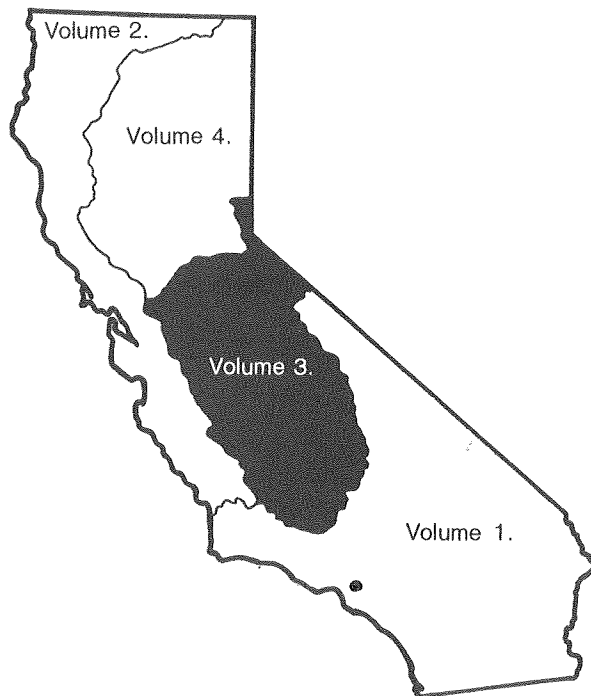


# Water Resources Data California Water Year 1984

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



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-84-3  
Prepared in cooperation with the California Department of  
Water Resources and with other agencies

# CALENDAR FOR WATER YEAR 1984

1983

## OCTOBER

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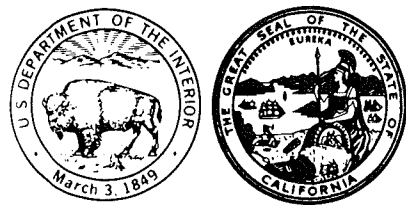
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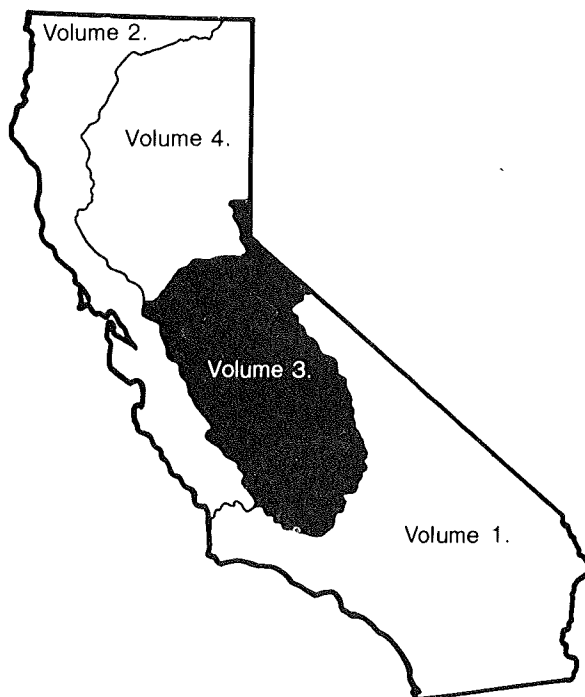
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# Water Resources Data California Water Year 1984

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

by R.P. Fogelman, T.C. Hunter, J.R. Mullen, R.G. Simpson, D.A. Gr



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-84-3  
Prepared in cooperation with the California Department of  
Water Resources and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in California write to  
District Chief, Water Resources Division  
U.S. Geological Survey  
Room W-2235, Federal Building  
2800 Cottage Way  
Sacramento, California 95825



## PREFACE

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

- Volume 1. Southern Great Basin from Mexican Border to Mono Lake Basin, and Pacific Slope Basins from Tijuana River to Santa Maria River
- Volume 2. Pacific Slope Basins from Arroyo 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

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

This report was prepared in cooperation with the California Department of Water Resources and with other agencies under the general supervision of Gilbert L. Bertoldi, District Chief, California.

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<b>15. Supplementary Notes</b> Prepared in cooperation with the California Department of Water Resources and with other agencies.			
<b>16. Abstract (Limit: 200 words)</b>  Water resources data for the 1984 water year for California consists of records of stage, discharge, and water quality of streams; stage and contents in lakes and reservoirs; and water levels and water quality in wells. Volume 3 contains discharge records for 126 gaging stations; stage and contents for 36 lakes and reservoirs; gage height records for two lakes; water quality for 9 streams and 40 wells; water levels for 53 observation wells. Also included are 2 crest-stage partial-record stations and 27 water-quality partial-record stations. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in California.			
<b>17. Document Analysis. a. Descriptors</b>  *California, *Hydrologic data, *Surface water, *Water quality, *Ground water, Flow rate, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediment, Water temperatures, Sampling sites, Water levels, Water analyses  <b>b. Identifiers/Open-Ended Terms</b>    <b>c. COSATI Field/Group</b>			
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WATER RESOURCES DIVISION

California District

E. Jerre McClelland, Assistant District Chief for Hydrologic Data

Kenneth W. Lee, Operations Chief, Northern California

Richard M. Adorador, Hydrologic Technician  
Allan J. Asquith, Hydrologic Technician  
Geraldine Block, Hydrologic Clerk  
Michael J. Dai, Hydrologic Technician  
William E. Faulkender, Hydrologic Technician  
Henry C. French, Hydrologic Technician  
Verne L. Gamble, Supervisory Hydrologic Technician  
Lois M. Griffin, Computer Technician  
Thomas Hankins, Hydrologic Technician  
Jerry G. Harmon, Hydrologist  
Gail L. Keeter, Hydrologic Technician  
Byron R. Laurence, Hydrologic Technician  
Rodd C. Lindberg, Hydrologic Technician  
Gary A. Maxwell, Hydrologic Technician  
Gerald L. Rockwell, Hydrologic Technician  
Timothy Segraves, Hydrologic Technician  
John Evan M. Shay, Hydrologic Technician  
M. Kathy Shay, Computer Technician  
Michael R. Simpson, Electronics Technician  
Jerry R. Smithson, Hydrologic Technician  
Robert H. Taylor, Hydrologic Technician  
Teresa M. Templin, Clerk Typist  
Donald E. Underwood, Hydrologic Technician  
Barbara Van Ummerson, Hydrologic Clerk  
Lisa M. Wulfert, Hydrologic Clerk

Stuart H. Hoffard, Hydrologist  
Rick T. Iwatsubo, Biologist



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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 DATA FOR CALIFORNIA, 1984

## Volume 3

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### INTRODUCTION

Water-resources data for the 1984 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, 604 South Pickett Street, Alexandria, Virginia, 22304.

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-84-3." For archiving and general distribution, the reports for water years 1971-74 are also identified as water-data reports. Water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

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

## COOPERATION

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

California Department of Health Services, Dr. John Gaston, Sanitary-Engineering Department.

California Department of Water Resources, David N. Kennedy, Director.

California State Water Resources Control Board, John M. Youngerman, Chief Surveillance and Monitoring Section.

East Bay Municipal Utility District, Jerome B. Gilbert, General Manager.

El Dorado County Water Agency, Thomas L. Stewart, Chairman, Board of Supervisors.

Fresno County, Richard D. Wilton, Director.

Fresno County Metropolitan Flood Control District, Doug Harrison, General Manager-Secretary.

Kern County Water Agency, Stuart T. Pyle, Engineer-Manager.

Kings River Conservation District, Jeff L. Taylor, General Manager-Chief Engineer.

Madera County Flood Control and Water Conservation Agency, Norman A. Hanson, County Engineer.

Madera Irrigation District, Robert L. Stanfield, General Manager-Chief Engineer.

Merced, City of, Steven M. Stroud, Director of Public Works.

Merced Irrigation District, Tom Reta, Chief Engineer-Manager.

San Francisco, City and County, Hetch-Hetchy Water and Power, Dean Coffee, General Manager.

San Joaquin County Flood Control and Water Conservation District, Tom M. Iwamiya, Water Resources Engineer.

Tahoe Regional Planning Agency, Gary D. Midkiff, Acting Executive Director.

Terra Bella Irrigation District, John E. Boudreau, Engineer-Manager.

Tulare County Flood Control District, Jack L. Carlsen, Flood-Control Engineer.

Turlock Irrigation District, Paul S. Brown, Controller.

University of California (Davis), Division of Environmental Studies, Dr. Charles R. Goldman (Tahoe Research Group).

Woodbridge Irrigation District, Mabel Hall, Manager-Secretary.

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

## SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1984 water year in the area covered by this volume was greater than normal for the entire year and averaged 130 percent of the 1951-80 median. Total runoff (in percent of median) at selected sites in California is shown in figure 1. Measured runoff varied from 156 percent of the annual median at Mokelumne River near Mokelumne Hill, to 95 percent at Orestimba Creek near Newman. Figure 2 shows the variation in runoff during the 1984 water year and compares the 1984 monthly and annual flow with median flow for representative streams in central California. No discharges during the 1984 water year exceeded existing peaks of record in the area covered by this volume.

Precipitation this year ranged from 62 percent of the 1951-80 normal at Fresno to 122 percent at Georgetown, and averaged about 98 percent of normal over the San Joaquin River and Tulare Lake basins. No major storms occurred during the winter, and the largest storm produced only moderate runoff. By April 1, the water content in the snowpack of the San Joaquin River and Tulare Lake basins had peaked at a basinwide equivalent of 20.2 inches, or 64 percent of the long-term average on this date.

The total contents in 10 major reservoirs in northern and central California were 137 percent of average at the beginning of the year, 115 percent in late May, and 117 percent of average at the end of the year.

Ground Water

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

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

Water Quality

Water samples collected at the four NASQAN stations and one Hydrologic Benchmark station reported in this volume were analyzed for water quality constituents. Median dissolved-solids concentrations were similar to those during the previous year at three of the stations. Median dissolved-solids concentration at the San Joaquin River near Vernalis increased from 115 mg/L in 1983 to 238 mg/L in 1984. The median for the Kern River at Kernville increased from 57 mg/L in 1983 to 72 mg/L in 1984. The density of fecal-coliform bacteria in water sampled from the San Joaquin River near Vernalis ranged from 97 to 960 col/100 mL and was similar to the densities measured in 1983.

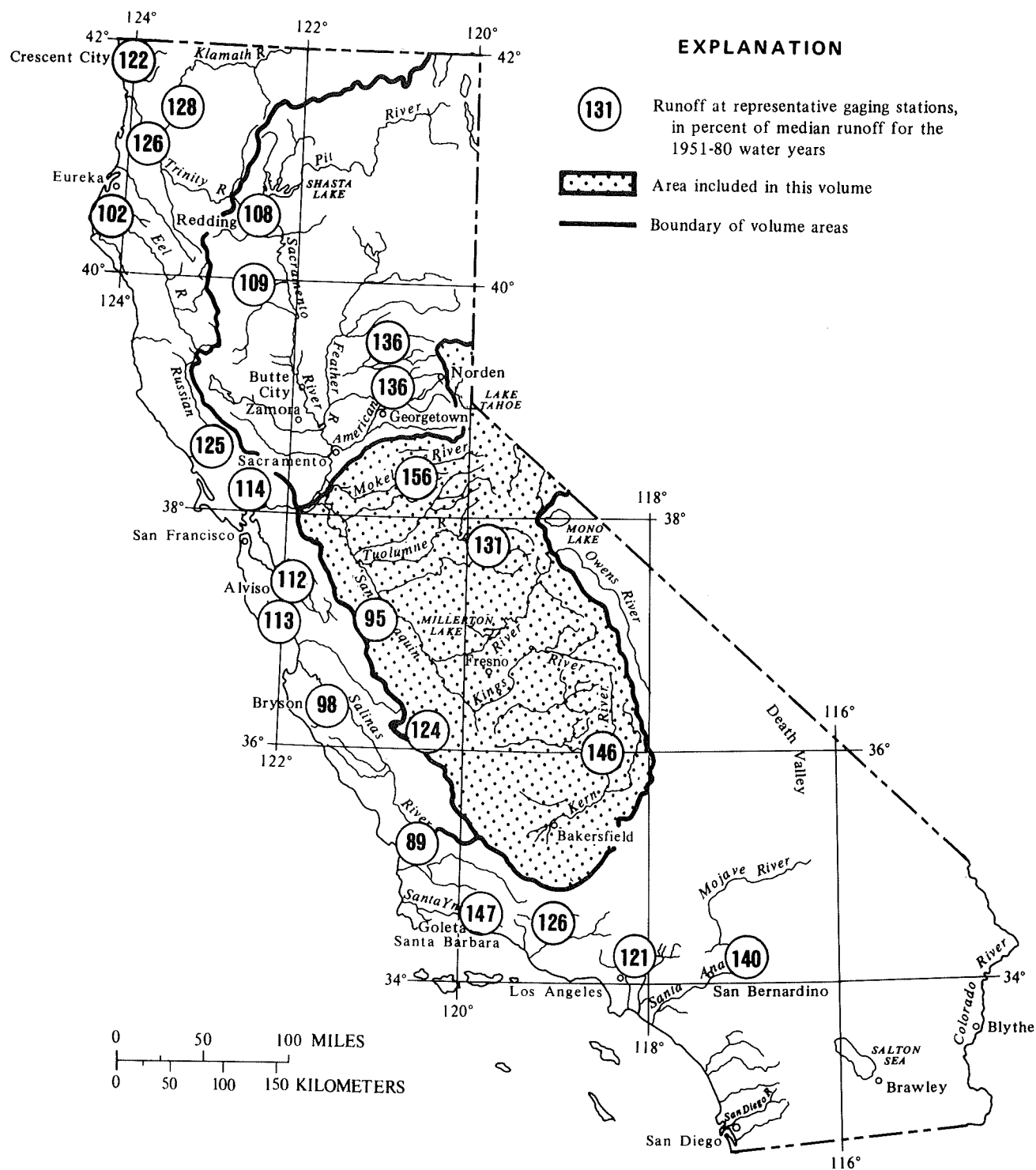


FIGURE 1. — Runoff for the 1984 water year.

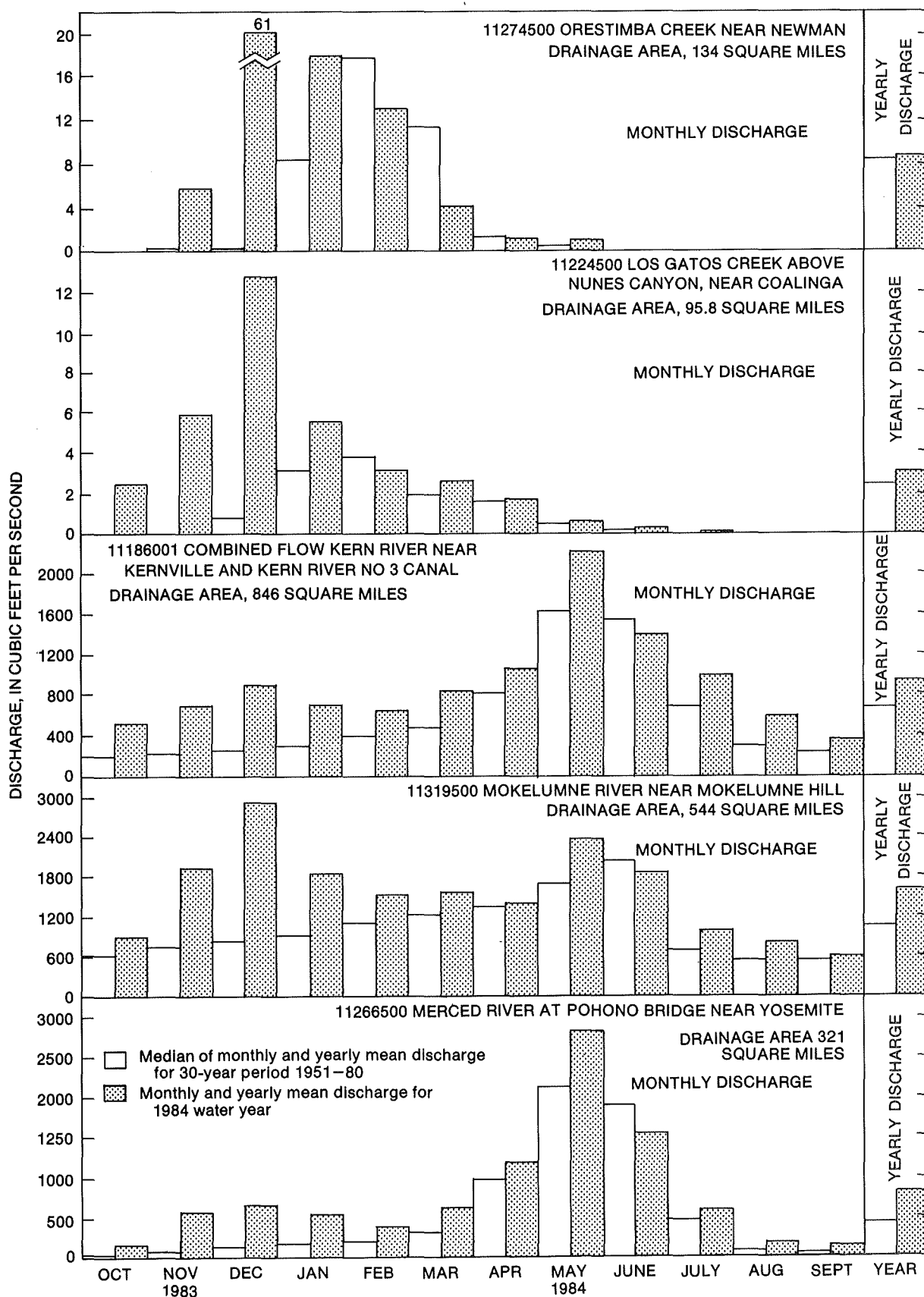


FIGURE 2. — Comparison of 1984 water year discharge with 30-year median discharge at five representative gaging stations.

### Sediment

Suspended-sediment discharge and concentration were monitored daily at ten stations and periodically at eight stations in the area included in this volume. Nine of the daily stations monitor sediment transport into Lake Tahoe. The high resistance to erosion of the granitic and volcanic rock surrounding the lake as well as the presence of a snowcover during a significant part of the year resulted in relatively low sediment discharge rates and concentrations compared to other areas of California. San Joaquin River near Vernalis, located in the northern part of the San Joaquin Valley, is highly regulated, also resulting in relatively low sediment discharge rates and concentrations. The stations monitored periodically are in an area extending from as far north as Truckee to as far south as the town of Kernville, near Isabella Reservoir.

During the 1984 water year, sediment discharge in the Lake Tahoe basin averaged 55 percent of the sediment discharge for water year 1983. Sediment discharge at San Joaquin River near Vernalis in 1984 was 131 percent of the mean sediment discharge for the 1957-83 water years.

During the current year, sediment discharge for the stations monitored daily ranged from 4.2 ton/yr for Logan House Creek near Glenbrook to 487,000 ton/yr for the San Joaquin River near Vernalis. Annual sediment discharge per square mile of drainage area ranged from a minimum of 2.0 ton/mi<sup>2</sup> for Logan House Creek to a maximum of 131 ton/mi<sup>2</sup> for Upper Truckee River at South Lake Tahoe.

The majority of sediment transport in the Tahoe basin was the result of November storms and of snowmelt in May and June. Sediment discharge at the San Joaquin River station was more evenly distributed during the year because of flow regulation. Maximum daily sediment discharge ranged from 0.16 ton/d (4 percent of the annual total) for Logan House Creek to 6,210 ton/d (1 percent of the annual total) for San Joaquin River. Maximum daily concentrations ranged from 23 mg/L for Logan House Creek to 233 mg/L for Edgewood Creek near Stateline.

### 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 (g/m<sup>3</sup>), and periphyton and benthic organisms in grams per square meter (g/m<sup>2</sup>).

Biomass--Continued

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

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

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

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

Dissolved 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, 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 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 ( $\text{m}^2$ ), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

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

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

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

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

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

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

Picocurie (PC, pCi) is one trillionth ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by 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 into 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.

Plankton--Continued

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 or organochlorine insecticides.

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

Milligrams of carbon per area or volume per unit time [mg C/(m<sup>2</sup>.time)] for periphyton and macrophytes and [mg C/(m<sup>3</sup>.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 [mg O<sub>2</sub>/(m<sup>2</sup>.time)] for periphyton and macrophytes and [mg O<sub>2</sub>/(m<sup>3</sup>.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 chemicals and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

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

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

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

Sediment--Continued

Suspended sediment is the sediment that 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 submerged solid surface, such as a rock or tree, upon which an organism lives.



Substrate--Continued

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.....Insects  
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 procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in the dissolved and suspended phases of the sample. A knowledge of the expected form is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all 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 incident light source (see also p. 28).

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 a 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 or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 11264500, which appears just to the left of the station name, includes the 2-digit number "11" plus the 6-digit downstream order number "264500". In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records for California are in Part 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

#### NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

The well- and miscellaneous-site number system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 3.

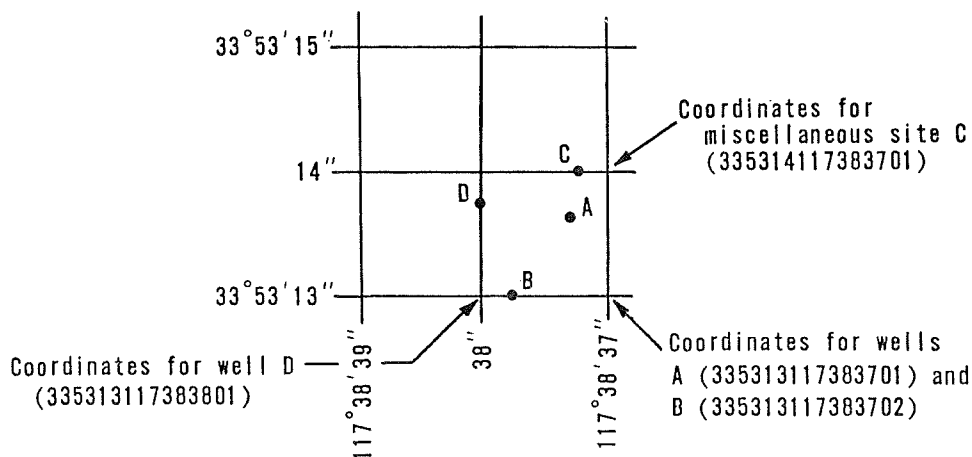


FIGURE 3.--System for numbering wells and miscellaneous sites (latitude and longitude)

#### 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 4.

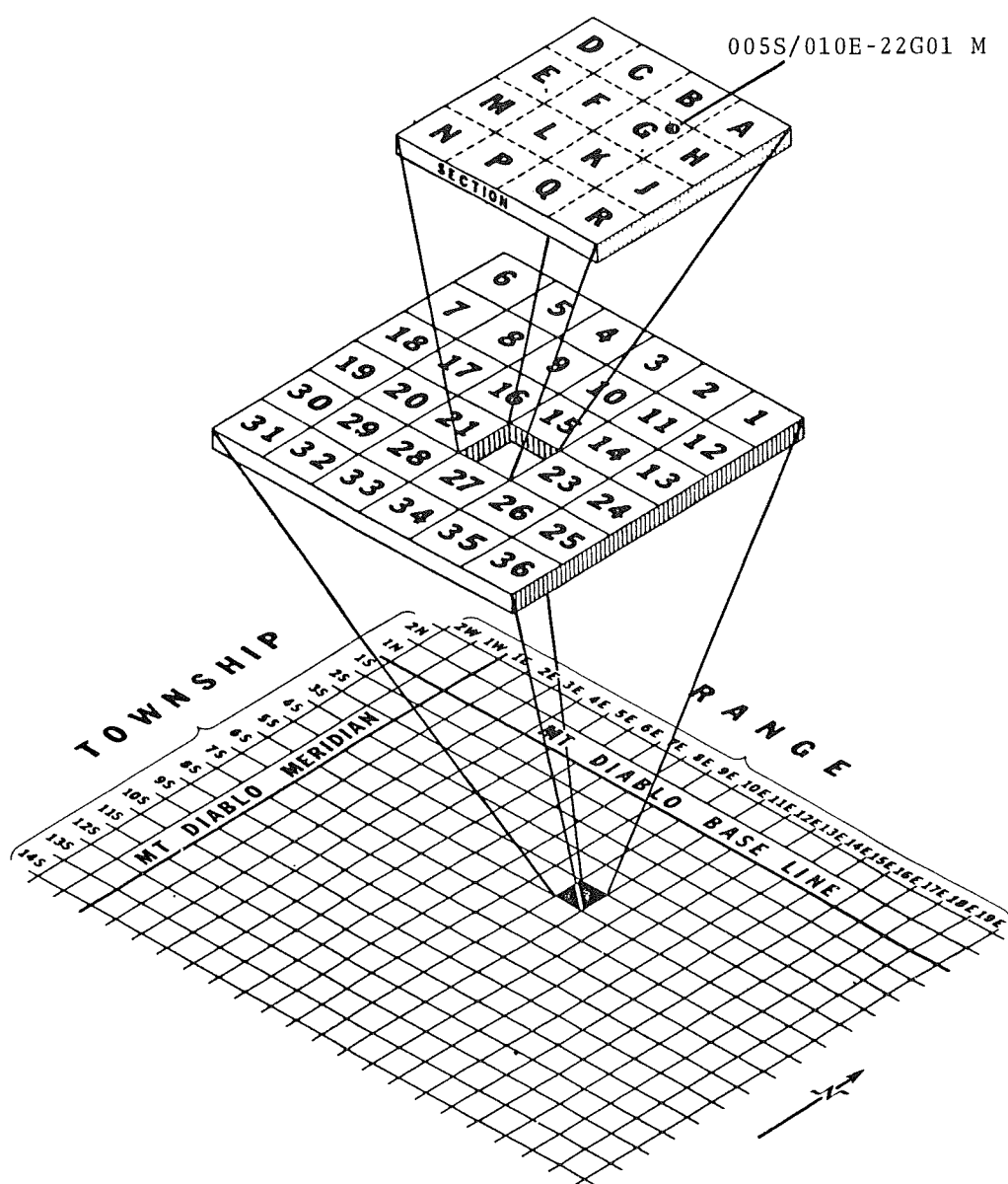


FIGURE 4.--California well-numbering system.

## 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 man-made changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped basin. Stations in this network are listed below:

Volume 2:

11475560 Elder Creek near Branscomb, CA

Volume 3:

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

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

Volume 1:

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

Volume 2:

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

National stream-quality accounting network (continued)Volume 3:

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

Volume 4:

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

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in areas where contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency 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 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 2175, 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 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 to 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 discharges 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 11.

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

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

be expressed in acre-feet (line headed "AC-FT"). In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharges are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days in 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 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; "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 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 230-81, "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 discharge records at these stations.

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

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

#### Water analysis

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

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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

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

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

#### pH

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

#### Water temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small daily 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 concentration and particle-size distribution data are determined from samples collected with depth-integrating samplers at one or more verticals across a measuring cross-section. The concentration data are then combined with water discharge data to compute suspended-sediment discharge. Samples of surface bed material are also collected and the particle-size distribution of these samples are published along with the suspended-sediment data. The sampling and computational methods used are in accordance with those described in the U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapters C1 and C3.

Sediment samples are generally taken on a daily or every other day basis at stations where a daily sediment record is published. 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 sediment and streamflow and 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. Computations of monthly bedload discharges are based on the relation between instantaneous water discharge and corresponding bedload discharge for the station. Values of bedload discharge used in defining this relation are based on samples obtained by use of the Helley-Smith bedload sampler or by modified-Einstein or Meyer-Peter Muller computation procedures. Application of the bedload-transport relation at a station was made on a daily basis or subdivided-day basis. The Helley-Smith sampler is designed to collect a time-weighted sample for the sediment moving within 0.25 ft (0.076 m) of the stream-bed. Sediment moving in this portion of the flow cannot be sampled with standard suspended-sediment samplers. Calibration of the Helley-Smith sampler has not been completed, and a trap efficiency of 1.0 has been assumed applicable to this device. Error sources in the theoretical methods, based on analysis of bed-material characteristics, channel geometry, and associated hydraulic factors, are also 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 3, and (2) a local number that is provided for continuity with older reports and for other use as dictated by local needs (fig. 4).

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

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

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

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

Thirty-seven manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 604 South Pickett St., Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

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

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-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 analysis*, 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-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.
- 3-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*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
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- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. I. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, 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-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels*, by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-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.





## 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 southwest of Bridgeport.

DRAINAGE AREA.--29.5 mi<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 between elevations 7,200 ft natural rim, and 7,207 ft, spillway crest.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 2,990 acre-ft July 7, 1983, elevation, 7,209.85 ft; minimum observed, 62 acre-ft Oct. 31, Nov. 1, 1964, Elevation, 7,200.22 ft.

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

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,770 acre-ft June 30, elevation, 7,209.17 ft; minimum, 1,910 acre-ft Sept. 29, elevation, 7,206.51 ft.

## ELEVATION NGVD AND CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	7,207.84	2,340	--
Oct. 31.....	7,207.50	2,230	-110
Nov. 30.....	--	g2,260	+30
Dec. 31.....	7,207.63	2,270	+10
CAL YR 1983.....	--	--	+30
Jan. 31.....	7,207.40	2,200	-70
Feb. 29.....	--	g2,210	+10
Mar. 31.....	7,207.51	2,230	+20
Apr. 30.....	7,207.67	2,280	+50
May 31.....	7,209.12	2,750	+470
June 30.....	7,209.08	2,740	-10
July 31.....	7,208.20	2,450	-290
Aug. 31.....	7,207.38	2,190	-260
Sept. 30.....	7,207.02	2,080	-110
WTR YR 1984.....	--	--	-260

## 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, in Toiyabe National Forest, at outlet of lower lake dam on Robinson Creek and 8 mi southwest of Bridgeport.

DRAINAGE AREA.--38.9 mi<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. Figures given herein represent usable contents. Usable contents, 4,010 acre-ft between elevations 7,190 ft natural rim, and 7,200 ft, spillway crest. One transarea diversion out of Tamarack Creek into Summers Creek.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 5,560 acre-ft June 19, 1983, elevation, 7,203.58 ft; no usable contents Nov. 17, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,980 acre-ft June 30, elevation, 7,202.27 ft; minimum, 1,290 acre-ft Nov. 9, elevation, 7,193.22 ft.

## ELEVATION NGVD AND CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	7,197.05	2,820	--
Oct. 31.....	7,193.77	1,510	-1,310
Nov. 30.....	7,196.46	2,580	+1,070
Dec. 31.....	7,200.89	4,380	+1,800
CAL YR 1983.....	--	--	+1,680
Jan. 31.....	7,200.58	4,250	-130
Feb. 29.....	7,200.47	4,210	-40
Mar. 31.....	7,200.63	4,280	+70
Apr. 30.....	7,198.61	3,440	-840
May 31.....	7,202.05	4,880	+1,440
June 30.....	7,202.27	4,980	+100
July 31.....	7,201.12	4,480	-500
Aug. 31.....	7,197.01	2,800	-1,680
Sept. 30.....	7,194.24	1,700	-1,100
WTR YR 1984.....	--	--	-1,120

g Interpolated.

## WALKER LAKE BASIN

## 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 north of Bridgeport.

DRAINAGE AREA.--358 mi<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 between altitudes 6,415 ft, approximate elevation of outlet tunnel, and 6,460.75 ft, crest of spillway. There are four siphons that become operative prior to reaching this spillway. Elevation of sill of outlet gage, 6,412 ft. 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 June 16, 1974, elevation, 6,460.75 ft; no usable contents during fall of 1929-30, 1960, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 42,260 acre-ft June 24, 25, elevation, 6,459.93 ft; minimum, 16,840 acre-ft, Sept. 30, elevation, 6,448.86 ft.

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

6,448	15,470	6,455	29,160
6,449	17,060	6,460	42,460
6,451	20,620		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34330	30990	32050	24470	26980	34820	40880	37980	40830	41960	38760	26160
2	34300	31090	32080	24350	27110	35120	41000	37900	40880	41970	38460	25850
3	34190	31160	31900	24280	27390	35310	41090	37700	41030	41970	38150	25520
4	34040	31190	31720	24220	27640	35440	41060	37460	41060	41880	37790	25140
5	33890	31230	31450	24120	27920	35750	41120	37320	41380	41820	37350	24840
6	33700	31260	31260	24060	28130	36040	41260	37100	41350	41970	36960	24430
7	33480	31090	30900	24100	28330	36340	41320	37100	41200	42050	36530	24100
8	33250	31160	30730	24160	28650	36580	41260	37120	41200	42030	36100	23790
9	32990	31230	30360	24100	28840	36820	41460	37070	41150	41910	35600	23430
10	32740	31380	30050	24080	29000	37100	41440	36980	41260	41670	35040	23100
11	32560	31820	29590	24060	29280	37320	41610	37010	41490	41410	34560	22710
12	32510	32210	29230	23940	29620	37560	41640	37180	41520	41170	34160	22320
13	32380	32430	29160	23960	29950	37810	41670	37320	41760	40970	33680	21930
14	32330	32670	28720	23980	30220	38150	41670	37430	41880	40830	33270	21500
15	32310	32870	28220	24080	30680	38400	41610	37240	41790	40680	32920	21130
16	32260	33070	27620	24140	30990	38680	41580	37260	41790	40540	32640	20800
17	32160	33530	27000	24220	31310	38740	41380	37320	41760	40360	32380	20290
18	32050	33860	26330	24370	31550	38930	41150	37240	41880	40330	31950	19920
19	31950	34330	25650	24530	31850	39150	40910	37400	41850	40420	31520	19440
20	31870	34610	25030	24680	32210	39290	40740	37480	41880	40770	31160	19150
21	31750	34740	24750	24790	32380	39260	40540	37700	42080	40940	30780	18820
22	31600	34430	24490	25030	32670	39480	40330	38040	42110	41000	30410	18590
23	31450	34270	24390	25140	33040	39770	40060	38430	42170	40970	29950	18210
24	31330	34590	24320	25360	33270	39890	39480	38900	42260	40940	29500	17970
25	31210	34430	24810	25500	33500	40060	39260	39260	42260	40860	29000	17750
26	31090	34010	24860	25580	33680	40030	39040	39540	42080	40680	28560	17580
27	30920	33600	24730	25780	34090	40270	38870	39770	41970	40620	28150	17400
28	30870	33040	24700	26050	34330	40480	38710	40030	41970	39980	27760	17230
29	30750	32560	24660	26240	34640	40480	38490	40210	41940	39630	27370	17060
30	30730	32280	24640	26510	---	40740	38260	40360	41950	39430	26930	16840
31	30850	---	24600	26750	---	40710	---	40620	---	38950	26490	---
MAX	34330	34740	32080	26750	34640	40740	41670	40620	42260	42050	38760	26160
MIN	30730	30990	24320	23940	26980	34820	38260	36980	40830	38950	26490	16840
a	6455.70	6456.28	6452.97	6453.95	6457.20	6459.40	6458.54	6459.37	6459.82	6458.79	6453.83	6448.86
b	-3480	+1430	-7680	+2150	+7890	+6070	-2450	+2360	+1330	-3000	-12460	-9650

CAL YR 1983 MAX 42950 MIN 8510 b +640

WTR YR 1984 MAX 42260 MIN 16840 b -17490

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

b Change in contents, in acre-feet.

## 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, in Toiyabe National Forest, on right bank 1,500 ft downstream from Bridgeport Reservoir, 5 mi north of Bridgeport, and 10 mi upstream from Sweetwater Creek.

DRAINAGE AREA.--359 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1911 to September 1914 (gage heights only), October 1921 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,400 ft, 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).--61 years (water years 1923-24, 1926-84), 147 ft<sup>3</sup>/s, 106,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft<sup>3</sup>/s June 19, 1963, gage height, 4.64 ft; maximum gage height, 4.95 ft Jan. 22, 1943, top of surge; minimum daily discharge, 0.2 ft<sup>3</sup>/s many days in 1955 and 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 667 ft<sup>3</sup>/s May 31, gage height, 3.00 ft; minimum daily, 12 ft<sup>3</sup>/s Mar. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	380	93	331	311	34	23	103	220	632	490	346	292
2	380	169	297	310	35	23	114	223	614	489	346	292
3	380	169	296	288	28	23	132	216	594	485	346	291
4	378	169	296	274	23	23	132	221	505	469	344	293
5	378	169	317	274	23	22	132	243	476	441	346	293
6	378	169	382	254	23	22	132	262	512	425	347	293
7	379	169	368	215	23	22	133	262	503	424	345	291
8	378	169	378	196	23	17	132	267	418	426	345	292
9	379	170	388	212	24	13	132	283	340	425	343	294
10	378	150	416	221	24	13	132	297	321	425	359	293
11	344	126	420	222	24	13	133	297	292	396	369	292
12	291	162	420	215	25	13	132	305	271	369	369	301
13	273	126	453	189	25	13	148	323	281	347	367	309
14	275	127	548	175	26	12	158	334	398	347	366	312
15	275	127	591	175	26	13	159	350	540	346	369	314
16	275	127	602	175	26	52	198	344	469	345	361	314
17	275	127	557	133	26	95	235	297	446	347	340	330
18	274	128	616	106	26	89	248	291	447	346	339	352
19	272	128	564	106	26	88	267	288	447	347	339	350
20	267	128	533	106	26	88	278	288	418	348	338	339
21	266	255	460	107	26	88	278	288	401	346	352	310
22	266	377	390	107	26	88	278	283	401	347	367	276
23	266	377	310	107	25	88	278	264	401	346	364	275
24	266	379	280	107	24	88	278	278	404	346	365	274
25	266	430	280	108	24	89	278	338	458	346	366	259
26	267	490	290	108	23	98	278	390	548	346	367	248
27	267	488	300	68	23	103	278	454	508	346	349	231
28	266	486	310	34	23	103	281	461	487	347	326	206
29	240	484	311	34	23	103	264	508	487	347	305	196
30	187	427	311	34	---	103	224	593	489	347	291	197
31	166	---	310	34	---	103	---	625	---	348	291	---
TOTAL	9332	7059	12325	5005	733	1731	5945	10093	13508	11849	10767	8609
MEAN	301	235	398	161	25.3	55.8	198	326	450	382	347	287
MAX	380	490	616	311	35	103	281	625	632	490	369	352
MIN	166	93	280	34	23	12	103	216	271	345	291	196
AC-FT	18510	14000	24450	9930	1450	3430	11790	20020	26790	23500	21360	17080
CAL YR 1983	TOTAL	161640	MEAN	443	MAX	1090	MIN	22	AC-FT	320600		
WTR YR 1984	TOTAL	96956	MEAN	265	MAX	632	MIN	12	AC-FT	192300		

## WALKER LAKE BASIN

10295500 LITTLE WALKER RIVER NEAR BRIDGEPORT, CA

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

DRAINAGE AREA.--63.1 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR CA-82-3: Drainage area.

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

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

AVERAGE DISCHARGE.--40 years (water years 1945-84) 53.2 ft<sup>3</sup>/s, 38,540 acre-ft/yr.

