--
MAY 23...	.02	--	.00	--	.20	.03	.00	--	--
JUN 27...	.03	--	.00	--	.20	.02	.00	--	--
JUL 25...	.08	.10	.00	.00	.10	.00	.00	0	1.2
SEP 26...	.25	--	.02	--	.20	.04	.02	0	1.8

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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362100118454001 - SF KAWEAH R AT SF RANGER STATION (LAT 36 21 00 LONG 118 45 40.01)

AUG , 1979	21...	0840	6.8	106	7.9	12.9	29	0	10	.9	2.7	.7
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362102118241501 - KERN RIVER AT PARK BOUNDARY,CALIF (LAT 36 21 02 LONG 118 24 15.01)

SEP , 1978	15...	1545	E300	36	7.0	10.1	12	0	4.0	.5	2.8	.4
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DATE	TIME	ALKA- LINEITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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362100118454001 - SF KAWEAH R AT SF RANGER STATION (LAT 36 21 00 LONG 118 45 40.01)

AUG , 1979	21...	42	1.9	1.4	9.3	52	.05	.000	.1	20	<10
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362102118241501 - KERN RIVER AT PARK BOUNDARY,CALIF (LAT 36 21 02 LONG 118 24 15.01)

SEP , 1978	15...	16	2.7	1.0	9.5	31	.024	.002	.1	20	80
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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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362102118402801 - SOUTH FORK KAWEAH RIVER NR HOCKETT LAKES (LAT 36 21 02 LONG 118 40 28.01)

SEP , 1979	17...	1045	5.0	64	7.5	11.9	22	0	7.3	.8	3.8	1.1
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362317118245201 - LAUREL CREEK NEAR FUNSTON MEADOW,CALIF (LAT 36 23 17 LONG 118 24 52.01)

SEP , 1978	15...	1345	E15	12	7.0	8.7	8	0	3.0	.1	.9	.3
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362511118245201 - RATTLESNAKE CREEK NEAR KERN R CONFLUENCE,CALIF (LAT 36 25 11 LONG 118 24 52.01)

SEP , 1978	15...	1230	E10	17	7.3	7.3	8	0	3.0	.2	1.1	.3
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362540118452901 - EF KAWEAH R AT LOOKOUT POINT (LAT 36 25 40 LONG 118 45 29.01)

AUG , 1979	20...	1530	20	93	8.0	17.8	29	0	10	.9	2.4	.8
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362542118432701 - HORSE CREEK NR LOOKOUT POINT RANGER STATION (LAT 36 25 42 LONG 118 43 27.01)

SEP , 1979	17...	0955	3.0	51	7.5	14.1	13	0	4.3	.6	4.6	1.0
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E Estimated.  
< Actual value is known to be less than the value shown.

E Estimated,



MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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362629118245301 - BIG ARROYO NEAR UPPER FUNSTON MEADOW,CALIF (LAT 36 26 29 LONG 118 24 53.01)

SEP , 1978										
15...	8	1.6	.2	5.6	16	.036	.002	.1	2	20

362647118360801 - EAGLE C NR MINERAL KING CA (LAT 36 26 47 LONG 118 36 08.01)

AUG , 1979										
20...	47	4.8	.4	6.9	67	.055	.000	.2	6	<10

362718118244101 - KERN RIVER NEAR UPPER FUNSTON MEADOW,CALIF (LAT 36 27 18 LONG 118 24 41.01)

SEP , 1978										
15...	10	2.6	1.8	7.9	24	.021	.004	.1	20	20

362730118281401 - SODA CREEK NEAR MORaine LAKE,CALIF (LAT 36 27 30 LONG 118 28 14.01)

SEP , 1978										
15...	7	1.1	.3	5.0	14	.119	.002	.2	7	20
SEP , 1979										
17...	14	5.2	.5	1.3	24	.025	.004	.2	10	0

362730118343001 - EF KAWEAH R BL MOSQUITO C NR MINERAL KING (LAT 36 27 30 LONG 118 34 30.01)

AUG , 1979										
20...	52	1.4	.6	3.9	53	.040	.001	.1	6	10

DATE	TIME	STPEAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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362730118400001 - EF KAWEAH R NR CABIN COVE (LAT 36 27 30 LONG 118 40 00.01)

AUG , 1979											
20...	2000	.17	114	8.0	12.4	33	0	12	.8	1.4	.7

362808118242101 - KERN RIVER NR CHAGOOA CREEK (LAT 36 28 08 LONG 118 24 21.01)

SEP , 1978											
15...	1000	E80	24	7.5	6.4	8	0	3.0	.2	2.6	.3

362808118242102 - KERN RIVER SULFUR TRIB NR CHAGOOA CREEK (LAT 36 28 08 LONG 118 24 21.02)

SEP , 1978											
15...	0945	E3.0	25	7.4	6.2	8	0	3.0	.2	2.2	.3

362852118240901 - ROCK CREEK NEAR CHAGOOA FALLS,CALIF (LAT 36 28 52 LONG 118 24 09.01)

SEP , 1978											
15...	0830	F30	36	8.2	5.2	10	0	4.0	.1	3.7	.4

362937118200801 - SIBERIAN PASS CREEK NR ROCK CREEK PATROL CARIN (LAT 36 29 37 LONG 118 20 08.01)

SEP , 1979											
17...	1235	1.0	55	7.6	6.6	21	3	8.1	.3	3.4	.9

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

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
 SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALKA- LINEITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLOR- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUOR- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
362730118400001 - EF KAWFAH R NR CARIN COVE (LAT 36 27 30 LONG 118 40 00.01)											
AUG , 1979 20...	45	3.0	.6	5.3	52	1.2	.000	.1	8	30	
362808118242101 - KERN RIVER NR CHAGOOPA CREEK (LAT 36 28 08 LONG 118 24 21.01)											
SEP , 1978 15...	10	2.1	1.6	7.8	24	.027	.004	.1	20	200	
362808118242102 - KERN RIVER SULFUR TRIL NR CHAGOOPA CREEK (LAT 36 28 08 LONG 118 24 21.02)											
SEP , 1978 15...	10	2.1	1.3	7.8	23	.023	.003	.1	30	70	
362852118240901 - ROCK CREEK NEAR CHAGOOPA FALLS,CALIF (LAT 36 28 52 LONG 118 24 09.01)											
SEP , 1978 15...	13	5.3	1.4	11	34	.072	.007	.4	20	50	
362937118200801 - SIBERIAN PASS CREEK NR ROCK CREEK PATROL CABIN (LAT 36 29 37 LONG 118 20 08.01)											
SEP , 1979 17...	18	8.7	.4	14	47	.017	.021	.1	9	30	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
362947118193801 - ROCK CREEK NR ROCK CREEK PATROL CABIN (LAT 36 29 47 LONG 118 19 38.01)											
SEP , 1979 17...	1250	10	40	7.5	9.9	10	0	3.9	.1	2.8	.4
363010118302801 - BIG ARROYO NR LITTLE FIVE LAKES (LAT 36 30 10 LONG 118 30 28.01)											
SEP , 1979 17...	1200	5.0	32	7.4	12.9	12	12	4.6	.1	1.4	.3
363107118453501 - PARADISE CREEK NR BUCKEYE FLAT,CALIF (LAT 36 31 07 LONG 118 45 35.01)											
AUG , 1978 22...	0930	.42	90	7.9	15.0	39	--	12	2.1	4.6	1.8
AUG , 1979 21...	1200	.61	99	7.9	16.5	22	0	7.0	1.2	2.7	1.1
363112118454601 - MIDDLE FORK KAWFAH RIVER NR BUCKEYE FLAT, CA (LAT 36 31 12 LONG 118 45 46.01)											
AUG , 1978 22...	0945	104	21	7.6	13.4	10	--	3.1	.5	1.9	.6
AUG , 1979 21...	1250	29	39	7.8	16.6	10	0	3.3	.5	1.9	.6
363113118480101 - MARBLE FORK KAWFAH RIVER AT POTWISHA CAMP,CALIF (LAT 36 31 13 LONG 118 48 01.01)											
AUG , 1978 22...	0720	8.5	48	7.7	14.7	26	--	7.8	1.6	1.8	.7
AUG , 1979 21...	1100	6.3	65	7.9	15.4	20	0	6.3	1.0	1.6	.7