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 13	2000	257	1.90
May 30	2100	*341	2.11
June 28	2100	232	1.83

Minimum daily discharge, 23 ft<sup>3</sup>/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	37	42	44	31	33	43	56	264	160	70	31
2	57	34	41	42	30	30	40	56	229	154	58	29
3	50	33	30	42	30	29	41	67	204	146	53	30
4	48	32	27	40	31	28	42	70	222	146	50	31
5	46	31	25	40	31	28	37	67	188	146	47	31
6	44	31	25	40	30	29	39	67	170	143	44	30
7	43	36	25	39	31	30	39	74	150	145	42	30
8	42	31	25	38	31	32	43	89	143	132	43	29
9	41	31	26	37	31	34	37	103	140	115	46	28
10	40	39	27	36	28	35	45	116	139	104	45	27
11	39	88	27	35	32	34	43	147	139	99	42	27
12	39	51	27	36	33	33	43	173	143	94	40	27
13	38	40	27	33	32	44	45	204	146	95	40	26
14	38	41	27	34	28	40	54	212	166	89	39	28
15	37	41	28	35	32	37	65	169	115	88	40	28
16	36	41	28	34	29	33	73	147	157	88	40	27
17	36	94	28	29	29	34	75	140	178	103	38	27
18	36	56	29	28	34	33	68	143	190	105	37	28
19	36	68	30	28	29	34	63	160	192	109	36	28
20	36	65	32	30	31	39	58	188	182	100	35	28
21	36	53	31	32	26	42	52	202	170	92	40	26
22	35	44	32	32	32	40	53	207	165	84	37	25
23	36	48	34	31	29	41	57	234	172	79	35	24
24	36	90	47	32	27	46	61	251	175	80	33	24
25	34	67	68	33	29	46	61	242	176	72	33	24
26	33	56	64	30	28	59	64	236	177	66	37	24
27	33	55	50	32	27	56	63	227	180	66	31	24
28	33	47	45	32	28	53	67	233	195	63	30	24
29	33	46	49	31	29	51	60	259	199	60	33	23
30	35	42	73	31	---	48	57	296	177	60	34	25
31	37	---	54	31	---	46	---	301	---	67	32	---
TOTAL	1221	1468	1123	1067	868	1197	1588	5135	5283	3150	1260	813
MEAN	39.4	48.9	36.2	34.4	29.9	38.6	52.8	166	176	102	40.6	27.1
MAX	58	94	73	44	34	59	75	301	264	160	70	31
MIN	33	31	25	28	26	28	37	56	139	60	30	23
AC-FT	2420	2910	2230	2120	1720	2370	3150	10190	10480	6250	2500	1610
CAL YR 1983	TOTAL	41505	MEAN	114	MAX	590	MIN	24	AC-FT	82330		
WTR YR 1984	TOTAL	24173	MEAN	66.0	MAX	301	MIN	23	AC-FT	47950		

## 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 ft downstream from Little Walker River, 60 ft upstream from bridge on U.S. Highway 395, and 13 mi southeast of Coleville.

DRAINAGE AREA.--181 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Datum of gage is 6,591.39 ft, National Geodetic Vertical Datum of 1929, supplementary adjustment of 1958. Oct. 1, 1939 to Sept. 30, 1969, at site 100 ft upstream at same datum. Prior to Oct. 1, 1939, at site 25 ft downstream at datum 1.00 ft higher.

REMARKS.--Records good. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poor Lake Reservoir (capacity unknown) 7 mi upstream.

AVERAGE DISCHARGE.--46 years, 335 ft<sup>3</sup>/s, 193,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6220 ft<sup>3</sup>/s Nov. 29, 1950, gage height, 8.10 ft, from rating curve extended above 1,900 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum, 4.0 ft<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 Dec. 11, 1937, by slope-area measurement.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 14	0200	1,980	4.81	June 18	0100	1,290	4.02
May 30	2400	*2,090	4.97	June 28	2400	1,380	4.11

Minimum daily discharge, 72 ft<sup>3</sup>/s Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	206	123	154	217	104	106	211	290	1530	823	318	130
2	209	114	149	196	103	104	197	302	1220	822	264	122
3	187	106	117	186	100	100	195	438	1070	814	241	117
4	170	105	105	177	102	99	204	564	1270	809	223	114
5	157	100	98	169	104	97	195	515	1210	784	212	112
6	148	94	95	163	104	103	196	485	937	776	197	112
7	142	119	94	159	103	108	199	533	739	794	187	111
8	138	120	94	154	105	115	239	687	681	727	185	109
9	133	105	94	146	110	124	212	826	691	575	189	106
10	129	114	93	146	104	133	240	944	733	501	185	103
11	125	296	95	140	103	136	241	1210	698	474	173	100
12	120	221	96	136	111	133	242	1360	753	455	172	101
13	113	170	96	131	110	160	271	1500	783	459	168	102
14	110	152	100	126	101	161	340	1630	894	432	164	104
15	107	157	100	137	115	150	436	1160	789	413	167	101
16	104	150	100	131	110	137	528	839	860	437	170	97
17	102	294	105	116	103	138	542	804	1030	583	177	96
18	100	220	106	118	99	134	450	852	1120	616	169	101
19	97	241	107	127	102	136	391	1040	1080	558	164	105
20	96	290	108	114	100	154	341	1320	1020	494	160	119
21	93	226	108	116	98	180	299	1460	878	449	161	105
22	91	190	109	114	92	177	296	1430	830	400	157	98
23	93	188	131	110	97	183	342	1560	901	356	150	92
24	99	315	179	112	97	207	419	1700	960	345	144	89
25	91	267	291	112	93	216	427	1560	999	326	140	85
26	87	228	292	109	90	259	370	1450	996	305	147	82
27	84	200	240	104	95	279	332	1350	983	306	134	78
28	84	181	206	107	96	261	313	1430	1090	291	130	74
29	83	169	209	105	98	256	285	1600	1180	268	133	72
30	92	159	276	106	---	237	280	1860	978	266	134	72
31	104	---	256	106	---	227	---	1800	---	332	135	---
TOTAL	3694	5414	4403	4190	2949	5010	9233	34499	28903	15990	5450	3009
MEAN	119	180	142	135	102	162	308	1113	963	516	176	100
MAX	209	315	292	217	115	279	542	1860	1530	823	318	130
MIN	83	94	93	104	90	97	195	290	681	266	139	72
AC-FT	7330	10740	8730	8310	5850	9940	18310	68430	57330	31720	10810	5970
CAL YR 1983	TOTAL	193877	MEAN	531	MAX	2870	MIN	83	AC-FT	384600		
WTR YR 1984	TOTAL	122744	MEAN	335	MAX	1860	MIN	72	AC-FT	243500		

## 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 downstream from Rock Creek, and 5 mi southeast of Coleville.

DRAINAGE AREA.--250 mi<sup>2</sup>.

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

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

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

REMARKS.--Records good. Station is above diversions except for a few small ranch ditches. Flow slightly regulated by Poor Lake Reservoir (capacity unknown) 17 mi upstream.

AVERAGE DISCHARGE.--55 years (water years 1902-7, 1910, 1916-37, 1958-84), 281 ft<sup>3</sup>/s, 203,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft<sup>3</sup>/s Dec. 11, 1937, from slope-area measurement of peak flow; minimum 5 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 14	0400	*2,070	3.90	June 29	0200	1,420	3.22
May 31	0400	2,040	3.94	July 17	2300	1,160	2.91
June 18	0300	1,340	3.15				

Minimum daily discharge, 76 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	158	189	240	120	120	244	339	1650	872	367	150
2	221	148	185	215	119	122	232	346	1320	866	303	146
3	212	142	171	208	116	118	230	452	1170	853	282	138
4	206	139	147	202	118	117	239	628	1320	845	265	135
5	195	135	130	196	121	112	232	577	1380	817	255	132
6	185	129	125	191	121	120	235	533	1050	800	241	130
7	180	143	120	188	119	124	235	573	828	822	229	130
8	175	159	120	184	121	130	270	750	756	769	225	130
9	167	141	120	175	127	139	253	928	747	605	224	124
10	162	143	120	172	122	149	277	1030	804	521	223	122
11	160	299	125	165	119	153	280	1300	750	491	214	119
12	155	252	125	159	126	153	284	1480	820	471	206	119
13	148	217	125	156	129	167	301	1580	840	473	203	119
14	145	175	130	152	115	187	350	1770	950	450	198	122
15	142	195	130	158	133	178	442	1320	852	433	198	119
16	140	184	130	155	130	164	549	953	904	445	201	117
17	137	302	135	143	119	165	588	907	1070	558	202	114
18	134	254	138	133	116	162	490	946	1170	687	196	119
19	132	248	139	146	119	164	432	1120	1120	582	192	122
20	127	320	140	134	115	179	386	1410	1100	534	186	140
21	126	251	140	139	119	203	351	1560	937	472	187	127
22	124	220	140	135	107	202	345	1500	873	428	182	119
23	125	217	164	131	114	207	378	1600	937	385	174	109
24	134	330	193	131	113	226	456	1710	1000	378	169	104
25	124	290	291	132	109	233	474	1620	1040	360	162	102
26	121	257	305	126	106	265	422	1540	1040	338	169	100
27	118	228	264	118	111	289	386	1440	1020	338	156	95
28	117	212	231	123	112	277	366	1500	1120	328	149	90
29	117	202	231	121	112	278	344	1640	1240	308	150	84
30	123	195	273	121	---	263	334	1840	1060	299	153	76
31	133	---	277	122	---	254	---	1850	---	344	153	---
TOTAL	4699	6285	5253	4871	3428	5620	10405	36742	30868	16872	6414	3553
MEAN	152	210	169	157	118	181	347	1185	1029	544	207	118
MAX	221	330	305	240	133	289	588	1850	1650	872	367	150
MIN	117	129	120	118	106	112	230	339	747	299	149	76
AC-FT	9320	12470	10420	9660	6800	11150	20640	72880	61230	33470	12720	7050
CAL YR 1983	TOTAL	204398	MEAN	560	MAX	2950	MIN	98	AC-FT	405400		
WTR YR 1984	TOTAL	135010	MEAN	369	MAX	1850	MIN	76	AC-ft	267800		

## WALKER LAKE BASIN

37

10297000 TOPAZ LAKE NEAR TOPAZ, CA

LOCATION.--Lat 38°41'35", long 119°31'10", in NW¼ sec.33, T.10 N., R.22 E., Douglas County, Hydrologic Unit 16050301, at outlet works of Topaz Lake on West Walker River, 5.5 mi 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 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 rim of lake. Storage began about December 1921. Usable capacity, 59,440 acre-ft between altitudes 4,967.68 ft, lowest practical altitude for diversion through tunnel, bottom of outlet tunnel at altitude 4965.4 ft and 5,000.38 ft, 3 ft below top of levee. Usable capacity of reservoir was increased from about 45,000 acre-ft to 59,440 acre-ft in October 1937 by an earthfill, rock-faced levee at south end. Figures given herein represent usable contents. There is 65,000 acre-ft of lake volume below the point of controllable storage. Water is used for irrigation in Walker Irrigation District.

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

EXTREMES (AT 0800) FOR PERIOD OF RECORD.--Maximum contents, 60,680 acre-ft July 3, 1980, elevation, 5,000.92 ft present datum; no contents at times in 1924, 1960, 1977.

EXTREMES (AT 0800) FOR CURRENT YEAR.--Maximum contents observed, 59,760 acre-ft June 5, elevation, 5,000.52 ft; minimum contents observed, 11,660 acre-ft Sept. 30, elevation, 4,975.09 ft.

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

4,975	11,515	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
4,985	28,310		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45760	42060	46330	41170	43930	53460	59510	55130	57890	59190	47180	26100
2	45620	42060	45850	41010	44260	53800	59480	54780	58000	58940	46810	25640
3	45410	42430	45360	40790	44550	54080	59440	54550	58840	58840	46330	25160
4	45130	42630	45300	40630	44840	54400	59390	54330	59320	58800	45820	24690
5	44820	42760	44930	40490	45130	54690	59300	54370	59760	58800	45300	24210
6	44450	42920	44760	40360	45380	54930	59190	54330	59580	58750	44550	23620
7	44070	43070	44550	40340	45720	55240	59050	54260	59070	58710	43830	23020
8	43720	43210	44550	40340	46060	55560	58940	54200	58710	58660	43000	22420
9	43370	43430	44510	40280	46310	55870	58840	54240	58730	58570	41940	21810
10	42980	43660	44300	40240	46750	56190	58770	54440	58870	58200	41070	21320
11	42670	44030	44090	40220	47070	56550	58640	54690	59100	57910	40120	20810
12	42450	44570	43870	40200	47410	56910	58520	55020	59260	57590	39110	20310
13	42180	44970	43890	40160	47750	57250	58410	55220	59300	57000	38290	19870
14	42020	45380	43760	40160	48130	57660	58320	55510	59280	56410	37420	19330
15	42000	45680	43680	40160	48520	57930	58360	55740	59070	55510	36650	18800
16	41960	45990	43520	40160	48970	57930	58410	55510	58500	54800	35900	18270
17	42000	46310	43310	40160	49440	57980	58480	55130	58140	54080	35760	17800
18	42020	46670	43150	40320	49850	58020	58520	55020	58070	53680	34930	17130
19	42040	47350	43000	40460	50150	58050	58480	55130	58140	53530	34110	16440
20	42080	48030	42780	40510	50410	58090	58250	55580	58200	53180	33310	15980
21	42080	48350	42470	40750	50760	58180	57860	56260	58520	52600	32350	15480
22	42080	48430	42170	40950	51110	58270	57500	56820	58840	52070	31420	14970
23	42080	48130	41860	41090	51440	58360	57270	57360	59070	51570	30550	14500
24	42080	47920	41550	41430	51810	58480	57050	57840	59350	51150	29990	14040
25	42060	48450	41610	41780	52030	58590	56800	58140	59480	50720	29360	13610
26	42040	48280	41920	42140	52290	58750	56550	58180	59510	50350	28880	13190
27	42040	47940	42100	42430	52580	58890	56320	58050	59600	49850	28430	12800
28	42040	47600	41880	42760	52890	59100	56120	57950	59550	49270	27910	12410
29	42040	47180	41700	43060	53200	59260	55830	57910	59600	48670	27450	12050
30	42040	46750	41530	43410	---	59390	55490	57840	59510	48220	27000	11660
31	42040	---	41370	43660	---	59530	---	57860	---	47620	26570	---
MAX	45760	48450	46330	43660	53200	59530	59510	58180	59760	59190	47180	26100
MIN	41960	42060	41370	40160	43930	48480	55490	54200	57890	47620	26570	11660
a	4992.36	4994.63	4992.03	4993.15	4997.61	5001.42	4998.64	4999.69	5001.41	4995.04	4984.00	4975.09
b	-3720	+4710	-5380	+2290	+9540	+6330	-4040	+2370	+1650	-11980	-21050	-14910
CAL YR 1983	MAX	59900	MIN	15560	b	+6550						
WTR YR 1984	MAX	59760	MIN	11660	b	-34100						

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

## 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 downstream from Markleeville Creek and 1.5 mi northeast of Markleeville.

DRAINAGE AREA.--276 mi<sup>2</sup>.

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

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

REMARKS.--Records good. A few small diversions for irrigation above station. Flow slightly regulated by several small reservoirs, total capacity, about 5,000 acre-ft.

AVERAGE DISCHARGE.--24 years, 381 ft<sup>3</sup>/s, 276,000 acre-ft/yr.

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1400	2,780	5.70	May 13	2300	3,350	6.03
Nov. 24	1400	*3,460	6.12	May 23	2200	2,860	5.73
Dec. 25	1500	1,860	5.04	June 4	2000	2,100	5.20

Minimum daily discharge, 81 ft<sup>3</sup>/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	273	293	363	548	221	225	401	560	1710	661	211	138
2	261	221	350	492	217	229	381	565	1490	660	188	135
3	231	193	338	459	207	222	385	809	1330	643	174	120
4	212	183	311	433	211	219	413	972	1610	611	164	114
5	202	168	311	414	215	207	393	888	1520	591	158	115
6	193	158	328	398	214	224	387	873	1330	588	151	123
7	190	245	323	388	212	236	414	942	1070	548	148	119
8	196	191	347	376	214	253	494	1200	967	503	158	121
9	184	173	392	355	221	273	419	1460	939	441	158	119
10	179	217	374	347	208	287	450	1620	928	402	157	107
11	175	834	424	331	197	286	428	2070	885	379	158	99
12	171	458	345	313	217	271	442	2120	900	356	157	96
13	165	377	401	305	249	376	505	2420	883	351	159	92
14	165	316	461	289	213	396	635	2410	971	354	166	94
15	163	306	422	286	274	338	810	1680	954	334	156	87
16	161	428	387	283	272	307	984	1290	948	328	159	87
17	159	1460	400	247	226	311	997	1280	1030	360	151	81
18	154	610	353	253	213	298	818	1350	1020	382	142	88
19	137	619	342	265	221	297	698	1590	1010	333	139	106
20	134	914	316	242	219	339	616	1960	939	309	136	104
21	131	568	279	258	227	400	555	2000	856	294	150	94
22	129	447	272	245	192	375	563	1950	802	274	148	92
23	134	442	294	237	202	375	663	2180	820	301	145	87
24	144	1410	470	237	205	421	789	2210	846	288	143	86
25	129	788	1250	238	196	437	748	1980	846	254	142	86
26	126	562	1090	230	185	531	625	1860	816	236	140	87
27	124	481	837	214	197	545	574	1760	785	224	135	83
28	122	432	632	223	202	503	524	1830	818	213	133	83
29	120	401	597	221	202	499	509	2050	826	199	144	82
30	150	381	709	222	---	453	532	2210	735	193	143	86
31	200	---	644	224	---	437	---	2030	---	204	140	---
TOTAL	5214	14276	14362	9573	6249	10570	17152	50119	30584	11814	4753	3011
MEAN	168	476	463	309	215	341	572	1617	1019	381	153	100
MAX	273	1460	1250	548	274	545	997	2420	1710	661	211	138
MIN	120	158	272	214	185	207	381	560	735	193	133	81
AC-FT	10340	28320	28490	18990	12390	20970	34020	99410	60660	23430	9430	5970

CAL YR 1983	TOTAL	300491	MEAN	823	MAX	6230	MIN	120	AC-FT	596000
WTR YR 1984	TOTAL	177677	MEAN	485	MAX	2420	MIN	81	AC-FT	352400



## CARSON RIVER BASIN

39

10310000 WEST FORK CARSON RIVER AT WOODFORDS, CA

LOCATION.--Lat 38°46'10", Long 119°49'55", in NW¼ sec. 34, T.11 N., R.19 E., Alpine County, Hydrologic Unit 16050201, Toiyabe National Forest, on left bank 0.3 mi downstream from bridge on State Highway 88-89, 0.6 mi southwest of Woodfords, and 3.8 mi downstream from Willow Creek.

DRAINAGE AREA.--65.4 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1900 to May 1907, 1910-11 (fragmentary), Oct. 1938 to current year. Monthly discharge only for some periods, published in WSP 1314. January 1890 to March 1892, June 1907 to September 1920 (except portions of 1910-11), at site 0.7 mi downstream; records not equivalent owing to diversions for irrigation.

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

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

REMARKS.--Records good. One small diversion above station for irrigation. Flow slightly regulated by several small reservoirs, total capacity, about 1,500 acre-ft.

AVERAGE DISCHARGE.--53 years (water years 1901-7, 1939-84), 115 ft<sup>3</sup>/s, 83,320 acre-ft.

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

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 19	2300	904	3.65	May 11	2300	*999	3.79
Nov. 24	1600	719	3.35	May 23	2400	802	3.50
Apr. 16	2100	589	3.16	May 31	0100	640	3.25
May 3	2100	652	3.24	June 4	1900	623	3.22

Minimum daily discharge, 27 ft<sup>3</sup>/s Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	149	136	188	73	65	140	278	432	167	59	62
2	67	102	129	168	73	69	133	337	381	165	72	37
3	60	80	93	154	71	69	149	481	364	165	72	33
4	57	75	106	141	70	68	169	503	457	163	74	31
5	56	69	134	129	71	66	159	478	410	159	67	31
6	55	65	129	118	71	69	170	448	375	151	47	30
7	55	81	122	116	71	73	218	454	312	148	45	30
8	55	71	118	112	71	81	227	536	284	135	44	29
9	54	68	118	108	73	90	181	582	269	117	43	28
10	54	80	112	106	70	97	188	615	265	108	41	35
11	51	296	120	102	71	96	177	752	246	102	41	42
12	50	188	112	98	73	90	199	776	251	99	41	63
13	49	146	129	95	71	101	237	793	253	96	48	57
14	50	134	165	91	70	110	302	806	295	93	48	57
15	49	127	159	93	74	99	403	592	307	92	60	54
16	49	143	139	91	65	93	460	457	282	89	68	33
17	49	352	129	83	75	87	490	442	288	106	67	28
18	48	233	118	91	74	88	423	450	284	109	65	29
19	47	313	114	86	73	92	311	482	276	93	41	31
20	47	414	112	83	70	109	268	573	258	92	37	30
21	47	230	97	90	67	129	244	601	233	90	37	28
22	46	173	90	83	71	121	261	576	221	85	36	28
23	49	162	102	80	71	126	324	616	217	82	36	27
24	51	414	127	81	66	147	376	631	228	78	35	35
25	48	330	305	83	64	159	336	533	229	70	35	37
26	46	227	380	78	67	254	263	501	211	66	34	52
27	46	185	273	74	64	236	240	461	200	62	34	52
28	46	162	217	75	63	204	224	481	203	60	44	50
29	47	151	191	77	62	191	227	513	213	58	65	48
30	69	143	233	75	---	163	252	558	188	59	65	34
31	90	---	240	74	---	158	---	517	---	66	65	---
TOTAL	1661	5363	4749	3123	2025	3600	7751	16823	8432	3225	1566	1161
MEAN	53.6	179	153	101	69.8	116	258	543	281	104	50.5	38.7
MAX	90	414	380	188	75	254	490	806	457	167	74	63
MIN	46	65	90	74	62	65	133	278	188	58	34	27
AC-FT	3290	10640	9420	6190	4020	7140	15370	33370	16720	6400	3110	2300
CAL YR 1983	TOTAL	93621	MEAN	256	MAX	1720	MIN	42	AC-FT	185700		
WTR YR 1984	TOTAL	59479	MEAN	163	MAX	806	MIN	27	AC-FT	118000		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336600 UPPER TRUCKEE RIVER NEAR MEYERS, CA

LOCATION.--Lat 38°50'35", long 120°01'25", in NE 1/4 SE 1/4 sec.31, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 0.4 mi upstream from mouth of Echo Lake outlet, 1.1 mi southwest of Meyers, and 2.5 mi upstream from Angora Creek.

DRAINAGE AREA.--33.1 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Datum of gage is 6,321.89 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No regulation. Some small diversions above station for domestic use.

AVERAGE DISCHARGE.--24 years, 68.2 ft<sup>3</sup>/s, 49,410 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 12.41 ft; minimum daily, 1.5 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0715	234	7.23	Dec. 25	1945	325	6.83
Nov. 17	1215	353	6.98	May 13	2200	719	8.50
Nov. 19	2130	649	8.33	May 23	2215	684	8.39
Nov. 24	1315	479	7.61	June 4	1700	*808	8.77

Minimum daily, 7.4 ft<sup>3</sup>/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	102	76	98	44	38	70	117	375	118	29	11
2	36	63	74	88	43	40	67	124	338	116	28	11
3	32	47	71	83	43	40	68	197	303	111	26	11
4	28	42	70	79	42	40	71	216	496	105	25	11
5	26	35	67	77	42	39	70	191	400	110	24	11
6	25	32	64	75	42	40	69	180	333	105	22	11
7	26	39	62	73	42	43	75	199	258	94	22	10
8	31	31	63	72	42	46	86	267	235	82	21	10
9	26	33	67	69	43	49	76	319	233	73	20	10
10	25	45	66	68	42	52	78	345	224	67	20	10
11	24	154	77	65	42	52	72	433	212	62	19	10
12	22	103	69	63	42	50	74	443	211	58	19	9.8
13	21	85	72	61	42	64	82	519	210	55	18	9.7
14	21	64	84	58	42	70	107	525	248	54	18	9.6
15	21	59	77	60	42	58	145	381	276	52	17	9.5
16	20	90	70	58	42	53	174	275	250	50	17	9.4
17	20	237	69	54	41	51	176	279	249	61	17	8.7
18	19	106	64	53	40	49	136	320	237	67	16	10
19	19	247	62	53	40	51	114	405	225	54	16	10
20	19	239	59	52	40	59	101	483	203	49	15	10
21	18	120	57	51	40	69	95	478	185	45	15	9.2
22	18	97	56	49	39	66	100	468	175	41	14	8.7
23	20	98	59	48	39	65	125	503	179	41	14	8.1
24	23	283	95	48	38	72	149	475	183	41	13	8.1
25	20	157	267	47	38	76	138	421	172	39	13	8.3
26	18	113	228	46	37	107	112	411	159	36	13	8.2
27	18	95	149	45	37	99	100	397	148	34	12	8.0
28	17	88	106	45	37	88	93	429	151	32	12	7.7
29	17	84	107	44	37	85	92	472	145	30	12	7.4
30	33	80	137	44	---	78	101	512	126	30	12	8.2
31	54	---	124	44	---	75	---	460	---	32	12	---
TOTAL	756	3068	2768	1870	1180	1864	3016	11244	7139	1944	551	284.6
MEAN	24.4	102	89.3	60.3	40.7	60.1	101	363	238	62.7	17.8	9.49
MAX	54	283	267	98	44	107	176	525	496	118	29	11
MIN	17	31	56	44	37	38	67	117	126	30	12	7.4
AC-FT	1500	6090	5490	3710	2340	3700	5980	22300	14160	3860	1090	565
CAL YR 1983	TOTAL	49738	MEAN	136	MAX	874	MIN	17	AC-FT	98660		
WTR YR 1984	TOTAL	35684.6	MEAN	97.5	MAX	525	MIN	7.4	AC-FT	70780		

10336610 UPPER TRUCKEE RIVER AT SOUTH LAKE TAHOE, CA

LOCATION.--Lat 38°55'22", long 119°59'23", in NW 1/4 SE 1/4 sec.4, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on right bank on downstream side of U.S. Highway 50 bridge, 1.0 mi northeast of South Lake Tahoe Post Office, and 1.4 mi upstream from Lake Tahoe.

DRAINAGE AREA.--54.9 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,229.04 ft National Geodetic Vertical Datum of 1929. Prior to Apr. 26, 1984, at datum 2.00 ft higher.

REMARKS.--Records good except for November, December, May, and June, which are fair. Two small dams may cause slight regulation at times. Some small diversions above station for domestic use.

AVERAGE DISCHARGE.--7 years, 132 ft<sup>3</sup>/s, 95,630 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,550 ft<sup>3</sup>/s Feb. 16, 1982, gage height, 10.12 ft present datum; minimum daily, 1.7 ft<sup>3</sup>/s on many days during September 1981.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	1145	532	3.68	Dec. 30	1445	463	3.37
Nov. 17	1815	1,070	5.45	May 14	Unknown	Unknown	Unknown
Nov. 20	Unknown	*1,380	6.08	May 24	0530	847	6.82
Nov. 24	Unknown	Unknown	Unknown	June 5	Unknown	1,090	7.42
Dec. 25	Unknown	Unknown	Unknown				

Minimum daily, 11 ft<sup>3</sup>/s Sept. 13-16, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	125	128	217	84	78	116	168	537	173	39	14
2	49	98	122	186	82	83	110	201	444	165	35	13
3	45	75	116	167	82	83	108	239	348	156	30	13
4	40	66	113	154	81	81	116	301	470	150	28	13
5	36	57	110	147	80	79	117	266	765	143	27	13
6	35	49	108	140	81	82	114	247	519	156	25	13
7	34	57	106	136	80	84	113	255	412	138	25	13
8	38	56	109	131	80	87	137	323	316	122	27	13
9	35	76	122	125	82	91	128	411	261	108	26	13
10	32	92	133	122	84	93	147	456	261	97	25	13
11	32	386	174	118	83	92	125	522	251	87	24	12
12	30	232	157	115	82	89	119	621	262	82	23	12
13	29	202	137	112	95	140	123	710	266	72	23	11
14	28	153	155	109	94	152	143	730	295	69	23	11
15	28	132	141	106	94	117	184	660	401	66	21	11
16	27	212	126	104	92	107	226	430	345	62	19	11
17	27	713	137	102	90	105	267	391	354	64	18	12
18	26	325	118	100	89	100	225	430	348	84	18	13
19	26	326	109	97	89	101	205	510	328	74	17	15
20	26	719	105	94	86	108	176	670	309	67	17	15
21	26	296	100	92	86	121	156	690	270	64	17	14
22	26	214	100	91	80	114	153	597	250	59	15	13
23	27	189	120	90	80	110	174	647	255	57	16	13
24	32	550	175	88	78	117	206	729	245	61	16	12
25	28	455	540	89	78	120	200	614	230	56	16	13
26	26	254	465	86	75	151	169	567	220	52	15	12
27	26	200	325	88	73	154	156	544	212	48	15	12
28	26	168	296	85	74	136	144	579	205	45	15	12
29	25	151	247	84	73	133	138	625	193	42	15	11
30	40	136	358	84	---	124	144	707	182	41	15	12
31	60	---	305	84	---	122	---	683	---	45	15	---
TOTAL	1019	6764	5557	3543	2407	3354	4639	15523	9754	2705	660	378
MEAN	32.9	225	179	114	83.0	108	155	501	325	87.3	21.3	12.6
MAX	60	719	540	217	95	154	267	730	765	173	39	15
MIN	25	49	100	84	73	78	108	168	182	41	15	11
AC-FT	2020	13420	11020	7030	4770	6650	9200	30790	19350	5370	1310	750
CAL YR 1983	TOTAL	80237	MEAN	220	MAX	1120	MIN	25	AC-FT	159200		
WTR YR 1984	TOTAL	56303	MEAN	154	MAX	765	MIN	11	AC-FT	111700		

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

## WATER-QUALITY RECORDS

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

PERIOD OF RECORD:--Water years 1972-74, 1978,  
SPECIFIC CONDUCTANCE: Water years 1981-83.

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

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1981 to September 1983.

WATER TEMPERATURES: October 1971 to June 1974, October 1977 to June 1978, March 1980 to current year.

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

COOPERATION.--Selected sediment samples and water temperature observations furnished by Lahontan Regional Water Quality Control Board.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 312 mg/L Dec. 29, 1973; minimum daily mean, 0 mg/L on several days in most years.

SEDIMENT DISCHARGE: Maximum daily, 445 tons Nov. 20, 1983; minimum daily, 0 ton on several days in most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 202 mg/L Nov. 17; minimum daily mean, 0 mg/L Aug. 30 to Sept. 16.

SEDIMENT DISCHARGE: Maximum daily, 445 tons Nov. 20; minimum daily, 0 ton Aug. 30 to Sept. 16.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

[illegible]

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	54	6	.87	125	49	17	128	26	9.0
2	49	4	.53	98	22	5.8	122	25	8.2
3	45	3	.36	75	10	2.0	116	20	6.3
4	40	3	.32	66	6	1.1	113	20	6.1
5	36	2	.19	57	5	.77	110	20	5.9
6	35	2	.19	49	4	.53	108	20	5.8
7	34	2	.18	57	5	.77	106	20	5.7
8	38	3	.31	56	7	1.1	109	20	5.9
9	35	2	.19	76	14	2.9	122	25	8.2
10	32	2	.17	92	25	6.2	133	25	9.0
11	32	2	.17	386	136	154	174	30	14
12	30	2	.16	232	36	23	157	30	13
13	29	2	.16	202	28	15	137	22	8.1
14	28	2	.15	153	14	5.8	155	26	11
15	28	2	.15	132	10	3.6	141	25	9.5
16	27	2	.15	212	47	40	126	22	7.5
17	27	2	.15	713	202	428	137	22	8.1
18	26	2	.14	325	83	85	118	10	3.2
19	26	2	.14	326	99	144	109	5	1.5
20	26	2	.14	719	189	445	105	4	1.1
21	26	2	.14	296	46	37	100	4	1.1
22	26	2	.14	214	19	11	100	4	1.1
23	27	2	.15	189	16	8.2	120	52	17
24	32	3	.26	550	178	264	175	72	34
25	28	1	.08	455	75	92	540	175	255
26	26	1	.07	254	32	22	465	159	200
27	26	1	.07	200	32	17	325	116	102
28	26	1	.07	168	32	15	296	25	20
29	25	1	.07	151	34	14	247	15	10
30	40	7	.76	136	31	11	358	47	53
31	60	28	7.4	---	---	---	305	22	18
TOTAL	1019	---	14.03	6764	---	1872.77	5557	---	858.3

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	217	15	8.8	84	5	1.1	78	11	2.3
2	186	12	6.0	82	5	1.1	83	10	2.2
3	167	11	5.0	82	7	1.5	83	10	2.2
4	154	10	4.2	81	6	1.3	81	10	2.2
5	147	10	4.0	80	5	1.1	79	11	2.3
6	140	10	3.8	81	5	1.1	82	12	2.7
7	136	10	3.7	80	6	1.3	84	11	2.5
8	131	10	3.5	80	5	1.1	87	10	2.3
9	125	9	3.0	82	6	1.3	91	11	2.7
10	122	8	2.6	84	7	1.6	93	11	2.8
11	118	8	2.5	83	8	1.8	92	10	2.5
12	115	9	2.8	82	6	1.3	89	10	2.4
13	112	9	2.7	95	5	1.3	140	145	82
14	109	10	2.9	94	5	1.3	152	44	21
15	106	10	2.9	94	4	1.0	117	14	4.4
16	104	10	2.8	92	10	2.5	107	13	3.8
17	102	10	2.8	90	6	1.5	105	13	3.7
18	100	13	3.5	89	6	1.4	100	13	3.5
19	97	12	3.1	89	8	1.9	101	13	3.5
20	94	10	2.5	86	7	1.6	108	17	5.0
21	92	5	1.2	86	8	1.9	121	14	4.6
22	91	5	1.2	80	10	2.2	114	11	3.4
23	90	5	1.2	80	10	2.2	110	11	3.3
24	88	4	.95	78	10	2.1	117	11	3.5
25	89	4	.96	78	11	2.3	120	11	3.6
26	86	5	1.2	75	10	2.0	151	30	12
27	88	6	1.4	73	10	2.0	154	12	5.0
28	85	5	1.1	74	10	2.0	136	10	3.7
29	84	5	1.1	73	10	2.0	133	9	3.2
30	84	5	1.1	---	---	---	124	9	3.0
31	84	5	1.1	---	---	---	122	9	3.0
TOTAL	3543	---	85.61	2407	---	46.8	3354	---	204.3

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	116	9	2.8	168	14	6.4	537	32	46
2	110	8	2.4	201	24	13	444	30	36
3	108	8	2.3	239	30	19	348	34	32
4	116	11	3.4	301	60	49	470	94	154
5	117	12	3.8	266	50	36	765	99	226
6	114	10	3.1	247	43	29	519	37	52
7	113	10	3.1	255	36	25	412	32	36
8	137	18	6.7	323	60	52	316	30	26
9	128	20	6.9	411	70	78	261	34	24
10	147	20	7.9	456	76	94	261	30	21
11	125	10	3.4	522	83	117	251	18	12
12	119	11	3.5	621	74	124	262	25	18
13	123	12	4.0	710	96	184	266	27	19
14	143	25	9.7	730	107	211	295	48	38
15	184	35	17	660	93	166	401	58	66
16	226	48	29	430	50	58	345	44	41
17	267	57	41	391	55	58	354	42	40
18	225	26	16	430	60	70	348	42	39
19	205	25	14	510	56	77	328	35	31
20	176	23	11	670	52	94	309	27	23
21	156	19	8.0	690	40	75	270	25	18
22	153	16	6.6	597	51	82	250	22	15
23	174	18	8.5	647	45	79	255	22	15
24	206	27	15	729	83	163	245	22	15
25	200	24	13	614	80	133	230	23	14
26	169	15	6.8	567	63	96	220	24	14
27	156	12	5.1	544	43	63	212	25	14
28	144	11	4.3	579	50	78	205	28	15
29	138	9	3.4	625	50	84	193	28	15
30	144	8	3.1	707	45	86	182	28	14
31	---	---	---	683	52	96	---	---	---
TOTAL	4639	---	264.8	15523	---	2595.4	9754	---	1129
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	173	28	13	39	3	.32	14	0	.00
2	165	28	12	35	3	.28	13	0	.00
3	156	28	12	30	3	.24	13	0	.00
4	150	28	11	28	4	.30	13	0	.00
5	143	28	11	27	4	.29	13	0	.00
6	156	28	12	25	4	.27	13	0	.00
7	138	22	8.2	25	4	.27	13	0	.00
8	122	15	4.9	27	4	.29	13	0	.00
9	108	10	2.9	26	4	.28	13	0	.00
10	97	8	2.1	25	4	.27	13	0	.00
11	87	8	1.9	24	4	.26	12	0	.00
12	82	8	1.8	23	4	.25	12	0	.00
13	72	8	1.6	23	4	.25	11	0	.00
14	69	7	1.3	23	5	.31	11	0	.00
15	66	7	1.2	21	5	.28	11	0	.00
16	62	7	1.2	19	5	.26	11	0	.00
17	64	7	1.2	18	5	.24	12	4	.13
18	84	11	2.5	18	5	.24	13	4	.14
19	74	7	1.4	17	5	.23	15	4	.16
20	67	6	1.1	17	5	.23	15	4	.16
21	64	6	1.0	17	5	.23	14	4	.15
22	59	5	.80	15	2	.08	13	4	.14
23	57	5	.77	16	1	.04	13	4	.14
24	61	4	.66	16	1	.04	12	4	.13
25	56	4	.60	16	1	.04	13	4	.14
26	52	3	.42	15	1	.04	12	3	.10
27	48	3	.39	15	1	.04	12	3	.10
28	45	3	.36	15	1	.04	12	3	.10
29	42	3	.34	15	1	.04	11	2	.06
30	41	3	.33	15	0	.00	12	2	.06
31	45	3	.36	15	0	.00	---	---	---
TOTAL	2705	---	110.33	660	---	5.95	378	---	1.71
YEAR	56303		7189.00						

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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 24...	1130	575	2.0	141	219	26
MAY 08...	1130	305	4.5	39	32	24
10...	2345	505	7.0	90	123	43
21...	0915	737	4.0	26	52	35
24...	1615	683	9.5	24	44	45

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
APR 26...	1050	1.0	1	161	--	1	4	16
26...	1055	1.0	1	161	--	1	4	6
26...	1100	1.0	1	161	--	--	2	16
26...	1105	1.0	1	161	--	--	1	5
26...	1110	1.0	1	161	2	8	44	87

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
APR 26...	31	39	44	51	59	71	100
26...	8	14	59	95	100	--	--
26...	36	66	91	97	99	100	--
26...	33	66	82	85	86	93	100
26...	97	99	100	--	--	--	--

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336625 FALLEN LEAF LAKE NEAR CAMP RICHARDSON, CA

LOCATION.--Lat 38°54'00", long 120°04'14", in NE 1/4 SW 1/4 sec.11, T.12 W., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, 200 ft north of Cathedral Creek, 1.5 mi south of Fallen Leaf Dam, 2.9 mi southwest of Camp Richardson, and 3.7 mi west of South Lake Tahoe Post Office.

DRAINAGE AREA.--16.7 mi<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 National Geodetic Vertical Datum of 1929.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 4.46 ft July 2; minimum, 2.21 ft Feb. 1, 8.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.15	2.65	2.69	2.94	2.21	2.27	2.50	2.66	3.73	4.45	4.18	3.71
2	3.07	2.67	2.64	2.86	2.22	2.27	2.47	2.66	3.63	4.46	4.16	3.69
3	3.03	2.64	2.75	2.79	2.22	2.26	2.45	2.77	3.55	4.44	4.15	3.66
4	3.02	2.61	2.70	2.74	2.22	2.25	2.44	2.85	3.78	4.42	4.13	3.65
5	3.00	2.56	2.65	2.69	2.22	2.25	2.43	2.87	3.78	4.41	4.11	3.63
6	2.96	2.56	2.60	2.65	2.22	2.25	2.43	2.88	3.78	4.38	4.10	3.60
7	2.91	2.62	2.55	2.62	2.22	2.25	2.42	2.90	3.62	4.33	4.09	3.59
8	2.84	2.61	2.54	2.59	2.21	2.25	2.49	2.98	3.52	4.29	4.09	3.57
9	2.77	2.63	2.62	2.56	2.28	2.26	2.48	3.08	3.46	4.30	4.07	3.56
10	2.73	2.77	2.67	2.54	2.29	2.27	2.52	3.18	3.43	4.34	4.06	3.54
11	2.70	3.16	2.75	2.51	2.29	2.28	2.50	3.35	3.42	4.37	4.05	3.50
12	2.66	3.21	2.70	2.49	2.29	2.28	2.48	3.47	3.48	4.39	4.03	3.47
13	2.63	3.18	2.66	2.47	2.42	2.43	2.48	3.59	3.54	4.39	4.02	3.46
14	2.60	3.07	2.65	2.43	2.40	2.45	2.50	3.63	3.67	4.39	4.01	3.44
15	2.57	2.93	2.63	2.42	2.51	2.49	2.56	3.49	3.77	4.40	4.00	3.42
16	2.55	3.08	2.64	2.42	2.55	2.51	2.66	3.34	3.91	4.41	3.99	3.41
17	2.53	3.05	2.62	2.39	2.52	2.49	2.77	3.24	4.01	4.43	3.98	3.39
18	2.51	3.35	2.60	2.38	2.49	2.46	2.84	3.20	4.05	4.42	3.96	3.39
19	2.48	3.50	2.55	2.36	2.47	2.45	2.84	3.24	4.07	4.38	3.95	3.38
20	2.45	3.57	2.51	2.34	2.44	2.43	2.79	3.35	4.07	4.37	3.93	3.36
21	2.44	3.36	2.46	2.32	2.46	2.44	2.74	3.43	4.08	4.34	3.92	3.35
22	2.41	3.18	2.44	2.30	2.45	2.44	2.71	3.48	4.10	4.33	3.91	3.31
23	2.41	3.09	2.51	2.28	2.43	2.44	2.70	3.57	4.10	4.34	3.87	3.28
24	2.40	3.43	2.77	2.27	2.40	2.44	2.72	3.62	4.12	4.33	3.83	3.26
25	2.40	3.30	3.18	2.26	2.38	2.45	2.72	3.58	4.13	4.31	3.81	3.24
26	2.38	3.14	3.35	2.25	2.35	2.50	2.71	3.56	4.13	4.28	3.79	3.23
27	2.34	3.02	3.28	2.23	2.34	2.52	2.68	3.51	4.16	4.26	3.77	3.20
28	2.30	2.92	3.13	2.22	2.31	2.53	2.65	3.54	4.24	4.23	3.76	3.18
29	2.26	2.83	3.02	2.22	2.29	2.52	2.62	3.64	4.34	4.20	3.76	3.14
30	2.30	2.74	3.07	2.22	---	2.50	2.61	3.76	4.43	4.20	3.73	3.17
31	2.47	---	3.02	2.22	---	2.50	---	3.79	---	4.20	3.72	---
MEAN	2.62	2.98	2.74	2.45	2.35	2.39	2.60	3.30	3.87	4.35	3.97	3.42
MAX	3.15	3.57	3.35	2.94	2.55	2.53	2.84	3.79	4.43	4.46	4.18	3.71
MIN	2.26	2.56	2.44	2.22	2.21	2.25	2.42	2.66	3.42	4.20	3.72	3.14
CAL YR 1983	MEAN	3.06	MAX	4.29	MIN	2.26						
WTR YR 1984	MEAN	3.09	MAX	4.46	MIN	2.21						



10336626 TAYLOR CREEK NEAR CAMP RICHARDSON, CA

LOCATION.--Lat 38°55'18", long 120°03'37", in NE 1/4 NW 1/4 sec.2, T.12 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, Eldorado National Forest, on left bank 0.1 mi downstream from Fallen Leaf Lake outlet, and 1.4 mi southwest of Camp Richardson.

DRAINAGE AREA.--16.7 mi<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 6,361.08 ft National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE (unadjusted).--16 years, 49.6 ft<sup>3</sup>/s, 35,940 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 284 ft<sup>3</sup>/s May 14, gage height, 4.61 ft; minimum daily, 4.0 ft<sup>3</sup>/s Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	58	73	113	16	19	38	52	252	61	8.8	4.8
2	77	70	67	95	16	18	36	59	236	82	11	5.3
3	47	68	72	81	16	18	35	63	221	98	9.6	6.5
4	29	65	73	71	16	17	33	81	228	96	8.6	6.2
5	28	59	66	63	16	17	33	89	263	95	8.3	5.7
6	34	52	62	57	16	17	33	91	270	94	8.2	5.7
7	48	58	55	53	16	17	33	93	247	90	7.8	6.3
8	47	61	51	50	17	17	37	102	186	70	7.9	6.6
9	46	60	50	47	20	18	40	130	154	31	7.8	6.0
10	41	72	61	45	21	19	44	157	134	11	7.2	5.9
11	28	151	74	42	21	20	42	189	114	17	6.6	5.6
12	34	171	73	39	21	21	39	233	77	20	5.9	6.1
13	28	178	67	37	27	27	38	257	68	26	5.8	7.5
14	24	155	63	35	31	36	38	281	78	30	5.1	7.7
15	22	127	60	33	34	38	41	269	93	29	4.5	7.0
16	21	126	57	33	42	38	49	230	115	29	4.3	6.7
17	20	232	59	31	41	39	68	195	138	32	6.1	6.2
18	20	238	56	29	38	36	80	176	151	44	6.9	6.7
19	24	209	52	27	35	34	86	177	159	52	6.7	8.4
20	22	267	48	26	33	33	79	195	138	37	7.0	8.0
21	16	244	44	25	34	34	71	228	111	26	7.4	6.8
22	16	193	40	23	32	33	64	237	111	26	7.2	6.1
23	16	153	40	22	29	33	62	250	111	26	6.8	5.0
24	15	195	55	21	29	33	64	272	113	25	6.3	4.0
25	14	224	121	20	26	34	65	265	116	25	6.0	5.9
26	21	180	202	19	24	37	63	258	112	25	5.8	6.8
27	33	144	211	18	23	40	61	247	71	25	5.6	8.9
28	28	117	174	17	21	42	57	220	45	24	4.6	12
29	28	98	140	17	20	42	54	217	24	24	4.6	11
30	29	83	138	17	---	41	51	240	25	14	4.9	11
31	35	---	133	17	---	41	---	256	---	6.6	5.3	---
TOTAL	969	4108	2537	1223	731	909	1534	5809	4161	1290.6	208.6	206.4
MEAN	31.3	137	81.8	39.5	25.2	29.3	51.1	187	139	41.6	6.73	6.88
MAX	78	267	211	113	42	42	86	281	270	98	11	12
MIN	14	52	40	17	16	17	33	52	24	6.6	4.3	4.0
AC-FT	1920	8150	5030	2430	1450	1800	3040	11520	8250	2560	414	409
CAL YR 1983	TOTAL	34170.5	MEAN	93.6	MAX	422	MIN	7.7	AC-FT	67780		
WTR YR 1984	TOTAL	23686.6	MEAN	64.7	MAX	281	MIN	4.0	AC-FT	46980		

PYRAMID AND WINNEMUCCA LAKES BASIN  
10336645 GENERAL CREEK NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'07", long 120°07'03", in NE 1/4 NE 1/4 sec.20, T.14 N., R.17 E., El Dorado County, Hydrologic Unit 16050101, on right bank 200 ft upstream from State Highway 89, 1.1 mi north of Meeks Bay, and 0.4 mi upstream from Lake Tahoe.

DRAINAGE AREA.--7.44 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,250.38 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No known diversion or regulation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft<sup>3</sup>/s Dec. 20, 1981, gage height, 5.43 ft, from rating curve extended above 180 ft<sup>3</sup>/s on basis of computation of flow through culvert; minimum daily, 0.53 ft<sup>3</sup>/s Sept. 10, 1981.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0600	*359	3.42	Dec. 26	0115	148	2.77
Nov. 17	1230	167	2.39	May 13	2200	223	2.72
Nov. 19	2230	267	2.96	May 20	2045	190	2.53
Nov. 24	1415	232	2.77				

Minimum daily, 1.1 ft<sup>3</sup>/s Sept. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	35	23	42	12	9.8	19	36	52	4.6	1.6	1.4
2	10	22	22	36	12	11	18	38	43	4.3	1.6	1.4
3	8.4	12	20	32	11	11	18	66	38	4.2	1.6	1.3
4	6.7	9.3	19	29	11	11	20	80	63	3.8	1.6	1.4
5	5.5	7.7	18	27	11	10	19	71	56	3.6	1.5	1.3
6	4.5	7.0	18	26	11	11	19	65	59	3.5	1.5	1.3
7	4.2	15	17	25	11	12	21	68	48	3.2	1.6	1.3
8	3.9	11	17	24	11	13	26	88	35	2.8	1.6	1.3
9	4.0	9.4	22	23	11	14	22	108	32	2.7	1.5	1.4
10	4.1	18	21	22	12	16	20	115	28	2.6	1.5	1.2
11	3.8	147	32	21	12	16	19	139	25	2.4	1.5	1.2
12	3.6	56	29	20	12	15	20	135	22	2.4	1.5	1.2
13	3.4	42	26	19	14	23	24	147	22	2.3	1.6	1.3
14	3.3	31	33	19	14	26	33	127	22	2.2	1.7	1.2
15	3.1	25	35	17	14	17	50	82	25	2.1	1.6	1.2
16	3.1	45	28	17	14	14	66	55	26	2.1	1.6	1.1
17	3.1	130	26	15	12	13	66	68	21	2.5	1.6	1.2
18	3.1	55	23	15	11	12	50	84	18	3.8	1.6	1.5
19	3.1	90	21	15	11	13	36	105	15	2.9	1.5	1.6
20	3.1	112	20	14	11	16	29	126	13	2.4	1.6	1.4
21	3.1	48	18	14	11	23	26	115	12	2.2	1.5	1.3
22	2.9	35	16	14	10	24	29	113	11	2.1	1.6	1.3
23	3.4	32	17	14	10	27	42	126	9.5	2.4	1.6	1.3
24	3.5	124	34	13	10	31	57	109	9.0	3.0	1.6	1.3
25	3.3	70	100	13	9.9	32	48	95	8.2	2.6	1.6	1.3
26	3.1	42	127	13	9.7	42	33	93	7.3	2.2	1.5	1.4
27	2.9	34	85	13	9.6	37	28	88	6.6	2.0	1.5	1.4
28	2.9	29	48	13	9.9	29	26	91	6.0	1.9	1.5	1.3
29	2.9	26	40	13	9.4	27	28	94	5.4	1.8	1.5	1.2
30	4.3	24	63	12	---	24	34	88	4.9	1.7	1.6	1.5
31	14	---	59	12	---	22	---	71	---	1.7	1.6	---
TOTAL	141.3	1343.4	1077	602	327.5	601.8	946	2886	742.9	84.0	48.5	39.5
MEAN	4.56	44.8	34.7	19.4	11.3	19.4	31.5	93.1	24.8	2.71	1.56	1.32
MAX	14	147	127	42	14	42	66	147	63	4.6	1.7	1.6
MIN	2.9	7.0	16	12	9.4	9.8	18	36	4.9	1.7	1.5	1.1
AC-FT	280	2660	2140	1190	650	1190	1880	5720	1470	167	96	78
CAL YR 1983	TOTAL	13815.7	MEAN	37.9	MAX	259	MIN	1.9	AC-FT	27400		
WTR YR 1984	TOTAL	8839.9	MEAN	24.2	MAX	147	MIN	1.1	AC-FT	17530		



## PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	11	1	.03	35	6	.57	23	0	.00
2	10	1	.03	22	2	.12	22	0	.00
3	8.4	1	.02	12	1	.03	20	0	.00
4	6.7	1	.02	9.3	1	.03	19	0	.00
5	5.5	0	.00	7.7	1	.02	18	0	.00
6	4.5	0	.00	7.0	1	.02	18	0	.00
7	4.2	0	.00	15	2	.08	17	0	.00
8	3.9	0	.00	11	1	.03	17	0	.00
9	4.0	0	.00	9.4	1	.03	22	0	.00
10	4.1	0	.00	18	7	.34	21	0	.00
11	3.8	0	.00	147	62	38	32	2	.17
12	3.6	0	.00	56	3	.45	29	1	.08
13	3.4	0	.00	42	1	.11	26	0	.00
14	3.3	0	.00	31	0	.00	33	0	.00
15	3.1	0	.00	25	0	.00	35	0	.00
16	3.1	0	.00	45	4	.49	28	0	.00
17	3.1	0	.00	130	14	5.1	26	0	.00
18	3.1	0	.00	55	5	.74	23	1	.06
19	3.1	0	.00	90	15	7.0	21	2	.11
20	3.1	0	.00	112	8	2.4	20	2	.11
21	3.1	0	.00	48	2	.26	18	2	.10
22	2.9	0	.00	35	2	.19	16	2	.09
23	3.4	0	.00	32	2	.17	17	2	.09
24	3.5	0	.00	124	23	7.7	34	4	.37
25	3.3	0	.00	70	5	.95	100	15	4.0
26	3.1	0	.00	42	1	.11	127	6	2.1
27	2.9	0	.00	34	0	.00	85	3	.69
28	2.9	0	.00	29	0	.00	48	2	.26
29	2.9	0	.00	26	0	.00	40	2	.22
30	4.3	1	.01	24	0	.00	63	4	.68
31	14	4	.15	---	---	---	59	3	.48
TOTAL	141.3	---	0.26	1343.4	---	64.94	1077	---	9.61

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	42	2	.23	12	1	.03	9.8	2	.05
2	36	1	.10	12	1	.03	11	2	.06
3	32	1	.09	11	1	.03	11	2	.06
4	29	1	.08	11	1	.03	11	2	.06
5	27	1	.07	11	1	.03	10	2	.05
6	26	1	.07	11	1	.03	11	2	.06
7	25	1	.07	11	3	.09	12	2	.06
8	24	1	.06	11	3	.09	13	2	.07
9	23	1	.06	11	3	.09	14	2	.08
10	22	1	.06	12	3	.10	16	2	.09
11	21	1	.06	12	3	.10	16	2	.09
12	20	1	.05	12	3	.10	15	2	.08
13	19	1	.05	14	3	.11	23	5	.31
14	19	1	.05	14	3	.11	26	3	.21
15	17	1	.05	14	3	.11	17	2	.09
16	17	1	.05	14	3	.11	14	2	.08
17	15	1	.04	12	3	.10	13	2	.07
18	15	1	.04	11	3	.09	12	2	.06
19	15	1	.04	11	3	.09	13	2	.07
20	14	1	.04	11	3	.09	16	2	.09
21	14	1	.04	11	3	.09	23	2	.12
22	14	1	.04	10	3	.08	24	2	.13
23	14	1	.04	10	3	.08	27	2	.15
24	13	1	.04	10	3	.08	31	2	.17
25	13	1	.04	9.9	2	.05	32	2	.17
26	13	1	.04	9.7	2	.05	42	3	.34
27	13	1	.04	9.6	2	.05	37	2	.20
28	13	1	.04	9.9	2	.05	29	2	.16
29	13	1	.04	9.4	2	.05	27	2	.15
30	12	1	.03	---	---	---	24	2	.13
31	12	1	.03	---	---	---	22	2	.12
TOTAL	602	---	1.78	327.5	---	2.14	601.8	---	3.63

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	19	2	.10	36	3	.29	52	2	.28
2	18	2	.10	38	3	.31	43	2	.23
3	18	2	.10	66	13	3.0	38	2	.21
4	20	2	.11	80	8	1.7	63	10	1.7
5	19	2	.10	71	4	.77	56	2	.30
6	19	1	.05	65	4	.70	59	3	.48
7	21	1	.06	68	4	.73	48	2	.26
8	26	1	.07	88	8	1.9	35	2	.19
9	22	1	.06	108	11	3.2	32	2	.17
10	20	1	.05	115	11	3.4	28	2	.15
11	19	1	.05	139	19	8.7	25	1	.07
12	20	1	.05	135	18	7.2	22	1	.06
13	24	2	.13	147	19	8.9	22	2	.12
14	33	3	.27	127	14	5.9	22	3	.18
15	50	6	.81	82	6	1.3	25	2	.14
16	66	8	1.4	55	4	.59	26	3	.21
17	66	6	1.1	68	5	.92	21	2	.11
18	50	3	.41	84	7	1.6	18	2	.10
19	36	3	.29	105	11	3.9	15	2	.08
20	29	2	.16	126	14	5.9	13	1	.04
21	26	2	.14	115	12	4.3	12	1	.03
22	29	2	.16	113	8	2.4	11	1	.03
23	42	3	.34	126	13	5.5	9.5	1	.03
24	57	3	.46	109	16	4.7	9.0	1	.02
25	48	3	.39	95	7	1.8	8.2	1	.02
26	33	3	.27	93	5	1.3	7.3	1	.02
27	28	3	.23	88	4	.95	6.6	1	.02
28	26	2	.14	91	4	.98	6.0	1	.02
29	28	3	.23	94	5	1.3	5.4	1	.01
30	34	3	.28	88	5	1.2	4.9	1	.01
31	---	---	---	71	2	.38	---	---	---
TOTAL	946	---	8.11	2886	---	85.72	742.9	---	5.29

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	4.6	1	.01	1.6	0	.00	1.4	0	.00
2	4.3	0	.00	1.6	0	.00	1.4	0	.00
3	4.2	0	.00	1.6	0	.00	1.3	0	.00
4	3.8	0	.00	1.6	0	.00	1.4	0	.00
5	3.6	0	.00	1.5	0	.00	1.3	0	.00
6	3.5	0	.00	1.5	0	.00	1.3	0	.00
7	3.2	0	.00	1.6	0	.00	1.3	0	.00
8	2.8	0	.00	1.6	0	.00	1.3	0	.00
9	2.7	0	.00	1.5	0	.00	1.4	0	.00
10	2.6	0	.00	1.5	0	.00	1.2	0	.00
11	2.4	0	.00	1.5	0	.00	1.2	0	.00
12	2.4	0	.00	1.5	0	.00	1.2	0	.00
13	2.3	0	.00	1.6	0	.00	1.3	0	.00
14	2.2	0	.00	1.7	0	.00	1.2	0	.00
15	2.1	0	.00	1.6	0	.00	1.2	0	.00
16	2.1	0	.00	1.6	0	.00	1.1	0	.00
17	2.5	0	.00	1.6	0	.00	1.2	0	.00
18	3.8	0	.00	1.6	0	.00	1.5	0	.00
19	2.9	0	.00	1.5	0	.00	1.6	0	.00
20	2.4	0	.00	1.6	0	.00	1.4	0	.00
21	2.2	0	.00	1.5	0	.00	1.3	0	.00
22	2.1	0	.00	1.6	0	.00	1.3	0	.00
23	2.4	0	.00	1.6	0	.00	1.3	0	.00
24	3.0	0	.00	1.6	0	.00	1.3	0	.00
25	2.6	0	.00	1.6	0	.00	1.3	0	.00
26	2.2	0	.00	1.5	0	.00	1.4	0	.00
27	2.0	0	.00	1.5	0	.00	1.4	0	.00
28	1.9	0	.00	1.5	0	.00	1.3	0	.00
29	1.8	0	.00	1.5	0	.00	1.2	0	.00
30	1.7	0	.00	1.6	0	.00	1.5	1	.00
31	1.7	0	.00	1.6	0	.00	---	---	---
TOTAL	84.0	---	0.01	48.5	---	0.00	39.5	---	0.00
YEAR	8839.9		181.49						

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336645 GENERAL CREEK NEAR MEEKS BAY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY 22...	1855	135	8.0	11	4.0	24

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA

LOCATION.--Lat 39°06'27", long 120°09'40", in NW 1/4 NE 1/4 sec.36, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft upstream from bridge on State Highway 89, 1,000 ft upstream from Lake Tahoe, and 4.6 mi south of Tahoe City.

DRAINAGE AREA.--11.2 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

REMARKS.--Records good. No known diversion or regulation.

AVERAGE DISCHARGE.--24 years, 39.3 ft<sup>3</sup>/s, 28,470 acre-ft/yr.

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0415	494	3.32	Dec. 25	1900	320	2.81
Nov. 17	0430	*548	3.45	May 12	1900	436	3.17
Nov. 19	2045	531	3.41	May 23	1915	325	2.83
Nov. 24	1315	454	3.22				

Minimum daily, 2.5 ft<sup>3</sup>/s Sept. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	73	52	100	23	19	46	72	179	62	6.5	3.7
2	14	48	48	84	22	19	44	75	165	64	6.1	3.5
3	12	29	47	74	21	19	43	114	151	61	5.9	3.4
4	10	24	45	67	21	19	46	121	198	58	5.7	3.3
5	8.8	20	43	63	21	19	46	110	178	52	5.4	3.4
6	8.2	25	42	60	21	19	44	107	165	48	5.3	3.4
7	7.7	61	40	58	21	21	46	110	138	44	5.1	3.3
8	8.6	33	39	55	21	23	54	138	119	38	4.9	3.3
9	8.2	33	45	51	21	26	47	165	116	33	4.7	3.2
10	8.0	55	42	49	21	28	45	178	111	29	4.7	3.2
11	7.3	222	46	46	21	29	42	222	105	26	4.6	3.2
12	7.0	104	43	44	21	29	43	244	105	23	4.5	3.1
13	6.7	80	44	42	24	39	48	273	108	21	4.3	3.0
14	6.7	62	52	40	24	47	58	265	113	20	4.3	3.0
15	6.5	52	55	37	24	39	80	185	123	19	4.1	3.0
16	6.4	94	50	36	23	34	98	137	134	17	4.1	3.0
17	6.2	313	50	34	23	31	102	137	136	20	4.1	2.8
18	6.2	120	47	33	23	31	93	149	130	20	4.1	3.0
19	6.2	197	44	33	22	31	75	182	121	16	3.9	3.4
20	6.0	190	41	31	22	34	65	223	107	14	3.8	3.0
21	5.9	106	38	30	20	42	60	227	96	13	3.9	2.7
22	5.9	82	38	28	20	44	61	229	91	12	3.8	2.6
23	6.5	72	44	27	20	43	76	250	93	13	3.8	2.6
24	7.4	248	68	26	20	46	88	242	96	14	3.6	2.5
25	6.7	137	226	26	19	48	83	215	91	11	3.6	2.6
26	6.4	96	223	25	18	71	69	211	85	9.4	3.6	2.6
27	6.2	78	156	24	18	68	63	202	78	8.6	3.6	2.6
28	6.2	69	109	24	19	60	59	213	76	8.1	3.6	2.6
29	5.9	63	95	23	19	59	62	236	73	7.6	3.5	2.6
30	11	57	159	23	---	54	68	241	66	7.5	3.5	2.9
31	41	---	138	23	---	52	---	213	---	6.9	3.6	---
TOTAL	273.8	2843	2209	1316	613	1143	1854	5686	3547	796.1	136.2	90.5
MEAN	8.83	94.8	71.3	42.5	21.1	36.9	61.8	183	118	25.7	4.39	3.02
MAX	41	313	226	100	24	71	102	273	198	64	6.5	3.7
MIN	5.9	20	38	23	18	19	42	72	66	6.9	3.5	2.5
AC-FT	543	5640	4380	2610	1220	2270	3680	11280	7040	1580	270	180
CAL YR 1983	TOTAL	30037.3	MEAN	82.3	MAX	554	MIN	5.3	AC-FT	59580		
WTR YR 1984	TOTAL	20507.6	MEAN	56.0	MAX	313	MIN	2.5	AC-FT	40680		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-78, 1980 to current year.

SPECIFIC CONDUCTANCE: Water years 1981-83.

WATER TEMPERATURES: Water years 1975-78, 1980 to current year.

SEDIMENT RECORDS: Water years 1975-78, 1980 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1980 to September 1983.

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

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 212 mg/L Nov. 11; minimum daily mean, 0 mg/L on many days.

SEDIMENT DISCHARGE: Maximum daily, 193 tons Nov. 11; minimum daily, 0 ton on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

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



10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	14	3	.11	73	29	6.6	52	2	.28
2	14	1	.04	48	7	.91	48	2	.26
3	12	1	.03	29	4	.31	47	1	.13
4	10	1	.03	24	4	.26	45	1	.12
5	8.8	1	.02	20	3	.16	43	1	.12
6	8.2	1	.02	25	6	.41	42	1	.11
7	7.7	1	.02	61	18	3.0	40	1	.11
8	8.6	1	.02	33	2	.18	39	1	.11
9	8.2	1	.02	33	3	.27	45	1	.12
10	8.0	1	.02	55	39	13	42	2	.23
11	7.3	1	.02	222	212	193	46	2	.25
12	7.0	1	.02	104	17	4.8	43	2	.23
13	6.7	1	.02	80	5	1.1	44	3	.36
14	6.7	1	.02	62	3	.50	52	3	.42
15	6.5	1	.02	52	2	.28	55	3	.48
16	6.4	1	.02	94	55	22	50	2	.27
17	6.2	1	.02	313	109	114	50	1	.14
18	6.2	2	.03	120	17	5.5	47	0	.00
19	6.2	2	.03	197	74	77	44	0	.00
20	6.0	2	.03	190	26	13	41	0	.00
21	5.9	2	.03	106	5	1.4	38	0	.00
22	5.9	2	.03	82	4	.89	38	0	.00
23	6.5	2	.04	72	5	.97	44	5	.59
24	7.4	2	.04	248	90	75	68	15	2.8
25	6.7	2	.04	137	14	5.2	226	73	50
26	6.4	2	.03	96	5	1.3	223	34	20
27	6.2	2	.03	78	5	1.1	156	30	13
28	6.2	2	.03	69	4	.75	109	7	2.1
29	5.9	2	.03	63	4	.68	95	5	1.3
30	11	7	.21	57	3	.46	159	24	10
31	41	30	4.5	---	---	---	138	6	2.2
TOTAL	273.8	---	5.57	2843	---	544.03	2209	---	105.73

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	100	4	1.1	23	1	.06	19	2	.10
2	84	2	.45	22	1	.06	19	1	.05
3	74	1	.20	21	1	.06	19	1	.05
4	67	1	.18	21	1	.06	19	1	.05
5	63	1	.17	21	1	.06	19	1	.05
6	60	1	.16	21	1	.06	19	1	.05
7	58	1	.16	21	1	.06	21	1	.06
8	55	1	.15	21	1	.06	23	1	.06
9	51	1	.14	21	1	.06	26	1	.07
10	49	1	.13	21	1	.06	28	1	.08
11	46	1	.12	21	1	.06	29	1	.08
12	44	1	.12	21	3	.17	29	1	.08
13	42	1	.11	24	5	.32	39	9	.95
14	40	1	.11	24	5	.32	47	5	.63
15	37	1	.10	24	2	.13	39	2	.21
16	36	1	.10	23	2	.12	34	2	.18
17	34	1	.09	23	2	.12	31	2	.17
18	33	1	.09	23	2	.12	31	2	.17
19	33	1	.09	22	2	.12	31	2	.17
20	31	1	.08	22	2	.12	34	3	.28
21	30	1	.08	20	2	.11	42	4	.45
22	28	1	.08	20	2	.11	44	3	.36
23	27	1	.07	20	2	.11	43	2	.23
24	26	1	.07	20	2	.11	46	2	.25
25	26	1	.07	19	2	.10	48	3	.39
26	25	1	.07	18	2	.10	71	15	2.9
27	24	1	.06	18	2	.10	68	5	.92
28	24	1	.06	19	2	.10	60	4	.65
29	23	1	.06	19	2	.10	59	4	.64
30	23	1	.06	---	---	---	54	4	.58
31	23	1	.06	---	---	---	52	4	.56
TOTAL	1316	---	4.59	613	---	3.14	1143	---	11.47

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	46	3	.37	72	5	.97	179	14	6.8
2	44	3	.36	75	5	1.0	165	13	5.8
3	43	3	.35	114	47	18	151	13	5.3
4	46	3	.37	121	24	8.5	198	29	16
5	46	3	.37	110	12	3.6	178	14	6.7
6	44	3	.36	107	10	2.9	165	12	5.3
7	46	4	.50	110	12	3.6	138	8	3.0
8	54	6	.87	138	37	16	119	9	2.9
9	47	4	.51	165	52	26	116	10	3.1
10	45	4	.49	178	58	31	111	9	2.7
11	42	4	.45	222	92	62	105	8	2.3
12	43	5	.58	244	92	61	105	7	2.0
13	48	5	.65	273	67	49	108	9	2.6
14	58	8	1.3	265	45	32	113	11	3.4
15	80	20	4.8	185	28	14	123	21	7.0
16	98	19	5.3	137	18	6.7	134	22	8.0
17	102	9	2.5	137	19	7.0	136	19	7.0
18	93	6	1.5	149	23	9.3	130	15	5.3
19	75	5	1.0	182	40	20	121	12	3.9
20	65	5	.88	223	55	37	107	9	2.6
21	60	5	.81	227	40	25	96	7	1.8
22	61	6	.99	229	33	20	91	7	1.7
23	76	7	1.4	250	40	27	93	7	1.8
24	88	7	1.7	242	32	21	96	7	1.8
25	83	6	1.3	215	22	13	91	7	1.7
26	69	5	.93	211	20	11	85	6	1.4
27	63	5	.85	202	18	9.8	78	6	1.3
28	59	4	.64	213	25	14	76	5	1.0
29	62	4	.67	236	28	18	73	4	.79
30	68	4	.73	241	26	17	66	4	.71
31	---	---	---	213	18	10	---	---	---
TOTAL	1854	---	33.53	5686	---	595.37	3547	---	115.70
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	62	4	.67	6.5	0	.00	3.7	1	.01
2	64	4	.69	6.1	0	.00	3.5	1	.01
3	61	4	.66	5.9	0	.00	3.4	1	.01
4	58	4	.63	5.7	0	.00	3.3	1	.01
5	52	3	.42	5.4	0	.00	3.4	1	.01
6	48	3	.39	5.3	0	.00	3.4	1	.01
7	44	3	.36	5.1	0	.00	3.3	1	.01
8	38	3	.31	4.9	0	.00	3.3	1	.01
9	33	2	.18	4.7	0	.00	3.2	1	.01
10	29	2	.16	4.7	0	.00	3.2	1	.01
11	26	1	.07	4.6	0	.00	3.2	1	.01
12	23	1	.06	4.5	0	.00	3.1	1	.01
13	21	1	.06	4.3	0	.00	3.0	1	.01
14	20	1	.05	4.3	1	.01	3.0	1	.01
15	19	1	.05	4.1	1	.01	3.0	1	.01
16	17	1	.05	4.1	1	.01	3.0	1	.01
17	20	7	.54	4.1	1	.01	2.8	1	.01
18	20	13	.78	4.1	1	.01	3.0	1	.01
19	16	1	.04	3.9	1	.01	3.4	1	.01
20	14	1	.04	3.8	1	.01	3.0	1	.01
21	13	1	.04	3.9	1	.01	2.7	1	.01
22	12	1	.03	3.8	1	.01	2.6	1	.01
23	13	3	.11	3.8	1	.01	2.6	1	.01
24	14	1	.04	3.6	1	.01	2.5	1	.01
25	11	1	.03	3.6	1	.01	2.6	1	.01
26	9.4	1	.03	3.6	1	.01	2.6	1	.01
27	8.6	1	.02	3.6	1	.01	2.6	1	.01
28	8.1	1	.02	3.6	1	.01	2.6	1	.01
29	7.6	1	.02	3.5	1	.01	2.6	1	.01
30	7.5	0	.00	3.5	1	.01	2.9	1	.01
31	6.9	0	.00	3.6	1	.01	---	---	---
TOTAL	796.1	---	6.55	136.2	---	0.18	90.5	---	0.30
YEAR	20507.6		1426.16						

10336660 BLACKWOOD CREEK NEAR TAHOE CITY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT										
31...	1600	82	5.5	89	20	65	--	--	--	--
NOV										
17...	1155	354	0.0	74	71	35	--	--	--	--
APR										
15...	1815	98	7.0	68	18	50	--	--	--	--
MAY										
13...	1710	303	8.0	99	81	33	--	--	--	--
21...	1945	267	5.5	61	44	34	--	--	--	--
22...	1115	188	7.0	19	9.6	36	--	--	--	--
22...	1900	279	---	66	50	34	--	--	--	--
24...	1830	252	7.0	36	25	42	58	82	97	100
30...	1945	282	---	40	30	33	--	--	--	--
JUNE										
04...	1335	247	6.0	64	43	32	--	--	--	--

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

LOCATION.--Lat 39°07'56", long 120°09'24", in NW 1/4 SE 1/4 sec.24, T.15 N., R.16 E., Placer County, Hydrologic Unit 16050101, Tahoe National Forest, on right bank 165 ft downstream from State Highway 89 bridge, 2.1 mi north of Tahoe Pines, and 2.6 mi southwest of Tahoe City.

DRAINAGE AREA.--9.70 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 6,230 ft, from topographic map.

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

AVERAGE DISCHARGE.--12 years, 30.1 ft<sup>3</sup>/s, 21,810 acre-ft/yr.

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0230	*351	5.66	Dec. 25	1915	284	5.49
Nov. 17	0400	277	5.47	Dec. 30	1930	187	5.18
Nov. 19	2130	347	5.65	May 13	1845	256	5.59
Nov. 24	1200	295	5.52	May 23	1815	250	5.57

Minimum daily, 1.7 ft<sup>3</sup>/s several days in September.DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	43	37	79	17	13	30	52	126	46	5.5	2.3
2	10	27	35	66	17	14	28	53	114	46	5.1	2.2
3	8.3	17	31	57	16	14	29	88	103	46	4.9	2.1
4	7.1	14	29	51	16	14	31	85	151	45	4.7	2.0
5	6.3	12	28	49	16	14	30	77	124	42	4.5	2.1
6	5.8	19	28	46	16	14	29	74	121	39	4.2	2.0
7	5.6	29	26	43	16	16	34	79	102	35	3.9	1.9
8	5.4	17	26	40	16	17	38	97	84	30	3.7	1.9
9	5.3	21	31	38	16	19	32	118	78	26	3.5	1.8
10	5.2	54	27	37	16	21	29	135	72	23	3.4	1.8
11	4.8	155	38	34	16	21	28	174	69	21	3.4	1.7
12	4.6	79	33	31	16	20	30	179	68	19	3.3	1.7
13	4.6	50	33	29	18	31	35	199	70	18	3.3	1.7
14	4.5	39	40	28	18	35	43	196	79	17	3.2	1.8
15	4.3	33	38	27	18	27	56	129	86	16	3.1	1.7
16	4.2	70	35	26	18	24	66	102	91	16	3.0	1.7
17	4.1	194	34	25	17	23	66	106	92	19	2.9	1.7
18	3.9	83	32	24	16	21	59	113	88	18	2.8	1.9
19	3.9	139	30	23	15	22	49	137	82	14	2.7	2.6
20	3.8	153	29	22	14	25	43	168	73	12	2.7	2.2
21	3.8	83	28	21	14	31	40	171	66	11	2.7	2.0
22	3.7	62	28	20	14	29	43	173	63	10	2.7	2.0
23	5.0	57	37	20	13	29	54	190	64	11	2.6	1.9
24	4.8	200	73	20	13	32	62	185	65	11	2.4	1.8
25	4.4	107	205	20	13	34	56	162	63	9.0	2.4	1.8
26	4.1	71	185	19	13	53	48	158	59	8.1	2.4	1.9
27	3.9	58	122	18	13	46	43	149	55	7.3	2.3	1.9
28	3.8	51	80	18	13	41	42	158	55	6.9	2.2	1.8
29	3.7	45	72	17	13	39	46	176	53	6.4	2.2	1.8
30	11	41	144	17	---	35	51	185	48	6.2	2.2	2.3
31	29	---	117	17	---	33	---	155	---	5.9	2.4	---
TOTAL	188.9	2023	1731	982	447	807	1270	4223	2464	640.8	100.3	58.0
MEAN	6.09	67.4	55.8	31.7	15.4	26.0	42.3	136	82.1	20.7	3.24	1.93
MAX	29	200	205	79	18	53	66	199	151	46	5.5	2.6
MIN	3.7	12	26	17	13	13	28	52	48	5.9	2.2	1.7
AC-FT	375	4010	3430	1950	887	1600	2520	8380	4890	1270	199	115
CAL YR 1983	TOTAL	23595.2	MEAN	64.6	MAX	434	MIN	3.7	AC-FT	46800		
WTR YR 1984	TOTAL	14935.0	MEAN	40.8	MAX	205	MIN	1.7	AC-FT	29620		

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE: Water years 1981-83

WATER TEMPERATURES: Water years 1973-78, 1980 to current year.

SEDIMENT RECORDS: Water years 1973-78, 1980 to current year.

SPECIFIC CONDUCTANCE: October 1980 to September 1983.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

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

SEDIMENT CONCENTRATIONS: Maximum daily mean, 174 mg/L Nov. 11; minimum daily mean, 0 mg/L on many days.

SEDIMENT DISCHARGE: Maximum daily, 123 tons Nov. 11; minimum daily, 0 ton on many days.