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKAL- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE DIS- SOLVED (MG/L AS CL)	SILIC- DIOX- IDE SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TIENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
362947118193801 - ROCK CREEK NR ROCK CREEK PATROL CABIN (LAT 36 29 47 LONG 118 19 38.01)											
SEP , 1979 17...	11	4.6	.3	10	29	.072	.010	.2	9	30	
363010118302801 - BIG ARROYO NR LITTLE FIVE LAKES (LAT 36 30 10 LONG 118 30 28.01)											
SEP , 1979 17...	0	10	.4	2.4	20	.095	.004	.2	7	10	
363107118453501 - PARADISE CREEK NR BUCKEYE FLAT, CALIF (LAT 36 31 07 LONG 118 45 35.01)											
AUG , 1978 22...	39	9.0	1.8	22	--	.031	.006	.1	10	10	
AUG , 1979 21...	27	3.3	1.4	11	44	.060	.003	.1	10	10	
363112118454601 - MIDDLE FORK KAWEAH RIVER NR BUCKEYE FLAT, CA (LAT 36 31 12 LONG 118 45 46.01)											
AUG , 1978 22...	11	1.7	.7	8.9	--	.037	.004	.0	9	10	
AUG , 1979 21...	16	1.4	1.0	6.6	25	.025	.000	.1	10	10	
363113118480101 - MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CALIF (LAT 36 31 13 LONG 118 48 01.01)											
AUG , 1978 22...	28	1.7	.5	11	--	.041	.005	.0	6	10	
AUG , 1979 21...	20	1.4	.6	8.6	32	.065	.000	.1	10	<10	
DATE	TIME	STREAK- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
363138118445801 - MOHO CREEK NR BUCKEYE FLAT CALIF (LAT 36 31 38 LONG 118 44 58.01)											
AUG , 1978 22...	1015	.83	23	7.9	15.3	9	--	2.8	.5	3.1	.9
AUG , 1979 21...	1350	.26	31	7.9	17.3	8	0	2.7	.4	1.8	.7
363310118240101 - WHITNEY CREEK NR CHARTREE MEADOW (LAT 36 33 10 LONG 118 24 01.01)											
SEP , 1979 17...	1650	8.0	80	7.3	11.0	15	4	5.7	.1	10	.6
363438118243901 - WALLACE CREEK NR JUNCTION MEADOW (LAT 36 34 36 LONG 118 24 39.01)											
SEP , 1979 17...	1510	14	31	7.1	10.6	8	0	3.0	.1	1.4	.4
363455118251301 - KERN-KAWEAH RIVER NR JUNCTION MEADOW (LAT 36 34 55 LONG 118 25 13.01)											
SEP , 1979 17...	1440	18	24	7.1	12.0	9	6	1.8	1.0	1.0	.3
363616118245801 - TYNDALL CREEK NR TYNDALL CREEK PATROL CABIN (LAT 36 36 16 LONG 118 24 58.01)											
SEP , 1979 17...	1400	8.0	31	7.2	9.6	9	1	3.5	.1	1.1	.4

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

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALKA- LINEITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE DIS- SOLVED (MG/L AS CL)	SILICA DIS- SOLVED (MG/L SiO2)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RINE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
363138118445001 - MOGO CREEK NR HUCKEY FLAT CALIF (LAT 36 31 38 LONG 118 44 58.01)											
AUG , 1978											
22...	15	1.4	.5	21	--	.016	.004	.0	10	20	
AUG , 1979											
21...	15	1.4	.4	11	28	.045	.000	.1	8	20	
363410118240101 - WHITNEY CREEK NR CRABTREE MEADOW (LAT 36 33 10 LONG 118 24 01.01)											
SEP , 1979											
17...	11	10	8.4	11	53	.021	.006	.5	110	30	
363438118243901 - WALLACE CREEK NR JUNCTION MEADOW (LAT 36 34 38 LONG 118 24 39.01)											
SEP , 1979											
17...	8	5.2	.2	5.3	21	.035	.007	.1	0	<10	
363455118251301 - KERN-KAWEAH RIVER NR JUNCTION MEADOW (LAT 36 34 55 LONG 118 25 13.01)											
SEP , 1979											
17...	3	1.4	.3	3.1	17	.055	.004	.2	4	<10	
363616118245801 - TYNDALL CREEK NR TYNDALL CREEK PATROL CAYIN (LAT 36 36 16 LONG 118 24 58.01)											
SEP , 1979											
17...	8	5.2	.2	6.2	22	.028	.004	.2	0	<10	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
363623118441401 - SILLIMAN CREEK NR GENERALS HIGHWAY, CALIF (LAT 36 36 23 LONG 118 44 14.01)											
AUG , 1978											
22...	1245	5.0	8	7.5	11.4	4	--	1.4	.2	1.3	.4
AUG , 1979											
21...	1600	1.6	13	7.7	12.9	6	0	2.1	.2	1.3	.5
363629118424201 - MARBLE FORK KAWEAH R NR LODGEPOLE CAMP, CALIF (LAT 36 36 29 LONG 118 42 42.01)											
AUG , 1978											
22...	1200	20	3	7.5	10.6	2	--	.8	.1	.6	.2
AUG , 1979											
21...	1530	3.0	9	7.7	14.7	5	0	1.8	.1	.8	.6
363634118444901 - CLOVER CREEK NR GENERALS HIGHWAY, CALIF (LAT 36 36 34 LONG 118 44 49.01)											
AUG , 1978											
22...	1320	4.2	11	7.5	12.0	6	--	2.1	.2	1.5	.3
AUG , 1979											
21...	1630	1.3	18	7.6	13.1	7	0	2.8	.1	1.2	.4
363820118253101 - KERN RIVER NR MILESTONE CREEK (LAT 36 38 20 LONG 118 25 31.01)											
SEP , 1979											
17...	1320	15	23	7.3	12.5	<5	3	2.0	<.0	1.0	.3
363911118315501 - ROARING RIVER NR BIG WFT MEADOW (LAT 36 39 11 LONG 118 31 55.01)											
SEP , 1978											
13...	1130	220	6	6.9	6.8	3	0	1.0	.0	.5	.1

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E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKA- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	MORO- N, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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363623118441401 - SILLIMAN CREEK NR GENERALS HIGHWAY,CALIF (LAT 36 35 23 LONG 118 44 14.01)

AUG , 1978										
22...	6	1.1	.2	3.8	--	.018	.005	.0	4	20
AUG , 1979										
21...	7	1.1	.3	7.5	17	.025	.000	.1	4	<10

363629118424201 - MAHLE FORK KAWeah R NR LODGEPOLE CAMP,CALIF (LAT 36 36 29 LONG 118 42 42.01)

AUG , 1978										
22...	2	2.1	.2	3.5	--	.022	.004	.0	4	10
AUG , 1979										
21...	5	1.1	.2	4.2	12	.470	.012	.1	10	<10

363634118444901 - CLOVER CREEK NR GENERALS HIGHWAY,CALIF (LAT 36 36 34 LONG 118 44 49.01)

AUG , 1978										
22...	8	1.3	.3	10	--	.006	.002	.0	6	30
AUG , 1979										
21...	8	1.0	.4	7.3	18	.025	.000	.1	8	10

363820118253101 - KERN RIVER NR MILESTONE CREEK (LAT 36 38 20 LONG 118 25 31.01)

SEP , 1979										
17...	2	6.5	.2	2.5	14	.017	.005	.0	4	<10

363911118315501 - ROARING RIVER NR BIG WET MEADOW (LAT 36 39 11 LONG 118 31 55.01)

SEP , 1978										
13...	4	1.7	.3	3.3	10	.047	.003	.0	10	200

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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364153118344701 - DEADMAN CANYON CREEK NR ROARING R RANGER STA (LAT 36 41 53 LONG 118 34 47.01)

SEP , 1978											
13...	1600	F20	6	7.1	9.5	3	0	1.0	.1	.3	.3

364218118343401 - ROARING RIVER NR ROARING RIVER RANGER STATION (LAT 36 42 18 LONG 118 34 34.01)

SEP , 1978											
13...	1535	F30	12	6.9	9.4	10	3	4.0	.1	.8	.3

364234118404401 - SO FORK SUGARLOAF CREEK NR COMANCHE MEADOWS (LAT 36 42 34 LONG 118 40 44.01)

SEP , 1978											
13...	1300	F7.0	9	7.2	9.6	3	0	1.0	.2	1.1	.5

364236118411301 - SUGARLOAF CREEK NR COMANCHE MEADOWS (LAT 36 42 36 LONG 118 41 13.01)

SEP , 1978											
13...	1215	F10	12	7.3	8.6	6	0	2.0	.3	1.3	.5

364345118345401 - DURANE CREEK NR DURANE MEADOWS (LAT 36 43 45 LONG 118 34 59.01)

SEP , 1978											
13...	1145	F2.0	38	7.2	7.7	16	0	5.0	.9	2.7	1.1

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E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALUM- LIME (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, SOL- UBLE CONSTIT- UENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+ NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
364153118344701 - DEADMAN CANYON CREEK NR ROARING R RANGER STA (LAT 36 41 53 LONG 118 34 47.01)											
SEP , 1978 13...	5	1.0	.3	4.0	11	.009	.003	.0	9	30	
364218118343401 - ROARING RIVER NR ROARING RIVER RANGER STATION (LAT 36 42 18 LONG 118 34 34.01)											
SEP , 1978 13...	7	1.4	.4	5.2	16	.026	.001	.0	2	60	
364234118404401 - SO FORK SUGARLOAF CREEK NR COMANCHE MEADOWS (LAT 36 42 34 LONG 118 40 44.01)											
SEP , 1978 13...	7	1.1	.4	4.2	18	.013	.003	.0	9	20	
364236118411301 - SUGARLOAF CREEK NR COMANCHE MEADOWS (LAT 36 42 36 LONG 118 41 13.01)											
SEP , 1978 13...	10	1.6	.4	11	23	.000	.005	.0	10	30	
364345118345401 - MORaine CREEK NR MORaine MEADOWS (LAT 36 43 45 LONG 118 34 59.01)											
SEP , 1978 13...	22	1.3	.3	18	43	.028	.009	.0	10	50	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
364510118262301 - EAST CREEK NEAR JUNCTION MEADOW,CALIF (LAT 36 45 10 LONG 118 26 23.01)											
SEP , 1978 12...	1100	E20	15	7.3	4.8	5	0	2.0	.0	1.5	.2
364511118260901 - BUBBS CREEK NEAR JUNCTION MEADOW,CALIF (LAT 36 45 11 LONG 118 26 09.01)											
SEP , 1978 12...	1115	E20	26	7.4	6.8	10	2	4.0	.1	2.8	.2
364646118320301 - BUBBS CREEK NEAR THE SPHINX,CALIF (LAT 36 46 46 LONG 118 32 03.01)											
SEP , 1978 12...	1000	E75	21	6.4	4.3	8	0	3.0	.1	2.3	.2
364647118321701 - SPHINX CREEK NEAR THE SPHINX,CALIF (LAT 36 46 47 LONG 118 32 17.01)											
SEP , 1978 12...	1030	E15	8	7.4	6.8	5	0	1.8	.1	1.0	.3
364654118371801 - ROARING RIVER AT ROARING RIVER FALLS,CALIF (LAT 36 46 54 LONG 118 37 18.01)											
AUG , 1978 22...	1620	145	11	7.5	12.7	7	--	2.3	.3	1.2	.4
AUG , 1979 22...	1120	38	21	7.7	11.1	8	0	2.9	.3	1.2	.6
E Estimated.											

E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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364510118262301 - FAST CREEK NEAR JUNCTION MEADOW,CALIF (LAT 36 45 10 LONG 118 26 23.01)

SEP , 1978										
12...	7	3.4	.5	4.1	16	.051	.003	.1	4	20

364511118260901 - BUBBS CREEK NEAR JUNCTION MEADOW,CALIF (LAT 36 45 11 LONG 118 26 09.01)

SEP , 1978										
12...	8	3.1	3.0	4.7	23	.047	.003	.1	40	20

364646118320301 - BURBS CREEK NEAR THE SPHINX,CALIF (LAT 36 46 46 LONG 118 32 03.01)

SEP , 1978										
12...	8	2.9	1.9	5.6	21	.054	.003	.1	30	20

364647118321701 - SPHINX CREEK NEAR THE SPHINX,CALIF (LAT 36 46 47 LONG 118 32 17.01)

SEP , 1978										
12...	8	1.1	.5	6.9	17	.029	.004	.0	9	10

364658118371801 - ROARING RIVER AT ROARING RIVER FALLS,CALIF (LAT 36 46 58 LONG 118 37 18.01)

AUG , 1978										
22...	7	1.6	.3	6.6	--	.020	.004	.0	4	20
AUG , 1979										
22...	11	1.1	.2	5.3	19	.255	.000	.1	8	10

DATE	TIME	STRE- AM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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364723118403401 - SHEEP CREEK NR CEDAR GROVE,CALIF (LAT 36 47 23 LONG 118 40 34.01)

AUG , 1978											
22...	1550	4.8	41	7.9	12.3	16	--	5.0	.9	4.1	1.5
AUG , 1979											
22...	1045	2.6	52	7.8	9.3	13	0	4.2	.7	2.5	1.0

364732118360601 - GRANITE CREEK NEAR ZUMWALT MEADOWS (LAT 36 47 32 LONG 118 36 06.01)

SEP , 1978											
13...	0815	E20	5	7.0	9.2	2	0	.7	.1	.5	.3
AUG , 1979											
22...	1200	.39	14	7.5	12.2	10	1	3.5	.3	1.6	.7

364754118344801 - COPPER CREEK NEAR ZUMWALT MEADOWS,CALIF (LAT 36 47 54 LONG 118 34 48.01)

SEP , 1978											
12...	1745	E6.0	23	7.3	11.4	9	0	3.0	.4	2.2	.6
AUG , 1979											
22...	1230	--	35	7.8	10.8	21	2	5.9	1.5	4.6	1.1

364809118413901 - LEWIS CREEK AT PARK BOUNDARY,CALIF (LAT 36 48 09 LONG 118 41 39.01)

AUG , 1978											
22...	1525	12	21	7.7	13.5	9	--	2.9	.5	2.5	.5
AUG , 1979											
22...	1015	3.7	34	7.7	9.8	11	0	3.6	.5	2.5	.6

365035118321501 - SOUTH FORK KINGS RIVER IN PARADISE VALLEY,CALIF (LAT 36 50 35 LONG 118 32 15.01)

SEP , 1978											
12...	1445	E100	15	7.0	10.6	8	1	3.0	.1	.6	.4

E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALKA- LINEITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L AS ?)	AT- MOSPHERIC DIOXIDE (MG/L AS ?)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	IRON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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364723118403401 - SHEEP CREEK NR CEPAR GROVE,CALIF (LAT 36 47 23 LONG 118 40 34.01)

AUG , 1978										
22...	25	1.7	.4	24	--	.004	.015	.0	9	60
AUG , 1979										
22...	26	1.4	.2	14	40	.010	.008	.1	10	30

364732118360601 - GRANITE CREEK NEAR ZUMWALT MEADOWS (LAT 36 47 32 LONG 118 36 06.01)

SEP , 1978										
13...	5	1.0	.2	5.4	11	.002	.002	.0	2	260
AUG , 1979										
22...	9	.9	.1	7.8	21	.340	.002	.1	6	<10

364754118344801 - COPPER CREEK NEAR ZUMWALT MEADOWS,CALIF (LAT 36 47 54 LONG 118 34 48.01)

SEP , 1978										
12...	16	1.0	.9	14	32	.002	.004	.0	4	20
AUG , 1979										
22...	19	1.1	.1	19	45	.030	.001	.1	8	30

364809118413901 - LEWIS CREEK AT PARK BOUNDARY,CALIF (LAT 36 48 09 LONG 118 41 39.01)

AUG , 1978										
22...	13	1.8	.3	15	--	.007	.005	.0	6	60
AUG , 1979										
22...	14	1.1	.2	12	29	.020	.001	.1	6	30

365035118321501 - SOUTH FORK KINGS RIVER IN PARADISE VALLEY,CALIF (LAT 36 50 35 LONG 118 32 15.01)

SEP , 1978										
12...	7	3.1	.5	4.4	16	.029	.003	.0	9	10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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365202118303701 - WOODS CREEK NEAR PARADISE VALLEY,CALIF (LAT 36 52 02 LONG 118 30 37.01)

SEP , 1978											
12...	1330	E75	17	6.9	10.1	8	1	3.0	.2	.8	.4

365226118255801 - SOUTH FORK WOODS CREEK NEAR CASTLE DOMES,CALIF (LAT 36 52 26 LONG 118 25 58.01)

SEP , 1978											
12...	1150	E25	18	7.0	10.0	10	3	4.0	.1	.8	.3

365238118260101 - WOODS CREEK NEAR CASTLE DOMES,CALIF (LAT 36 52 38 LONG 118 26 01.01)

SEP , 1978											
12...	1200	F20	20	7.1	8.6	11	6	4.0	.2	.7	.3

365333118320901 - KID CREEK NEAR KID PEAK,CALIF (LAT 36 53 38 LONG 118 32 09.01)

SEP , 1978											
12...	1300	F3.0	4	7.0	11.2	2	0	.8	.0	.5	.2

365453118313301 - SOUTH FORK KINGS RIVER NR DOUGHERTY PEAK (LAT 36 54 53 LONG 118 31 33.01)

SEP , 1978											
12...	1245	F40	13	6.4	8.7	5	0	2.0	.1	.7	.3

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

E Estimated.



MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKALINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLORIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L AS M)	NITROGEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOSPHORUS, DIS- SOLVED (MG/L AS P)	FLUORIDE, DIS- SOLVED (MG/L AS F)	AMMONIA, DIS- SOLVED (UG/L AS N)	IRON, DIS- SOLVED (UG/L AS FE)
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365202118303701 - WOODS CREEK NEAR PARADISE VALLEY,CALIF (LAT 36 52 02 LONG 118 30 37.01)

SEP , 1978										
12...	7	3.0	.5	3.9	16	.019	.003	.1	4	20

365226118255801 - SOUTH FORK WOODS CREEK NEAR CASTLE DOMES,CALIF (LAT 36 52 26 LONG 118 25 58.01)

SEP , 1978										
12...	7	2.6	.3	3.7	16	.022	.003	.0	2	20

365238118260101 - WOODS CREEK NEAR CASTLE DOMES,CALIF (LAT 36 52 38 LONG 118 26 01.01)

SEP , 1978										
12...	5	4.9	.1	4.1	17	.027	.002	.1	2	10

365338118320901 - KID CREEK NEAR KID PEAK,CALIF (LAT 36 53 38 LONG 118 32 09.01)

SEP , 1978										
12...	4	1.4	.2	3.7	9	.004	.004	.0	2	10

365453118313301 - SOUTH FORK KINGS RIVER NR DOUGHERTY PEAK (LAT 36 54 53 LONG 118 31 33.01)

SEP , 1978										
12...	5	3.1	.7	4.0	14	.029	.002	.1	9	10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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365543118444001 - MIDDLE FORK KINGS RIVER NR BLUE CANYON FALLS (LAT 36 55 43 LONG 118 44 40.01)

SEP , 1979											
18...	1720	35	45	7.0	14.9	12	1	3.9	.5	3.0	1.1

365650118403001 - MIDDLE FORK KINGS R BLW SLIDE CREEK (LAT 36 56 50 LONG 118 40 30.01)

SEP , 1979											
18...	1400	35	40	7.1	13.3	10	3	3.5	.3	2.2	.7

365743118382501 - DOUGHERTY CREEK IN SIMPSON MEADOW (LAT 36 57 43 LONG 118 38 25.01)

SEP , 1979											
18...	1210	3.0	37	6.9	11.7	9	0	3.1	.4	2.3	1.1

365808118375901 - HORSESHOE CREEK IN SIMPSON MEADOW (LAT 36 58 08 LONG 118 37 59.01)

SEP , 1979											
18...	1145	.30	40	7.3	10.1	11	0	3.2	.8	2.6	1.0

365845118373601 - MIDDLE FORK KINGS RIVER IN SIMPSON MEADOW (LAT 36 58 45 LONG 118 37 36.01)

SEP , 1979											
18...	1120	20	31	7.1	12.0	8	1	3.1	.0	1.3	.7

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALKA- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
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365543118444001 - MIDDLE FORK KINGS RIVER NR BLUE CANYON FALLS (LAT 36 55 43 LONG 118 44 40.01)

SEP , 1979										
18...	11	5.5	1.7	8.6	31	.029	.004	.1	0	<10

365650118403001 - MIDDLE FORK KINGS R BLW SLIDE CREEK (LAT 36 56 50 LONG 118 40 30.01)

SEP , 1979										
18...	7	6.1	1.3	6.4	25	.020	.003	.1	0	10

365743118382501 - DOUGHERTY CREEK IN SIMPSON MEADOW (LAT 36 57 43 LONG 118 38 25.01)

SEP , 1979										
18...	13	2.6	.3	10	28	.046	.006	.1	9	<10

365808118375901 - HORSESHOE CREEK IN SIMPSON MEADOW (LAT 36 58 08 LONG 118 37 59.01)

SEP , 1979										
18...	14	5.8	.3	15	37	.014	.010	.1	9	<10

365845118373601 - MIDDLE FORK KINGS RIVER IN SIMPSON MEADOW (LAT 36 58 45 LONG 118 37 36.01)

SEP , 1979										
18...	7	5.5	.4	5.0	20	.035	.004	.1	0	10

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
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365922118264801 - SOUTH FORK KINGS RIVER NEAR CARDINAL LAKE, CALIF (LAT 36 59 22 LONG 118 26 48.01)

SEP , 1978											
12...	1230	E20	7	7.1	9.9	8	3	3.0	.1	.4	.3

365952118351001 - CARTRIDGE CREEK NR TRIPLE FALLS (LAT 36 59 52 LONG 118 35 10.01)

SEP , 1979											
18...	0950	8.0	34	6.9	8.7	<8	6	3.3	<.0	1.2	.6

370059118394101 - GODDARD CREEK NR TUNEMAH LAKE (LAT 37 00 59 LONG 118 39 41.01)

SEP , 1979											
18...	1015	7.0	20	7.0	11.2	9	2	3.3	.1	1.1	.3

370102118391901 - DISAPPEARING CREEK NR MT WOODWORTH (LAT 37 01 02 LONG 118 39 19.01)

SEP , 1979											
18...	1030	6.0	44	7.1	7.7	15	7	6.0	.1	1.0	.9

370111118344601 - MIDDLE FORK KINGS RIVER NR DEVILS WASHBOWL (LAT 37 01 11 LONG 118 34 46.01)

SEP , 1979											
18...	0930	30	7	7.2	7.2	9	0	3.4	.1	1.3	.4

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

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLU- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
365922118264801 - SOUTH FORK KINGS RIVER NEAR CARDINAL LAKE,CALIF (LAT 36 59 22 LONG 118 26 48.01)											
SEP , 1978 12...	5	1.9	.2	3.4	12	.017	.002	.0	9	20	
365952118351001 - CARTRIDGE CREEK NR TRIPLE FALLS (LAT 36 59 52 LONG 118 35 10.01)											
SEP , 1979 18...	2	10	.3	5.3	22	.082	.002	.1	4	10	
370059118394101 - GODDARD CREEK NR TUNEMAH LAKE (LAT 37 00 59 LONG 118 39 41.01)											
SEP , 1979 18...	7	5.8	.1	2.9	18	.109	.002	.1	9	<10	
370102118391901 - DISAPPEARING CREEK NR MT WOODWORTH (LAT 37 01 02 LONG 118 39 19.01)											
SEP , 1979 18...	8	8.4	.2	4.6	26	.123	.009	.1	0	<10	
370111118344601 - MIDDLE FORK KINGS RIVER NR DEVILS WASHBOWL (LAT 37 01 11 LONG 118 34 46.01)											
SEP , 1979 18...	10	6.5	.5	3.4	22	.080	.009	.1	7	0	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
370312118342201 - PALISADE CREEK NR GROUSE MEADOWS (LAT 37 03 12 LONG 118 34 22.01)											
SEP , 1979 18...	0900	15	33	7.3	8.0	9	5	3.3	.1	1.6	.5
370539118350701 - DUSY BRANCH NR LE CONTE RANGER STATION (LAT 37 05 39 LONG 118 35 07.01)											
SEP , 1979 18...	0820	7.0	21	7.6	7.1	5	4	2.0	.1	1.2	.4
370555118354601 - MIDDLE FORK KINGS RIVER NR LE CONTE RANGER STA (LAT 37 05 55 LONG 118 35 46.01)											
SEP , 1979 18...	0750	20	23	7.6	6.2	<5	3	1.9	<.0	.8	.3
370847118462601 - SOUTH FORK SAN JOAQUIN RIVER NR. EMERALD PK.,CA (LAT 37 08 47 LONG 118 46 26.01)											
SEP , 1978 11...	1030	F50	12	7.5	4.3	3	0	1.0	.1	.4	.2
371017118424601 - DARWIN CANYON CREEK NEAR EVOLUTION LAKE,CALIF (LAT 37 10 17 LONG 118 42 46.01)											
SEP , 1978 11...	1600	F15	2	7.1	11.7	0	0	.1	.0	.3	.2
< Actual value is known to be less than the value shown. E Estimated.											