[illegible]

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	10	8	.22	43	50	6.5	37	0	.00
2	10	5	.14	27	9	.66	35	0	.00
3	8.3	2	.04	17	3	.14	31	0	.00
4	7.1	2	.04	14	2	.08	29	0	.00
5	6.3	1	.02	12	2	.06	28	0	.00
6	5.8	1	.02	19	8	.41	28	0	.00
7	5.6	1	.02	29	16	1.3	26	0	.00
8	5.4	1	.01	17	4	.18	26	3	.21
9	5.3	1	.01	21	5	.28	31	7	.59
10	5.2	1	.01	54	90	35	27	5	.36
11	4.8	1	.01	155	174	123	38	10	1.0
12	4.6	1	.01	79	17	3.6	33	4	.36
13	4.6	1	.01	50	11	1.5	33	4	.36
14	4.5	1	.01	39	8	.84	40	3	.32
15	4.3	1	.01	33	4	.36	38	2	.21
16	4.2	1	.01	70	24	7.7	35	2	.19
17	4.1	1	.01	194	58	35	34	1	.09
18	3.9	1	.01	83	12	2.7	32	1	.09
19	3.9	1	.01	139	124	87	30	1	.08
20	3.8	1	.01	153	27	11	29	1	.08
21	3.8	1	.01	83	8	1.8	28	1	.08
22	3.7	1	.01	62	6	1.0	28	1	.08
23	5.0	9	.12	57	6	.92	37	1	.10
24	4.8	11	.14	200	39	27	73	5	.99
25	4.4	8	.10	107	2	.58	205	53	33
26	4.1	4	.04	71	1	.19	185	13	6.5
27	3.9	2	.02	58	0	.00	122	3	.99
28	3.8	1	.01	51	0	.00	80	1	.22
29	3.7	1	.01	45	0	.00	72	1	.19
30	11	39	1.6	41	0	.00	144	8	3.1
31	29	121	15	---	---	---	117	4	1.3
TOTAL	188.9	---	17.69	2023	---	348.80	1731	---	50.49

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY			MARCH		
1	79	3	.64	17	0	.00	13	1	.04
2	66	2	.36	17	0	.00	14	1	.04
3	57	1	.15	16	0	.00	14	1	.04
4	51	0	.00	16	1	.04	14	1	.04
5	49	0	.00	16	2	.09	14	1	.04
6	46	0	.00	16	3	.13	14	1	.04
7	43	0	.00	16	3	.13	16	1	.04
8	40	0	.00	16	3	.13	17	1	.05
9	38	0	.00	16	3	.13	19	1	.05
10	37	0	.00	16	3	.13	21	1	.06
11	34	0	.00	16	3	.13	21	1	.06
12	31	0	.00	16	3	.13	20	1	.05
13	29	0	.00	18	3	.15	31	7	.59
14	28	0	.00	18	3	.15	35	5	.47
15	27	0	.00	18	3	.15	27	2	.15
16	26	0	.00	18	3	.15	24	1	.06
17	25	0	.00	17	2	.09	23	1	.06
18	24	0	.00	16	2	.09	21	1	.06
19	23	0	.00	15	2	.08	22	1	.06
20	22	0	.00	14	2	.08	25	1	.07
21	21	0	.00	14	2	.08	31	1	.08
22	20	0	.00	14	2	.08	29	1	.08
23	20	0	.00	13	2	.07	29	1	.08
24	20	0	.00	13	2	.07	32	1	.09
25	20	0	.00	13	2	.07	34	1	.09
26	19	0	.00	13	1	.04	53	8	1.1
27	18	0	.00	13	1	.04	46	2	.25
28	18	0	.00	13	1	.04	41	1	.11
29	17	0	.00	13	1	.04	39	0	.00
30	17	0	.00	---	---	---	35	0	.00
31	17	0	.00	---	---	---	33	0	.00
TOTAL	982	---	1.15	447	---	2.51	807	---	3.95

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

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	30	0	.00	52	3	.42	126	8	2.7
2	28	0	.00	53	3	.43	114	10	3.1
3	29	0	.00	88	15	3.6	103	10	2.8
4	31	0	.00	85	9	2.1	151	37	18
5	30	0	.00	77	5	1.0	124	10	3.3
6	29	2	.16	74	5	1.0	121	8	2.6
7	34	5	.46	79	6	1.3	102	5	1.4
8	38	5	.51	97	15	3.9	84	6	1.4
9	32	5	.43	118	18	5.7	78	7	1.5
10	29	4	.31	135	28	10	72	6	1.2
11	28	2	.15	174	42	24	69	4	.75
12	30	2	.16	179	36	20	68	4	.73
13	35	2	.19	199	34	20	70	4	.76
14	43	5	.58	196	20	11	79	10	2.4
15	56	6	.91	129	8	2.8	86	8	2.0
16	66	6	1.1	102	6	1.7	91	6	1.5
17	66	3	.53	106	10	2.9	92	4	.99
18	59	2	.32	113	12	3.7	88	3	.71
19	49	2	.26	137	18	6.7	82	3	.66
20	43	2	.23	168	22	10	73	3	.59
21	40	2	.22	171	22	10	66	3	.53
22	43	2	.23	173	24	11	63	4	.68
23	54	4	.58	190	30	15	64	4	.69
24	62	4	.67	185	20	10	65	4	.70
25	56	3	.45	162	13	5.7	63	2	.34
26	48	2	.26	158	16	6.8	59	2	.32
27	43	1	.12	149	13	5.2	55	3	.45
28	42	1	.11	158	17	7.3	55	4	.59
29	46	1	.12	176	20	9.5	53	4	.57
30	51	1	.14	185	23	11	48	4	.52
31	---	---	---	155	13	5.4	---	---	---
TOTAL	1270	---	9.20	4223	---	229.15	2464	---	54.48
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	46	3	.37	5.5	0	.00	2.3	0	.00
2	46	2	.25	5.1	0	.00	2.2	0	.00
3	46	2	.25	4.9	0	.00	2.1	0	.00
4	45	2	.24	4.7	0	.00	2.0	0	.00
5	42	2	.23	4.5	0	.00	2.1	0	.00
6	39	2	.21	4.2	0	.00	2.0	0	.00
7	35	2	.19	3.9	0	.00	1.9	0	.00
8	30	2	.16	3.7	0	.00	1.9	0	.00
9	26	2	.14	3.5	0	.00	1.8	0	.00
10	23	2	.12	3.4	0	.00	1.8	0	.00
11	21	2	.11	3.4	0	.00	1.7	0	.00
12	19	2	.10	3.3	1	.01	1.7	0	.00
13	18	2	.10	3.3	1	.01	1.7	1	.00
14	17	2	.09	3.2	1	.01	1.8	1	.00
15	16	2	.09	3.1	1	.01	1.7	1	.00
16	16	2	.09	3.0	1	.01	1.7	1	.00
17	19	11	.86	2.9	1	.01	1.7	1	.00
18	18	11	.59	2.8	1	.01	1.9	1	.01
19	14	1	.04	2.7	1	.01	2.6	2	.01
20	12	1	.03	2.7	1	.01	2.2	1	.01
21	11	1	.03	2.7	1	.01	2.0	1	.01
22	10	0	.00	2.7	1	.01	2.0	1	.01
23	11	0	.00	2.6	1	.01	1.9	1	.01
24	11	0	.00	2.4	1	.01	1.8	1	.00
25	9.0	0	.00	2.4	1	.01	1.8	1	.00
26	8.1	0	.00	2.4	1	.01	1.9	1	.01
27	7.3	0	.00	2.3	1	.01	1.9	1	.01
28	6.9	0	.00	2.2	1	.01	1.8	1	.00
29	6.4	0	.00	2.2	1	.01	1.8	1	.00
30	6.2	0	.00	2.2	1	.01	2.3	1	.01
31	5.9	0	.00	2.4	1	.01	---	---	---
TOTAL	640.8	---	4.29	100.3	---	0.20	58.0	---	0.09
YEAR	14935.0		722.00						

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV								
10...	2250	210	3.0	521	295	13	18	28
19...	1920	284	1.0	561	430	--	--	--
MAY								
11...	1945	240	5.0	97	63	--	--	--
13...	1635	237	7.5	91	58	--	--	--
21...	1840	213	5.5	57	33	--	--	--
22...	1840	224	---	54	33	--	--	--
30...	2010	228	---	32	20	--	--	--

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
NOV							
10...	43	61	74	81	88	94	100
19...	--	--	30	--	--	--	--
MAY							
11...	--	--	47	--	--	--	--
13...	--	--	38	--	--	--	--
21...	--	--	34	--	--	--	--
22...	--	--	37	--	--	--	--
30...	--	--	54	--	--	--	--



## 10336689 SNOW CREEK AT TAHOE VISTA, CA

LOCATION.--Lat 39°14'18", long 120°02'19", in SE 1/4 NW 1/4 sec.13, T.16 N., R.17 E., Placer County, Hydrologic Unit 16050101, on right bank 300 ft downstream from State Highway 28, 0.6 mi east of Tahoe Vista Post Office, and 20 ft upstream from Lake Tahoe.

DRAINAGE AREA.--4.43 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 6,225.24 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except flows below 5 ft<sup>3</sup>/s, which are poor. Some small diversions above station for domestic use.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100 ft<sup>3</sup>/s May 29, 1983, gage height, 4.34 ft; minimum discharge, no flow many days during July, August, and September, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19 ft<sup>3</sup>/s, Nov. 24, gage height, 3.83 ft, no peak above base of 20 ft<sup>3</sup>/s; maximum gage height, 4.12 ft, Dec. 3, (backwater from ice); minimum daily, 0.03 ft<sup>3</sup>/s Sept. 20-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	.90	1.5	4.1	2.0	2.2	7.2	6.5	3.3	.72	.13	.04
2	.82	.75	1.4	3.8	2.0	2.4	6.6	6.3	3.1	.73	.13	.04
3	.70	.65	1.3	3.6	2.0	2.4	6.6	6.7	3.2	.69	.12	.04
4	.61	.68	1.2	3.8	2.0	2.4	6.8	6.7	3.4	.59	.12	.04
5	.58	.66	1.2	3.8	2.1	2.4	6.7	6.8	3.3	.52	.12	.04
6	.55	.55	1.3	4.0	2.1	2.6	6.3	6.7	2.8	.45	.11	.04
7	.51	.76	1.5	3.9	2.1	2.8	6.5	6.7	2.5	.40	.11	.04
8	.49	.67	1.6	3.8	2.1	3.1	8.2	7.0	2.3	.36	.11	.04
9	.51	.63	1.6	3.6	2.3	3.3	6.9	7.5	2.2	.33	.10	.04
10	.51	2.5	2.5	3.6	2.2	3.6	7.1	8.0	2.1	.30	.10	.04
11	.48	1.2	2.3	3.4	2.1	3.7	6.5	8.7	2.0	.28	.09	.06
12	.47	.85	2.3	3.2	2.2	3.6	6.3	9.2	1.9	.26	.09	.04
13	.46	1.6	2.1	3.1	2.5	4.1	6.6	9.4	1.7	.24	.08	.04
14	.46	.82	2.0	3.1	2.4	3.3	7.5	9.9	1.2	.23	.08	.04
15	.46	.66	1.8	2.9	2.5	3.1	8.8	9.5	1.4	.22	.07	.04
16	.47	2.2	1.7	2.9	2.5	2.8	10	8.4	1.6	.23	.07	.04
17	.47	4.5	1.6	2.7	2.2	2.8	12	7.6	1.5	.28	.06	.04
18	.48	1.6	1.6	2.5	2.2	2.5	12	6.9	1.4	.25	.06	.04
19	.48	3.6	1.5	2.4	2.2	2.5	10	6.3	1.2	.21	.06	.04
20	.49	4.9	1.5	2.4	2.2	3.0	9.4	6.0	1.1	.18	.06	.03
21	.47	2.2	1.5	2.3	2.2	3.8	8.7	5.7	1.0	.16	.06	.03
22	.46	1.9	1.5	2.3	2.1	3.9	8.8	5.5	1.0	.17	.05	.03
23	.46	2.3	1.8	2.2	2.2	4.3	9.3	5.6	1.0	.18	.05	.03
24	.44	11	2.8	2.1	2.1	5.4	9.5	5.6	1.0	.18	.05	.03
25	.43	3.6	8.4	2.1	2.0	6.7	9.2	5.3	.97	.17	.05	.03
26	.43	2.5	8.0	2.0	2.0	9.2	8.5	5.1	.90	.16	.04	.03
27	.42	2.2	7.6	2.0	2.0	9.3	8.0	4.8	.83	.16	.04	.03
28	.42	2.1	4.9	2.0	2.0	9.1	7.3	4.5	.77	.15	.04	.03
29	.42	1.9	4.2	1.9	2.0	8.8	7.0	4.2	.73	.14	.04	.03
30	.43	1.7	7.1	2.0	---	8.0	6.6	3.9	.72	.14	.04	.27
31	1.5	---	4.9	2.0	---	7.7	---	3.6	---	.13	.04	---
TOTAL	16.87	62.08	86.2	89.5	62.5	134.8	240.9	204.6	52.12	9.21	2.37	1.35
MEAN	.54	2.07	2.78	2.89	2.16	4.35	8.03	6.60	1.74	.30	.076	.045
MAX	1.5	11	8.4	4.1	2.5	9.3	12	9.9	3.4	.73	.13	.27
MIN	.42	.55	1.2	1.9	2.0	2.2	6.3	3.6	.72	.13	.04	.03
AC-FT	33	123	171	178	124	267	478	406	103	18	4.7	2.7
CAL YR 1983	TOTAL	3187.39	MEAN	8.73	MAX	89	MIN	.41	AC-FT	6320		
WTR YR 1984	TOTAL	962.50	MEAN	2.63	MAX	12	MIN	.03	AC-FT	1910		

10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

PERIOD OF RECORD:--Water years 1981 to current  
SPECIFIC CONDUCTANCE: Water years 1981-83.

WATER TEMPERATURES: Water years 1981 to current year.

SEDIMENT RECORDS: Water years 1981 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1981 to September 1983.

WATER TEMPERATURES: October 1980 to current year.

SEDIMENT RECORDS: October 1980 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

SEDIMENT DISCHARGE: Maximum daily, 23 tons Nov. 21, 1981; minimum daily, 0 ton on many days each year.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 90 mg/L Mar. 13; minimum daily mean, 1 mg/L Oct. 7-15.

SEDIMENT DISCHARGE: Maximum daily, 1.1 tons Dec. 25, Mar. 13; minimum daily, 0 ton on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

[illegible]

## PYRAMID AND WINNEMUCCA LAKES BASIN

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10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER				DECEMBER	
1	.99	2	.01	.90	6	.01	1.5	6	.02
2	.82	2	.00	.75	5	.01	1.4	5	.02
3	.70	2	.00	.65	4	.01	1.3	5	.02
4	.61	2	.00	.68	4	.01	1.2	5	.02
5	.58	2	.00	.66	4	.01	1.2	5	.02
6	.55	2	.00	.55	5	.01	1.3	4	.01
7	.51	1	.00	.76	10	.02	1.5	3	.01
8	.49	1	.00	.67	5	.01	1.6	3	.01
9	.51	1	.00	.63	4	.01	1.6	8	.03
10	.51	1	.00	2.5	79	.53	2.5	5	.03
11	.48	1	.00	1.2	31	.10	2.3	8	.05
12	.47	1	.00	.85	21	.05	2.3	5	.03
13	.46	1	.00	1.6	55	.24	2.1	4	.02
14	.46	1	.00	.82	6	.01	2.0	4	.02
15	.46	1	.00	.66	7	.01	1.8	4	.02
16	.47	2	.00	2.2	10	.06	1.7	4	.02
17	.47	2	.00	4.5	25	.30	1.6	3	.01
18	.48	2	.00	1.6	5	.02	1.6	3	.01
19	.48	3	.00	3.6	30	.29	1.5	3	.01
20	.49	3	.00	4.9	5	.07	1.5	3	.01
21	.47	3	.00	2.2	5	.03	1.5	3	.01
22	.46	4	.00	1.9	5	.03	1.5	3	.01
23	.46	4	.00	2.3	5	.03	1.8	3	.01
24	.44	4	.00	11	11	.33	2.8	12	.09
25	.43	5	.01	3.6	7	.07	8.4	50	1.1
26	.43	5	.01	2.5	7	.05	8.0	25	.54
27	.42	4	.00	2.2	7	.04	7.6	24	.49
28	.42	3	.00	2.1	7	.04	4.9	20	.26
29	.42	2	.00	1.9	7	.04	4.2	14	.16
30	.43	2	.00	1.7	6	.03	7.1	12	.23
31	1.5	37	.15	---	---	---	4.9	4	.05
TOTAL	16.87	---	0.18	62.08	---	2.47	86.2	---	3.34

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY				FEBRUARY				MARCH	
1	4.1	4	.04	2.0	2	.01	2.2	9	.05
2	3.8	4	.04	2.0	2	.01	2.4	8	.05
3	3.6	3	.03	2.0	2	.01	2.4	7	.05
4	3.8	3	.03	2.0	2	.01	2.4	6	.04
5	3.8	3	.03	2.1	2	.01	2.4	5	.03
6	4.0	3	.03	2.1	2	.01	2.6	4	.03
7	3.9	2	.02	2.1	2	.01	2.8	3	.02
8	3.8	2	.02	2.1	2	.01	3.1	3	.03
9	3.6	2	.02	2.3	2	.01	3.3	3	.03
10	3.6	2	.02	2.2	2	.01	3.6	3	.03
11	3.4	2	.02	2.1	2	.01	3.7	3	.03
12	3.2	2	.02	2.2	2	.01	3.6	3	.03
13	3.1	2	.02	2.5	29	.21	4.1	90	1.1
14	3.1	2	.02	2.4	13	.08	3.3	23	.20
15	2.9	2	.02	2.5	11	.07	3.1	11	.09
16	2.9	2	.02	2.5	11	.07	2.8	6	.05
17	2.7	2	.01	2.2	11	.07	2.8	3	.02
18	2.5	2	.01	2.2	11	.07	2.5	3	.02
19	2.4	2	.01	2.2	11	.07	2.5	3	.02
20	2.4	2	.01	2.2	11	.07	3.0	3	.02
21	2.3	2	.01	2.2	11	.07	3.8	3	.03
22	2.3	2	.01	2.1	11	.06	3.9	3	.03
23	2.2	2	.01	2.2	11	.07	4.3	3	.03
24	2.1	2	.01	2.1	11	.06	5.4	3	.04
25	2.1	2	.01	2.0	11	.06	6.7	4	.07
26	2.0	2	.01	2.0	11	.06	9.2	11	.27
27	2.0	2	.01	2.0	11	.06	9.3	18	.45
28	2.0	2	.01	2.0	11	.06	9.1	24	.59
29	1.9	2	.01	2.0	10	.05	8.8	23	.55
30	2.0	2	.01	---	---	---	8.0	16	.35
31	2.0	2	.01	---	---	---	7.7	8	.17
TOTAL	89.5	---	0.55	62.5	---	1.38	134.8	---	4.52

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	7.2	6	.12	6.5	12	.21	3.3	4	.04
2	6.6	5	.09	6.3	9	.15	3.1	4	.03
3	6.6	5	.09	6.7	9	.16	3.2	4	.03
4	6.8	5	.09	6.7	7	.13	3.4	9	.08
5	6.7	5	.09	6.8	9	.17	3.3	6	.05
6	6.3	5	.09	6.7	9	.16	2.8	5	.04
7	6.5	5	.09	6.7	9	.16	2.5	4	.03
8	8.2	8	.18	7.0	9	.17	2.3	4	.02
9	6.9	5	.09	7.5	9	.18	2.2	4	.02
10	7.1	6	.12	8.0	10	.22	2.1	5	.03
11	6.5	5	.09	8.7	10	.23	2.0	5	.03
12	6.3	4	.07	9.2	11	.27	1.9	5	.03
13	6.6	6	.11	9.4	13	.33	1.7	5	.02
14	7.5	8	.16	9.9	18	.48	1.2	5	.02
15	8.8	11	.26	9.5	15	.38	1.4	5	.02
16	10	15	.41	8.4	6	.14	1.6	5	.02
17	12	17	.55	7.6	5	.10	1.5	6	.02
18	12	17	.55	6.9	5	.09	1.4	5	.02
19	10	14	.38	6.3	5	.09	1.2	7	.02
20	9.4	10	.25	6.0	5	.08	1.1	10	.03
21	8.7	10	.23	5.7	5	.08	1.0	12	.03
22	8.8	12	.29	5.5	5	.07	1.0	11	.03
23	9.3	15	.38	5.6	5	.08	1.0	11	.03
24	9.5	14	.36	5.6	5	.08	1.0	11	.03
25	9.2	13	.32	5.3	4	.06	.97	11	.03
26	8.5	8	.18	5.1	4	.06	.90	11	.03
27	8.0	9	.19	4.8	4	.05	.83	11	.02
28	7.3	9	.18	4.5	4	.05	.77	11	.02
29	7.0	9	.17	4.2	4	.05	.73	11	.02
30	6.6	16	.29	3.9	4	.04	.72	11	.02
31	---	---	---	3.6	4	.04	---	---	---
TOTAL	240.9	---	6.47	204.6	---	4.56	52.12	---	0.86
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	.72	11	.02	.13	17	.01	.04	22	.00
2	.73	11	.02	.13	17	.01	.04	22	.00
3	.69	11	.02	.12	17	.01	.04	21	.00
4	.59	11	.02	.12	18	.01	.04	21	.00
5	.52	11	.02	.12	18	.01	.04	21	.00
6	.45	11	.01	.11	18	.01	.04	22	.00
7	.40	11	.01	.11	19	.01	.04	22	.00
8	.36	11	.01	.11	19	.01	.04	23	.00
9	.33	11	.01	.10	19	.01	.04	23	.00
10	.30	11	.01	.10	20	.01	.04	24	.00
11	.28	11	.01	.09	20	.00	.06	24	.00
12	.26	11	.01	.09	20	.00	.04	25	.00
13	.24	11	.01	.08	21	.00	.04	25	.00
14	.23	11	.01	.08	21	.00	.04	26	.00
15	.22	11	.01	.07	21	.00	.04	26	.00
16	.23	23	.01	.07	22	.00	.04	26	.00
17	.28	20	.02	.06	22	.00	.04	26	.00
18	.25	16	.01	.06	22	.00	.04	26	.00
19	.21	15	.01	.06	23	.00	.04	29	.00
20	.18	15	.01	.06	23	.00	.03	27	.00
21	.16	15	.01	.06	23	.00	.03	26	.00
22	.17	15	.01	.05	23	.00	.03	26	.00
23	.18	21	.01	.05	23	.00	.03	25	.00
24	.18	19	.01	.05	23	.00	.03	24	.00
25	.17	15	.01	.05	23	.00	.03	24	.00
26	.16	15	.01	.04	23	.00	.03	23	.00
27	.16	15	.01	.04	23	.00	.03	22	.00
28	.15	15	.01	.04	22	.00	.03	22	.00
29	.14	16	.01	.04	22	.00	.03	22	.00
30	.14	16	.01	.04	22	.00	.27	24	.02
31	.13	16	.01	.04	22	.00	---	---	---
TOTAL	9.21	---	0.37	2.37	---	0.10	1.35	---	0.02
YEAR	962.50		24.82						

10336689 SNOW CREEK AT TAHOE VISTA, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
FEB									
13...	1230	2.8	1.5	57	.43	97	--	--	--
MAR									
13...	1335	4.8	3.5	182	2.4	93	--	--	--
13...	1750	5.0	0.5	217	2.9	72	73	93	100

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
APR								
30...	1045	3.5	1	6.7	0	3	46	65
30...	1050	3.5	1	6.7	0	2	49	60

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
APR							
30...	66	66	67	70	81	97	100
30...	60	61	63	66	80	94	100

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336698 THIRD CREEK NEAR CRYSTAL BAY, NV

LOCATION.--Lat 39°14'26", long 119°56'41", in SW¼ sec.22, T.16 N., R.18 E., Washoe County, Hydrologic Unit 16050101, on right bank 50 ft upstream from culvert on Lakeshore Boulevard, 600 ft upstream from mouth, and 3 mi east of Crystal Bay.

DRAINAGE AREA.--6.05 mi<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 6,000.00 ft, National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--11 years (water years 1970-73, 1978-84), 9.00 ft<sup>3</sup>/s, 6,520 acre-ft/yr.

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

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 13	1830	54	2.84
May 30	1830	*78	3.03

Minimum daily discharge, 3.9 ft<sup>3</sup>/s Feb. 17, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	8.0	6.4	4.8	4.3	8.0	12	41	21	9.0	5.0
2	12	11	7.5	5.9	4.6	4.5	8.0	11	40	20	8.2	4.9
3	11	10	7.1	5.9	4.6	4.7	8.3	13	37	20	6.3	4.8
4	9.5	9.8	6.8	6.4	4.6	4.5	8.6	15	37	20	6.0	4.9
5	8.5	8.8	6.4	6.6	4.8	4.6	8.9	15	32	18	5.8	5.2
6	8.5	8.6	7.0	6.6	4.8	4.8	8.9	15	30	18	5.6	5.0
7	11	9.3	7.2	6.6	4.8	5.1	9.3	18	28	17	5.4	5.0
8	12	7.8	7.4	6.4	4.6	5.3	10	21	26	16	5.3	4.9
9	9.8	9.9	7.8	6.4	4.8	5.5	9.5	24	25	15	5.2	4.8
10	8.9	13	7.7	5.9	4.8	5.7	9.8	29	25	14	5.5	4.8
11	8.5	17	8.5	5.9	4.6	5.5	9.8	36	26	13	5.6	4.9
12	8.3	12	7.7	5.7	4.9	5.2	9.5	38	26	12	5.5	4.9
13	8.7	9.0	7.8	5.5	4.7	5.7	10	42	26	12	5.8	4.9
14	9.3	9.7	9.9	5.3	5.7	6.4	12	40	32	12	5.6	4.8
15	8.8	12	9.1	5.2	4.8	5.9	14	32	31	12	5.8	4.8
16	8.5	14	8.6	5.2	4.3	5.7	16	25	30	11	5.5	4.8
17	8.7	18	8.4	4.8	3.9	5.9	16	22	32	11	5.3	4.7
18	8.0	12	7.4	4.5	4.2	5.9	11	25	32	11	5.2	4.7
19	7.9	13	7.0	4.8	4.3	6.2	13	31	32	11	5.2	5.3
20	7.7	12	6.7	5.0	4.4	7.2	12	38	31	11	5.2	5.0
21	7.3	10	6.3	4.8	4.5	7.5	11	41	29	10	5.4	4.9
22	7.1	7.8	5.9	4.7	4.5	7.2	12	44	27	10	5.4	4.8
23	8.2	9.0	6.3	4.6	4.4	7.2	14	52	27	11	5.2	4.7
24	7.7	14	9.6	4.8	4.3	8.0	15	49	26	12	5.1	4.7
25	7.2	11	12	4.8	4.1	8.1	15	47	25	11	5.2	4.7
26	7.1	6.6	9.8	4.7	4.0	8.9	13	47	24	9.9	5.1	4.7
27	6.9	7.4	8.0	4.6	3.9	8.3	12	47	22	9.4	5.0	4.7
28	6.9	7.9	6.0	4.7	4.1	8.3	12	48	22	9.2	4.9	4.8
29	7.0	8.0	6.6	4.5	4.0	8.1	11	55	22	9.0	4.9	4.8
30	11	8.0	9.8	4.6	---	8.0	11	58	22	9.1	5.1	5.1
31	16	---	7.2	4.8	---	8.3	---	48	---	9.0	5.2	---
TOTAL	282.0	319.6	241.5	166.6	130.8	196.5	338.6	1038	865	404.6	173.5	146.0
MEAN	9.10	10.7	7.79	5.37	4.51	6.34	11.3	33.5	28.8	13.1	5.60	4.87
MAX	16	18	12	6.6	5.7	8.9	16	58	41	21	9.0	5.3
MIN	6.9	6.6	5.9	4.5	3.9	4.3	8.0	11	22	9.0	4.9	4.7
AC-FT	559	634	479	330	259	390	672	2060	1720	803	344	290
CAL YR 1983	TOTAL	5413.1	MEAN	14.8	MAX	67	MIN	3.6	AC-FT	10740		
WTR YR 1984	TOTAL	4302.7	MEAN	11.8	MAX	58	MIN	3.9	AC-FT	8530		

WATER-QUALITY RECORDS

SEDIMENT RECORDS: Water years 1980 to current year.

SEDIMENT RECORDS: January 1980 to current year.

SEDIMENT DISCHARGE: Maximum daily, 183 tons June 19, 1982; minimum daily, 0 ton on many days during October 1980 and December 8, 1981.

SEDIMENT DISCHARGE: Maximum daily, 23 tons May 23; minimum daily, 0.01 ton Aug. 7-10, 12.

[illegible]

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336698 THIRD CREEK NEAR CRYSTAL BAY, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	14	14	.53	13	7	.25	8.0	4	.09
2	12	7	.23	11	4	.12	7.5	4	.08
3	11	2	.06	10	3	.08	7.1	3	.06
4	9.5	2	.05	9.8	2	.05	6.8	3	.06
5	8.5	2	.05	8.8	2	.05	6.4	3	.05
6	8.5	2	.05	8.6	3	.07	7.0	3	.06
7	11	12	.73	9.3	6	.15	7.2	3	.06
8	12	10	.32	7.8	5	.11	7.4	3	.06
9	9.8	4	.11	9.9	13	.35	7.8	3	.06
10	8.9	4	.10	13	17	.60	7.7	3	.06
11	8.5	4	.09	17	47	4.1	8.5	4	.09
12	8.3	4	.09	12	15	.68	7.7	4	.08
13	8.7	5	.12	9.0	5	.12	7.8	4	.08
14	9.3	5	.13	9.7	7	.18	9.9	4	.11
15	8.8	5	.12	12	12	.58	9.1	4	.10
16	8.5	5	.11	14	12	.45	8.6	4	.09
17	8.7	5	.12	18	49	3.2	8.4	4	.09
18	8.0	4	.09	12	8	.26	7.4	4	.08
19	7.9	3	.06	13	16	.56	7.0	4	.08
20	7.7	2	.04	12	10	.32	6.7	4	.07
21	7.3	2	.04	10	9	.24	6.3	4	.07
22	7.1	2	.04	7.8	8	.17	5.9	4	.06
23	8.2	5	.11	9.0	6	.15	6.3	4	.07
24	7.7	2	.04	14	28	1.3	9.6	32	.83
25	7.2	2	.04	11	6	.18	12	27	.87
26	7.1	2	.04	6.6	6	.11	9.8	11	.29
27	6.9	2	.04	7.4	5	.10	8.0	7	.15
28	6.9	2	.04	7.9	4	.09	6.0	6	.10
29	7.0	2	.04	8.0	4	.09	6.6	5	.09
30	11	17	.50	8.0	4	.09	9.8	24	.64
31	16	33	2.3	---	---	---	7.2	8	.16
TOTAL	282.0	---	6.43	319.6	---	14.80	241.5	---	4.84

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	6.4	8	.14	4.8	4	.05	4.3	4	.05
2	5.9	8	.13	4.6	5	.06	4.5	4	.05
3	5.9	8	.13	4.6	5	.06	4.7	4	.05
4	6.4	8	.14	4.6	5	.06	4.5	4	.05
5	6.6	8	.14	4.8	5	.06	4.6	4	.05
6	6.6	8	.14	4.8	5	.06	4.8	4	.05
7	6.6	8	.14	4.8	5	.06	5.1	8	.11
8	6.4	8	.14	4.6	5	.06	5.3	7	.10
9	6.4	8	.14	4.8	5	.06	5.5	6	.09
10	5.9	8	.13	4.8	5	.06	5.7	7	.11
11	5.9	8	.13	4.6	5	.06	5.5	6	.09
12	5.7	7	.11	4.9	5	.07	5.2	5	.07
13	5.5	7	.10	4.7	5	.06	5.7	37	.57
14	5.3	7	.10	5.7	5	.08	6.4	32	.55
15	5.2	7	.10	4.8	5	.06	5.9	18	.29
16	5.2	6	.08	4.3	5	.06	5.7	10	.15
17	4.8	6	.08	3.9	5	.05	5.9	13	.21
18	4.5	6	.07	4.2	5	.06	5.9	14	.22
19	4.8	6	.08	4.3	5	.06	6.2	14	.23
20	5.0	5	.07	4.4	5	.06	7.2	15	.29
21	4.8	5	.06	4.5	5	.06	7.5	13	.26
22	4.7	5	.06	4.5	11	.13	7.2	12	.23
23	4.6	5	.06	4.4	5	.06	7.2	12	.23
24	4.8	4	.05	4.3	5	.06	8.0	12	.26
25	4.8	4	.05	4.1	5	.06	8.1	12	.26
26	4.7	4	.05	4.0	4	.04	8.9	11	.26
27	4.6	4	.05	3.9	4	.04	8.3	11	.25
28	4.7	4	.05	4.1	4	.04	8.3	11	.25
29	4.5	4	.05	4.0	4	.04	8.1	11	.24
30	4.6	4	.05	---	---	---	8.0	11	.24
31	4.8	4	.05	---	---	---	8.3	10	.22
TOTAL	166.6	---	2.87	130.8	---	1.74	196.5	---	6.08



10336698 THIRD CREEK NEAR CRYSTAL BAY, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	8.0	10	.22	12	6	.19	41	47	5.2
2	8.0	10	.22	11	7	.21	40	43	4.6
3	8.3	10	.22	13	20	.70	37	34	3.4
4	8.6	10	.23	15	20	.81	37	30	3.0
5	8.9	10	.24	15	15	.61	32	22	1.9
6	8.9	10	.24	15	19	.77	30	14	1.1
7	9.3	11	.28	18	28	1.4	28	14	1.1
8	10	12	.32	21	43	2.4	26	12	.84
9	9.5	14	.36	24	60	3.9	25	12	.81
10	9.8	10	.26	29	75	5.9	25	11	.74
11	9.8	9	.24	36	88	9.7	26	10	.70
12	9.5	6	.15	38	97	11	26	13	.91
13	10	10	.27	42	113	14	26	13	.91
14	12	18	.58	40	72	7.8	32	22	1.9
15	14	29	1.1	32	37	3.2	31	18	1.5
16	16	37	1.6	25	19	1.3	30	16	1.3
17	16	15	.65	22	16	.95	32	17	1.5
18	11	15	.45	25	29	2.0	32	17	1.5
19	13	12	.42	31	47	3.9	32	18	1.6
20	12	10	.32	38	73	7.5	31	14	1.2
21	11	10	.30	41	74	8.2	29	13	1.0
22	12	11	.36	44	101	13	27	14	1.0
23	14	12	.45	52	139	23	27	13	.95
24	15	13	.53	49	83	11	26	13	.91
25	15	10	.41	47	68	8.6	25	8	.54
26	13	9	.32	47	66	8.4	24	7	.45
27	12	8	.26	47	61	7.7	22	9	.53
28	12	8	.26	48	77	10	22	7	.42
29	11	8	.24	55	126	21	22	8	.48
30	11	5	.15	58	119	19	22	9	.53
31	---	---	---	48	64	8.3	---	---	---
TOTAL	338.6	---	11.65	1038	---	216.44	865	---	42.52
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	21	8	.45	9.0	1	.02	5.0	4	.05
2	20	8	.43	8.2	1	.02	4.9	4	.05
3	20	8	.43	6.3	1	.02	4.8	4	.05
4	20	7	.38	6.0	1	.02	4.9	5	.07
5	18	7	.34	5.8	1	.02	5.2	5	.07
6	18	7	.34	5.6	1	.02	5.0	5	.07
7	17	7	.32	5.4	1	.01	5.0	4	.05
8	16	6	.26	5.3	1	.01	4.9	4	.05
9	15	6	.24	5.2	1	.01	4.8	3	.04
10	14	6	.23	5.5	1	.01	4.8	3	.04
11	13	5	.18	5.6	1	.02	4.9	3	.04
12	12	5	.16	5.5	1	.01	4.9	2	.03
13	12	5	.16	5.8	2	.03	4.9	2	.03
14	12	5	.16	5.6	2	.03	4.8	2	.03
15	12	5	.16	5.8	2	.03	4.8	2	.03
16	11	5	.15	5.5	2	.03	4.8	2	.03
17	11	5	.15	5.3	2	.03	4.7	2	.03
18	11	5	.15	5.2	2	.03	4.7	2	.03
19	11	5	.15	5.2	2	.03	5.3	98	1.7
20	11	5	.15	5.2	2	.03	5.0	6	.08
21	10	5	.14	5.4	2	.03	4.9	2	.03
22	10	5	.14	5.4	2	.03	4.8	2	.03
23	11	12	.36	5.2	3	.04	4.7	2	.03
24	12	14	.45	5.1	3	.04	4.7	2	.03
25	11	3	.09	5.2	3	.04	4.7	2	.03
26	9.9	2	.05	5.1	3	.04	4.7	2	.03
27	9.4	2	.05	5.0	3	.04	4.7	2	.03
28	9.2	1	.02	4.9	3	.04	4.8	2	.03
29	9.0	1	.02	4.9	3	.04	4.8	2	.03
30	9.1	1	.02	5.1	4	.06	5.1	7	.10
31	9.0	1	.02	5.2	4	.06	---	---	---
TOTAL	404.6	---	6.35	173.5	---	0.89	146.0	---	2.94
YEAR	4302.7		317.55						

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336698 THIRD CREEK NEAR CRYSTAL BAY NV--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
MAR 13...	1820	7.2	1.0	87	1.7	86	--	--	--	--	--
MAY 09...	1855	32	5.0	158	14	39	--	--	--	--	--
23...	1900	78	5.0	384	81	26	--	--	--	--	--
29...	1910	78	7.0	315	66	29	41	57	74	92	100
SEPT. 19...	1545	8.3	13.0	904	20	80	--	--	--	--	--

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
APR 30...	1210	5.0	1	11	2	6	19	42
30...	1215	5.0	1	11	--	1	4	10
30...	1220	5.0	1	11	--	2	14	36
30...	1225	5.0	1	11	--	2	12	40
30...	1230	5.0	1	11	8	27	71	95

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
APR 30...	69	91	99	100	--	--
30...	25	72	98	99	100	--
30...	51	69	86	95	98	100
30...	76	92	99	99	100	--
30...	99	100	--	--	--	--

## PYRAMID AND WINNEMUCCA LAKES BASIN

73

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 about 1,000 ft upstream from left side of dam, and 7.5 mi west of Carson City.

DRAINAGE AREA.--2.86 mi<sup>2</sup>.

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

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

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 12,220 acre-ft June 19, 1983, elevation, 7,839.01 ft; minimum, 10,970 acre-ft Nov. 10-13, 1976, elevation, 7,835.8 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,060 acre-ft Nov. 20 to Dec. 3, elevation, 7,838.65 ft; minimum, 11,750 acre-ft Sept. 25, 30, elevation, 7,837.91 ft.

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

7,836	11,030	7,838	11,790
7,837	11,410	7,839	12,220

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11900	11880	12060	11970	11870	11900	11880	11920	11990	11900	11830	11700
2	11910	11890	12060	11960	11870	11900	11880	11920	11980	11900	11830	11780
3	11910	11890	12060	11950	11870	11890	11880	11930	11980	11890	11820	11780
4	11900	11890	12050	11940	11870	11890	11880	11930	11970	11890	11820	11780
5	11900	11890	12050	11930	11870	11880	11880	11940	11970	11890	11820	11770
6	11900	11890	12040	11920	11870	11880	11880	11940	11960	11880	11810	11770
7	11890	11880	12040	11930	11860	11880	11890	11940	11970	11880	11810	11770
8	11890	11880	12030	11910	11860	11870	11890	11950	11970	11870	11810	11770
9	11880	11880	12030	11910	11860	11870	11890	11960	11960	11860	11810	11770
10	11870	11900	12030	11900	11870	11870	11900	11970	11950	11860	11810	11770
11	11870	11980	12020	11900	11880	11870	11900	11980	11950	11860	11810	11770
12	11860	12000	12020	11900	11890	11880	11900	12000	11950	11860	11800	11770
13	11860	12000	12010	11900	11900	11880	11900	12010	11950	11860	11800	11770
14	11850	12000	12000	11900	11900	11880	11900	12020	11950	11860	11800	11770
15	11850	12010	11990	11900	11910	11890	11910	12020	11980	11850	11800	11770
16	11840	12030	11990	11900	11920	11890	11910	12030	11980	11850	11800	11770
17	11840	12030	11980	11900	11920	11890	11930	12020	11980	11850	11800	11770
18	11830	12040	11970	11900	11920	11890	11940	12030	11980	11850	11800	11770
19	11830	12050	11970	11900	11920	11890	11950	12030	11970	11850	11800	11770
20	11830	12060	11960	11900	11920	11890	11950	12030	11960	11850	11790	11780
21	11830	12060	11950	11890	11920	11890	11940	12030	11960	11850	11790	11780
22	11830	12060	11960	11890	11920	11890	11940	12030	11940	11840	11790	11770
23	11830	12060	11970	11890	11920	11890	11940	12030	11940	11840	11790	11770
24	11830	12060	11980	11890	11920	11890	11940	12030	11940	11860	11780	11760
25	11830	12060	11980	11880	11920	11890	11930	12030	11930	11860	11780	11750
26	11830	12060	11990	11880	11910	11890	11930	12030	11930	11860	11780	11760
27	11830	12060	11990	11880	11910	11880	11930	12020	11920	11850	11780	11760
28	11830	12060	11990	11880	11900	11880	11930	12020	11920	11850	11780	11760
29	11830	12060	11980	11880	11900	11880	11930	12010	11910	11850	11780	11760
30	11850	12060	11980	11870	---	11880	11930	12000	11900	11840	11780	11750
31	11880	---	11970	11870	---	11880	---	12000	---	11840	11780	---
MAX	11910	12060	12060	11970	11920	11900	11950	12030	11990	11900	11830	11780
MIN	11830	11880	11950	11870	11860	11870	11880	11920	11900	11840	11780	11750
a	7838.22	7838.64	7838.44	7838.21	7838.27	7838.22	7838.33	7838.49	7838.27	7838.11	7837.97	7837.92
b	-20	+180	-90	-100	+30	-20	+50	+70	-100	-60	-60	-30
CAL YR 1983	MAX	12220	MIN	11790	b	+30						
WTR YR 1984	MAX	12060	MIN	11750	b	-150						

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

b Change in contents, in acre-feet.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336715 MARLETTE CREEK NEAR CARSON CITY, NV

LOCATION.--Lat 39°10'20", long 119°54'25", in SE1SW1 sec.12, T.15 N., R.18 E., Washoe County, Hydrologic Unit 16050101, Toiyabe National Forest, on left bank about 300 ft below dam on Marlette Lake, 0.7 mi upstream from Marlette Reservoir, and 7 mi west of Carson City.