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E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

DATE	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	
370312118342201 - PALISADE CREEK NR GROUSE MEADOWS (LAT 37 03 12 LONG 118 34 22.01)											
SEP , 1979 18...	4	6.1	.9	3.7	19	.038	.003	.1	0	10	
370539118350701 - DUSY BRANCH NR LE CONTE RANGER STATION (LAT 37 05 39 LONG 118 35 07.01)											
SEP , 1979 18...	1	5.2	.2	3.0	13	.039	.005	.0	4	20	
370555118354601 - MIDDLE FORK KINGS RIVER NR LE CONTE RANGER STA (LAT 37 05 55 LONG 118 35 46.01)											
SEP , 1979 18...	2	6.1	.2	3.3	14	.060	.002	.1	0	<10	
370847118462601 - SOUTH FORK SAN JOAQUIN RIVER NR. EMERALD PK.,CA (LAT 37 08 47 LONG 118 46 26.01)											
SEP , 1978 11...	4	.9	.2	2.9	8	.043	.004	.0	9	10	
371017118424601 - DARWIN CANYON CREEK NEAR EVOLUTION LAKE,CALIF (LAT 37 10 17 LONG 118 42 46.01)											
SEP , 1978 11...	1	1.0	.2	2.5	5	.177	.003	.0	2	390	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
371025118432101 - EVOLUTION CREEK NEAR EVOLUTION LAKE,CALIF (LAT 37 10 25 LONG 118 43 21.01)											
SEP , 1978 11...	1630	F10	3	7.0	11.6	5	0	2.0	.1	2.0	.3
371033118423501 - MCGEE CANYON CREEK NEAR COLBY MEADOW,CALIF (LAT 37 10 33 LONG 118 42 35.01)											
SEP , 1978 11...	1715	E.50	14	7.0	10.7	1	0	.4	.1	.6	.2
371123118473601 - SOUTH FORK SAN JOAQUIN RIVER NR EVOLUTION VLY (LAT 37 11 23 LONG 118 47 36.01)											
SEP , 1978 11...	1115	E150	3	7.4	5.6	3	0	1.0	.0	.7	.2
371127118454201 - EVOLUTION CREEK NEAR EVOLUTION MEADOW,CALIF (LAT 37 11 27 LONG 118 45 42.01)											
SEP , 1978 11...	1415	E35	3	7.2	10.6	3	0	1.0	.1	.7	.2
371212118480001 - SOUTH FORK SAN JOAQUIN RIVER NR MT HENRY,CALIF (LAT 37 12 12 LONG 118 48 00.01)											
SEP , 1978 11...	1130	F175	1	7.0	5.8	1	0	.4	.1	.2	.2
< Actual value is known to be less than the value shown. E Estimated.											

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E Estimated.

MISCELLANEOUS WATER-QUALITY ANALYSES OF STREAMS IN  
SEQUOIA AND KINGS CANYON NATIONAL PARKS, WATER YEARS 1978 AND 1979

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DATE	ALKA- LINIT (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)
371025118432101 - EVOLUTION CREEK NEAR EVOLUTION LAKE,CALIF (LAT 37 10 25 LONG 118 43 21.01)										
SEP , 1978 11...	9	2.0	.4	9.8	22	.148	.002	.1	30	10
371033118423501 - MCGEE CANYON CREEK NEAR COLBY MEADOW,CALIF (LAT 37 10 33 LONG 118 42 35.01)										
SEP , 1978 11...	3	.9	.2	3.6	8	.078	.001	.1	2	20
371123118473601 - SOUTH FORK SAN JOAQUIN RIVER NR EVOLUTION VLY (LAT 37 11 23 LONG 118 47 36.01)										
SEP , 1978 11...	3	1.3	.1	3.6	9	.044	.002	.0	2	10
371127118454201 - EVOLUTION CREEK NEAR EVOLUTION MEADOW,CALIF (LAT 37 11 27 LONG 118 45 42.01)										
SEP , 1978 11...	3	1.0	.2	4.2	9	.458	.004	.1	10	50
371212118480001 - SOUTH FORK SAN JOAQUIN RIVER NR MT HENRY,CALIF (LAT 37 12 12 LONG 118 48 00.01)										
SEP , 1978 11...	3	1.6	.2	3.6	8	.031	.003	.0	9	20

## GROUND-WATER LEVELS

San Joaquin County

## Victor area

SITE NUMBER 380717121114501 LOCAL NUMBER 003N007E10L04M

0.8 MI SOUTHEAST OF VICTOR. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN 0-121 FT, 10 IN 121-190 FT, DEPTH 190 FT, CASSED TO 190 FT. ALTITUDE OF LSD 73 FT. MEASUREMENTS FURNISHED BY DWR. 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 18, 1978	88.2	JAN 02, 1979	84.2	APR 16, 1979	81.6	JUL 09, 1979	95.4
NOV 07	87.1	FEB 06	83.0	MAY 02	85.0	AUG 09	96.5
DEC 06	85.2	MAR 07	82.0	JUN 07	91.8		

## Tracy area

SITE NUMBER 374335121253301 LOCAL NUMBER 002S005E28P01M

.3 MI WEST OF TRACY. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6.5 IN, DEPTH 119 FT, CASSED TO 119 FT, PERFORATED 109-119 FT. ALTITUDE OF LSD 72 FT. MEASUREMENTS FURNISHED BY DWR. 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 06, 1978	24.	MAR 22, 1979	25.5

Stanislaus County

## Ripon area

SITE NUMBER 374040121083701 LOCAL NUMBER 003S007E13A01M

4.4 MI SOUTHWEST OF RIPON. DOMESTIC WATER-TABLE IN ALLUVIUM. DIAMETER 16 IN, DEPTH 198 FT, CASSED TO 198 FT. ALTITUDE OF LSD 41 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1937 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.2 FEET BELOW LAND SURFACE DATUM MAR. 3, 1969.

LOWEST WATER LEVEL 7.5 FEET BELOW LAND SURFACE DATUM APR. 18, 1958.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 1978	7.0	MAR 1979	4.6

Tuolumne County

## Dos Palos area

SITE NUMBER 365926120422201 LOCAL NUMBER 011S012E07E02M

1 MI WEST OF DOS PALOS. HYDRAULIC ROTARY INDUSTRIAL WATER-TABLE WELL IN ALLUVIUM, DIAM 10 IN, DEPTH 488 FT, CASSED TO 488 FT, PERFORATED 388-488 FT. ALTITUDE OF LSD 109 FT. MEASUREMENTS FURNISHED BY DWR, USBR. 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
MAR 14, 1979	1.6

## GROUND-WATER LEVELS

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Merced County

## Atwater area

SITE NUMBER 372030120371301 LOCAL NUMBER 007S012E11G01M

0.4 MI SOUTHWEST OF ATWATER. CABLETOOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN 4-100 FT. 14 IN 100-220 FT. DEPTH 220 FT. CASSED TO 220 FT. PERFORATED 177-217 FT. ALTITUDE OF LSD 146 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 29.4 FEET BELOW LAND SURFACE DATUM FEB. 26, 1979.

LOWEST WATER LEVEL 99.3 FEET BELOW LAND SURFACE DATUM AUG 29, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 02, 1978	32.3	FEB 26, 1979	29.4	MAY 30, 1979	33.2	AUG 28, 1979	42.4
30	30.7	MAR 29	29.5	JUN 29	38.2	SEP 27	34.8
FEB 02, 1979	30.3	APR 25	32.2	AUG 01	39.9		

SITE NUMBER 372020120383501 LOCAL NUMBER 007S012E10F02M

0.1 MI SOUTHWEST OF ATWATER. CABLETOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH 55 FT. ALTITUDE OF LSD 145 FT. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 26.2 FEET BELOW LAND SURFACE DATUM DEC 01, 1976.

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
NOV 02, 1978	30.15	FEB 01, 1979	29.25	APR 25, 1979	28.8	AUG 01, 1979	32.6
30	32.63	26	29.2	MAY 30	29.2		
DEC 27	29.62	MAR 29	28.8	JUN 29	38.4		

Madera County

## Dairyland area

SITE NUMBER 370223120204501 LOCAL NUMBER 010S015E29A01M

0.3 MI NORTH OF DAIRYLAND. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 114 FT. CASSED TO 114 FT. ALTITUDE OF LSD 177 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1941 TO CURRENT YEAR.

HIGHEST WATER LEVEL 37.8 FEET BELOW LAND SURFACE DATUM APR 01, 1943.

LOWEST WATER LEVEL 125. FEET BELOW LAND SURFACE DATUM OCT 11, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 04, 1978	98.5

SITE NUMBER 365533120181301 LOCAL NUMBER 011S015E35P01M

1.7 MI SOUTHEAST OF DAIRYLAND. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN. ALTITUDE OF LSD 170 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 32.1 FEET BELOW LAND SURFACE DATUM OCT 14, 1959.

LOWEST WATER LEVEL 163.0 FEET BELOW LAND SURFACE DATUM OCT 03, 1978.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1978	163.0	SEP 17, 1979	88.0

## GROUND-WATER LEVELS

Fresno County  
Dos Palos area

SITE NUMBER 365325120391505 LOCAL NUMBER 012S012E16H06M

4.4 MILES SOUTHWEST OF SOUTH DOS PALOS. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 926 FT, CASED TO 926 FT, PERFORATED 770-926 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE 1960 TO CURRENT YEAR.

HIGHEST WATER LEVEL 150.0 FEET BELOW LAND SURFACE DATUM SEP 18, 1979.

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
OCT 17, 1978	158.4	MAR 13, 1979	153.	JUL 16, 1979	150.8	SEP 18, 1979	150.0
JAN 09, 1979	154.1	MAY 15	151.5				

SITE NUMBER 365325120391504 LOCAL NUMBER 012S012E16H05M

4.4 MILES SOUTHWEST OF SOUTH DOS PALOS. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN, DEPTH 720 FT, CASED TO 720 FT, PERFORATED 670-712 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 118. FEET BELOW LAND SURFACE DATUM JUL 07, 1976.

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
OCT 17, 1978	126.7	MAR 13, 1979	123.6	JUL 16, 1979	121.2	SEP 18, 1979	121.0
JAN 09, 1979	125.	MAY 15	122.3	SEP 08	121.0		

Biola area

SITE NUMBER 364734120060101 LOCAL NUMBER 013S017E22B01M

1.1 MILES WEST OF BIOLA. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 90 FT, CASED TO 90 FT. ALTITUDE OF LSD 221 FT. MEASUREMENTS FURNISHED BY DWR. 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
FEB 01, 1979	45.7

Mendota area

SITE NUMBER 364536120184301 LOCAL NUMBER 013S015E35D05M

4.4 MILES EAST OF MENDOTA. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN, DEPTH 433 FT, CASED TO 433 FT, PERFORATED 373-433 FT. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE AUG. 1960 TO CURRENT YEAR.

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
OCT 17, 1978	45.5	DEC 30, 1978	41.2	JUL 17, 1979	77.2	SEP 18, 1979	60.0
NOV 30	42.1	JAN 10, 1979	37.9				



## GROUND-WATER LEVELS

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Fresno County--Continued

## Mendota area--Continued

SITE NUMBER 364535120184701 LOCAL NUMBER 013S015E35D03M

1.2 MI EAST OF MENDOTA. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 1 IN. DEPTH 735 FT, CASSED TO 735 FT, PERFORATED 460-735 FT. ALTITUDE OF LSD 166 FT. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 80. FEET BELOW LAND SURFACE DATUM DEC 29, 1966.

LOWEST WATER LEVEL 129.2 FEET BELOW LAND SURFACE DATUM OCT 16, 1962.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1978	121.0	JAN 24, 1979	106.4	SEP 18, 1979	114.0

SITE NUMBER 364358120314906 LOCAL NUMBER 014S013E11D06M

7.6 MILES EAST OF MENDOTA. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 1358 FT, CASSED TO 1358 FT, PERFORATED 1133-1196 FT. ALTITUDE OF LSD 284 FT. RECORDS AVAILABLE 1961 TO CURRENT YEAR. RECORDER INSTALLED 1961.

HIGHEST WATER LEVEL 334.8 FEET BELOW LAND SURFACE DATUM SEPT 18, 1979.

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 17, 1978	341.1	DEC 30, 1978	335.4	MAR 13, 1979	342.5	JUL 16, 1979	338.6
NOV 30	336.7	JAN 09, 1979	335.6	MAY 15	337.8	SEP 18	334.8

SITE NUMBER 364340120361201 LOCAL NUMBER 014S012E12H01M

12.8 MILES EAST OF MENDOTA. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 936 FT, CASSED TO 936 FT, PERFORATED 740-936 FT. ALTITUDE OF LSD 338 FT. RECORDS AVAILABLE OCT. 1964 TO CURRENT YEAR. RECORDER INSTALLED OCT. 1964.

HIGHEST WATER LEVEL 400.1 FEET BELOW LAND SURFACE DATUM FEB 11, 1977.

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 17, 1978	421.3	DEC 20, 1978	414.3	MAR 13, 1979	420.3	JUL 16, 1979	411.4
NOV 20	418.3	JAN 09, 1979	412.3	MAY 15	412.6	SEP 18	407.0

SITE NUMBER 363851120313901 LOCAL NUMBER 015S013E11D02M

10.4 MILES SOUTHWEST OF MENDOTA. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 6 IN. DEPTH 960 FT, CASSED TO 960 FT, PERFORATED 900-960 FT. ALTITUDE OF LSD 346 FT. RECORDS AVAILABLE NOV. 1964 TO CURRENT YEAR. RECORDER INSTALLED 1964.

HIGHEST WATER LEVEL 397.1 FEET BELOW LAND SURFACE DATUM JAN 11, 1977.

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 17, 1978	417.7	DEC 30, 1978	410.9	MAR 13, 1979	409.2	JUL 17, 1979	414.8
NOV 30	411.9	JAN 09, 1979	409.8	MAY 15	405.4	SEP 18	408.5

## GROUND-WATER LEVELS

Fresno County--Continued  
Del Ray area

SITE NUMBER 363801119321701 LOCAL NUMBER 015S022E14A01M

0.7 MI SOUTHEAST OF DEL RAY. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH 63.3 FT. ALTITUDE OF LSD 348 FT. MEASUREMENTS FURNISHED BY DWR. 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
FEB 01, 1979	34.3

Cantua Creek area

SITE NUMBER 362913120195701 LOCAL NUMBER 016S015E34N04M

1.2 MILES WEST OF CANTUA CREEK. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 1130 FT. CASED TO 1130 FT. PERFORATED 1052-1112 FT. ALTITUDE OF LSD 334 FT. RECORDS AVAILABLE AUG. 1960 TO CURRENT YEAR. RECORDER INSTALLED 1960.

HIGHEST WATER LEVEL 352.7 FEET BELOW LAND SURFACE DATUM NOV 30, 1976.

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 17, 1978	389.4	DEC 31, 1978	371.8	MAR 13, 1979	375.5	JUL 17, 1979	395.4
NOV 30	378.6	JAN 09, 1979	376.9	MAY 15	373.1	SEP 18	379.3

SITE NUMBER 362913120195601 LOCAL NUMBER 016S015E34N05M

1.2 MILES WEST OF CANTUA CREEK. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 4 IN. DEPTH 300 FT. CASED TO 300 FT. PERFORATED 240-300 FT. ALTITUDE OF LSD 334 FT. RECORDS AVAILABLE 1960 TO CURRENT YEAR.

HIGHEST WATER LEVEL 172.1 FEET BELOW LAND SURFACE DATUM JAN 09, 1979.

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
OCT 17, 1978	172.8	JAN 09, 1979	172.1

SITE NUMBER 362645120183401 LOCAL NUMBER 017S015E14Q01M

2.4 MILES SOUTH OF CANTUA CREEK. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 10 IN. DEPTH 2315 FT. CASED TO 2315 FT. PERFORATED 1064-1094 FT. ALTITUDE OF LSD 342 FT. RECORDS AVAILABLE 1969 TO CURRENT YEAR. RECORDER INSTALLED 1969.

HIGHEST WATER LEVEL 366.0 FEET BELOW LAND SURFACE DATUM OCT 31, 1976.

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 18, 1978	416.7	DEC 31, 1978	382.9	MAR 13, 1979	387.7	JUL 17, 1979	413.2
NOV 30	394.4	JAN 09, 1979	377.6	MAY 15	396.2	SEP 18	383.3

## GROUND-WATER LEVELS

407

Fresno County--Continued

Oilfield area

SITE NUMBER 361935120134501 LOCAL NUMBER 0185016E33A01M

7.2 MILES NORTHEAST OF OILFIELD. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 8 IN. DEPTH 1070 FT. CASSED TO 1070 FT. PERFORATED 858-1070 FT. ALTITUDE OF LSD 320 FT. RECORDS AVAILABLE OCT. 1964 TO CURRENT YEAR.

HIGHEST WATER LEVEL 346.1 FEET BELOW LAND SURFACE DATUM OCT 06, 1976.

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
OCT 18, 1978	377.4	MAR 14, 1979	359.	JUL 18, 1979	358.0	SEP 19, 1979	355.6
JAN 10, 1979	370.6	MAY 15	357.9				

Huron area

SITE NUMBER 361334120035101 LOCAL NUMBER 020S018E06D01M

2.8 MILES NORTHEAST OF HURON. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 6 IN. DEPTH 1007 FT. CASSED TO 1007 FT. PERFORATED 720-1007 FT. ALTITUDE OF LSD 324 FT. RECORDS AVAILABLE DEC. 1964 TO CURRENT YEAR. RECORDER INSTALLED 1964.