DRAINAGE AREA.--2.86 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Altitude of gage is 7,760 ft, from topographic map.

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

AVERAGE DISCHARGE.--11 years, 2.79 ft<sup>3</sup>/s, 2,020 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44 ft<sup>3</sup>/s June 22, 1983, gage height, 3.00 ft; no flow July 12-15, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26 ft<sup>3</sup>/s Nov. 24, gage height, 2.64 ft; minimum daily, 0.01 ft<sup>3</sup>/s Sept. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	5.8	11	9.7	3.4	4.0	4.2	7.9	5.9	4.4	1.4	.09
2	5.4	5.6	10	8.8	3.3	3.8	4.1	7.8	5.4	4.2	1.2	.04
3	5.4	5.2	13	8.0	3.0	3.7	3.9	8.2	5.3	3.9	1.2	.04
4	5.1	5.0	13	7.4	2.8	3.7	3.8	7.7	6.0	3.6	1.2	.04
5	4.9	4.6	12	6.8	2.8	3.4	4.2	7.5	6.0	3.5	1.1	.04
6	4.8	5.2	11	6.4	2.7	3.3	4.4	7.3	6.5	3.3	.94	.03
7	4.6	5.3	9.7	6.0	2.7	3.2	4.3	6.4	6.0	3.2	.87	.03
8	4.5	4.2	8.6	5.6	2.8	3.1	4.9	6.3	5.8	3.0	.84	.03
9	3.7	4.0	8.9	5.3	3.2	3.0	5.4	7.1	6.0	2.6	.80	.03
10	3.9	4.6	11	5.3	4.0	3.0	5.9	7.7	5.6	2.5	.73	.02
11	3.7	8.7	13	5.2	3.8	3.1	5.3	8.6	5.2	2.4	.72	.02
12	3.5	9.1	13	4.9	4.0	3.0	5.1	9.0	5.2	2.2	.63	.02
13	3.4	11	11	4.9	4.1	3.2	4.8	9.0	4.7	2.2	.57	.03
14	3.4	12	9.9	5.1	6.0	4.1	4.7	8.0	3.6	2.0	.57	.03
15	3.2	11	9.4	4.9	7.4	5.0	4.9	8.7	4.7	1.9	.56	.01
16	3.1	10	8.6	5.2	10	5.0	5.2	8.8	4.7	2.0	.55	.03
17	2.9	19	9.5	5.0	9.5	5.5	6.5	8.6	4.8	1.9	.53	.05
18	2.9	20	8.6	4.8	8.6	5.0	7.3	8.6	5.3	2.0	.49	.08
19	2.8	18	8.2	4.6	7.8	4.7	8.5	8.4	5.2	2.0	.40	.05
20	2.8	21	7.8	4.4	7.1	4.8	8.3	9.2	6.3	2.0	.37	.23
21	2.8	21	7.6	4.4	7.6	4.7	7.7	9.0	7.2	1.9	.36	.22
22	2.7	18	7.1	4.4	7.2	4.3	7.5	8.5	6.8	1.6	.36	.21
23	2.8	18	6.9	4.1	6.5	4.1	7.5	9.0	6.3	1.9	.33	.20
24	2.7	21	6.7	3.9	6.6	4.0	7.8	8.8	6.1	2.3	.31	.19
25	2.5	23	6.6	3.9	5.5	4.0	7.4	8.7	6.0	2.1	.19	.18
26	2.6	20	7.3	3.7	5.0	3.9	7.5	8.6	6.1	2.1	.16	.19
27	2.5	17	8.6	2.8	4.7	3.9	7.4	8.2	5.9	1.9	.17	.16
28	2.5	15	10	3.6	4.4	3.9	7.4	7.4	5.7	1.8	.09	.17
29	2.5	13	11	3.4	4.2	3.8	7.5	7.3	5.2	1.6	.10	.17
30	3.2	12	11	3.2	---	3.8	7.4	6.9	4.7	1.6	.10	.31
31	4.4	---	11	3.2	---	3.9	---	6.4	---	1.5	.10	---
TOTAL	110.1	367.3	301.0	158.9	150.7	121.9	180.8	249.6	168.2	75.1	17.94	2.94
MEAN	3.55	12.2	9.71	5.13	5.20	3.93	6.03	8.05	5.61	2.42	.58	.10
MAX	5.4	23	13	9.7	10	5.5	8.5	9.2	7.2	4.4	1.4	.31
MIN	2.5	4.0	6.6	2.8	2.7	3.0	3.8	6.3	3.6	1.5	.09	.01
AC-FT	218	728	597	315	298	241	358	495	333	148	35.0	5.83
CAL YR 1983	TOTAL	3450.23	MEAN	9.45	MAX	41	MIN	.25	AC-FT	6840		
WTR YR 1984	TOTAL	1904.48	MEAN	5.20	MAX	23	MIN	.01	AC-FT	3780		

## PYRAMID AND WINNEMUCCA LAKES BASIN

75

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV

LOCATION.--Lat 39°04'00", long 119°56'04", in NW 1/4 NW 1/4 sec.23, T.14 N., R.18 E., Douglas County, Hydrologic Unit 16050101, Toiyabe National Forest, on right bank 0.1 mi downstream from unnamed tributary, 0.3 mi upstream from U.S. Highway 50, and 1.6 mi south of Glenbrook.

DRAINAGE AREA.--2.08 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to September 1984.

GAGE.--Water-stage recorder. Altitude of gage is 6,640 ft, from topographic map.

REMARKS.--Records fair. One small diversion for domestic use 50 ft upstream.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0545	3.0	4.45	May 10	1715	*3.7	4.50
Apr. 16	1715	3.4	4.48	June 14	2115	3.0	4.45

Minimum daily, 0.39 ft<sup>3</sup>/s Aug. 16-19, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.6	1.4	1.6	1.1	.94	1.5	1.9	1.6	.65	.58	.50
2	1.3	1.3	1.4	1.6	1.1	.94	1.3	2.0	1.4	.62	.58	.49
3	1.0	1.2	1.4	1.5	1.0	.94	1.3	2.7	1.3	.62	.54	.46
4	1.0	1.2	1.4	1.4	1.0	.94	1.5	2.8	1.4	.62	.51	.48
5	1.0	1.1	1.4	1.4	1.0	.94	1.4	2.7	1.3	.64	.49	.47
6	1.0	1.1	1.4	1.4	1.0	.94	1.4	2.6	1.3	.64	.47	.49
7	1.0	1.1	1.4	1.4	1.0	.94	1.5	2.7	1.2	.60	.48	.48
8	1.1	1.1	1.4	1.4	1.0	.95	1.6	3.0	1.2	.55	.44	.49
9	1.0	1.1	1.4	1.4	1.0	1.0	1.4	3.1	1.1	.61	.44	.46
10	1.0	1.2	1.4	1.4	1.0	1.0	1.4	3.3	1.1	.61	.45	.47
11	1.0	2.2	1.4	1.4	1.0	1.0	1.3	3.4	1.3	.59	.45	.49
12	1.0	1.6	1.4	1.3	1.0	1.0	1.4	3.3	1.3	.59	.41	.46
13	1.0	1.3	1.4	1.3	1.0	1.0	1.7	3.2	1.2	.55	.42	.47
14	1.0	1.3	1.4	1.3	1.0	1.0	2.2	3.0	1.5	.58	.41	.48
15	1.1	1.3	1.5	1.2	1.0	1.0	2.6	2.9	1.8	.57	.40	.49
16	1.0	1.4	1.5	1.2	1.0	1.0	2.8	2.7	1.4	.59	.39	.48
17	1.0	1.8	1.5	1.2	1.0	1.0	2.8	2.5	1.4	.59	.39	.46
18	1.0	1.7	1.4	1.2	1.0	1.0	2.4	2.4	1.2	.66	.39	.48
19	1.0	1.8	1.4	1.1	1.0	1.0	2.1	2.3	1.1	.58	.39	.55
20	1.0	2.1	1.4	1.1	1.0	1.2	1.9	2.3	1.1	.57	.41	.63
21	1.0	1.6	1.3	1.1	1.0	1.4	1.8	2.3	.96	.59	.43	.58
22	.97	1.6	1.3	1.1	1.0	1.3	2.0	2.2	.85	.56	.43	.52
23	1.1	1.5	1.3	1.1	1.0	1.3	2.3	2.0	.75	.65	.53	.49
24	1.1	1.9	1.5	1.1	1.0	1.4	2.5	1.9	.72	.69	.39	.49
25	1.0	1.8	2.2	1.1	1.0	1.6	2.3	1.7	.70	.63	.40	.49
26	1.0	1.6	2.1	1.1	.98	1.7	1.9	1.5	.71	.58	.45	.49
27	1.0	1.5	1.8	1.1	.94	1.7	1.8	1.4	.66	.53	.46	.49
28	1.0	1.5	1.6	1.1	.94	1.7	1.7	1.4	.64	.62	.47	.49
29	1.0	1.5	1.6	1.1	.94	1.6	1.8	1.5	.64	.57	.46	.49
30	1.1	1.5	1.6	1.1	---	1.5	2.0	1.6	.66	.55	.49	.51
31	1.5	---	1.6	1.1	---	1.5	---	1.3	---	.63	.52	---
TOTAL	32.37	44.5	46.2	38.9	29.00	36.43	55.6	73.6	33.49	18.63	14.07	14.82
MEAN	1.04	1.48	1.49	1.25	1.00	1.18	1.85	2.37	1.12	.60	.45	.49
MAX	1.5	2.2	2.2	1.6	1.1	1.7	2.8	3.4	1.8	.69	.58	.63
MIN	.97	1.1	1.3	1.1	.94	.94	1.3	1.3	.64	.53	.39	.46
AC-FT	64	88	92	77	58	72	110	146	66	37	28	29
WTR YR 1984	TOTAL	437.61	MEAN	1.20	MAX	3.4	MIN	.39	AC-FT	868		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1983 to September 1984.

WATER TEMPERATURES: October 1983 to September 1984.

SEDIMENT RECORDS: October 1983 to September 1984.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1983 to September 1984.

SEDIMENT RECORDS: October 1983 to September 1984.

REMARKS.--Sediment record for October to April considered poor because of insufficient samples.

EXTREMES FOR CURRENT YEAR.-- .

SEDIMENT CONCENTRATIONS: Maximum daily mean, 23 mg/L Nov. 11; minimum daily mean, 0 mg/L Nov. 5-9.

SEDIMENT DISCHARGE: Maximum daily, 0.16 tons Nov. 11; minimum daily, 0 ton on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
ONCE-DAILY

[illegible]

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	1.1	2	.01	1.6	2	.01	1.4	1	.00
2	1.3	2	.01	1.3	1	.00	1.4	1	.00
3	1.0	2	.01	1.2	1	.00	1.4	1	.00
4	1.0	2	.01	1.2	1	.00	1.4	1	.00
5	1.0	2	.01	1.1	0	.00	1.4	1	.00
6	1.0	2	.01	1.1	0	.00	1.4	1	.00
7	1.0	2	.01	1.1	0	.00	1.4	1	.00
8	1.1	2	.01	1.1	0	.00	1.4	1	.00
9	1.0	2	.01	1.1	0	.00	1.4	1	.00
10	1.0	2	.01	1.2	2	.01	1.4	1	.00
11	1.0	2	.01	2.2	23	.16	1.4	1	.00
12	1.0	2	.01	1.6	3	.01	1.4	1	.00
13	1.0	2	.01	1.3	2	.01	1.4	1	.00
14	1.0	2	.01	1.3	1	.00	1.4	1	.00
15	1.1	2	.01	1.3	1	.00	1.5	1	.00
16	1.0	2	.01	1.4	2	.01	1.5	1	.00
17	1.0	2	.01	1.8	8	.04	1.5	1	.00
18	1.0	2	.01	1.7	2	.01	1.4	1	.00
19	1.0	2	.01	1.8	8	.05	1.4	1	.00
20	1.0	2	.01	2.1	5	.03	1.4	1	.00
21	1.0	2	.01	1.6	1	.00	1.3	1	.00
22	.97	2	.01	1.6	1	.00	1.3	1	.00
23	1.1	2	.01	1.5	1	.00	1.3	1	.00
24	1.1	2	.01	1.9	1	.01	1.5	5	.03
25	1.0	2	.01	1.8	1	.00	2.2	11	.07
26	1.0	1	.00	1.6	1	.00	2.1	3	.02
27	1.0	1	.00	1.5	1	.00	1.8	2	.01
28	1.0	1	.00	1.5	1	.00	1.6	1	.00
29	1.0	1	.00	1.5	1	.00	1.6	1	.00
30	1.1	1	.00	1.5	1	.00	1.6	1	.00
31	1.5	8	.04	---	---	---	1.6	1	.00
TOTAL	32.37	---	0.29	44.5	---	0.35	46.2	---	0.13
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	1.6	1	.00	1.1	2	.01	.94	1	.00
2	1.6	1	.00	1.1	2	.01	.94	1	.00
3	1.5	1	.00	1.0	2	.01	.94	1	.00
4	1.4	1	.00	1.0	2	.01	.94	1	.00
5	1.4	1	.00	1.0	2	.01	.94	1	.00
6	1.4	1	.00	1.0	2	.01	.94	2	.01
7	1.4	1	.00	1.0	2	.01	.94	2	.01
8	1.4	1	.00	1.0	2	.01	.95	2	.01
9	1.4	1	.00	1.0	2	.01	1.0	2	.01
10	1.4	1	.00	1.0	2	.01	1.0	2	.01
11	1.4	1	.00	1.0	2	.01	1.0	2	.01
12	1.3	1	.00	1.0	2	.01	1.0	2	.01
13	1.3	1	.00	1.0	2	.01	1.0	2	.01
14	1.3	1	.00	1.0	2	.01	1.0	2	.01
15	1.2	1	.00	1.0	2	.01	1.0	2	.01
16	1.2	1	.00	1.0	2	.01	1.0	2	.01
17	1.2	1	.00	1.0	2	.01	1.0	2	.01
18	1.2	1	.00	1.0	2	.01	1.0	2	.01
19	1.1	1	.00	1.0	2	.01	1.0	2	.01
20	1.1	1	.00	1.0	2	.01	1.2	2	.01
21	1.1	1	.00	1.0	2	.01	1.4	2	.01
22	1.1	1	.00	1.0	2	.01	1.3	2	.01
23	1.1	1	.00	1.0	1	.00	1.3	2	.01
24	1.1	1	.00	1.0	1	.00	1.4	2	.01
25	1.1	1	.00	1.0	1	.00	1.6	2	.01
26	1.1	1	.00	.98	1	.00	1.7	2	.01
27	1.1	1	.00	.94	1	.00	1.7	2	.01
28	1.1	1	.00	.94	1	.00	1.7	2	.01
29	1.1	2	.01	.94	1	.00	1.6	2	.01
30	1.1	2	.01	---	---	---	1.5	2	.01
31	1.1	2	.01	---	---	---	1.5	2	.01
TOTAL	38.9	---	0.03	29.00	---	0.22	36.43	---	0.26

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	1.5	2	.01	1.9	3	.02	1.6	5	.02
2	1.3	3	.01	2.0	3	.02	1.4	3	.01
3	1.3	3	.01	2.7	4	.03	1.3	3	.01
4	1.5	3	.01	2.8	4	.03	1.4	6	.02
5	1.4	3	.01	2.7	5	.04	1.3	5	.02
6	1.4	3	.01	2.6	3	.02	1.3	5	.02
7	1.5	3	.01	2.7	5	.04	1.2	4	.01
8	1.6	3	.01	3.0	7	.06	1.2	4	.01
9	1.4	3	.01	3.1	8	.07	1.1	4	.01
10	1.4	3	.01	3.3	10	.09	1.1	4	.01
11	1.3	3	.01	3.4	13	.12	1.3	4	.01
12	1.4	3	.01	3.3	8	.07	1.3	4	.01
13	1.7	4	.02	3.2	6	.05	1.2	7	.02
14	2.2	4	.02	3.0	4	.03	1.5	8	.04
15	2.6	4	.03	2.9	4	.03	1.8	8	.04
16	2.8	4	.03	2.7	2	.01	1.4	5	.02
17	2.8	3	.02	2.5	3	.02	1.4	5	.02
18	2.4	2	.01	2.4	5	.03	1.2	5	.02
19	2.1	2	.01	2.3	3	.02	1.1	4	.01
20	1.9	2	.01	2.3	4	.02	1.1	4	.01
21	1.8	2	.01	2.3	5	.03	.96	4	.01
22	2.0	3	.02	2.2	3	.02	.85	5	.01
23	2.3	6	.04	2.0	4	.02	.75	6	.01
24	2.5	5	.03	1.9	3	.02	.72	6	.01
25	2.3	3	.02	1.7	3	.01	.70	5	.01
26	1.9	3	.02	1.5	4	.02	.71	4	.01
27	1.8	3	.01	1.4	3	.01	.66	4	.01
28	1.7	3	.01	1.4	3	.01	.64	4	.01
29	1.8	3	.01	1.5	3	.01	.64	4	.01
30	2.0	3	.02	1.6	3	.01	.66	4	.01
31	---	---	---	1.3	3	.01	---	---	---
TOTAL	55.6	---	0.46	73.6	---	0.99	33.49	---	0.44

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	.65	4	.01	.58	9	.01	.50	5	.01
2	.62	4	.01	.58	8	.01	.49	5	.01
3	.62	5	.01	.54	7	.01	.46	5	.01
4	.62	6	.01	.51	6	.01	.48	5	.01
5	.64	7	.01	.49	6	.01	.47	5	.01
6	.64	7	.01	.47	6	.01	.49	4	.01
7	.60	7	.01	.48	5	.01	.48	4	.01
8	.55	8	.01	.44	5	.01	.49	4	.01
9	.61	8	.01	.44	5	.01	.46	4	.00
10	.61	8	.01	.45	5	.01	.47	4	.01
11	.59	8	.01	.45	5	.01	.49	4	.01
12	.59	8	.01	.41	5	.01	.46	6	.01
13	.55	8	.01	.42	5	.01	.47	8	.01
14	.58	8	.01	.41	6	.01	.48	10	.01
15	.57	8	.01	.40	6	.01	.49	8	.01
16	.59	12	.02	.39	6	.01	.48	6	.01
17	.59	15	.02	.39	6	.01	.46	6	.01
18	.66	15	.03	.39	6	.01	.48	6	.01
19	.58	15	.02	.39	6	.01	.55	7	.01
20	.57	14	.02	.41	6	.01	.63	7	.01
21	.59	14	.02	.43	10	.01	.58	5	.01
22	.56	14	.02	.43	8	.01	.52	5	.01
23	.65	14	.02	.53	4	.01	.49	5	.01
24	.69	14	.03	.39	4	.00	.49	5	.01
25	.63	13	.02	.40	5	.01	.49	5	.01
26	.58	12	.02	.45	5	.01	.49	5	.01
27	.53	11	.02	.46	5	.01	.49	5	.01
28	.62	11	.02	.47	5	.01	.49	5	.01
29	.57	11	.02	.46	5	.01	.49	5	.01
30	.55	11	.02	.49	5	.01	.51	6	.01
31	.63	10	.02	.52	5	.01	---	---	---
TOTAL	18.63	---	0.49	14.07	---	0.30	14.82	---	0.29
YEAR	437.61		4.25						



10336740 LOGAN HOUSE CREEK NEAR GLENBROOK, NV--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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
MAY 10...	1715	3.6	8.5	25	.24	51

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
APR 30...	1435	4.0	1	1.9	1	3	11
30...	1440	4.0	1	1.9	--	1	1

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
APR 30...	23	34	52	79	97	100	--
30...	2	4	8	14	28	56	100

PYRAMID AND WINNEMUCCA LAKES BASIN  
10336759 EDGEWOOD CREEK NEAR STATELINE, NV

LOCATION.--Lat 38°57'50", long 119°55'24", in SW 1/4 NE 1/4 sec.26, T.13 N., R.18 E., Douglas County, Hydrologic Unit 16050101, on right bank 0.1 mi upstream from unnamed tributary, 0.9 mi upstream from U.S. Highway 50, and 1.1 mi northeast of Stateline.

DRAINAGE AREA.--3.20 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,420 ft, from topographic map.

REMARKS.--Records good. No known diversion or regulation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24 ft<sup>3</sup>/s May 27, 1983, gage height, 2.41 ft; minimum daily, 1.5 ft<sup>3</sup>/s Sept. 6, 9, 1984.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0615	*16	2.05
June 14	2030	15	1.98

Minimum daily, 1.5 ft<sup>3</sup>/s Sept. 6, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	4.2	4.1	5.1	3.9	4.0	4.3	4.4	3.1	2.4	1.8	1.7
2	5.0	3.6	4.1	5.0	3.8	4.1	4.3	4.5	3.1	2.3	1.8	1.6
3	3.6	3.5	4.0	4.9	3.7	4.0	4.4	4.7	3.1	2.3	1.8	1.6
4	3.5	3.5	4.0	4.9	3.8	3.9	4.4	4.6	3.4	2.3	1.7	1.6
5	3.2	3.3	3.8	4.9	3.8	3.9	4.5	4.5	3.2	2.3	1.7	1.6
6	3.3	3.3	4.0	4.9	3.9	4.0	4.3	4.4	3.5	2.2	1.7	1.5
7	3.2	3.6	4.0	4.8	3.8	4.1	4.5	4.3	3.2	2.1	1.6	1.6
8	3.6	3.2	4.1	4.7	3.8	4.3	4.5	4.4	3.1	2.1	1.6	1.6
9	3.3	3.3	4.1	4.6	3.9	4.4	4.4	4.4	3.0	2.1	1.6	1.5
10	3.2	4.6	3.9	4.5	3.9	4.4	4.7	4.4	3.0	2.0	1.6	1.6
11	3.4	9.2	4.6	4.4	3.8	4.2	4.4	4.4	3.0	2.0	1.6	1.6
12	3.3	5.3	4.1	4.3	4.0	4.1	4.5	4.3	3.1	2.0	1.6	1.7
13	3.3	4.4	4.7	4.2	3.9	4.7	4.6	4.3	3.2	2.0	1.7	1.6
14	3.4	4.4	6.2	4.2	3.9	4.9	4.9	4.3	5.2	2.0	1.7	1.7
15	4.0	4.4	5.4	4.2	4.0	4.5	5.2	4.3	3.9	2.0	1.7	1.6
16	3.4	5.6	4.8	4.2	3.9	4.3	5.4	4.1	3.2	2.0	1.7	1.7
17	3.4	7.3	4.7	4.0	3.8	4.3	5.6	3.9	3.0	2.2	1.7	2.0
18	3.4	5.3	4.4	4.0	3.8	4.3	5.2	3.8	2.9	2.2	1.6	1.9
19	3.5	7.0	4.3	4.0	3.8	4.5	5.1	3.8	2.8	2.0	1.6	2.3
20	3.3	6.2	4.2	3.9	4.0	5.0	4.9	3.8	2.7	2.0	1.6	2.3
21	3.5	5.2	3.8	4.6	3.9	4.9	4.7	3.7	2.7	1.9	1.7	2.0
22	3.4	4.7	3.9	3.9	3.7	4.1	4.7	3.7	2.6	1.9	1.7	1.9
23	3.9	4.7	4.0	3.9	3.7	4.3	4.7	3.6	2.6	2.2	1.6	1.9
24	3.5	7.5	5.8	4.0	3.7	4.5	4.7	3.6	2.6	2.2	1.6	1.9
25	3.7	5.5	8.2	4.0	3.7	4.6	4.4	3.5	2.6	2.0	1.6	1.9
26	3.4	4.8	6.7	3.8	3.6	5.7	4.3	3.4	2.5	1.9	1.7	1.9
27	3.5	4.5	5.6	3.8	3.8	5.0	4.2	3.3	2.5	1.8	1.6	1.9
28	3.5	4.6	5.1	3.9	3.7	4.9	4.2	3.3	2.5	1.8	1.6	1.9
29	3.7	4.2	5.4	3.9	3.7	4.6	4.2	3.2	2.4	1.8	1.7	1.9
30	4.4	4.2	6.3	3.9	---	4.5	4.2	3.2	2.4	1.9	1.7	2.0
31	5.8	---	5.4	4.0	---	4.4	---	3.1	---	1.8	1.7	---
TOTAL	112.5	145.1	147.7	133.4	110.7	137.4	138.4	123.2	90.1	63.7	51.6	53.5
MEAN	3.63	4.84	4.76	4.30	3.82	4.43	4.61	3.97	3.00	2.05	1.66	1.78
MAX	5.8	9.2	8.2	5.1	4.0	5.7	5.6	4.7	5.2	2.4	1.8	2.3
MIN	3.2	3.2	3.8	3.8	3.6	3.9	4.2	3.1	2.4	1.8	1.6	1.5
AC-FT	223	288	293	265	220	273	275	244	179	126	102	106
CAL YR 1983	TOTAL	1773.7	MEAN	4.86	MAX	21	MIN	1.9	AC-FT	3520		
WTR YR 1984	TOTAL	1307.3	MEAN	3.57	MAX	9.2	MIN	1.5	AC-FT	2590		

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE: Maximum daily, 8.7 tons Nov. 11; minimum daily, 0.01 ton July 27-29, July 31 to Aug. 20.

[illegible]

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	3.9	25	.26	4.2	16	.18	4.1	14	.15
2	5.0	43	.58	3.6	11	.11	4.1	12	.13
3	3.6	24	.23	3.5	8	.08	4.0	10	.11
4	3.5	22	.21	3.5	6	.06	4.0	8	.09
5	3.2	8	.07	3.3	5	.04	3.8	8	.08
6	3.3	13	.12	3.3	5	.04	4.0	8	.09
7	3.2	7	.06	3.6	8	.08	4.0	8	.09
8	3.6	13	.13	3.2	5	.04	4.1	8	.09
9	3.3	5	.04	3.3	5	.04	4.1	8	.09
10	3.2	5	.04	4.6	45	.86	3.9	8	.08
11	3.4	11	.10	9.2	233	8.7	4.6	15	.19
12	3.3	5	.04	5.3	19	.27	4.1	8	.09
13	3.3	5	.04	4.4	10	.12	4.7	9	.11
14	3.4	5	.05	4.4	10	.12	6.2	20	.33
15	4.0	14	.15	4.4	7	.08	5.4	9	.13
16	3.4	7	.06	5.6	16	.24	4.8	5	.06
17	3.4	6	.06	7.3	41	.81	4.7	5	.06
18	3.4	5	.05	5.3	10	.14	4.4	5	.06
19	3.5	7	.07	7.0	43	.81	4.3	5	.06
20	3.3	5	.04	6.2	13	.22	4.2	5	.06
21	3.5	7	.07	5.2	14	.20	3.8	5	.05
22	3.4	6	.06	4.7	7	.09	3.9	5	.05
23	3.9	9	.09	4.7	7	.09	4.0	5	.05
24	3.5	6	.06	7.5	52	1.1	5.8	25	.52
25	3.7	6	.06	5.5	20	.30	8.2	39	.99
26	3.4	5	.05	4.8	15	.19	6.7	10	.18
27	3.5	5	.05	4.5	15	.18	5.6	7	.11
28	3.5	5	.05	4.6	22	.27	5.1	6	.08
29	3.7	7	.07	4.2	22	.25	5.4	17	.25
30	4.4	19	.23	4.2	17	.19	6.3	29	.51
31	5.8	105	2.4	---	---	---	5.4	8	.12
TOTAL	112.5	---	5.59	145.1	---	15.90	147.7	---	5.06

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	5.1	9	.12	3.9	5	.05	4.0	7	.08
2	5.0	6	.08	3.8	5	.05	4.1	6	.07
3	4.9	6	.08	3.7	5	.05	4.0	4	.04
4	4.9	6	.08	3.8	5	.05	3.9	5	.05
5	4.9	6	.08	3.8	5	.05	3.9	4	.04
6	4.9	6	.08	3.9	6	.06	4.0	5	.05
7	4.8	6	.08	3.8	5	.05	4.1	6	.07
8	4.7	6	.08	3.8	3	.03	4.3	8	.09
9	4.6	6	.07	3.9	3	.03	4.4	7	.08
10	4.5	6	.07	3.9	3	.03	4.4	7	.08
11	4.4	6	.07	3.8	3	.03	4.2	5	.06
12	4.3	6	.07	4.0	3	.03	4.1	5	.06
13	4.2	6	.07	3.9	3	.03	4.7	27	.39
14	4.2	6	.07	3.9	3	.03	4.9	14	.19
15	4.2	6	.07	4.0	3	.03	4.5	13	.16
16	4.2	6	.07	3.9	4	.04	4.3	13	.15
17	4.0	6	.06	3.8	4	.04	4.3	14	.16
18	4.0	6	.06	3.8	4	.04	4.3	11	.13
19	4.0	6	.06	3.8	4	.04	4.5	18	.22
20	3.9	6	.06	4.0	6	.06	5.0	22	.30
21	4.6	14	.17	3.9	6	.06	4.9	13	.17
22	3.9	7	.07	3.7	5	.05	4.1	11	.12
23	3.9	6	.06	3.7	4	.04	4.3	12	.14
24	4.0	5	.05	3.7	4	.04	4.5	14	.17
25	4.0	5	.05	3.7	4	.04	4.6	12	.15
26	3.8	5	.05	3.6	4	.04	5.7	15	.23
27	3.8	5	.05	3.8	4	.04	5.0	12	.16
28	3.9	5	.05	3.7	4	.04	4.9	12	.16
29	3.9	5	.05	3.7	4	.04	4.6	10	.12
30	3.9	5	.05	---	---	---	4.5	10	.12
31	4.0	5	.05	---	---	---	4.4	10	.12
TOTAL	133.4	---	2.18	110.7	---	1.21	137.4	---	4.13

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	4.3	10	.12	4.4	17	.20	3.1	12	.10
2	4.3	11	.13	4.5	16	.19	3.1	16	.13
3	4.4	12	.14	4.7	17	.22	3.1	30	.25
4	4.4	11	.13	4.6	13	.16	3.4	30	.28
5	4.5	11	.13	4.5	13	.16	3.2	28	.24
6	4.3	10	.12	4.4	14	.17	3.5	30	.28
7	4.5	12	.15	4.3	15	.17	3.2	32	.28
8	4.5	12	.15	4.4	17	.20	3.1	16	.13
9	4.4	14	.17	4.4	20	.24	3.0	12	.10
10	4.7	15	.19	4.4	22	.26	3.0	9	.07
11	4.4	14	.17	4.4	21	.25	3.0	9	.07
12	4.5	17	.21	4.3	17	.20	3.1	9	.08
13	4.6	20	.25	4.3	15	.17	3.2	25	.22
14	4.9	25	.33	4.3	14	.16	5.2	153	4.9
15	5.2	28	.39	4.3	14	.16	3.9	104	1.6
16	5.4	30	.44	4.1	13	.14	3.2	11	.10
17	5.6	28	.42	3.9	15	.16	3.0	11	.09
18	5.2	27	.38	3.8	16	.16	2.9	11	.09
19	5.1	28	.39	3.8	15	.15	2.8	11	.08
20	4.9	27	.36	3.8	13	.13	2.7	11	.08
21	4.7	27	.34	3.7	13	.13	2.7	11	.08
22	4.7	27	.34	3.7	13	.13	2.6	11	.08
23	4.7	27	.34	3.6	10	.10	2.6	11	.08
24	4.7	25	.32	3.6	12	.12	2.6	13	.09
25	4.4	23	.27	3.5	13	.12	2.6	11	.08
26	4.3	21	.24	3.4	15	.14	2.5	8	.05
27	4.2	15	.17	3.3	17	.15	2.5	7	.05
28	4.2	15	.17	3.3	15	.13	2.5	7	.05
29	4.2	13	.15	3.2	14	.12	2.4	7	.05
30	4.2	13	.15	3.2	13	.11	2.4	7	.05
31	---	---	---	3.1	13	.11	---	---	---
TOTAL	138.4	---	7.26	123.2	---	5.01	90.1	---	9.83
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	2.4	7	.05	1.8	3	.01	1.7	4	.02
2	2.3	7	.04	1.8	3	.01	1.6	4	.02
3	2.3	7	.04	1.8	3	.01	1.6	4	.02
4	2.3	7	.04	1.7	3	.01	1.6	4	.02
5	2.3	7	.04	1.7	3	.01	1.6	4	.02
6	2.2	7	.04	1.7	3	.01	1.5	4	.02
7	2.1	7	.04	1.6	3	.01	1.6	4	.02
8	2.1	7	.04	1.6	3	.01	1.6	4	.02
9	2.1	7	.04	1.6	3	.01	1.5	4	.02
10	2.0	7	.04	1.6	3	.01	1.6	4	.02
11	2.0	6	.03	1.6	3	.01	1.6	4	.02
12	2.0	6	.03	1.6	3	.01	1.7	4	.02
13	2.0	6	.03	1.7	3	.01	1.6	4	.02
14	2.0	6	.03	1.7	3	.01	1.7	4	.02
15	2.0	5	.03	1.7	3	.01	1.6	4	.02
16	2.0	5	.03	1.7	3	.01	1.7	4	.02
17	2.2	5	.03	1.7	3	.01	2.0	4	.02
18	2.2	5	.03	1.6	3	.01	1.9	4	.02
19	2.0	5	.03	1.6	3	.01	2.3	4	.02
20	2.0	4	.02	1.6	3	.01	2.3	4	.02
21	1.9	4	.02	1.7	7	.03	2.0	4	.02
22	1.9	4	.02	1.7	5	.02	1.9	4	.02
23	2.2	4	.02	1.6	5	.02	1.9	4	.02
24	2.2	4	.02	1.6	5	.02	1.9	4	.02
25	2.0	3	.02	1.6	5	.02	1.9	4	.02
26	1.9	3	.02	1.7	5	.02	1.9	4	.02
27	1.8	3	.01	1.6	5	.02	1.9	4	.02
28	1.8	3	.01	1.6	5	.02	1.9	4	.02
29	1.8	3	.01	1.7	5	.02	1.9	4	.02
30	1.9	3	.02	1.7	4	.02	2.0	6	.03
31	1.8	3	.01	1.7	4	.02	---	---	---
TOTAL	63.7	---	0.88	51.6	---	0.43	53.5	---	0.61
YEAR	1307.3		58.09						

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336759 EDGEWOOD CREEK NEAR STATELINE, NV--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
OCT									
31...	1625	8.8	6.5	448	11	67	--	--	--
NOV									
24...	1015	11	1.5	140	4.2	35	--	--	--
DEC									
30...	1130	7.1	3.5	65	1.2	96	96	99	100
MAR									
13...	1505	5.3	4.0	65	.93	77	--	--	--
APR									
16...	1515	5.5	9.0	36	.53	55	--	--	--
MAY									
10...	1915	4.5	10.5	23	.28	60	--	--	--
JUN									
07...	1330	3.2	7.0	38	.33	89	--	--	--
14...	2110	14	9.0	1050	40	60	--	--	--

## 10336780 TROUT CREEK NEAR TAHOE VALLEY, CA

LOCATION.--Lat 38°55'12", long 119°58'17", in NW 1/4 SE 1/4 sec.3, T.12 N., R.18 E., El Dorado County, Hydrologic Unit 16050101, on left bank 5 ft upstream from Martin Avenue Bridge, 500 ft upstream from Heavenly Valley Creek, and 1.8 mi east of Tahoe Valley.

DRAINAGE AREA.--36.7 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 6,250 ft, from topographic map.

REMARKS.--Records good. Minor diversions for local water supply.

AVERAGE DISCHARGE.--24 years, 39.3 ft<sup>3</sup>/s, 28,470 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 535 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 11.14 ft, from rating curve extended above 250 ft<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.--Peak discharges above base of 100 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0715	132	7.95	Dec. 25	2130	158	8.13
Nov. 17	1500	198	8.64	May 31	0100	*230	9.02
Nov. 20	0030	177	8.38	June 14	2315	219	8.89
Nov. 24	1600	183	8.46				

Minimum daily, 21 ft<sup>3</sup>/s several days in September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	51	56	71	42	39	50	65	207	100	46	26
2	49	42	54	67	41	39	49	73	196	95	44	25
3	46	37	56	64	40	39	50	80	186	90	43	24
4	42	35	55	62	39	38	51	82	193	88	42	24
5	40	34	52	60	39	38	51	77	181	86	40	24
6	39	33	53	59	39	39	51	74	181	84	39	24
7	39	36	51	57	39	40	51	77	161	80	38	23
8	39	33	52	56	39	42	55	86	150	76	37	23
9	38	36	54	55	41	43	53	96	144	74	36	22
10	36	42	54	54	39	44	57	105	136	72	35	22
11	37	90	62	53	39	43	53	122	130	71	35	22
12	37	57	57	52	41	42	53	129	135	69	35	22
13	36	49	56	51	42	54	55	139	144	67	35	22
14	36	47	58	48	42	55	61	148	152	65	34	22
15	34	46	56	47	43	48	68	133	162	64	33	21
16	34	58	53	46	44	46	73	123	138	63	33	21
17	34	137	55	46	41	45	80	122	135	65	32	22
18	34	74	50	46	40	45	74	124	134	68	31	24
19	33	83	49	46	41	47	72	132	133	61	30	25
20	33	104	47	47	42	50	75	145	130	59	29	23
21	32	68	46	48	41	53	73	152	128	57	30	23
22	32	60	47	46	37	49	76	159	123	56	30	23
23	34	59	49	45	38	50	72	169	121	62	29	21
24	34	122	67	45	39	53	75	177	120	62	28	21
25	33	90	128	45	38	54	70	179	117	56	28	21
26	33	68	127	44	37	63	64	183	115	52	28	21
27	33	64	109	43	38	59	63	181	112	50	27	21
28	33	61	81	43	38	56	61	191	109	49	26	23
29	33	59	76	42	37	56	60	205	107	48	27	24
30	40	57	91	42	---	53	60	216	103	49	27	24
31	48	---	83	42	---	52	---	216	---	49	27	---
TOTAL	1150	1832	1984	1572	1156	1474	1856	4160	4283	2087	1034	683
MEAN	37.1	61.1	64.0	50.7	39.9	47.5	61.9	134	143	67.3	33.4	22.8
MAX	49	137	128	71	44	63	80	216	207	100	46	26
MIN	32	33	46	42	37	38	49	65	103	48	26	21
AC-FT	2280	3630	3940	3120	2290	2920	3680	8250	8500	4140	2050	1350
CAL YR 1983	TOTAL	32835	MEAN	90.0	MAX	327	MIN	26	AC-FT	65130		
WTR YR 1984	TOTAL	23271	MEAN	63.6	MAX	216	MIN	21	AC-FT	46160		





10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	49	9	1.2	51	27	3.7	56	25	3.8
2	49	8	1.1	42	15	1.7	54	25	3.6
3	46	7	.87	37	15	1.5	56	25	3.8
4	42	7	.79	35	15	1.4	55	25	3.7
5	40	7	.76	34	15	1.4	52	25	3.5
6	39	7	.74	33	15	1.3	53	25	3.6
7	39	8	.84	36	15	1.5	51	25	3.4
8	39	8	.84	33	15	1.3	52	25	3.5
9	38	8	.82	36	15	1.5	54	25	3.6
10	36	8	.78	42	30	3.4	54	25	3.6
11	37	8	.80	90	149	41	62	32	5.4
12	37	9	.90	57	28	4.3	57	38	5.8
13	36	9	.87	49	22	2.9	56	26	3.9
14	36	9	.87	47	23	2.9	58	26	4.1
15	34	9	.83	46	13	1.6	56	26	3.9
16	34	9	.83	58	25	3.9	53	25	3.6
17	34	10	.92	137	176	76	55	23	3.4
18	34	10	.92	74	47	9.4	50	18	2.4
19	33	10	.89	83	95	32	49	16	2.1
20	33	9	.80	104	77	27	47	16	2.0
21	32	8	.69	68	40	7.3	46	22	2.7
22	32	7	.60	60	42	6.8	47	23	2.9
23	34	7	.64	59	30	4.8	49	20	2.6
24	34	6	.55	122	126	52	67	28	5.1
25	33	5	.45	90	35	8.5	128	153	56
26	33	5	.45	68	33	6.1	127	65	22
27	33	5	.45	64	38	6.6	109	80	24
28	33	5	.45	61	35	5.8	81	40	8.7
29	33	5	.45	59	35	5.6	76	36	7.4
30	40	22	2.4	57	25	3.8	91	93	24
31	48	40	5.2	---	---	---	83	40	9.0
TOTAL	1150	---	29.70	1832	---	327.0	1984	---	237.1

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	71	28	5.4	42	10	1.1	39	12	1.3
2	67	18	3.3	41	10	1.1	39	10	1.1
3	64	8	1.4	40	11	1.2	39	10	1.1
4	62	5	.84	39	12	1.3	38	10	1.0
5	60	5	.81	39	11	1.2	38	11	1.1
6	59	4	.64	39	11	1.2	39	9	.95
7	57	3	.46	39	12	1.3	40	10	1.1
8	56	2	.30	39	11	1.2	42	10	1.1
9	55	2	.30	41	9	1.0	43	10	1.2
10	54	2	.29	39	11	1.2	44	10	1.2
11	53	2	.29	39	12	1.3	43	10	1.2
12	52	5	.70	41	10	1.1	42	10	1.1
13	51	8	1.1	42	11	1.2	54	83	15
14	48	6	.78	42	12	1.4	55	30	4.5
15	47	5	.63	43	10	1.2	48	18	2.3
16	46	5	.62	44	11	1.3	46	19	2.4
17	46	6	.75	41	12	1.3	45	20	2.4
18	46	11	1.4	40	13	1.4	45	18	2.2
19	46	6	.75	41	15	1.7	47	13	1.6
20	47	8	1.0	42	17	1.9	50	12	1.6
21	48	8	1.0	41	16	1.8	53	10	1.4
22	46	10	1.2	37	17	1.7	49	10	1.3
23	45	10	1.2	38	18	1.8	50	10	1.4
24	45	10	1.2	39	16	1.7	53	10	1.4
25	45	10	1.2	38	15	1.5	54	10	1.5
26	44	10	1.2	37	17	1.7	63	12	2.0
27	43	12	1.4	38	16	1.6	59	10	1.6
28	43	10	1.2	38	13	1.3	56	9	1.4
29	42	10	1.1	37	12	1.2	56	9	1.4
30	42	10	1.1	---	---	---	53	10	1.4
31	42	10	1.1	---	---	---	52	9	1.3
TOTAL	1572	---	34.66	1156	---	39.9	1474	---	61.55

## PYRAMID AND WINNEMUCCA LAKES BASIN

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	50	8	1.1	65	16	2.8	207	46	26
2	49	8	1.1	73	22	4.3	196	47	25
3	50	6	.81	80	30	6.5	186	44	22
4	51	5	.69	82	25	5.5	193	59	31
5	51	5	.69	77	27	5.6	181	48	23
6	51	7	.96	74	27	5.4	181	43	21
7	51	6	.83	77	30	6.2	161	36	16
8	55	7	1.0	86	45	10	150	33	13
9	53	11	1.6	96	57	15	144	32	12
10	57	12	1.8	105	67	19	136	32	12
11	53	10	1.4	122	84	28	130	32	11
12	53	11	1.6	129	95	33	135	43	16
13	55	18	2.7	139	104	39	144	34	13
14	61	20	3.3	148	92	37	152	72	34
15	68	30	5.5	133	52	19	162	67	32
16	73	34	6.7	123	50	17	138	35	13
17	80	40	8.6	122	52	17	135	35	13
18	74	32	6.4	124	54	18	134	35	13
19	72	30	5.8	132	51	18	133	35	13
20	75	28	5.7	145	45	18	130	35	12
21	73	25	4.9	152	55	23	128	35	12
22	76	30	6.2	159	64	27	123	35	12
23	72	26	5.1	169	78	36	121	35	11
24	75	21	4.3	177	72	34	120	35	11
25	70	18	3.4	179	58	28	117	35	11
26	64	15	2.6	183	53	26	115	35	11
27	63	15	2.6	181	50	24	112	35	11
28	61	14	2.3	191	57	29	109	36	11
29	60	11	1.8	205	65	36	107	22	6.4
30	60	10	1.6	216	82	48	103	17	4.7
31	---	---	---	216	63	37	---	---	---
TOTAL	1856	---	93.08	4160	---	672.3	4283	---	472.1
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	100	17	4.6	46	15	1.9	26	7	.49
2	95	17	4.4	44	15	1.8	25	7	.47
3	90	17	4.1	43	15	1.7	24	7	.45
4	88	17	4.0	42	15	1.7	24	6	.39
5	86	17	3.9	40	15	1.6	24	6	.39
6	84	17	3.9	39	15	1.6	24	5	.32
7	80	17	3.7	38	15	1.5	23	5	.31
8	76	17	3.5	37	15	1.5	23	4	.25
9	74	17	3.4	36	15	1.5	22	4	.24
10	72	17	3.3	35	15	1.4	22	4	.24
11	71	17	3.3	35	15	1.4	22	4	.24
12	69	17	3.2	35	15	1.4	22	4	.24
13	67	17	3.1	35	15	1.4	22	4	.24
14	65	17	3.0	34	15	1.4	22	4	.24
15	64	17	2.9	33	15	1.3	21	4	.23
16	63	17	2.9	33	15	1.3	21	4	.23
17	65	17	3.0	32	15	1.3	22	4	.24
18	68	20	3.7	31	15	1.3	24	4	.26
19	61	17	2.8	30	15	1.2	25	4	.27
20	59	15	2.4	29	15	1.2	23	4	.25
21	57	15	2.3	30	15	1.2	23	4	.25
22	56	15	2.3	30	15	1.2	23	4	.25
23	62	22	3.7	29	15	1.2	21	4	.23
24	62	20	3.3	28	15	1.1	21	4	.23
25	56	20	3.0	28	15	1.1	21	4	.23
26	52	17	2.4	28	15	1.1	21	4	.23
27	50	15	2.0	27	17	1.2	21	4	.23
28	49	15	2.0	26	15	1.1	23	4	.25
29	48	15	1.9	27	13	.95	24	4	.26
30	49	15	2.0	27	11	.80	24	4	.26
31	49	15	2.0	27	9	.66	---	---	---
TOTAL	2087	---	96.0	1034	---	41.01	683	---	8.41
YEAR	23271		2112.81						

10336780 TROUT CREEK NEAR TAHOE VALLEY, CA--Continued

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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
MAR						
13...	1435	55	4.0	123	18	51
MAY						
08...	0930	79	4.0	25	5.3	36
21...	1230	144	7.0	51	20	33
23...	0030	178	7.0	99	48	34
30...	0910	215	7.0	70	41	35
JUNE						
14...	2150	213	6.5	211	121	28

## PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM
APR							
26...	1335	4.5	1	68	--	1	6
26...	1340	4.5	1	68	9	34	74
26...	1345	4.5	1	68	--	1	18
26...	1350	4.5	1	68	--	1	9
26...	1355	4.5	1	68	--	1	7

DATE	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM
APR						
26...	20	35	51	74	97	100
26...	87	91	94	98	100	--
26...	50	77	92	99	100	--
26...	20	28	42	66	93	100
26...	21	33	44	68	94	100

PYRAMID AND WINNEMUCCA LAKES BASIN  
10337000 LAKE TAHOE AT TAHOE CITY, CA

LOCATION.--Lat 39°10'51", long 120°07'06", in NE 1/4 NE 1/4 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 northeast of Tahoe City, and 1.8 mi northeast of Lake Tahoe outlet dam on Truckee River at Tahoe City.

DRAINAGE AREA.--506 mi<sup>2</sup> at lake outlet.

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

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

GAGE.--Water-stage recorder. Datum of gage is 6,220.00 ft Bureau of Reclamation datum, 6,218.86 ft 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 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 between elevations 6,223 ft, natural rim of lake and 6,229.1 ft, 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 July 14, 15, 17, 18, 1907; minimum, 6,221.74 ft Dec. 26, 1934

EXTREMES FOR CURRENT YEAR.--Maximum elevation, 6,228.73 ft July 4-6; minimum, 6,226.97 ft Mar. 12.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.27	8.20	8.58	8.32	7.46	7.16	7.15	7.45	8.26	8.70	8.56	8.03
2	8.27	8.18	8.58	8.32	7.41	7.15	7.17	7.47	8.25	8.72	8.53	7.99
3	8.28	8.18	8.59	8.27	7.38	7.12	7.18	7.47	8.30	8.72	8.53	7.98
4	8.27	8.14	8.57	8.25	7.36	7.10	7.18	7.50	8.33	8.73	8.50	7.95
5	8.27	8.13	8.57	8.22	7.33	7.09	7.19	7.53	8.39	8.73	8.48	7.93
6	8.27	8.12	8.53	8.20	7.31	7.07	7.19	7.53	8.40	8.73	8.46	7.93
7	8.26	8.10	8.53	8.18	7.27	7.06	7.17	7.57	8.41	8.71	8.46	7.92
8	8.27	8.05	8.53	8.15	7.23	7.05	7.24	7.58	8.42	8.70	8.45	7.90
9	8.23	8.04	8.54	8.13	7.26	7.03	7.20	7.58	8.41	8.72	8.43	7.89
10	8.21	8.15	8.49	8.09	7.26	7.02	7.26	7.60	8.43	8.72	8.42	7.86
11	8.22	8.19	8.51	8.05	7.26	6.98	7.27	7.64	8.44	8.72	8.40	7.85
12	8.21	8.18	8.48	8.03	7.24	6.97	7.28	7.67	8.46	8.71	8.38	7.81
13	8.20	8.30	8.45	8.03	7.32	7.09	7.29	7.71	8.49	8.70	8.37	7.82
14	8.17	8.25	8.39	7.95	7.27	7.07	7.30	7.73	8.55	8.69	8.35	7.80
15	8.17	8.27	8.40	7.92	7.35	7.09	7.30	7.75	8.58	8.69	8.34	7.78
16	8.16	8.35	8.42	7.92	7.34	7.12	7.30	7.78	8.58	8.70	8.31	7.78
17	8.16	8.54	8.37	7.90	7.33	7.12	7.31	7.80	8.60	8.71	8.30	7.77
18	8.15	8.52	8.38	7.87	7.31	7.12	7.35	7.83	8.62	8.70	8.28	7.77
19	8.14	8.59	8.40	7.83	7.30	7.12	7.40	7.85	8.62	8.69	8.26	7.77
20	8.14	8.67	8.33	7.80	7.26	7.11	7.40	7.88	8.62	8.67	8.25	7.75
21	8.13	8.64	8.27	7.79	7.31	7.12	7.41	7.92	8.64	8.66	8.24	7.73
22	8.12	8.60	8.23	7.75	7.28	7.12	7.42	7.95	8.64	8.64	8.22	7.71
23	8.12	8.64	8.23	7.73	7.25	7.14	7.43	7.97	8.66	8.66	8.18	7.67
24	8.11	8.74	8.29	7.71	7.25	7.13	7.43	8.00	8.68	8.67	8.17	7.66
25	8.11	8.74	8.37	7.68	7.20	7.11	7.43	8.05	8.68	8.67	8.13	7.62
26	8.11	8.71	8.38	7.65	7.19	7.14	7.43	8.08	8.69	8.64	8.11	7.60
27	8.11	8.69	8.37	7.60	7.18	7.14	7.43	8.11	8.70	8.63	8.10	7.59
28	8.10	8.67	8.34	7.58	7.15	7.15	7.44	8.15	8.70	8.61	8.08	7.58
29	8.12	8.64	8.33	7.55	7.14	7.15	7.44	8.18	8.70	8.61	8.07	7.56
30	8.12	8.61	8.34	7.53	---	7.12	7.44	8.19	8.70	8.60	8.03	7.60
31	8.19	---	8.32	7.50	---	7.15	---	8.24	---	8.58	8.04	---
MEAN	8.18	8.39	8.42	7.92	7.28	7.10	7.31	7.80	8.53	8.68	8.30	7.79
MAX	8.28	8.74	8.59	8.32	7.46	7.16	7.44	8.24	8.70	8.73	8.56	8.03
MIN	8.10	8.04	8.23	7.50	7.14	6.97	7.15	7.45	8.25	8.58	8.03	7.56
a	632700	684300	648700	548000	503900	505200	540700	638800	695400	680600	614200	560300
b	-12300	+51600	-35600	-100700	-44100	+1300	+35500	+98100	+56600	-14800	-66400	-53900

CAL YR 1983 b +81000

WTR YR 1984 b -84700

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

b Change in contents, in acre-feet.

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

## 10337500 TRUCKEE RIVER AT TAHOE CITY, CA

LOCATION.--Lat 39°09'59", long 120°08'36", in NE 1/4 NW 1/4 sec.7, T.15 N., R.17 E., Placer County, Hydrologic Unit 16050102, on left bank 510 ft downstream from dam at outlet of Lake Tahoe at Tahoe City.

DRAINAGE AREA.--507 mi<sup>2</sup>.

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 National Geodetic Vertical Datum of 1929. Prior to Nov. 12, 1912, nonrecording gage at site 370 ft 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 higher and Aug. 22, 1957, to July 10, 1960, at datum 2.42 ft higher; all at site 270 ft upstream.

REMARKS.--Records excellent. Flow regulated by Lake Tahoe, operating capacity, 744,600 acre-ft. 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).--84 years (water years 1901-84), 260 ft<sup>3</sup>/s, 188,400 acre-ft/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,360 ft<sup>3</sup>/s Dec. 26, gage height, 8.53 ft; minimum daily, 39 ft<sup>3</sup>/s Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	435	423	2060	2310	1920	1140	87	60	69	71	366	349
2	155	524	2050	2300	1900	1140	83	60	69	76	360	349
3	39	641	2070	2290	1880	1140	80	60	71	94	363	350
4	55	744	2080	2240	1870	1140	81	61	69	101	383	349
5	55	860	2070	2210	1860	1130	80	60	69	106	381	333
6	55	912	2070	2200	1850	1140	80	60	71	105	373	276
7	55	989	2170	2190	1560	1140	81	62	70	104	355	270
8	89	1080	2140	2170	1120	1140	80	72	66	104	355	269
9	182	1170	2140	2150	1160	857	79	71	66	104	356	268
10	226	1220	2160	2140	1160	590	79	68	66	106	356	268
11	209	1240	2180	2130	1160	604	78	68	65	113	356	268
12	161	1230	2180	2120	1150	602	79	68	71	189	356	271
13	156	1240	2150	2100	1160	446	79	69	74	278	354	273
14	157	1240	2140	2080	1170	305	79	68	73	301	357	272
15	156	1230	2210	2060	1170	303	80	67	77	304	359	271
16	156	1250	2280	2060	1150	302	81	65	79	306	353	271
17	155	1300	2280	2050	1150	306	71	64	67	339	360	246
18	176	1310	2280	2040	1160	308	65	64	57	359	361	239
19	182	1650	2270	2030	1160	309	66	66	55	354	359	206
20	182	1790	2280	2030	1150	310	64	67	64	315	358	168
21	182	1800	2260	2050	1160	271	62	68	68	314	358	134
22	182	1790	2240	2040	1160	156	62	68	69	313	358	102
23	181	1790	2250	2020	1150	159	62	68	68	313	356	104
24	181	1820	2260	2010	1150	159	62	68	69	304	355	86
25	143	1840	2300	2000	1150	159	60	66	69	266	353	67
26	82	1820	2310	2000	1140	161	60	66	68	282	353	66
27	81	1810	2320	1970	1140	137	61	67	70	318	354	66
28	108	1860	2320	1950	1140	90	60	65	72	315	353	68
29	187	2030	2320	1950	1130	89	60	67	71	314	351	68
30	263	2060	2320	1930	---	88	60	66	71	313	351	68
31	349	---	2320	1920	---	88	---	68	---	327	352	---
TOTAL	4975	40663	68480	64740	38180	15909	2161	2037	2063	7208	11115	6395
MEAN	160	1355	2209	2088	1317	513	72.0	65.7	68.8	233	359	213
MAX	435	2060	2320	2310	1920	1140	87	72	79	359	383	350
MIN	39	423	2050	1920	1120	88	60	60	55	71	351	66
AC-FT	9870	80660	135800	128400	75730	31560	4290	4040	4090	14300	22050	12680
CAL YR 1983	TOTAL	427018	MEAN	1170	MAX	2320	MIN	39	AC-FT	847000		
WTR YR 1984	TOTAL	263926	MEAN	721	MAX	2320	MIN	39	AC-FT	523500		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10338500 DONNER CREEK AT DONNER LAKE, NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'25", long 120°14'00", in SW 1/4 NW 1/4 sec.17, T.17 N., R.16 E., Nevada County, Hydrologic Unit 16050102, in Donner Memorial State Park, on left bank 10 ft downstream from bridge on Donner Memorial State Park road, 0.2 mi downstream from outlet of Donner Lake, 0.7 mi upstream from Cold Creek, and 2.5 mi west of Truckee.

DRAINAGE AREA.--14.3 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1909 to August 1910, January 1929 to October 1935, January 1936 to March 1938, July to October 1938, January 1939 to February 1943, June 1943 to December 1953, May 1955 to December 1957, October 1958 to current year. Monthly discharge only prior to October 1958, published in WSP 1314 and 1734.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,930 ft, from topographic map. Nov. 1, 1909, to Aug. 31, 1910, nonrecording gage at different datum. January 1929 to December 1957, water-stage recorder at same site at unknown datum.

REMARKS.--Records excellent. Flow regulated by dam at outlet of Donner Lake, usable capacity, 9,500 acre-ft.

AVERAGE DISCHARGE (unadjusted).--47 years (water years 1930-35, 1937, 1940-42, 1944-52, 1956-57, 1959-84), 35.6 ft<sup>3</sup>/s, 25,790 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 700 ft<sup>3</sup>/s, estimated, Nov. 21, 1950; maximum gage height observed, 4.55 ft Dec. 25, 1964; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 235 ft<sup>3</sup>/s May 23, 24, gage height, 3.60 ft; minimum daily, 0.28 ft<sup>3</sup>/s Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	50	107	172	30	30	65	8.2	119	20	.56	1.5
2	50	60	98	156	29	30	61	6.6	107	21	.56	1.4
3	44	54	97	141	29	30	58	5.6	107	21	.58	1.4
4	39	42	92	129	29	30	57	4.6	107	20	.56	1.3
5	35	34	85	118	28	29	58	3.1	107	20	.60	1.3
6	31	32	77	110	28	30	57	1.9	106	20	.56	1.4
7	28	34	72	103	28	30	57	1.6	105	19	.62	1.2
8	25	33	69	94	28	31	64	1.6	94	18	.56	1.1
9	23	33	70	89	7.0	33	65	2.2	77	15	.56	1.2
10	20	39	76	83	24	34	67	2.4	75	10	.51	1.1
11	19	101	81	78	37	36	64	71	58	9.9	.49	1.1
12	17	115	81	73	36	36	62	169	32	9.6	.49	1.2
13	16	122	76	69	41	46	61	169	30	9.5	.48	1.1
14	15	116	74	64	44	62	63	168	29	9.5	.41	1.0
15	14	108	76	60	46	67	70	167	28	9.1	.37	1.1
16	13	111	76	58	51	66	79	164	28	8.4	.37	.92
17	12	190	77	56	49	67	90	114	27	5.5	.37	.77
18	11	205	74	53	46	63	86	41	27	2.9	.40	47
19	11	197	71	51	43	60	81	41	26	2.7	.48	77
20	10	219	67	48	42	58	44	41	25	2.3	.48	76
21	9.6	198	66	46	44	60	10	40	24	2.1	.37	75
22	8.9	175	62	44	43	60	11	106	24	1.9	.37	74
23	9.2	168	60	41	41	60	10	211	24	1.7	.37	73
24	9.1	204	66	39	38	61	10	228	24	1.6	.35	139
25	8.8	221	102	38	38	62	10	174	22	1.3	.37	182
26	8.6	193	160	36	35	68	10	129	21	1.2	.35	183
27	8.3	170	180	34	34	73	9.7	147	21	1.0	.28	171
28	8.2	148	174	33	33	73	9.2	120	21	.93	.89	165
29	7.7	132	158	32	31	71	8.7	82	21	.85	1.6	162
30	13	117	168	31	---	69	8.4	83	21	.71	1.7	144
31	30	---	184	31	---	68	---	109	---	.65	1.6	---
TOTAL	609.4	3621	2976	2210	1032.0	1593	1406.0	2611.8	1537	267.34	18.26	1588.09
MEAN	19.7	121	96.0	71.3	35.6	51.4	46.9	84.3	51.2	8.62	.59	52.9
MAX	55	221	184	172	51	73	90	228	119	21	1.7	183
MIN	7.7	32	60	31	7.0	29	8.4	1.6	21	.65	.28	.77
AC-FT	1210	7180	5900	4380	2050	3160	2790	5180	3050	530	36	3150

CAL YR 1983 TOTAL 30577.9 MEAN 83.8 MAX 361 MIN 1.6 AC-FT 60650  
WTR YR 1984 TOTAL 19469.89 MEAN 53.2 MAX 228 MIN .28 AC-FT 38620

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

LOCATION.--Lat 39°18'08", long 120°07'13", in SW 1/4 SW 1/4 sec.20, T.17 N., R.17 E., Placer County, Hydrologic Unit 16050102, 4.0 mi southeast of Truckee. Water-quality samples are collected 10 ft upstream from State Highway 267. Temperature records are obtained about 300 ft upstream from highway, off left bank immediately downstream from confluence of main stem and Middle Martis Creek.

DRAINAGE AREA.--25.8 mi<sup>2</sup>.

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

CHEMICAL ANALYSES: Water years 1975 to current year.

WATER TEMPERATURES: Water years 1975 to current year.

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

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

PERIOD OF DAILY RECORD.--

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.0°C on July 4; minimum recorded, 0.0°C many days during November to April.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 05...	1015	13	115	7.6	7.0	620	1.9	10.1	102
APR 11...	0930	39	86	7.6	2.5	614	4.9	9.8	89
JUN 29...	0955	11	118	7.4	12.0	616	1.6	8.6	99
AUG 06...	1025	8.5	131	8.2	10.0	615	1.7	9.4	103

DATE	ALKA- LINITY FIELD (MG/L AS CACO3)	NITRO- GEN, NO2+NO3 (MG/L AS N)	NITRO- GEN, AMMONIA (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 05...	67	<.100	.060	.34	.40	--	.020	.020	1
APR 11...	37	.600	.030	.17	.20	.80	.020	.020	7
JUN 29...	66	--	--	--	--	--	--	--	<1
AUG 06...	71	<.100	.030	.17	.20	--	.020	.020	5

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 05...	9	400	130	24	19	40	23	70	22
APR 11...	7	460	97	15	7	50	18	--	15
JUN 29...	4	370	12	19	2	40	30	20	<3
AUG 06...	4	420	200	9	1	30	--	20	<10

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

## PYRAMID AND WINNEMUCCA LAKES BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	8.0	8.0	5.0	5.0	2.5	4.5	1.5	5.0	.5	6.5	1.5
2	10.5	7.5	9.0	4.5	5.5	2.5	4.0	1.0	4.0	.5	6.5	1.0
3	12.0	6.0	9.0	4.5	3.0	.5	3.5	.5	3.5	.5	6.5	.0
4	12.5	5.5	8.5	5.0	1.5	.0	4.0	1.0	4.0	.5	6.0	.0
5	13.0	7.0	8.5	5.0	1.5	.0	4.5	1.0	4.5	.0	7.0	.0
6	13.0	7.5	10.0	4.0	3.0	1.0	4.0	1.5	5.0	.0	8.0	.0
7	12.0	7.0	7.0	2.5	4.5	2.0	4.5	.5	3.5	.0	8.5	.5
8	12.5	7.0	4.5	.5	5.0	2.0	4.5	1.0	5.0	.0	8.5	1.0
9	12.0	8.5	6.0	2.0	3.0	1.5	3.5	.5	5.0	.0	9.0	1.0
10	11.5	5.0	6.0	4.0	3.0	1.0	2.5	.5	2.0	.0	8.5	1.5
11	11.5	4.5	6.0	3.0	2.5	.5	3.5	.5	1.5	.0	7.0	.5
12	11.0	4.5	5.0	2.5	2.0	.5	2.0	.5	5.5	1.0	8.0	1.5
13	9.5	5.0	2.5	.0	4.0	2.0	1.5	.5	2.5	.0	5.0	.5
14	10.0	5.5	3.5	.0	6.0	2.0	2.5	.5	3.5	.0	7.0	.5
15	9.5	4.0	5.0	2.0	5.5	1.0	2.0	.5	2.5	.5	5.0	.0
16	8.5	3.5	4.0	2.5	5.5	1.5	2.0	.5	2.5	.0	6.5	.0
17	9.0	3.0	2.5	.5	4.5	2.0	1.5	.5	2.5	.0	6.5	.0
18	9.5	3.0	4.5	1.5	4.5	2.0	.5	.5	2.0	.0	8.5	.0
19	10.0	3.5	5.0	2.5	5.0	1.5	1.5	.5	4.0	.0	10.0	.5
20	9.5	3.0	2.5	.5	3.5	.5	1.0	.5	5.0	.0	10.5	1.0
21	9.5	3.5	3.5	1.0	1.0	.5	3.5	1.0	1.5	.0	9.5	2.0
22	9.5	3.0	1.5	.0	2.0	.5	3.0	.5	.5	.0	9.5	.5
23	9.5	5.5	3.5	1.5	2.0	1.0	3.0	.5	1.0	.0	9.0	1.0
24	9.5	4.5	3.0	.0	2.0	1.5	4.5	.5	3.0	.0	10.0	1.5
25	8.5	2.5	3.0	1.0	3.0	1.5	4.5	1.0	4.5	.0	8.5	1.5
26	8.5	2.5	2.5	.5	3.5	2.0	4.0	.5	3.5	.0	9.0	3.5
27	8.0	2.5	2.5	.0	3.0	1.0	3.5	.5	4.5	.0	9.0	1.0
28	8.0	3.0	3.0	.5	3.0	.5	4.0	.5	3.5	.0	10.0	1.5
29	8.0	4.0	2.5	.0	6.0	2.5	3.5	.5	4.5	.0	5.5	1.5
30	9.0	6.5	3.5	1.0	5.0	2.5	5.0	.5	---	---	9.0	1.0
31	7.0	5.5	---	---	4.0	1.5	5.5	.5	---	---	7.5	1.5
MONTH	13.0	2.5	10.0	.0	6.0	.0	5.5	.5	5.5	.0	10.5	.0

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	6.0	1.5	9.0	4.0	17.5	6.5	21.5	10.0	20.5	10.5	17.5	7.0
2	9.5	.5	12.5	4.0	16.5	6.5	22.5	11.0	20.5	9.5	17.0	7.5
3	11.5	1.5	13.5	6.0	17.0	6.5	23.5	11.5	20.5	9.0	18.0	8.0
4	6.5	3.0	12.5	5.0	11.5	9.0	24.0	12.0	20.5	10.0	18.5	8.5
5	6.0	2.5	12.0	3.0	16.0	6.0	21.0	12.0	19.5	9.5	18.5	10.5
6	10.0	2.0	12.5	2.0	11.5	7.0	22.5	12.5	19.5	8.5	18.0	8.5
7	11.0	1.5	14.5	3.0	16.0	6.5	22.0	11.5	21.5	9.5	18.5	8.0
8	8.0	1.0	15.0	4.5	15.5	6.5	20.5	10.0	21.0	10.5	18.5	8.0
9	8.0	.0	14.5	5.5	16.5	5.5	21.0	9.5	20.5	11.0	18.5	9.0
10	8.0	1.5	14.5	5.0	16.5	7.0	22.0	9.5	17.0	11.5	18.0	8.5
11	10.5	1.0	14.0	6.5	16.0	7.0	21.5	10.0	19.5	10.0	17.5	8.5
12	11.5	2.0	16.0	5.5	15.0	7.5	21.0	10.0	19.0	10.0	17.5	7.5
13	12.5	1.5	15.5	6.0	16.0	7.0	22.0	10.5	18.5	12.0	17.0	7.5
14	12.5	3.0	13.5	6.5	13.5	7.0	21.0	12.0	21.0	10.5	17.5	9.0
15	12.5	3.0	8.5	4.0	17.5	7.5	20.5	12.5	17.0	11.0	17.5	8.0
16	11.5	3.5	12.5	3.5	19.5	9.0	21.0	12.5	20.0	9.5	16.5	7.5
17	11.0	4.0	14.5	6.0	20.0	9.5	19.0	13.5	19.0	10.0	16.5	8.0
18	7.0	2.5	15.0	4.5	20.0	9.5	22.0	12.5	19.5	9.5	17.0	10.5
19	8.5	1.5	16.5	6.0	19.5	9.0	21.0	12.5	19.0	8.5	14.5	10.0
20	8.5	2.0	15.5	6.5	17.0	7.5	21.5	11.5	18.0	8.0	15.5	9.0
21	11.5	1.0	16.5	6.0	18.5	6.5	21.0	11.0	18.0	10.0	16.0	7.5
22	12.5	2.5	17.5	6.5	19.5	8.0	19.0	10.0	19.0	10.5	15.0	6.0
23	13.0	3.5	17.0	7.0	20.0	9.0	19.0	12.0	19.0	10.0	14.5	7.5
24	12.0	3.0	15.5	7.0	20.5	10.0	20.5	12.0	19.0	10.5	12.5	4.5
25	6.0	1.5	17.0	6.0	20.5	9.5	21.5	11.0	14.5	8.5	12.5	3.0
26	7.5	1.0	17.5	7.0	20.5	9.5	21.5	11.0	18.0	8.5	13.5	4.0
27	9.0	1.5	17.5	6.5	20.5	8.5	21.0	10.5	18.5	9.5	13.5	5.0
28	13.0	1.0	19.0	7.5	21.5	10.0	20.5	10.0	19.0	9.5	14.0	4.5
29	12.0	2.5	19.0	8.5	20.5	11.0	21.0	10.0	19.5	10.0	13.5	5.0
30	9.5	3.5	18.5	9.0	21.0	9.5	20.0	10.5	19.0	11.5	11.0	7.5
31	---	---	17.5	8.0	---	---	20.0	10.0	17.0	8.0	---	---
MONTH	13.0	.0	19.0	2.0	21.5	5.5	24.0	9.5	21.5	8.0	18.5	3.0



## PYRAMID AND WINNEMUCCA LAKES BASIN

10339250 MARTIS CREEK AT STATE HIGHWAY 267, NEAR TRUCKEE, CA--Continued  
 SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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)
OCT 05...	1015	13	7.0	2	.07
APR 11...	0930	39	2.5	8	.84
JUN 29...	0955	11	12.0	10	.30
AUG 06...	1025	8.5	10.0	6	.14

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'38", long 120°06'48", in NE 1/4 NW 1/4 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 upstream from mouth, and 3.5 mi east of Truckee.

DRAINAGE AREA.--39.6 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--Lake is formed by rolled-earthfill dam. Storage began Oct. 7, 1971. Usable capacity, 19,600 acre-ft between elevations 5,780 ft, bottom of intake tower, and 5,838 ft, spillway crest. Dead storage, 775 acre-ft. Records, including extremes, represent total contents at 2400 hours. Reservoir is used for flood control, enhancement of fishery, and recreation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 7,700 acre-ft May 11, 12, 1980, elevation, 5,815.16 ft; minimum since reservoir first filled, 768 acre-ft Aug. 24, 1977, elevation, 5,779.88 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,020 acre-ft Nov. 17 and Dec. 25, elevation, 5,783.60 ft; minimum, 791 acre-ft Sept. 9-16, elevation 5,780.26 ft.

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

5,779	716	5,800	3,260
5,780	775	5,810	5,880
5,785	1,140	5,820	9,720
5,790	1,650		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	804	818	842	876	815	826	839	834	813	799	793	794
2	803	808	841	868	813	829	836	833	813	799	793	793
3	801	804	849	862	812	828	835	835	812	798	793	793
4	801	802	844	857	812	824	835	835	815	798	793	792
5	800	801	836	853	812	824	838	834	813	799	792	794
6	800	801	832	849	811	825	835	833	814	799	792	793
7	800	801	835	846	811	826	835	831	812	797	792	792
8	799	822	842	842	812	828	848	833	811	796	792	792
9	799	822	888	839	817	828	840	836	808	796	792	791
10	799	874	859	836	815	829	841	839	810	796	792	791
11	799	850	870	834	813	829	836	841	808	796	792	791
12	799	850	858	831	815	829	834	842	808	796	792	791
13	801	826	856	829	837	896	836	844	808	796	792	791
14	801	817	865	827	826	855	839	844	815	796	792	791
15	799	815	853	826	841	851	845	845	810	796	792	791
16	799	858	856	826	829	844	850	839	807	796	792	791
17	799	1020	852	818	822	846	850	835	805	798	792	792
18	799	868	845	820	821	842	850	832	804	798	792	792
19	799	923	842	820	818	839	846	831	804	797	792	793
20	798	885	838	820	821	841	841	830	804	796	792	794
21	798	862	834	820	820	841	838	830	804	794	793	794
22	798	849	831	819	820	841	839	829	804	794	793	793
23	799	846	836	817	818	842	837	828	803	797	793	793
24	799	998	905	820	817	844	831	827	803	798	792	793
25	799	892	1020	820	817	844	831	826	802	796	793	793
26	799	866	983	818	815	851	827	824	801	794	793	793
27	799	854	926	816	817	849	827	822	801	794	793	793
28	799	844	895	816	817	847	828	820	799	793	793	793
29	801	838	883	815	817	844	829	818	799	793	793	793
30	808	839	911	815	---	842	831	817	799	794	793	794
31	831	---	888	815	---	841	---	816	---	795	794	---
MAX	831	1020	1020	876	841	896	850	845	815	799	794	794
MIN	798	801	831	815	811	824	827	816	799	793	792	791
a	5780.89	5781.00	5781.74	5780.63	5780.66	5781.03	5780.88	5780.65	5780.39	5780.32	5780.31	5780.31
b	+27	+8	+49	-73	+2	+24	-10	-15	-17	-4	-1	0

CAL YR 1983 b +66

WTR YR 1984 b -10

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

b Change in contents, in acre-feet.

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339380 MARTIS CREEK LAKE NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1975 to current year.

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

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 05...	1110	133	7.9	12.5	620	1.9	9.4	109
APR 11...	1120	86	6.8	4.5	616	5.3	9.8	94
JUN 29...	1050	113	8.7	19.5	618	1.4	8.5	115
AUG 06...	1130	134	9.1	19.5	620	1.2	9.4	127

DATE	ALKA- LINEITY FIELD (MG/L AS CACO3)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 05...	71	.80	.08	.72	.80	1.6	.01	<.01	7
APR 11...	39	.20	.03	.17	.20	.40	.03	.03	2
JUN 29...	59	--	--	--	--	--	--	--	2
AUG 06...	71	.20	.05	.25	.30	.50	.03	<.01	2

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 05...	10	350	110	28	20	40	16	60	6
APR 11...	6	390	210	36	9	20	19	--	26
JUN 29...	3	350	11	48	13	40	22	20	10
AUG 06...	5	210	81	15	13	40	12	20	11

## SUSPENDED SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)
OCT 05...	1110	12.5	3
APR 11...	1120	4.5	3
JUN 29...	1050	19.5	3
AUG 06...	1130	19.5	1

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

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°19'44", long 120°07'00", in NE 1/4 NW 1/4 sec.17, T.17 N., R.17 E., Nevada County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 0.2 mi downstream from Martis Creek Lake Dam, 1.8 mi upstream from mouth, and 3.5 mi east of Truckee.

DRAINAGE AREA.--39.9 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

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

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

AVERAGE DISCHARGE (unadjusted).--26 years, 27.0 ft<sup>3</sup>/s, 19,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,880 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 6.16 ft, site and datum then in use; minimum, 1.1 ft<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 Apr. 2, 1974, gage height, 6.01 ft; minimum daily, 0.20 ft<sup>3</sup>/s Nov. 9-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 503 ft<sup>3</sup>/s Nov. 17, gage height, 5.12 ft; minimum daily, 10 ft<sup>3</sup>/s Nov. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	41	51	117	27	33	61	50	31	16	13	13
2	21	28	53	100	26	40	56	53	30	16	12	13
3	20	23	62	87	25	40	53	53	28	16	12	12
4	20	21	60	77	25	38	55	55	29	15	12	12
5	19	20	48	71	25	35	58	54	30	15	12	11
6	19	19	44	65	25	37	55	52	30	17	12	12
7	19	20	43	60	25	38	52	51	29	16	12	12
8	19	10	47	56	25	39	68	51	27	14	12	11
9	19	21	74	51	28	40	63	55	26	15	12	11
10	19	42	95	48	28	41	61	59	25	14	12	11
11	19	161	108	45	26	41	56	64	24	14	12	11
12	19	66	80	41	27	41	52	66	24	14	12	11
13	19	57	69	39	38	80	52	67	24	14	12	11
14	20	37	76	38	41	116	56	70	26	14	12	11
15	19	32	72	36	40	83	62	69	28	14	12	11
16	18	54	63	37	47	70	72	64	24	14	12	11
17	18	359	72	35	36	68	79	57	22	15	12	11
18	18	201	61	30	32	66	77	53	21	16	12	12
19	18	95	56	33	32	62	72	50	21	15	12	12
20	18	146	52	31	32	61	66	50	20	15	12	13
21	18	87	45	32	35	66	60	49	20	14	12	12
22	18	64	44	30	31	64	59	48	20	14	13	12
23	18	54	45	29	32	64	60	47	20	14	12	12
24	19	202	84	30	31	67	53	46	19	16	12	12
25	18	193	254	31	31	70	50	44	19	14	12	12
26	18	101	303	30	29	77	46	41	18	14	12	12
27	18	75	247	28	30	81	45	39	18	13	12	12
28	18	65	162	28	31	75	44	37	17	13	12	12
29	18	55	129	27	30	73	47	36	16	13	12	12
30	22	50	155	27	---	67	49	34	16	13	12	12
31	34	---	148	27	---	64	---	32	---	14	13	---
TOTAL	603	2399	2902	1416	890	1837	1739	1596	702	451	375	352
MEAN	19.5	80.0	93.6	45.7	30.7	59.3	58.0	51.5	23.4	14.5	12.1	11.7
MAX	34	359	303	117	47	116	79	70	31	17	13	13
MIN	18	10	43	27	25	33	44	32	16	13	12	11
AC-FT	1200	4760	5760	2810	1770	3640	3450	3170	1390	895	744	698
CAL YR 1983	TOTAL	30076	MEAN	82.4	MAX	555	MIN	10	AC-FT	59660		
WTR YR 1984	TOTAL	15262	MEAN	41.7	MAX	359	MIN	10	AC-FT	30270		

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1975 to current year.