HIGHEST WATER LEVEL 342.7 FEET BELOW LAND SURFACE DATUM OCT 31, 1976.

LOWEST WATER LEVEL 596.3 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
OCT 18, 1978	379.	DEC 31, 1978	413.	MAY 16, 1979	405.5
31	372.5	JAN 10, 1979	421.1	JUL 18	406.4
NOV 30	384.	MAR 14	384.6	SEP 19	380.7

Westhaven area

SITE NUMBER 361156119585503 LOCAL NUMBER 020S018E11Q03M

2.0 MILES SOUTHEAST OF WESTHAVEN. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 4 IN. DEPTH 1930 FT. CASSED TO 1930 FT. PERFORATED 1885-1925 FT. ALTITUDE OF LSD 268 FT. RECORDS AVAILABLE APR 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 220.9 FEET BELOW LAND SURFACE DATUM JAN 04, 1977.

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
OCT 18, 1978	297.2	MAR 14, 1979	264.	JUL 30, 1979	257.4	SEP 19, 1979	252.8
JAN 10, 1979	270.4	MAY 16	265.3				

SITE NUMBER 361156119585501 LOCAL NUMBER 020S018E11Q01

2.0 MILES SOUTHEAST OF WESTHAVEN. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 4 IN. DEPTH 710 FT. CASSED TO 710 FT. PERFORATED 650 TO 710 FT. ALTITUDE OF LSD 268 FT. RECORDS AVAILABLE SEPT. 1958 TO CURRENT YEAR.

HIGHEST WATER LEVEL 256.9 FEET BELOW LAND SURFACE DATUM JAN 04, 1977.

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
OCT 18, 1978	304.4	MAR 14, 1979	280.5	JUL 18, 1979	280.6	SEP 19, 1979	275.7
JAN 10, 1979	280.4	MAY 16	282.5				

## GROUND-WATER LEVELS

Kings County  
Lanare area

SITE NUMBER 362036119555302 LOCAL NUMBER 018S019E20P02M

6 MILES SOUTH OF LANARE, HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 577 FT, CASSED TO 577 FT, PERFORATED 497-537 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE MAR. 1967 TO CURRENT YEAR. RECORDER INSTALLED MARCH 1967.

HIGHEST WATER LEVEL 132.8 FEET BELOW LAND SURFACE DATUM JAN 07, 1975.

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
OCT 18, 1978	152.5	DEC 31, 1978	138.7	MAY 16, 1979	145.6
31	150.	JAN 10, 1979	139.4	JUL 18	160.4
NOV 30	142.2	MAR 14	148.2	SEP 19	149.2

SITE NUMBER 362036119555301 LOCAL NUMBER 018S019E20P01M

6 MILES SOUTH OF LANARE, HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 695 FT, CASSED TO 695 FT, PERFORATED 647-687 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE MAR. 1967 TO CURRENT YEAR. RECORDER INSTALLED MARCH 1967.

HIGHEST WATER LEVEL 141.5 FEET BELOW LAND SURFACE DATUM JAN 31, 1975.

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
OCT 18, 1978	171.	DEC 31, 1978	157.	MAY 16, 1979	147.6
31	168.6	JAN 10, 1979	155.8	JUL 18	153.0
NOV 30	162.1	MAR 14	156.6	SEP 19	151.9

SITE NUMBER 362035119555203 LOCAL NUMBER 018S019E20P03M

6 MILES SOUTH OF LANARE, HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 4 IN, DEPTH 222 FT, CASSED TO 222 FT, PERFORATED 200-222 FT. ALTITUDE OF LSD 222 FT. RECORDS AVAILABLE OCT. 1972 TO CURRENT YEAR. RECORDER INSTALLED SEP. 1972.

HIGHEST WATER LEVEL 121.4 FEET BELOW LAND SURFACE DATUM JAN 07, 1975.

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 18, 1978	128.2	DEC 29, 1978	124.5	MAR 14, 1979	126.1	JUL 18, 1979	128.3
NOV 30	125.9	JAN 10, 1979	124.8	MAY 16	125.3	SEP 19	125.8

Hanford area

SITE NUMBER 361847119352401 LOCAL NUMBER 019S022E04B01M

0.7 MI SOUTHEAST OF HANFORD, HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 173 FT, CASSED TO 173 FT. ALTITUDE OF LSD 245 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1963 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
FEB 06, 1979	95.8

## GROUND-WATER LEVELS

409

Kings County--Continued  
Kettleman City area

SITE NUMBER 360027119574201 LOCAL NUMBER 022S019E18P02M

KETTLEMAN CITY, HYDRAULIC ROTARY PUBLIC SUPPLY WATER-TABLE WELL IN ALLUVIUM, DIAM 10 IN, DEPTH 410 FT, CASSED TO 410 FT, PERFORATED 309-329 FT AND 356-377 FT. ALTITUDE OF LSD 255 FT. MEASUREMENTS FURNISHED BY DWR. 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 06, 1979	168.0	JAN 16, 1979	166.0	SEP 12, 1979	195.0

Tulare County  
Ocotol area

SITE NUMBER 361002119212601 LOCAL NUMBER 020S024E27C01M

0.7 MI NORTHWEST OF OCTOL, IRRIGATION WATER-TABLE WELL IN ALLUVIUM, DIAM UNKNOWN, DEPTH UNKNOWN. ALTITUDE OF LSD 265 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 68.5 FEET BELOW LAND SURFACE DATUM JAN 25, 1979.

LOWEST WATER LEVEL 108.5 FEET BELOW LAND SURFACE DATUM OCT 06, 1977.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1978	71.0	JAN 25, 1979	68.5	SEP 27, 1979	69.0

SITE NUMBER 360931119223401 LOCAL NUMBER 020S024E28L01M

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 DWR. RECORDS AVAILABLE 1973 TO CURRENT YEAR.

HIGHEST WATER LEVEL 65. FEET BELOW LAND SURFACE DATUM OCT 04, 1974.

LOWEST WATER LEVEL 112.5 FEET BELOW LAND SURFACE DATUM OCT 08, 1976.

## WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1978	83.5	JAN 24, 1979	74.5	SEP 27, 1979	79.0

## Jovista area

SITE NUMBER 354805119105701 LOCAL NUMBER 024S026E32G01M

0.3 MI WEST OF JOVISTA, CABLE-TOOL UNUSED WATER-TABLE WELL IN ALVM. DIAM 16 IN, DEPTH 470 FT, CASSED TO 470 FT. ALTITUDE OF LSD 397 FT. MEASUREMENTS FURNISHED BY DWR. 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	DATE	WATER LEVEL
OCT 04, 1978	140.0	JAN 23, 1979	137.0	SEP 20, 1979	137.0

## GROUND-WATER LEVELS

## Tulare County--Continued

## Terra Bella area

SITE NUMBER 355933119062001 LOCAL NUMBER 022S027E30D02M

3.6 MI NORTHWEST OF TERRA BELLA. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM.  
DIAM 10.75 IN, DEPTH 1246 FT, CASED TO 1246 FT, PERFORATED 1083-1207 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 19, 1978	264.3	DEC 31, 1978	241.	MAR 15, 1979	224.6	JUL 31, 1979	333.5
NOV 30	251.2	JAN 11, 1979	237.8	MAY 16	279.7	SEP 20	313.9

## Pixley area

SITE NUMBER 355523119170603 LOCAL NUMBER 023S025E16N04M

2.4 MILES SOUTH OF PIXLEY. ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 8 IN, DEPTH 250  
FT, CASED TO 250 FT, PERFORATED 200-240 FT. RECORDS AVAILABLE JUNE 1959 TO CURRENT YEAR. RECORDER  
INSTALLED 1959.

HIGHEST WATER LEVEL 77.1 FEET BELOW LAND SURFACE DATUM JAN 07, 1975.

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 19, 1978	84.5	DEC 31, 1978	81.1	MAR 15, 1979	80.7	JUL 19, 1979	83.0
NOV 30	82.	JAN 11, 1979	80.7	MAY 16	79.9	SEP 19	81.5

SITE NUMBER 355523119170602 LOCAL NUMBER 023S025E16N03M

2.4 MILES SOUTH OF PIXLEY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 8 IN, DEPTH 430 FT, CASED  
TO 430 FT, PERFORATED 360-420 FT. ALTITUDE OF LSD 267 FT. RECORDS AVAILABLE JUNE 1959 TO CURRENT  
YEAR. RECORDER INSTALLED 1959.

HIGHEST WATER LEVEL 128.8 FEET BELOW LAND SURFACE DATUM FEB 09, 1970.

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 19, 1978	159.4	DEC 31, 1978	140.3	MAR 15, 1979	142.3	JUL 19, 1979	202.9
NOV 30	148.3	JAN 11, 1979	135.5	MAY 16	147.4	SEP 19	181.9

## Jovista area

SITE NUMBER 354800119090501 LOCAL NUMBER 024S026E34F01M

0.8 MILES EAST OF JOVISTA. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAMETER 16 IN,  
DEPTH 1522 FT, CASED TO 1522 FT, PERFORATED 400-1522 FT. ALTITUDE OF LSD 445 FT. RECORDS AVAILABLE  
OCT. 1957 TO CURRENT YEAR. RECORDER INSTALLED 1957.

HIGHEST WATER LEVEL 193.1 FEET BELOW LAND SURFACE DATUM FEB 28, 1975.

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 19, 1978	213.8	DEC 31, 1978	207.1	MAR 15, 1979	203.7	JUL 19, 1979	219.5
NOV 30	210.1	JAN 11, 1979	205.2	MAY 16	209.4	SEP 19	209.8

## GROUND-WATER LEVELS

411

Kern County  
Lost Hills area

SITE NUMBER 353216119370401 LOCAL NUMBER 0275022E32H01M

1.6 MI SOUTHWEST OF LOST HILLS. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 468 FT, CASSED TO 468 FT. ALTITUDE OF LSD 241 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1949 TO CURRENT YEAR.

HIGHEST WATER LEVEL 13. FEET BELOW LAND SURFACE DATUM DEC 15, 1953.

LOWEST WATER LEVEL 153. FEET BELOW LAND SURFACE DATUM SEP 25, 1975.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1979	114.0	SEP 28, 1979	120.0

## Dow area

SITE NUMBER 352841119101303 LOCAL NUMBER 028S026E21H03M

0.4 MI NORTHEAST OF DOW. HYDRAULIC ROTARY UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 1 IN. DEPTH 800 FT, CASSED TO 800 FT, OPEN END. ALTITUDE OF LSD 391 FT. MEASUREMENTS FURNISHED BY DWR. 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 23, 1979	249.5	SEP 26, 1979	262.5

SITE NUMBER 352841119101301 LOCAL NUMBER 028S026E21H01M

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 USBR. 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	DATE	WATER LEVEL
OCT 02, 1978	184.0	JAN 23, 1979	168.5	SEP 26, 1979	177.5

## Rosedale area

SITE NUMBER 352511119145701 LOCAL NUMBER 029S025E12M03M

1.4 MI NORTHWEST OF ROSEDALE. HYDRAULIC ROTARY UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 1 IN, DEPTH 670 FT, CASSED TO 670 FT, PERFORATED 480-670 FT. ALTITUDE OF LSD 331 FT. 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	DATE	WATER LEVEL
OCT 02, 1978	208.0	JAN 23, 1979	199.5

## GROUND-WATER LEVELS

Kern County--Continued

## Buttonwillow area

SITE NUMBER 352228119295201 LOCAL NUMBER 029S023E27M01M

0.4 MILES SOUTHWEST OF BUTTONWILLOW. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 300 FT. CASSED TO 300 FT. PERFORATED 108-162 AND 168-300 FT. ALTITUDE OF LSD 270 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1953 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.2 FEET BELOW LAND SURFACE DATUM FEB 01, 1953.

LOWEST WATER LEVEL 72.5 FEET BELOW LAND SURFACE DATUM OCT 12, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11, 1978	67.0	JAN 22, 1979	63.5

## Lamont area

SITE NUMBER 351653118593301 LOCAL NUMBER 030S028E32B01M

1.3 MI WEST OF LAMONT. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 441 FT. CASSED TO 441 FT. PERFORATED 108-116; 300-308; 346-352 FT. ALTITUDE OF LSD 354 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1940 TO CURRENT YEAR.

HIGHEST WATER LEVEL 6.3 FEET BELOW LAND SURFACE DATUM OCT 16, 1945.

LOWEST WATER LEVEL 160.0 FEET BELOW LAND SURFACE DATUM JAN 16, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1978	119.0	JAN 16, 1979	160.0	SEP 25, 1979	118.4

## Weed Patch area

SITE NUMBER 350720118532401 LOCAL NUMBER 032S028E23R01M

1.7 MI SOUTH OF WEED PATCH. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH 815 FT. ALTITUDE OF LSD 387 FT. MEASUREMENTS FURNISHED BY DWR. 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 17, 1978	255.5	FEB 05, 1979	233.1

## Wheeler Ridge area

SITE NUMBER 350436119061901 LOCAL NUMBER 011N021W03B01S

9.6 MILES NORTHWEST OF WHEELER RIDGE. HYDRAULIC ROTARY. OBSR. WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 1477 FT. CASSED TO 1477 FT. PERFORATED 1037-1237 FT. ALTITUDE OF LSD 435 FT. RECORDS AVAILABLE APR. 1963 TO CURRENT YEAR. RECORDER INSTALLED 1963.

HIGHEST WATER LEVEL 367.8 FEET BELOW LAND SURFACE DATUM SEP 20, 1979.

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 19, 1978	378.9	DEC 30, 1978	376.5	MAR 16, 1979	374.3	JUL 20, 1979	368.7
NOV 30	377.7	JAN 12, 1979	373.7	MAY 17	370.0	SEP 20	367.8



## QUALITY OF GROUND WATER

413

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Stanislaus County

## Ripon area

Station number 374040121083701 Local identifier 003S007E13A01M

DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
AUG 07...	0930	198	784	7.4	18.5	210	0	57	17	77

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
AUG 07...	53	2.3	81	3.6	213	20	79	.1	51

DATE	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)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
AUG 07...	477	544	.65	25	.07	0	190	<10	<1

San Joaquin County

## Turner area

Station number 375003121121901 Local identifier 001S007E21G01M

DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUN 13...	1700	85	339	7.7	130	35	32	12	28

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	BORON, DIS- SOLVED (UG/L AS B)
JUN 13...	31	1.1	4.2	95	42	7.0	311	236	100

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

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

San Joaquin County--Continued

Vernalis area

Station number 374223121250601 Local identifier 003S005E04H01M

DATE	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)
JUN 12...	120	1250	7.7	22.0	390	100	33	92	34	2.0	3.9	190

DATE	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 SI02)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN 12...	110	200	.2	35	798	5.9	.00	0	1	1400	10	0

Station number 374016121193701 Local identifier 003S006E17K01M

DATE	TIME	DEPTH OF WELL, TOTAL (FEET)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUN 13...	1245	156	846	7.7	19.4	280	110	74

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BORON, DIS- SOLVED (UG/L AS B)
JUN 13...	39	2.2	2.0	160	140	76	583	524	900

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## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). 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 (m <sup>2</sup> )
	$4.047 \times 10^{-1}$	square hectometers (hm <sup>2</sup> )
	$4.047 \times 10^{-3}$	square kilometers (km <sup>2</sup> )
square miles (mi <sup>2</sup> )	$2.590 \times 10^0$	square kilometers (km <sup>2</sup> )
<i>Volume</i>		
gallons (gal)	$3.785 \times 10^0$	liters (L)
	$3.785 \times 10^0$	cubic decimeters (dm <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic meters (m <sup>3</sup> )
million gallons	$3.785 \times 10^3$	cubic meters (m <sup>3</sup> )
	$3.785 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
cubic feet (ft <sup>3</sup> )	$2.832 \times 10^1$	cubic decimeters (dm <sup>3</sup> )
	$2.832 \times 10^{-2}$	cubic meters (m <sup>3</sup> )
cfs-days	$2.447 \times 10^3$	cubic meters (m <sup>3</sup> )
	$2.447 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
acre-feet (acre-ft)	$1.233 \times 10^3$	cubic meters (m <sup>3</sup> )
	$1.233 \times 10^{-3}$	cubic hectometers (hm <sup>3</sup> )
	$1.233 \times 10^{-6}$	cubic kilometers (km <sup>3</sup> )
<i>Flow</i>		
cubic feet per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$	liters per second (L/s)
	$2.832 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$2.832 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /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 (dm <sup>3</sup> /s)
	$6.309 \times 10^{-5}$	cubic meters per second (m <sup>3</sup> /s)
million gallons per day	$4.381 \times 10^1$	cubic decimeters per second (dm <sup>3</sup> /s)
	$4.381 \times 10^{-2}$	cubic meters per second (m <sup>3</sup> /s)
<i>Mass</i>		
tons (short)	$9.072 \times 10^{-1}$	megagrams (Mg) or metric tons

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