WATER TEMPERATURES: Water years 1975 to current year.

SEDIMENT RECORDS: Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1974 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.5°C July 16; minimum recorded, 1.0°C Nov. 25, 26.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)
OCT 05...	1315	20	129	8.1	12.5	620	1.8	9.9	115
APR 11...	1200	54	92	7.3	4.5	615	5.1	10.1	97
JUN 29...	1300	16	113	8.7	18.5	620	1.7	8.4	111
AUG 06...	1340	12	142	--	19.5	620	1.4	8.8	118

DATE	ALKA- LITY FIELD (MG/L AS CACO3)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 05...	65	.100	.060	.64	.70	.80	.020	.010	1
APR 11...	42	<.100	<.010	--	<.20	--	.020	.010	4
JUN 29...	61	.200	.020	.48	.50	.70	.020	.030	4
AUG 06...	71	.200	.030	.27	.30	.50	.030	<.010	2

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 05...	9	350	140	66	15	50	16	110	11
APR 11...	5	400	86	53	8	40	13	--	17
JUN 29...	8	320	81	28	20	50	17	50	19
AUG 06...	3	190	75	50	16	30	19	20	14

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

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

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

## PYRAMID AND WINNEMUCCA LAKES BASIN

10339400 MARTIS CREEK NEAR TRUCKEE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 05...	1315	20	12.5	3	.15
APR 11...	1200	54	4.5	5	.73
JUN 29...	1300	16	18.5	6	.26
AUG 06...	1340	12	19.5	14	.45

## PYRAMID AND WINNEMUCCA LAKES BASIN

## 10340300 PROSSER CREEK RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°22'40", long 120°08'10", in NW 1/4 SW 1/4 sec.30, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, in control house at Prosser Creek Dam on Prosser Creek, 1.4 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--50.3 mi<sup>2</sup>.

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

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

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

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Jan. 30, 1963. Usable capacity, 28,640 acre-ft between elevations, 5,660.6 ft top of inactive storage, and 5,741.2 ft spillway crest. Inactive storage, 1,200 acre-ft, includes 83 acre-ft dead storage below elevation 5,660.6 ft. Figures given herein represent total contents at 0800 hours. Reservoir is used for flood control, enhancement of fishery, and recreation.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,269 acre-ft June 1, 1973, elevation, 5,744.33 ft; minimum since reservoir first filled, 66 acre-ft Oct 10-12, 1983, elevation, 5,635.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,471 acre-ft July 4, elevation, 5,737.95 ft; minimum, 66 acre-ft Oct. 10-12, elevation, 5,635.75 ft.

## MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
Sept. 30.....	5,662.51	1,378	--
Oct. 31.....	5,669.30	2,140	+762
Nov. 30.....	5,701.20	9,011	+6,871
Dec. 31.....	5,704.73	10,184	+1,173
CAL YR 1983.....	--	--	+1,639
Jan. 31.....	5,697.73	7,958	-2,226
Feb. 29.....	5,701.18	9,005	+1,047
Mar. 31.....	5,702.55	9,448	+443
Apr. 30.....	5,716.85	15,112	+5,664
May 31.....	5,730.30	22,406	+7,294
June 30.....	5,737.24	26,972	+4,566
July 31.....	5,735.52	25,787	-1,185
Aug. 31.....	5,732.87	24,030	-1,757
Sept. 30.....	5,722.00	17,671	-6,359
WTR YR 1984.....	--	--	+16,293



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

LOCATION.--Lat 39°22'24", long 120°07'50", in NW 1/4 NE 1/4 sec.31, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 300 ft downstream from Station Creek, 0.5 mi downstream from Prosser Creek Dam, 0.9 mi upstream from mouth, and 4.2 mi northeast of Truckee.

DRAINAGE AREA.--52.9 mi<sup>2</sup>.

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

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

GAGE.--Water-stage recorder. Datum of gage is 5,602.31 ft National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). See WSP 2127 for history of changes prior to September 1956. October 1956 to May 1976, water-stage recorder at site 0.8 mi downstream at datum 29.69 ft 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).--41 years (water years 1943-50, 1952-84), 90.8 ft<sup>3</sup>/s, 65,780 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1943-83).--Maximum discharge, 4,560 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 10.13 ft present datum, from rating curve extended above 910 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; maximum gage height, 11.0 ft from floodmarks, present datum, Nov. 20, 1950; minimum discharge, 0.4 ft<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 Dec. 25, 1964, gage height, 6.28 ft; minimum daily, 0.02 ft<sup>3</sup>/s Jan. 2, 1975, result of temporary closing of Prosser Creek Dam for spillway maintenance.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 584 ft<sup>3</sup>/s Dec. 27, gage height, 5.12 ft; minimum daily, 1.0 ft<sup>3</sup>/s Oct. 20-22, 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	60	2.3	137	405	44	71	201	88	271	88	44	44		
2	60	1.5	122	392	44	72	200	132	271	62	45	44		
3	29	1.3	124	362	44	86	200	144	270	46	35	44		
4	8.2	1.2	122	271	44	83	183	144	223	109	41	45		
5	39	1.2	122	215	44	80	172	144	194	150	42	72		
6	142	1.2	122	187	45	79	159	144	103	150	42	104		
7	153	1.2	122	170	45	79	151	158	45	150	42	121		
8	124	1.1	123	170	45	79	153	166	45	148	42	121		
9	32	1.2	97	170	45	79	152	151	45	109	42	121		
10	31	3.1	78	170	45	79	153	143	45	84	42	120		
11	30	7.8	81	170	45	79	152	187	116	73	42	121		
12	13	4.3	108	170	45	92	152	216	174	43	42	121		
13	1.6	2.7	128	169	47	103	88	171	174	43	42	121		
14	1.3	2.2	130	169	46	102	45	145	174	43	42	120		
15	1.1	2.1	129	169	47	102	45	146	174	43	45	120		
16	1.1	4.6	129	115	47	169	45	221	174	43	46	120		
17	1.1	17	129	81	45	210	46	269	174	43	46	119		
18	1.1	5.6	130	81	45	209	46	268	94	88	46	119		
19	1.1	8.9	130	81	45	209	47	268	43	118	46	119		
20	1.0	7.0	129	81	78	208	47	269	43	137	46	119		
21	1.0	45	129	81	100	208	47	270	43	148	45	137		
22	1.0	260	129	82	98	207	47	271	43	149	45	143		
23	1.3	440	129	81	98	207	47	271	43	130	45	140		
24	1.1	505	130	82	98	207	47	271	43	118	44	135		
25	1.1	367	136	82	99	206	47	230	43	73	44	146		
26	1.1	281	273	83	101	206	48	268	43	45	44	146		
27	1.0	280	493	83	102	204	48	268	44	90	44	141		
28	1.0	276	396	83	102	204	48	269	44	119	44	145		
29	1.1	274	287	83	103	203	48	269	89	119	44	149		
30	1.9	205	292	84	---	202	48	270	100	74	44	145		
31	3.9	---	330	60	---	202	---	270	---	45	44	---		
TOTAL	746.1	3010.5	5116	4682	1836	4526	2912	6501	3387	2880	1347	3462		
MEAN	24.1	100	165	151	63.3	146	97.1	210	113	92.9	43.5	115		
MAX	153	505	493	405	103	210	201	271	271	150	46	149		
MIN	1.0	1.1	78	60	44	71	45	88	43	43	35	44		
AC-FT	1480	5970	10150	9290	3640	8980	5780	12890	6720	5710	2670	6870		
CAL YR 1983	TOTAL	73643.2	MEAN	202	MAX	1150	MIN	1.0	AC-FT	146100	MEAN a	204	AC-FT a	147700
WTR YR 1984	TOTAL	40405.6	MEAN	110	MAX	505	MIN	1.0	AC-FT	80140	MEAN a	133	AC-FT a	96430

a 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 SW 1/4 NW 1/4 sec.35, T.19 N., R.15 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, on left bank 0.3 mi downstream from Independence Lake outlet, and 10.5 mi northwest of Truckee.

DRAINAGE AREA.--8.10 mi<sup>2</sup>.

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

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

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

REMARKS.--Records good. Flow regulated by Independence Lake, usable capacity, 17,500 acre-ft.

AVERAGE DISCHARGE (unadjusted).--21 years (water years 1903-7, 1969-84), 28.8 ft<sup>3</sup>/s, 20,870 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291 ft<sup>3</sup>/s Dec. 20, 1981, gage height, 6.12 ft; no flow Sept. 28 to Nov. 10, 1905, June 1, 1906.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 224 ft<sup>3</sup>/s June 1, gage height, 5.24 ft; minimum daily, 8.8 ft<sup>3</sup>/s Dec. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	15	97	10	9.6	10	11	42	175	39	33	26
2	13	14	96	10	9.6	10	11	43	182	39	33	26
3	13	63	96	10	9.6	10	11	44	160	39	33	26
4	13	111	95	10	9.6	10	11	44	155	39	33	26
5	13	109	95	10	9.6	10	11	44	154	39	33	26
6	13	108	94	9.7	9.6	10	11	43	154	39	33	26
7	13	107	93	9.6	9.6	10	11	44	152	39	32	26
8	13	106	93	9.6	9.7	10	12	45	151	39	32	26
9	13	106	92	9.6	10	10	11	45	150	38	32	25
10	13	108	92	9.6	10	10	11	45	149	38	32	25
11	13	111	92	9.6	10	10	11	46	148	38	32	25
12	13	108	91	9.6	10	10	12	46	147	38	32	25
13	13	107	90	9.6	10	11	12	46	146	38	32	25
14	14	105	51	9.6	10	11	12	46	145	37	32	25
15	14	105	9.2	9.6	10	11	13	46	140	35	32	25
16	14	105	9.2	9.6	10	11	14	46	115	34	32	25
17	14	109	9.2	9.6	10	10	13	46	106	34	32	24
18	14	106	9.2	9.8	10	10	13	46	90	34	32	24
19	14	106	9.2	10	10	11	12	46	46	33	32	24
20	14	105	9.2	10	10	11	12	47	37	33	32	24
21	14	103	9.0	10	10	11	12	47	38	33	32	24
22	13	103	8.8	10	10	11	13	47	38	33	31	24
23	14	102	8.8	10	10	11	28	48	38	33	31	24
24	14	105	9.3	10	10	11	43	48	38	33	29	24
25	14	103	11	10	10	11	42	49	38	33	27	24
26	14	101	11	9.8	10	11	42	49	38	33	27	24
27	14	100	11	9.7	10	11	41	54	39	33	27	24
28	13	100	10	9.6	10	12	41	74	39	33	27	24
29	14	99	10	9.6	10	11	42	101	39	33	27	24
30	14	98	11	9.6	---	11	42	130	39	33	26	24
31	15	---	11	9.6	---	11	---	135	---	33	26	---
TOTAL	420	2928	1433.1	303.0	286.9	328	581	1682	3086	1105	956	744
MEAN	13.5	97.6	46.2	9.77	9.89	10.6	19.4	54.3	103	35.6	30.8	24.8
MAX	15	111	97	10	10	12	43	135	182	39	33	26
MIN	13	14	8.8	9.6	9.6	10	11	42	37	33	26	24
AC-FT	833	5810	2840	601	569	651	1150	3340	6120	2190	1900	1480
CAL YR 1983	TOTAL	17819.0	MEAN	48.8	MAX	247	MIN	4.9	AC-FT	35340		
WTR YR 1984	TOTAL	13853.0	MEAN	37.8	MAX	182	MIN	8.8	AC-FT	27480		

## PYRAMID AND WINNEMUCCA LAKES BASIN

105

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA

LOCATION.--Lat 39°25'54", long 120°14'13", in NE 1/4 NE 1/4 sec.7, T.18 N., R.16 E., Nevada County, Hydrologic Unit 16050102, on left bank 2.2 mi upstream from bridge on State Highway 89, and 7.5 mi north of Truckee.

DRAINAGE AREA.--10.5 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

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

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

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

AVERAGE DISCHARGE.--31 years, 13.2 ft<sup>3</sup>/s, 9,560 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 4.64 ft from floodmarks, from rating curve extended above 160 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 4.28 ft; minimum, 0.6 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 31	1530	55	2.65	Dec. 25	1630	85	2.91
Nov. 11	0345	*158	3.35	Dec. 30	0730	77	2.85
Nov. 17	0315	152	3.32	Apr. 16	1700	65	2.75
Nov. 24	1230	126	3.18	May 13	1930	89	2.94

Minimum daily, 4.2 ft<sup>3</sup>/s several days in September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	26	18	35	10	9.5	23	41	48	14	6.6	4.8
2	8.7	14	17	31	9.9	9.9	22	43	45	14	6.3	4.6
3	7.8	11	15	28	9.6	9.9	25	53	42	13	6.1	4.4
4	7.3	9.7	14	26	9.4	9.7	26	53	48	13	6.0	4.4
5	7.1	8.8	14	25	9.4	9.6	26	51	42	13	5.9	4.9
6	6.9	9.6	14	23	9.4	9.9	25	48	46	12	5.7	4.6
7	6.9	9.9	14	22	9.3	11	29	49	40	12	5.7	4.5
8	6.8	8.3	14	21	9.3	12	29	54	35	11	5.4	4.4
9	6.8	11	17	20	9.8	13	25	59	32	10	5.4	4.3
10	6.8	35	15	19	9.4	13	24	59	32	10	5.3	4.3
11	6.5	67	19	18	9.2	13	25	68	29	9.7	5.3	4.2
12	6.3	37	16	17	9.6	13	26	72	27	9.3	5.2	4.2
13	6.9	22	16	17	11	22	29	76	27	9.0	5.1	4.3
14	7.4	18	19	15	11	22	35	78	26	8.8	5.1	4.2
15	6.7	16	18	15	11	18	44	70	26	8.8	5.2	4.2
16	6.5	29	18	14	11	16	52	59	25	8.5	5.2	4.2
17	6.4	89	18	14	10	16	52	56	24	11	5.1	4.2
18	6.3	36	16	13	11	15	46	55	24	11	4.9	4.3
19	6.2	49	15	13	9.8	16	41	56	23	8.9	4.8	4.9
20	6.2	40	15	12	9.9	19	38	60	22	8.4	4.8	4.7
21	6.1	27	14	12	10	21	38	61	21	8.0	4.9	4.6
22	6.1	23	13	12	11	20	44	62	20	7.7	4.8	4.5
23	7.6	21	14	11	10	21	51	64	19	12	4.7	4.4
24	6.7	66	27	12	9.4	24	51	63	19	10	4.6	4.4
25	6.3	37	64	11	9.2	25	45	60	18	8.2	4.6	4.5
26	6.2	28	55	11	9.5	33	40	58	17	7.6	4.7	4.5
27	6.1	24	43	11	9.2	30	36	55	17	7.2	4.6	4.5
28	6.1	21	33	10	9.2	30	35	55	16	6.9	4.6	4.4
29	6.6	20	30	10	9.0	28	35	55	15	6.8	4.6	4.3
30	25	18	60	10	---	26	37	55	15	7.2	4.8	4.9
31	27	---	44	10	---	25	---	52	---	7.0	5.1	---
TOTAL	249.7	831.3	719	518	285.5	560.5	1054	1800	840	304.0	161.1	133.6
MEAN	8.05	27.7	23.2	16.7	9.84	18.1	35.1	58.1	28.0	9.81	5.20	4.45
MAX	27	89	64	35	11	33	52	78	48	14	6.6	4.9
MIN	6.1	8.3	13	10	9.0	9.5	22	41	15	6.8	4.6	4.2
AC-FT	495	1650	1430	1030	566	1110	2090	3570	1670	603	320	265
CAL YR 1983	TOTAL	11935.4	MEAN	32.7	MAX	206	MIN	5.8	AC-FT	23670		
WTR YR 1984	TOTAL	7456.7	MEAN	20.4	MAX	89	MIN	4.2	AC-FT	14790		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1981 to current year.

SEDIMENT RECORDS: Water years 1981 to current year.

## PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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...	0830	9.2	5.0	2	.05	--
12...	1425	6.4	9.0	3	.05	--
23...	0910	9.2	6.0	13	.32	--
31...	0925	26	6.0	13	.91	--
NOV						
07...	0850	10	4.0	5	.14	--
21...	1420	27	1.5	6	.44	--
28...	0915	21	.5	6	.34	--
DEC						
06...	1320	14	2.0	5	.19	--
15...	1500	18	2.5	4	.19	--
19...	0935	15	1.0	3	.12	--
JAN						
05...	1130	25	1.0	4	.27	--
09...	1600	20	2.0	4	.22	--
25...	1500	12	2.0	3	.10	--
FEB						
24...	1320	9.5	1.5	5	.13	--
MAR						
09...	1430	12	4.5	5	.16	--
22...	0950	19	1.0	4	.21	--
29...	1220	28	2.0	4	.30	--
APR						
13...	0645	25	.5	3	.20	--
14...	1635	46	7.0	17	2.1	--
15...	1745	60	5.5	15	2.4	--
16...	1630	64	6.0	16	2.8	--
17...	1645	59	6.0	6	.96	--
19...	1800	42	5.0	3	.34	--
20...	1510	38	5.0	4	.41	--
21...	1545	43	7.5	6	.70	--
22...	1550	52	9.0	8	1.1	--
23...	1600	59	8.5	13	2.1	65
24...	1540	55	8.0	7	1.0	--
25...	1610	45	5.5	4	.49	--
26...	1600	40	4.0	3	.32	--
27...	1500	37	4.0	3	.30	--
28...	1610	37	7.5	3	.30	--
29...	1650	37	--	3	.30	--
30...	1550	39	--	5	.53	--
MAY						
01...	1530	45	--	8	.97	--
02...	1600	47	9.0	8	1.0	--
03...	1545	64	9.0	17	2.9	--
04...	1540	57	--	8	1.2	66
05...	1500	50	--	5	.68	--
06...	1530	48	--	5	.65	--
07...	1500	48	--	5	.65	--
08...	1515	58	11.0	11	1.7	--
09...	1515	63	--	13	2.2	--
14...	0745	73	4.5	5	.99	--
15...	1830	68	5.0	4	.73	--
16...	1800	58	6.0	5	.78	--
18...	1520	54	12.0	5	.73	--
19...	1745	63	11.0	7	1.2	--
JUN						
04...	1600	51	11.0	5	.69	--
12...	0930	28	7.0	2	.15	--
18...	1310	23	15.0	2	.12	--

10343500 SAGEHEN CREEK NEAR TRUCKEE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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
APRIL 23...	1600	59	8.5	13	2.1	65
MAY 04...	1540	57	---	8	1.2	66

## PYRAMID AND WINNEMUCCA LAKES BASIN

10344300 STAMPEDE RESERVOIR NEAR TRUCKEE, CA

LOCATION.--Lat 39°28'16", long 120°06'10", in NW 1/4 NW 1/4 sec.28, T.19 N., R.17 E., Sierra County, Hydrologic Unit 16050102, Tahoe National Forest, in control house near base of spillway of Stampede Dam on Little Truckee River, 0.2 mi upstream from Worn Mill Canyon, and 11.0 mi northeast of Truckee.

DRAINAGE AREA.--136 mi<sup>2</sup>.

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

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

REMARKS.--Reservoir is formed by rolled-earth and rockfill dam. Storage began Aug. 1, 1969. Total capacity, 226,500 acre-ft at elevation 5,948.7 ft, spillway crest. Inactive storage, 5,010 acre-ft, includes 660 acre-ft dead storage below elevation 5,798.3 ft. Figures given herein, including extremes, represent total contents at 0800 hours. Reservoir is used for flood control, municipal water supply, enhancement of fishery, and recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 254,493 acre-ft June 1, 1983, elevation, 5,956.55 ft; minimum since reservoir first filled, 30,772 acre-ft Jan. 31, Feb. 1, 1978, elevation, 5,853.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 225,637 acre-ft Dec. 5, elevation, 5,948.45 ft; minimum, 189,874 acre-ft June 18, elevation, 5,937.54 ft.

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

5,850	27,915	5,900	94,535
5,855	31,951	5,910	115,865
5,860	36,470	5,920	140,141
5,865	41,505	5,930	167,355
5,870	47,204	5,940	197,630
5,880	60,185	5,950	231,005
5,890	76,008	5,960	267,386

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194611	197840	223715	205216	198957	200624	202880	204728	208782	192971	194706	193191
2	194690	198542	224263	204630	198989	200624	202492	204565	208651	193191	194611	193112
3	194769	198846	224721	203868	199021	200624	202314	204192	207961	193443	194516	193034
4	194832	199149	225179	203106	199106	200624	202137	203819	206684	193695	194474	192955
5	194895	199512	225637	203155	199191	200624	202363	203344	204555	193900	194432	192876
6	194927	199875	225327	203203	199277	200640	202589	202869	202427	194105	194389	192672
7	194959	200238	225018	203625	199357	200656	202794	202395	199373	194158	194389	192468
8	195022	200624	223905	204047	199437	200817	202999	202056	198414	194211	194389	192541
9	195086	201009	222792	204468	199501	200977	203203	201718	196992	194263	194342	192614
10	195149	202220	221907	204273	199565	201173	203090	201863	195593	194342	194295	192688
11	195228	203430	221022	204078	199586	201369	202977	202008	194611	194421	194253	192593
12	195307	204536	220138	203592	199607	201566	202847	202936	193696	194437	194211	192499
13	195434	205642	219055	203106	199629	202062	202718	203864	192782	194453	194168	192436
14	195561	206749	217973	202269	199854	202557	202826	204793	191889	194495	194105	192374
15	195561	207470	217065	201430	200078	203010	202934	205802	190996	194537	194042	192322
16	195561	208191	216157	200591	200271	203462	203041	206749	190372	194579	193979	192270
17	195561	210133	215143	199565	200463	203441	203414	207469	189936	194611	193916	192217
18	195561	211338	214129	199405	200484	203420	203786	207961	189874	194642	193863	192217
19	195561	212543	213116	199405	200505	203398	203835	208322	189936	194658	193810	192217
20	195609	213747	211872	199405	200527	203430	203884	208782	189998	194674	193758	192170
21	195656	214951	210628	199384	200624	203462	203786	208749	190185	194653	193632	192123
22	195804	215722	209409	199363	200720	203624	203916	208914	190372	194632	193506	191977
23	195952	216493	208191	199341	200736	203657	204046	209078	190580	194611	193506	191831
24	196101	217909	207689	199277	200752	203657	204403	209111	190788	194690	193506	191684
25	195989	219325	207187	199213	200741	203657	204760	209144	190996	194769	193453	191559
26	195878	220230	206684	199149	200730	203657	204988	209375	191419	194817	193400	191434
27	196117	221135	206618	199085	200720	203576	205216	209045	191841	194864	193348	191559
28	196355	222041	206553	199042	200672	203495	205313	208552	192123	194832	193364	191684
29	196546	222622	206014	198999	200624	203397	205183	208388	192405	194800	193380	191653
30	196737	223202	205476	198957	---	203300	205053	208519	192719	194769	193332	191622
31	196928	---	205476	198829	---	203074	---	208585	---	194769	193285	---
MAX	196928	223202	225637	205216	200752	203657	205313	209375	208782	194864	194706	193191
MIN	194611	197840	205476	198829	198957	200624	202137	201718	189874	192971	193285	191434
a	5939.78	5947.74	5942.43	5940.37	5940.93	5941.69	5942.30	5943.38	5938.45	5939.10	5938.63	5938.10
b	+2475	+26274	-17726	-6647	+1795	+2450	+1979	+3532	-15866	+2050	-1484	-1663

CAL YR 1983 b -4954

WTR YR 1984 b -2831

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

b Change in contents, in acre-feet.

## 10344400 LITTLE TRUCKEE RIVER ABOVE BOCA RESERVOIR, NEAR TRUCKEE, CA

LOCATION.--Lat 39°26'09", long 120°05'00", in SW 1/4 SW 1/4 sec.3, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 1 mi upstream from Boca Reservoir, 1.5 mi upstream from Dry Creek, 3.0 mi downstream from Stampede Dam, and 5.5 mi northeast of Truckee.

DRAINAGE AREA.--146 mi<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 National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). June 1903 to October 1910, nonrecording gages at different sites and datums.

REMARKS.--Records excellent. Flow regulated by Independence Lake, capacity, 17,500 acre-ft, one transbasin diversion to Sierra Valley, and Stampede Reservoir (station 10344300) since 1969.

AVERAGE DISCHARGE (adjusted for change in contents in Stampede Reservoir since 1969).--52 years (water years 1904-10, 1940-84), 196 ft<sup>3</sup>/s, 142,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 9.00 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; minimum daily, 0.30 ft<sup>3</sup>/s Sept. 16-21, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,370 ft<sup>3</sup>/s Dec. 6, gage height, 3.50 ft; minimum daily, 17 ft<sup>3</sup>/s on several days in October and November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	20	48	874	100	125	464	524	659	43	43	42
2	20	19	49	874	85	127	444	582	874	44	43	42
3	19	18	51	874	85	127	421	613	1090	43	43	42
4	19	18	49	690	85	127	322	687	1470	43	43	42
5	19	18	48	277	85	127	272	727	1720	43	43	42
6	18	17	508	56	85	128	269	727	1710	43	43	42
7	18	18	844	54	85	129	268	727	1530	43	43	42
8	18	17	844	53	109	131	272	727	1300	43	43	42
9	18	18	844	310	124	133	356	707	1100	43	42	42
10	18	20	844	469	123	135	404	612	1010	43	42	42
11	18	28	844	468	123	135	386	566	898	43	42	42
12	18	23	844	467	124	134	376	454	864	43	43	42
13	18	22	844	595	127	148	376	411	863	43	43	42
14	18	20	844	663	125	148	376	349	863	43	43	42
15	18	20	844	666	128	145	376	254	803	43	39	42
16	18	23	844	662	128	234	378	217	706	43	42	42
17	18	39	844	463	126	324	379	279	561	43	42	42
18	17	26	844	224	125	322	438	376	341	43	42	43
19	17	28	844	173	125	322	470	468	307	43	42	43
20	17	29	844	173	125	325	455	570	250	43	42	43
21	17	24	844	173	126	326	364	687	161	43	42	43
22	17	22	844	173	124	339	324	727	148	43	42	42
23	18	21	844	172	124	407	324	727	148	44	42	42
24	17	44	844	172	124	425	324	727	148	43	42	42
25	18	33	844	172	123	427	324	727	87	44	42	42
26	17	26	844	171	123	458	324	776	45	43	42	42
27	17	24	892	154	124	472	324	874	47	43	42	42
28	17	23	880	144	121	471	384	875	44	43	42	42
29	17	22	874	144	123	470	422	753	44	43	42	42
30	19	29	874	143	---	467	485	718	44	44	42	42
31	21	---	874	131	---	465	---	640	---	43	42	---
TOTAL	559	709	22027	10834	3334	8253	11101	18808	19835	1337	1310	1264
MEAN	18.0	23.6	711	349	115	266	370	607	661	43.1	42.3	42.1
MAX	21	44	892	874	128	472	485	875	1720	44	43	43
MIN	17	17	48	53	85	125	268	217	44	43	39	42
AC-FT	1110	1410	43690	21490	6610	16370	22020	37310	39340	2650	2600	2510

CAL YR 1983	TOTAL	177156	MEAN	485	MAX	2230	MIN	17	AC-FT	351400	MEAN a	478	AC-FT a	346400
WTR YR 1984	TOTAL	99371	MEAN	272	MAX	1720	MIN	17	AC-FT	197100	MEAN a	268	AC-FT a	194300

a 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°05'43", in NE 1/4 NW 1/4 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 upstream from mouth, and 6.3 mi northeast of Truckee.

DRAINAGE AREA.--172 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1938 to current year. Prior to October 1976 published as "at Boca." Monthend contents only for December 1938 to September 1957, published in WSP 1734.

REVISED RECORDS.--WSP 1634: Drainage area.

GAGE.--Pressure gage with mercury column read once daily. Datum of gage is National Geodetic Vertical datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by earthfill, rock-faced dam. Storage began Dec. 8, 1938. Usable capacity, 40,868 acre-ft between elevations 5,521 ft, outlet sill, and 5,605 ft, top of spillway gates. Elevation of spillway (gate open) is 5,589.01 ft. Dead storage, 241 acre-ft. Records, including extremes, represent usable contents at 0800 hours. Water is used for irrigation in the State of Nevada and for power development.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 41,440 acre-ft Dec. 23, 1955, elevation, 5,605.55 ft; minimum, 37 acre-ft Mar. 4-9, 1955, elevation, 5,521.65 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,868 acre-ft June 28, elevation, 5,605.00 ft; minimum, 9,819 acre-ft Dec. 6, elevation, 5,562.30 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35079	32066	15808	27488	24956	25460	31656	32851	40722	40429	33867	35215
2	34537	31699	14450	27407	24956	25499	31656	33335	40673	40187	33778	35215
3	34224	31177	13213	27366	24995	25499	31656	33956	40722	39993	33778	35215
4	34313	30746	11933	27245	25034	25499	31656	34313	40770	39800	33822	35215
5	34313	30232	10700	26683	25034	25577	31656	34988	40770	39608	33867	35260
6	34313	29956	9819	25421	25034	25655	31656	35306	40819	39128	33956	35260
7	34358	29135	10242	24496	25072	25694	31656	35579	40819	38414	34045	35260
8	34358	28346	10872	23889	25111	25734	31656	35761	40819	37660	34134	35260
9	34358	27691	11421	23216	25111	25773	31612	36128	40819	36960	34224	35260
10	34403	26803	12299	23365	25111	25891	31612	36404	40819	36312	34268	35260
11	34403	26166	13213	23477	25111	25969	31656	36682	40770	35670	34313	35260
12	34448	25460	14050	23589	25111	26048	31656	37146	40770	35306	34358	35260
13	34448	24649	14335	23664	25111	26206	31699	37613	40673	35034	34403	35260
14	34448	23965	14565	24116	25188	26603	31699	38084	40187	35034	34448	35215
15	34358	23142	14973	24752	25188	26923	31699	38272	40090	35034	34537	35215
16	34268	22480	15387	24956	25266	27084	31699	38557	40187	35079	34582	35215
17	34179	22044	16173	25421	25305	27609	31699	38747	40284	35169	34672	35215
18	34134	22262	16916	25421	25305	28141	31699	38747	40284	35215	34717	35215
19	34045	21613	17550	25266	25305	28718	31612	38652	40042	35306	34808	35215
20	33956	21187	18196	25111	25343	29386	31438	38272	40042	35306	34853	35124
21	33867	20555	18788	25188	25382	30062	31612	38084	40042	35260	34898	35124
22	33778	19729	19934	25266	25382	30660	31612	38272	39993	35124	34988	35124
23	33600	19255	21116	25266	25421	31264	31656	38557	40235	34943	35034	35079
24	33467	18458	22407	25266	25421	32023	31656	38747	40429	34853	35079	35079
25	33246	18066	23776	25266	25421	32196	31699	38937	40673	34853	35124	35034
26	32938	18196	25343	25266	25421	32196	31807	39416	40770	34943	35124	34988
27	32632	18327	26127	25266	25421	32023	32109	39800	40819	34988	35124	34988
28	32370	18458	26683	25227	25421	31763	32240	40284	40868	34988	35169	34943
29	32240	17742	27164	25150	25421	31656	32414	40575	40819	34717	35169	34943
30	32196	17105	27569	25111	---	31656	32544	40673	40624	34403	35215	34898
31	32196	---	27569	25034	---	31656	---	40722	---	34089	35215	---
MAX	35079	32066	27569	27488	25421	32196	32544	40722	40868	40429	35215	35260
MIN	32196	17105	9819	23216	24956	25460	31438	32851	39993	34089	33778	34898
a	5595.60	5575.60	5590.10	5586.90	5587.40	5594.95	5596.00	5604.85	5604.75	5597.75	5599.00	5598.65
b	-3246	-15091	+10464	-2535	+387	+6235	+888	+8178	-98	-6535	+1126	-317

CAL YR 1983 b +8581  
WTR YR 1984 b -544

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



## 10344500 LITTLE TRUCKEE RIVER BELOW BOCA DAM, NEAR TRUCKEE, CA

LOCATION.--Lat 39°23'13", long 120°05'40", in NE 1/4 NW 1/4 sec.28, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on right bank 800 ft upstream from mouth, 1,000 ft downstream from Boca Dam, and 6.2 mi northeast of Truckee.

DRAINAGE AREA.--173 mi<sup>2</sup>.

PERIOD OF RECORD.--April to October 1890 (monthly discharge only), January 1911 to September 1915, January 1939 to current year. Prior to October 1976 published as "at Boca." Monthly discharge only for January 1939 to September 1957, published in WSP 1734.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,500 ft, from topographic map. Jan. 1, 1911, to Sept. 30, 1915, nonrecording gage at site 650 ft 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, Independence Lake, capacity, 17,500 acre-ft, one transmountain diversion to Sierra Valley, and Stampede Reservoir (station 10344300), capacity, 226,500 acre-ft since 1969.

AVERAGE DISCHARGE (unadjusted).--49 years (water years 1912-15, 1940-84), 191 ft<sup>3</sup>/s, 138,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft<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, 1,710 ft<sup>3</sup>/s June 4, 5, gage height, 5.35 ft; minimum daily, 0.85 ft<sup>3</sup>/s Nov. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	172	791	973	147	143	530	325	707	143	112	30
2	211	237	776	955	88	143	498	318	906	143	30	30
3	68	288	761	937	88	143	465	413	1080	143	2.2	30
4	2.3	287	745	916	88	143	370	454	1480	143	2.2	31
5	2.3	286	622	882	88	143	324	491	1690	209	2.3	37
6	2.3	285	506	703	88	143	324	553	1670	318	2.3	39
7	2.3	326	511	436	88	143	324	607	1520	383	2.3	39
8	2.4	384	518	411	126	143	324	588	1310	381	2.2	39
9	2.3	413	484	409	144	143	406	547	1140	379	2.3	39
10	2.3	429	433	410	144	143	445	502	1050	349	2.4	39
11	2.3	427	425	411	144	143	413	408	938	272	2.4	39
12	13	424	613	411	144	125	398	265	928	181	2.4	40
13	28	422	778	413	144	107	398	138	1100	103	2.4	40
14	42	419	746	414	144	108	399	138	1010	22	2.6	41
15	56	417	609	416	144	108	403	140	811	2.7	2.6	42
16	56	414	554	418	144	124	405	160	672	2.6	2.7	43
17	56	191	500	363	144	131	405	267	577	2.6	2.5	43
18	56	214	505	325	144	108	509	395	430	2.6	2.6	43
19	56	410	510	267	144	108	565	640	363	33	2.6	44
20	56	408	514	215	144	108	450	716	231	45	2.7	46
21	71	405	372	151	144	108	350	664	160	80	2.8	46
22	85	402	213	171	144	109	350	625	89	98	2.8	46
23	98	399	216	187	144	109	326	647	4.7	98	2.9	46
24	105	403	218	188	144	310	297	665	4.4	58	17	45
25	165	189	220	188	144	489	249	518	4.2	2.3	30	45
26	169	.90	482	188	144	615	204	583	4.2	8.8	30	45
27	144	.85	689	189	144	656	252	681	35	45	30	45
28	115	213	693	189	144	615	343	722	73	111	30	45
29	66	399	725	189	144	595	366	724	114	166	30	44
30	50	540	897	189	---	551	366	725	130	180	30	44
31	82	---	990	189	---	530	---	661	---	155	30	---
TOTAL	2120.5	9804.75	17616	12703	3825	7287	11458	15280	20231.5	4259.6	421.2	1225
MEAN	68.4	327	568	410	132	235	382	493	674	137	13.6	40.8
MAX	254	540	990	973	147	656	565	725	1690	383	112	46
MIN	2.3	.85	213	151	88	107	204	138	4.2	2.3	2.2	30
AC-FT	4210	19450	34940	25200	7590	14450	22730	30310	40130	8450	835	2430
CAL YR 1983	TOTAL	190027.55	MEAN	521	MAX	2240	MIN	.85	AC-FT	376900		
WTR YR 1984	TOTAL	106231.55	MEAN	290	MAX	1690	MIN	.85	AC-FT	210700		

## PYRAMID AND WINNEMUCCA LAKES BASIN

10346000 TRUCKEE RIVER AT FARAD, CA

LOCATION.--Lat 39°25'41", long 120°01'59", in SE 1/4 NE 1/4 sec.12, T.18 N., R.17 E., Nevada County, Hydrologic Unit 16050102, on left bank 0.5 mi upstream from Mystic Canyon, 0.7 mi downstream from Farad powerplant, 2.5 mi north of Floriston, 3.4 mi downstream from Bronco Creek, and 3.5 mi upstream from California-Nevada State line.

DRAINAGE AREA.--932 mi<sup>2</sup>.

PERIOD OF RECORD.--March to October 1890 (monthly discharge only), September 1899 to current year. Monthly discharge only for January 1944 to July 1957, published in WSP 1734. Published as "near Boca" March to October 1890, "at or near Nevada-California State line" September 1899 to August 1912, and as "at Iceland" August 1912 to December 1937.

REVISED RECORDS.--WSP 1714: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 5,153.21 ft National Geodetic Vertical Datum of 1929 (Bureau of Reclamation bench mark). See WSP 2127 for history of changes prior to Aug. 26, 1957.

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

AVERAGE DISCHARGE.--85 years (water years 1900-84), 820 ft<sup>3</sup>/s, 594,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,500 ft<sup>3</sup>/s Nov. 21, 1950, gage height, 14.5 ft present datum, from floodmarks, from slope-area measurement of peak flow; minimum, 28 ft<sup>3</sup>/s Dec. 18, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,420 ft<sup>3</sup>/s Nov. 24, gage height, 7.98 ft; minimum daily, 272 ft<sup>3</sup>/s Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	1070	3520	4630	2310	1580	1270	918	1990	666	634	508
2	835	1060	3470	4490	2220	1590	1210	963	2060	637	557	504
3	446	1130	3500	4350	2190	1620	1160	1110	2170	618	505	503
4	274	1200	3430	4150	2180	1620	1090	1280	2630	658	524	499
5	272	1290	3270	3930	2170	1620	1020	1270	2820	754	525	523
6	400	1360	3120	3710	2160	1630	1000	1310	2660	837	524	510
7	427	1550	3190	3370	2100	1650	987	1350	2330	889	501	506
8	413	1610	3210	3290	1500	1670	1060	1440	2030	868	496	500
9	324	1730	3240	3240	1550	1590	1080	1500	1800	820	492	498
10	432	1980	3210	3210	1550	1160	1130	1510	1710	749	492	503
11	428	2990	3310	3160	1550	1170	1090	1540	1600	674	495	510
12	379	2320	3390	3110	1550	1160	1060	1600	1600	567	493	513
13	345	2230	3580	3080	1620	1220	1030	1630	1780	592	494	519
14	365	2090	3580	3040	1620	1160	1010	1730	1750	570	493	515
15	376	2030	3480	3000	1630	1050	1100	1540	1580	544	498	513
16	372	2170	3460	2950	1640	1050	1220	1370	1480	538	497	512
17	368	3680	3430	2810	1590	1100	1280	1430	1400	587	492	510
18	364	2660	3380	2740	1580	1050	1290	1480	1170	631	497	496
19	388	2960	3330	2670	1580	1040	1290	1770	1020	678	495	565
20	387	3620	3300	2570	1610	1050	1140	1900	887	673	494	499
21	395	3140	3130	2530	1660	1100	946	1910	773	693	495	502
22	414	3190	2910	2520	1630	982	939	1970	700	706	492	458
23	428	3310	2930	2520	1630	953	966	2220	593	710	488	454
24	440	4360	3110	2510	1620	1120	988	2360	603	663	494	470
25	479	3820	4030	2500	1620	1330	939	2000	589	524	507	527
26	428	3040	4780	2480	1610	1520	833	1980	562	461	507	528
27	378	2860	4920	2440	1610	1600	829	2050	563	566	510	519
28	343	2970	4560	2430	1610	1450	883	2120	580	657	511	502
29	355	3290	4250	2420	1600	1410	903	2150	667	712	509	506
30	483	3360	4680	2410	---	1330	912	2210	687	696	511	488
31	829	---	4780	2380	---	1290	---	2110	---	642	513	---
TOTAL	13677	74070	111480	94640	50490	40865	31655	51721	42784	20580	15735	15160
MEAN	441	2469	3596	3053	1741	1318	1055	1668	1426	664	508	505
MAX	1110	4360	4920	4630	2310	1670	1290	2360	2820	889	634	565
MIN	272	1060	2910	2380	1500	953	829	918	562	461	488	454
AC-FT	27130	146900	221100	187700	100100	81060	62790	102600	84860	40820	31210	30070
CAL YR 1983	TOTAL	936930	MEAN	2567	MAX	6150	MIN	272	AC-FT	1858000		
WTR YR 1984	TOTAL	562857	MEAN	1538	MAX	4920	MIN	272	AC-FT	1116000		

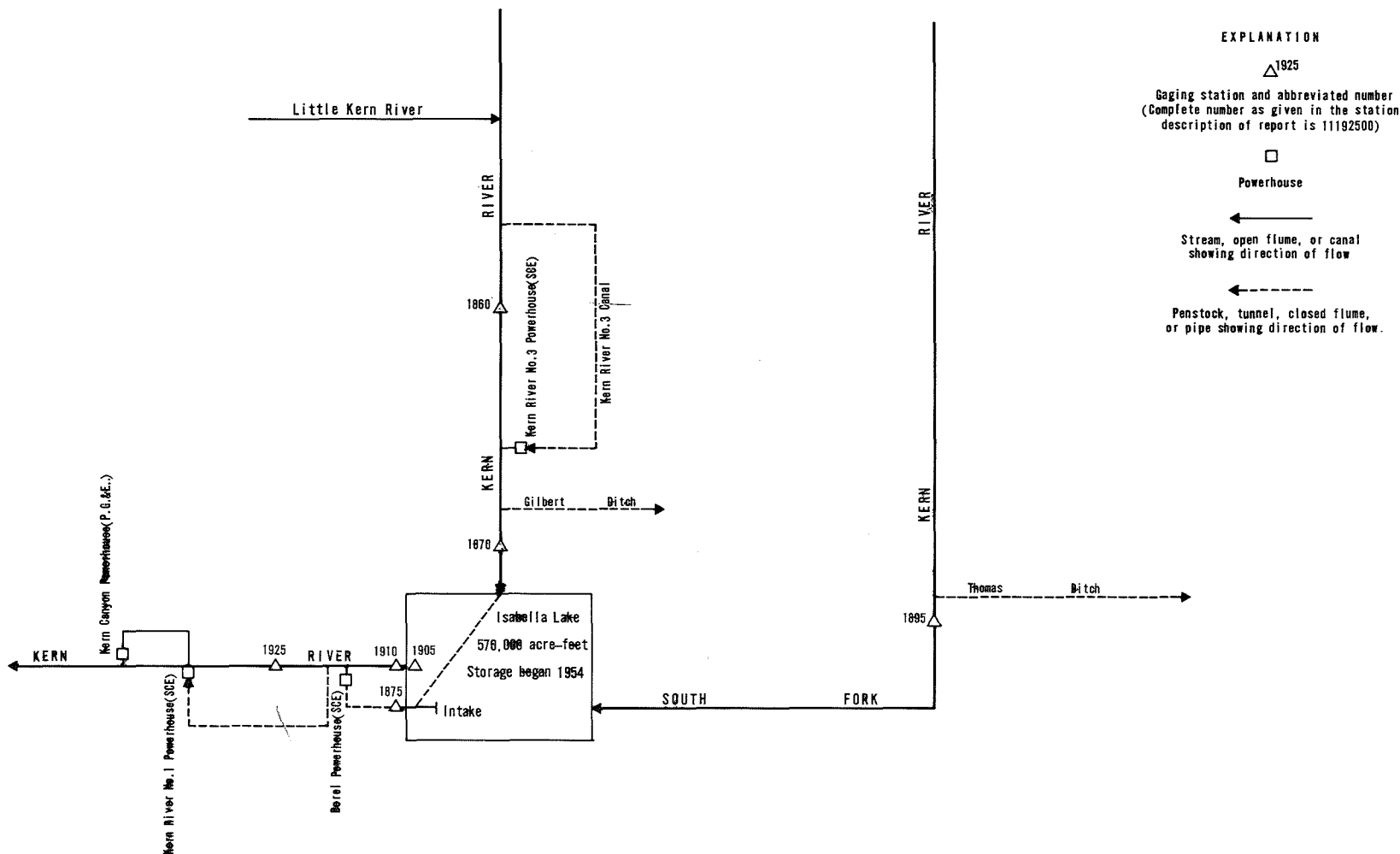


FIGURE 5. — Schematic diagram showing diversions and storage in Kern River basin.

## 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, 100 ft downstream from diversion dam, and 13.4 mi north of Kernville.

DRAINAGE AREA.--846 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1912 to current year. Records for water year 1912 incomplete, yearly estimates published in WSP 1315-A. March 1921 to October 1953, records for river and canal published separately; combined flow only, October 1953 to September 1960.

REVISED RECORDS.--WSP 1445: 1912, 1916(M). WSP 1930: 1914(M), 1918(M).

GAGE.--Water-stage recorder on river; water-stage recorder and rectangular concrete-lined flume for canal diversion. Altitude of gage is 3,620 ft, from topographic map. Prior to Apr. 1, 1913, at site 1.4 mi 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 downstream at different datum.

REMARKS.--Records good. Since 1921 Kern River No. 3 Canal diverts up to 630 ft<sup>3</sup>/s 100 ft upstream from station, from left bank of Kern River for power development; water is returned to river 15 mi 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 12 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, 571,900 acre-ft/yr; 57 years (water years 1921-53, 1961-84), 404 ft<sup>3</sup>/s, 292,700 acre-ft/yr.  
Combined river and diversion: 64 years (water years 1921-84), 758 ft<sup>3</sup>/s, 549,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 60,000 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 22.77 ft site and datum then in use, from floodmarks, from rating curve extended above 6,000 ft<sup>3</sup>/s on basis of computed flow over dam at gage height 17.55 ft, 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 Dec. 6, 1966; minimum daily, 78 ft<sup>3</sup>/s Aug. 30, 31, Sept. 17, 19, 1924.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 3,150 ft<sup>3</sup>/s May 14, gage height, 7.52 ft; minimum daily, 37 ft<sup>3</sup>/s Feb. 26.  
Combined river and diversion: Maximum discharge, 3,750 ft<sup>3</sup>/s May 14; minimum daily, 296 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	272	40	115	399	41	72	331	457	1760	649	170	84
2	229	41	92	345	41	70	326	498	1500	595	96	77
3	177	41	189	313	39	69	312	653	1350	610	86	69
4	145	41	122	295	38	69	311	803	1240	641	84	66
5	115	41	113	296	38	70	313	826	1500	576	84	72
6	93	41	111	285	38	77	307	814	1180	492	84	72
7	76	41	108	273	38	90	287	917	1050	419	83	73
8	67	41	93	261	38	103	331	1130	861	378	85	72
9	57	41	231	232	62	120	313	1370	749	334	86	72
10	53	41	430	210	126	140	342	1580	728	277	86	72
11	51	483	242	195	51	166	411	1880	704	226	85	72
12	52	222	165	165	61	159	432	2190	695	207	84	71
13	51	68	144	149	71	176	485	2420	691	236	85	72
14	50	42	153	121	151	635	569	2600	698	277	85	73
15	51	43	139	111	89	391	649	2090	658	418	100	73
16	50	43	128	112	230	294	741	1660	532	649	150	72
17	51	54	125	84	106	287	756	1570	550	572	89	72
18	50	240	103	62	115	235	708	1540	629	600	94	72
19	51	51	89	76	101	231	733	1660	615	596	372	72
20	50	598	72	59	81	274	638	2010	627	619	227	72
21	48	244	45	60	81	339	597	2330	596	564	172	72
22	49	152	47	45	63	355	598	2300	591	426	151	73
23	49	136	46	41	49	365	599	2340	604	542	109	72
24	49	930	167	41	44	391	661	2450	603	383	82	72
25	50	881	1700	41	40	405	677	2230	622	266	83	72
26	50	379	1310	41	37	456	618	2160	629	201	83	73
27	49	308	1240	41	38	463	558	2200	683	174	84	73
28	50	235	796	42	39	456	511	2210	734	161	84	73
29	50	172	600	41	52	451	491	2100	705	132	84	73
30	50	141	519	41	---	392	463	2020	716	156	84	72
31	49	---	475	42	---	384	---	1850	---	222	83	---
TOTAL	2334	5831	9909	4519	1998	8185	15068	52858	24800	12598	3414	2175
MEAN	75.3	194	320	146	68.9	264	502	1705	827	406	110	72.5
MAX	272	930	1700	399	230	635	756	2600	1760	649	372	84
MIN	48	40	45	41	37	69	287	457	532	132	82	66
AC-FT	4630	11570	19650	8960	3960	16230	29890	104800	49190	24990	6770	4310
CAL YR 1983	TOTAL	619965	MEAN	1699	MAX	8390	MIN	40	AC-FT	1230000		
WTR YR 1984	TOTAL	143689	MEAN	393	MAX	2600	MIN	37	AC-FT	285000		

## 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 1983 TO SEPTEMBER 1984

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	855	488	703	990	606	607	926	1030	2330	1230	752	436
2	812	498	681	936	600	626	917	1070	2080	1180	671	420
3	759	475	783	905	597	631	903	1230	1930	1190	629	407
4	727	463	715	887	597	641	904	1380	1820	1230	600	396
5	697	454	706	888	597	649	901	1400	2070	1160	576	395
6	675	447	705	877	598	660	890	1390	1750	1080	554	414
7	657	442	702	865	596	681	870	1490	1610	1000	531	405
8	620	442	688	852	598	684	914	1700	1420	958	516	389
9	592	433	826	822	643	713	895	1940	1320	914	511	379
10	567	436	1020	800	722	739	925	2170	1300	860	519	374
11	552	1010	837	786	637	763	992	2460	1270	809	528	399
12	548	814	759	756	654	756	1010	2770	1260	789	520	403
13	543	664	738	742	666	772	1070	3010	1260	817	487	386
14	540	594	748	712	747	1230	1150	3200	1270	856	485	374
15	539	558	733	700	685	986	1230	2680	1230	1000	610	363
16	534	535	723	702	826	889	1320	2240	1110	1240	746	358
17	534	546	719	674	701	882	1340	2150	1130	1160	653	378
18	530	840	696	655	711	830	1290	2120	1210	1190	626	379
19	529	640	684	670	697	826	1310	2240	1190	1190	966	391
20	514	1190	667	655	676	869	1220	2590	1210	1210	823	400
21	505	833	625	656	678	934	1180	2910	1180	1160	769	399
22	498	743	634	637	660	950	1180	2880	1170	1020	748	375
23	493	727	636	620	644	960	1180	2920	1190	1130	696	358
24	489	1520	763	618	639	985	1240	3030	1190	969	609	347
25	479	1470	2290	615	620	999	1250	2800	1210	851	559	335
26	470	972	1900	612	601	1050	1190	2740	1210	783	533	325
27	465	900	1830	586	607	1060	1130	2780	1270	755	488	317
28	465	826	1390	599	599	1050	1090	2780	1320	741	459	309
29	464	760	1190	600	601	1040	1070	2680	1290	713	456	303
30	490	731	1110	602	---	977	1040	2600	1300	736	461	296
31	495	---	1070	604	---	972	---	2420	---	804	451	---
TOTAL	17637	21451	28271	22623	18803	26411	32527	70800	42100	30725	18532	11210
MEAN	569	715	912	730	648	852	1084	2284	1403	991	598	374
MAX	855	1520	2290	990	826	1230	1340	3200	2330	1240	966	436
MIN	464	433	625	586	596	607	870	1030	1110	713	451	296
AC-FT	34980	42550	56080	44870	37300	52390	64520	140400	83510	60940	36760	22240
CAL YR 1983	TOTAL	829042	MEAN	2271	MAX	8970	MIN	433	AC-FT	1644000		
WTR YR 1984	TOTAL	341090	MEAN	932	MAX	3200	MIN	296	AC-FT	676600		

## BUENA VISTA LAKE BASIN

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

LOCATION.--Lat 35°45'16", long 118°25'21", in NE 1/4 SW 1/4 sec.15, T.25 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 300 ft downstream from highway bridge at Kernville, 1.1 mi upstream from Caldwell Creek, 8.9 mi upstream from Isabella Dam, and 42 mi northeast of Bakersfield.

DRAINAGE AREA.--1,009 mi<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 National Geodetic Vertical Datum of 1929. January 1905 to September 1912, nonrecording gage at two sites 3.5 mi 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 upstream at datum 2,634.57 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. 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 around station during irrigation season.

COOPERATION.--Seven discharge measurements furnished by Southern California Edison Co.

AVERAGE DISCHARGE.--38 years, 922 ft<sup>3</sup>/s, 668,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 22.2 ft, from floodmarks, present site, from rating curve extended above 11,000 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; minimum, 70 ft<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 from floodmarks, Nov. 19, 1950, site and datum then in use, discharge, 38,700 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2345	*4,760	8.40	May 14	0945	3,540	7.83
Dec. 25	1615	4,450	8.26	May 24	0930	3,400	7.76

Minimum daily, 302 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	899	536	795	1190	667	654	991	1070	2280	1230	748	434
2	922	549	768	1110	669	678	968	1090	2060	1170	678	419
3	829	528	816	1050	661	685	958	1230	1890	1170	616	402
4	790	515	916	1020	661	689	949	1420	1740	1210	582	389
5	751	502	806	1020	661	696	946	1480	1940	1160	555	379
6	728	495	783	1010	662	706	950	1460	1680	1070	533	387
7	703	492	788	987	661	719	937	1490	1510	978	512	392
8	690	494	769	973	661	739	951	1680	1370	926	492	379
9	683	476	804	949	669	754	961	1970	1260	890	481	369
10	656	474	1360	916	780	778	953	2190	1240	848	490	364
11	634	978	996	887	728	807	1040	2490	1230	796	500	377
12	613	1050	924	870	707	815	1050	2800	1220	767	508	396
13	597	734	841	846	719	818	1100	3010	1240	772	470	383
14	591	657	843	827	833	1360	1170	3260	1250	823	464	369
15	588	590	843	784	772	1130	1260	2900	1230	902	560	358
16	584	559	828	795	890	992	1370	2420	1130	1190	706	352
17	583	554	826	783	837	948	1410	2220	1090	1170	676	369
18	589	884	817	742	799	914	1380	2160	1190	1130	595	378
19	574	718	782	736	781	884	1410	2220	1180	1170	820	392
20	556	1310	768	735	762	900	1310	2530	1190	1190	860	393
21	549	1020	723	720	752	961	1260	2860	1170	1160	746	394
22	542	838	700	718	741	1000	1260	2930	1150	1000	755	378
23	533	791	701	701	714	1010	1240	3010	1170	1070	707	358
24	528	1620	717	694	702	1030	1290	3130	1170	986	614	347
25	523	2250	2790	693	699	1050	1330	2950	1190	855	548	334
26	512	1160	2770	688	671	1080	1270	2860	1190	787	529	325
27	503	1030	2690	653	674	1130	1200	2780	1250	745	480	318
28	500	945	1900	652	663	1110	1130	2740	1310	721	454	313
29	499	870	1510	654	651	1110	1120	2630	1300	701	447	307
30	518	824	1350	668	---	1060	1090	2520	1290	699	451	302
31	533	---	1280	671	---	1030	---	2390	---	789	446	---
TOTAL	19300	24443	34204	25742	20847	28237	34254	71890	41110	30075	18023	11057
MEAN	623	815	1103	830	719	911	1142	2319	1370	970	581	369
MAX	922	2250	2790	1190	890	1360	1410	3260	2280	1230	860	434
MIN	499	474	700	652	651	654	937	1070	1090	699	446	302
AC-FT	38280	48480	67840	51060	41350	56010	67940	142600	81540	59650	35750	21930
CAL YR 1983	TOTAL	919794	MEAN	2520	MAX	10700	MIN	474	AC-FT	1824000		
WTR YR 1984	TOTAL	359182	MEAN	981	MAX	3260	MIN	302	AC-FT	712400		

## BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.  
 CHEMICAL ANALYSES: Water years 1975 to current year.  
 BIOLOGICAL DATA: Water years 1978-81.  
 WATER TEMPERATURES: Water years 1962 to current year.  
 SEDIMENT RECORDS: Water years 1967-74, 1978 to current year.

PERIOD OF DAILY RECORD.--  
 WATER TEMPERATURES: June 1962 to current year.

INSTRUMENTATION.--Temperature recorder since June 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
 WATER TEMPERATURES: Maximum recorded, 28.5°C Aug. 20, 1972; minimum recorded, 0.0°C on several days in 1976, 1978-79, 1982.

EXTREMES FOR CURRENT YEAR.--  
 WATER TEMPERATURES: Maximum recorded, 22.0°C Sept. 5; minimum recorded, 1.5°C Jan. 15.

## WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV , 1983											
22...	0830	880	100	7.5	2.5	695	1.3	10.4	84	>120	23
JAN , 1984											
24...	1500	715	109*	6.9	4.5	700	1.1	11.6	97	100	K19
MAR											
13...	1330	829	97	7.0	8.5	695	.40	10.0	94	K1	34
MAY											
30...	1200	2610	32	6.6	15.5	695	2.7	10.1	111	K13	43
JUL											
25...	1215	858	57	7.5	18.5	695	.60	9.6	113	K15	51
SEP											
19...	1030	406	113	7.4	17.5	695	22	8.8	101	130	380

DATE	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)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV , 1983											
22...	32	9	10	1.6	10	40	.8	1.2	23	6.8	2.4
JAN , 1984											
24...	32	0	10	1.7	8.5	36	.7	1.1	44	6.3	3.1
MAR											
13...	30	0	9.5	1.5	7.5	34	.6	1.0	39	5.2	3.4
MAY											
30...	11	0	3.6	.5	2.7	33	.4	.6	17	2.5	.9
JUL											
25...	19	0	6.1	.9	4.8	35	.5	.5	24	4.2	1.7
SEP											
19...	31	0	10	1.5	.0	37	.7	1.4	42	7.1	3.3

See footnotes at end of table.

11187000 KERN RIVER AT KERNVILLE, CA--Continued

## WATER QUALITY DATA

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1983											
22...	.1	18	76	64	.10	<.10	.03	.2	.01	.01	<.01
JAN , 1984											
24...	.2	19	76	76	.10	<.10	.01	<.2	<.01	<.01	.01
MAR											
13...	.1	18	70	70	.10	<.10	.02	.2	.02	<.01	.02
MAY											
30...	<.1	8.0	24	31	.03	<.10	.06	.7	.03	.02	<.01
JUL											
25...	.1	9.4	39	42	.05	<.10	.06	.2	.01	.01	.01
SEP											
19...	.2	13	74	71	.10	<.10	.04	.3	.10	.01	<.01

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV , 1983										
22...	0830	40	2	15	<.5	<1	<1	<3	<1	97
MAR , 1984										
13...	1330	<10	<1	14	<.5	<1	<1	<3	<1	68
MAY										
30...	1200	20	1	8	<1	<1	<1	<3	<1	30
SEP										
19...	1030	70	3	18	<1	2	2	<3	2	73

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1983											
22...	1	18	7	<.1	<10	9	<1	<1	74	<6	13
MAR , 1984											
13...	<1	14	3	<.1	<10	<1	<1	<1	71	<6	7
MAY											
30...	<1	7	<1	<.1	<10	5	<1	<1	27	<6	11
SEP											
19...	1	19	4	.1	<10	1	<1	<1	73	<6	25

&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).

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



## 11187000 KERN RIVER AT KERNVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## BUENA VISTA LAKE BASIN

11187000 KERN RIVER AT KERNVILLE, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT  
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	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 22...	0830	869	2.5	3	7.0	72
JAN 24...	1500	693	4.5	3	5.6	71
MAR 13...	1300	815	8.5	3	6.6	76
MAY 30...	1200	2710	15.5	10	73	53
JUL 25...	1300	846	18.5	7	16	78
SEP 19...	1030	384	17.5	58	60	78

## 11187500 BOREL CANAL BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'32", long 118°28'09", in SW 1/4 NE 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030001, on right bank 500 ft downstream from Isabella Dam, and 3 mi upstream from point where canal crosses Erskine Creek.

PERIOD OF RECORD.--January 1910 to September 1914, October 1925 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as Kern River Power Co.'s Canal at or near Kernville 1910-14. Published as "at Tillie Creek" 1925-51.

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft, from topographic map. Prior to Apr. 29, 1952, at site 4 mi upstream at different datum.

REMARKS.--Records excellent. Canal diverts from right bank of Kern River 5.5 mi upstream from Isabella Dam, and above South Fork Kern River. When contents of Isabella Reservoir are above 110,000 acre-ft, the diversion is at the dam. Canal is used to supply Borel powerplant of Southern California Edison Co., 6 mi downstream from station, at which point water is returned to the Kern River.

COOPERATION.--Twenty discharge measurements furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--63 years, 385 ft<sup>3</sup>/s, 278,900 acre-ft/yr.

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	577	584	570	579	582	591	598	609	593	595	586	577
2	574	584	568	581	584	593	596	598	593	593	588	577
3	579	591	565	581	584	596	596	600	592	605	584	577
4	582	586	562	579	582	598	598	600	598	605	582	575
5	582	584	565	582	581	598	602	600	607	602	584	577
6	581	582	570	584	581	598	604	600	604	600	584	577
7	579	581	574	584	582	596	602	600	604	603	584	577
8	581	584	574	586	584	596	600	600	604	605	588	575
9	581	586	574	586	582	596	600	600	605	602	586	579
10	579	584	572	586	595	595	598	600	607	600	588	579
11	582	586	574	586	593	596	602	600	604	600	586	577
12	584	584	572	586	591	596	604	600	602	599	588	577
13	581	584	572	584	593	596	611	602	598	599	586	577
14	579	582	572	586	588	596	611	600	596	597	586	517
15	580	586	575	584	589	598	611	600	600	597	586	457
16	581	584	575	584	589	596	609	600	600	593	586	428
17	581	582	575	584	593	595	609	600	597	584	584	420
18	579	586	575	584	593	596	609	602	598	589	584	419
19	581	588	579	586	595	598	609	604	598	590	582	463
20	582	584	584	586	593	598	609	600	593	590	582	481
21	583	584	582	586	595	598	609	602	592	591	586	463
22	582	582	586	586	595	598	609	600	593	589	586	481
23	584	584	584	584	595	596	607	598	592	591	586	543
24	584	579	581	584	595	600	609	598	594	257	584	577
25	584	579	580	586	595	600	605	588	596	584	586	575
26	584	584	581	582	593	598	607	591	591	591	588	573
27	582	584	581	582	593	596	607	591	591	588	584	575
28	584	584	582	581	593	593	607	591	591	586	581	579
29	584	584	582	582	596	595	607	591	593	586	579	577
30	575	582	582	584	---	595	607	593	595	582	577	577
31	584	---	581	586	---	595	---	593	---	575	578	---
TOTAL	18015	17518	17849	18101	17104	18486	18152	18551	17921	18068	18119	16206
MEAN	581	584	576	584	590	596	605	598	597	583	584	540
MAX	584	591	586	586	596	600	611	609	607	605	588	579
MIN	574	579	562	579	581	591	596	588	591	257	577	419
AC-FT	35730	34750	35400	35900	33930	36670	36000	36800	35550	35840	35940	32140
CAL YR 1983	TOTAL	210822	MEAN	578	MAX	607	MIN	193	AC-FT	418200		
WTR YR 1984	TOTAL	214090	MEAN	585	MAX	611	MIN	257	AC-FT	424600		

## BUENA VISTA LAKE BASIN

11189500 SOUTH FORK KERN RIVER NEAR ONYX, CA

LOCATION.--Lat 35°44'22", long 118°10'33", unsurveyed, T.25 S., R.35 E., Kern County, Hydrologic Unit 18030002, on left bank 0.8 mi north of State Highway 178, 1.6 mi upstream from Canebrake Creek, and 5 mi northeast of Onyx.

DRAINAGE AREA.--530 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1911 to August 1914, January 1919 to September 1942, October 1947 to current year. Yearly estimate for water year 1927 (incomplete) and monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1151: 1948(M). WSP 1445: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,900 ft, from topographic map. Sept. 12, 1911, to Aug. 31, 1914, nonrecording gage and Jan. 23, 1919, to Apr. 17, 1936, water-stage recorder, at site 140 ft upstream at datum 2.88 ft lower. Apr. 18, 1936, to September 1942, and October 1947 to Feb. 8, 1967, at datum 6.88 ft higher. Feb. 9, 1967, to May 31, 1972, at datum 2.00 ft higher.

REMARKS.--Records good except those for Nov. 23 to Dec. 22, which are fair. Lowell and Thomas ditches divert above station for irrigation of 160 acres below station; combined capacity, 7 ft<sup>3</sup>/s.

AVERAGE DISCHARGE.--60 years (water years 1912-13, 1920-25, 1927, 1930-42, 1947-84), 128 ft<sup>3</sup>/s, 92,740 acre-ft/year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,700 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 18.9 ft from floodmarks, present datum, from rating curve extended above 3,000 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; no flow for several days in 1929, 1934, 1960-61.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	2130	275	4.95	Mar. 27	1600	428	5.44
Nov. 20	1400	302	5.04	July 17	2230	392	5.30
Dec. 10	Unknown	Unknown	Unknown	July 30	1800	823	6.20
Dec. 25	1645	823	6.20	Aug. 23	0245	*874	6.28

Minimum daily, 31 ft<sup>3</sup>/s July 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	89	143	265	142	132	293	245	123	48	88	48
2	174	94	138	243	141	138	291	233	115	45	80	45
3	153	91	149	234	142	146	287	235	109	43	65	43
4	132	88	162	229	142	159	284	233	106	48	58	41
5	118	86	144	225	141	168	284	231	107	46	52	46
6	109	85	138	220	142	179	280	228	104	44	48	46
7	103	84	139	215	141	200	277	229	101	42	45	43
8	102	83	136	210	142	218	271	229	97	40	42	40
9	99	83	158	200	145	236	266	229	94	38	40	38
10	97	82	270	188	161	252	262	229	90	35	40	38
11	93	144	198	182	140	269	276	231	88	32	42	46
12	90	253	181	170	144	270	274	233	83	31	50	44
13	88	193	164	165	155	267	274	235	80	33	44	47
14	87	146	166	155	162	337	271	235	79	50	40	46
15	88	124	167	149	154	324	272	234	80	58	45	43
16	88	115	163	154	164	272	278	229	85	106	71	46
17	88	110	162	149	140	255	287	219	84	134	64	52
18	89	137	161	138	140	244	289	210	90	111	85	51
19	88	137	153	139	147	238	300	197	98	104	91	51
20	86	241	150	137	145	269	315	186	85	147	74	80
21	86	224	141	143	147	315	312	178	77	104	111	61
22	85	154	138	139	146	340	301	171	73	85	77	53
23	85	142	139	135	137	337	282	164	69	81	274	48
24	84	195	151	141	137	345	274	158	62	77	105	46
25	84	239	560	139	135	346	266	152	58	68	77	43
26	80	208	541	138	131	353	258	149	56	59	68	42
27	79	184	449	128	130	382	258	145	53	53	67	39
28	80	168	352	139	129	371	252	139	51	126	60	38
29	80	155	305	140	129	366	274	131	50	74	56	37
30	83	148	286	139	---	335	261	127	51	131	59	37
31	87	---	278	141	---	317	---	129	---	99	51	---
TOTAL	3066	4282	6582	5289	4151	8380	8369	6173	2498	2192	2169	1378
MEAN	98.9	143	212	171	143	270	279	199	83.3	70.7	70.0	45.9
MAX	181	253	560	265	164	382	315	245	123	147	274	80
MIN	79	82	136	128	129	132	252	127	50	31	40	37
AC-FT	6080	8490	13060	10490	8230	16620	16600	12240	4950	4350	4300	2730

CAL YR 1983 TOTAL 191687 MEAN 525 MAX 4010 MIN 73 AC-FT 380200  
WTR YR 1984 TOTAL 54529 MEAN 149 MAX 560 MIN 31 AC-FT 108200

NOTE.--No gage height record Nov. 23 to Dec. 22.

## 11190500 ISABELLA LAKE NEAR LAKE ISABELLA, CA

LOCATION.--Lat 35°38'46", long 118°28'41", in SE 1/4 SW 1/4 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 north of town of Lake Isabella, and 2.8 mi upstream from Erskine Creek.

DRAINAGE AREA.--2,074 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1953 to current year. Prior to October 1968, published as Isabella Reservoir near Isabella. October 1968 to September 1970 published as "Isabella Reservoir."

REVISED RECORDS.--WSP 1930: Drainage area.

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

REMARKS.--Reservoir is formed by earthfill dam with sidehill spillway and auxiliary earthfill dam completed in 1954. Regulation began Apr. 15, 1954. Usable capacity, 567,891 acre-ft between elevations 2,470.0 ft, invert of main outlet and 2,605.5 ft, spillway crest. Dead storage 184 acre-ft. Surcharge flood control storage, 272,528 acre-ft between ungated spillway crest and elevation 2,627.0 ft, maximum design spillway flood pool. Records, including extremes, represent total contents at 2400 hours. Water is released to Kern River through tunnel in left abutment of main dam and to Borel Canal (station 11187500) through concrete conduit in auxiliary dam.

COOPERATION.--Records furnished by Corps of Engineers, not rounded by Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 630,825 acre-ft July 6, 1983, elevation, 2,610.84 ft; minimum since reservoir first filled, 34,504 acre-ft Dec. 14, 16, 1977, elevation, 2,524.35 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 407,354 acre-ft June 7, elevation, 2,590.36 ft; minimum, 259,548 acre-ft Mar. 13, elevation, 2,573.49 ft.

## 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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394560	326270	300040	312967	298623	263574	277384	314251	402776	395041	351834	297625
2	392927	324178	299123	313823	296211	262954	278668	315278	404428	394367	349928	296627
3	391011	321919	299290	314423	293563	262487	280114	316396	405598	393792	347939	295550
4	389194	319928	299123	315536	290847	262332	281243	317513	406086	393023	345866	294390
5	387284	317513	298539	316654	288224	261866	282453	319236	407256	391871	343889	293234
6	385477	315193	297956	317340	285533	261403	283666	320881	407159	390436	341650	292079
7	383863	312710	297865	317771	282858	261015	284965	322353	407354	388621	339239	291011
8	382063	310750	297542	318375	280194	260474	285696	323917	407061	386334	336570	290271
9	380360	308456	297042	318891	277625	260087	287163	326008	406572	384053	333827	289451
10	378474	306340	297956	318720	276186	259855	287733	328457	406377	381874	331357	288469
11	376499	305582	297292	319755	274752	259932	289289	331709	405891	379606	328721	287570
12	374529	305244	297625	319842	273478	259701	290353	335507	405306	377346	326358	286755
13	372283	304148	296793	319842	272051	259548	291585	339685	404916	375465	323656	285859
14	370138	302888	296378	320101	271734	260783	292987	343889	404623	373498	321225	285370
15	367999	301380	295879	319928	271024	261480	294390	347580	404331	372377	319582	285209
16	366049	299123	294804	319755	271024	261944	295796	350563	404039	372377	317944	284965
17	364014	297789	294307	320015	271418	262643	296959	353197	403749	371442	316310	284965
18	362077	297042	293399	319842	271340	263187	298039	355749	403165	370602	314764	284803
19	359594	295632	291750	319582	271261	263420	299374	358677	402193	369485	313823	284722
20	357027	296461	290764	319409	270787	263574	300961	362077	401321	368554	313053	284315
21	354470	296544	289861	318977	269918	264276	302804	365956	400642	367813	312200	284234
22	352016	295135	288879	318977	269210	264978	304570	369579	399866	366512	311346	283991
23	349387	295218	288633	318289	268423	265914	305920	373404	399188	365217	310324	283263
24	347038	296211	288306	317254	267951	267011	306933	377346	398707	364384	309050	282615
25	344339	300375	293811	315708	267325	267794	308371	379982	398223	362907	307949	281887
26	341560	301045	299708	313566	266933	269210	309305	383768	397740	361247	306594	281081
27	338882	301380	303898	311517	266227	270550	310409	387571	397257	359685	305076	280355
28	336129	301128	307356	309475	265290	271972	311517	391011	396774	358035	303729	279631
29	333473	300877	309220	307356	264354	273478	312796	394177	395908	356297	302217	278748
30	330916	300710	310579	305244	---	274672	313480	397933	395619	355018	300542	277545
31	328457	---	312029	302636	---	275787	---	400836	---	353470	298790	---
MAX	394560	326270	312029	320101	298623	275787	313480	400836	407354	395041	351834	297625
MIN	328457	295135	288306	302636	264354	259548	277384	314251	395619	353470	298790	277545
a	2581.85	2578.61	2579.95	2578.84	2574.11	2575.56	2580.12	2589.69	2589.15	2584.65	2578.38	2575.78
b	-67934	-27747	+11319	-9393	-38282	+11433	+37693	+87356	-5217	-42149	-54680	-21245
c	3812	1652	1193	1629	1546	2546	3586	7055	8276	7914	7143	6081

CAL YR 1983 b +143759

WTR YR 1984 b -97920

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA

LOCATION.--Lat 35°38'21", long 118°29'02", in SW 1/4 NW 1/4 sec.30, T.26 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 200 ft downstream from highway bridge, 0.6 mi downstream from Isabella Dam, and 1.6 mi southwest of town of Lake Isabella.

DRAINAGE AREA.--2,074 mi<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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Mar. 12, 1952, water-stage recorder at site 0.6 mi 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 between head of Isabella Lake and upstream stations. An additional 6,500 acres 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).--39 years, 996 ft<sup>3</sup>/s, 721,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft<sup>3</sup>/s Nov. 19, 1950, gage height, 28.6 ft from floodmarks, present site and datum, from rating curve extended above 6,500 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; minimum, 2.1 ft<sup>3</sup>/s, regulated, Nov. 27, 1951. Maximum discharge since construction of Isabella Dam in 1954, 7,300 ft<sup>3</sup>/s May 3, 1969, gage height, 17.67 ft; no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,580 ft<sup>3</sup>/s Feb. 1, gage height, 9.30 ft; minimum daily, 3.8 ft<sup>3</sup>/s Sept. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1520	1180	709	519	1500	673	5.5	296	601	899	1100	422
2	1400	1120	805	519	1560	653	7.1	259	576	975	1100	340
3	1340	1140	814	519	1560	583	5.3	315	619	1010	1090	372
4	1240	1130	778	257	1560	481	15	318	705	1080	1060	454
5	1240	1150	718	303	1560	559	70	261	814	1180	1050	403
6	1150	1160	747	406	1560	590	55	325	856	1230	1100	337
7	1090	1150	778	431	1560	626	5.8	422	894	1260	1130	247
8	1060	1100	856	414	1550	665	24	478	875	1300	1220	175
9	1040	1080	875	382	1470	673	48	522	805	1310	1280	154
10	1070	1110	875	364	1230	597	55	496	791	1350	1230	224
11	1120	1070	846	364	1060	555	115	450	880	1320	1200	245
12	1120	985	818	390	975	597	175	439	924	1270	1160	245
13	1110	980	818	431	955	597	177	490	914	1280	1170	245
14	1140	985	851	466	923	566	153	583	870	1260	1160	107
15	1090	1010	904	466	804	490	210	525	832	1250	1040	7.0
16	1060	1040	909	414	568	442	335	472	739	1250	1010	6.5
17	1070	1040	924	387	450	342	442	481	785	1180	970	6.5
18	1100	1040	934	431	438	325	469	436	975	1140	904	6.0
19	1220	1030	928	463	520	439	439	328	1090	1140	769	6.5
20	1330	964	880	463	655	493	220	347	1080	1180	722	5.3
21	1330	924	851	463	779	431	67	496	1020	1060	752	3.8
22	1250	909	791	506	804	347	142	569	989	1030	743	3.8
23	1220	828	734	718	768	261	241	579	927	1020	739	40
24	1270	765	685	914	655	243	278	586	924	1300	718	108
25	1350	559	521	1170	542	247	325	545	913	990	638	138
26	1360	638	382	1290	547	296	344	403	884	1070	612	146
27	1360	713	366	1360	703	190	274	377	949	1080	677	139
28	1350	743	417	1360	737	121	168	490	1020	1020	653	123
29	1320	722	519	1380	727	132	139	566	996	1020	626	136
30	1240	657	519	1470	---	137	237	649	934	1120	645	149
31	1220	---	519	1500	---	55	---	697	---	1130	570	---
TOTAL	37780	28922	23071	20520	28720	13406	5240.7	14200	26181	35704	28838	4994.4
MEAN	1219	964	744	662	990	432	175	458	873	1152	930	166
MAX	1520	1180	934	1500	1560	673	469	697	1090	1350	1280	454
MIN	1040	559	366	257	438	55	5.3	259	576	899	570	3.8
AC-FT	74940	57370	45760	40700	56970	26590	10390	28170	51930	70820	57200	9910
MEAN a	757	1110	1523	1120	942	1256	1473	2592	1522	1178	742	452
AC-FT a	46550	66050	93650	68870	54180	77230	87650	159400	90570	72340	45620	26900

CAL YR 1983 TOTAL 921081.5 MEAN 2524 MAX 6790 MIN 1.4 AC-FT 1827000 MEAN a 3247 AC-FT a 2351000  
WTR YR 1984 TOTAL 267577.1 MEAN 731 MAX 1560 MIN 3.8 AC-FT 530700 MEAN a 1225 AC-FT a 889300

a Adjusted for change in contents and evaporation from Isabella Lake and diversion to Borel Canal.

## BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956-66, 1971 to current year.

CHEMICAL ANALYSES: Water years 1956-66.

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 28.5°C Aug. 24, 1981; minimum recorded, 4.0°C Jan. 4, 1972, Feb. 1, 1973, Jan. 30, 31, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 25.0°C Sept. 14, 19, 20; minimum recorded, 6.5°C Jan. 9.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## BUENA VISTA LAKE BASIN

11191000 KERN RIVER BELOW ISABELLA DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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



## 11192500 KERN RIVER NEAR DEMOCRAT SPRINGS, CA

LOCATION.--Lat 35°31'15", long 118°40'34", in NE 1/4 SE 1/4 sec.6, T.28 S., R.31 E., Kern County, Hydrologic Unit 18030003, on left bank 1.0 mi southwest of Democrat Springs, and 2.1 mi upstream from Cow Creek.

DRAINAGE AREA.--2,258 mi<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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Kern River No. 1 conduit diverts up to about 420 ft<sup>3</sup>/s from left bank of Kern River 0.4 mi upstream from station in sec.13, T.28 S., R.30 E., for power development; water is returned to river 10 mi below station. Flow regulated by Isabella Lake 22 mi upstream beginning in 1954 (station 11190500). Many diversions above station for irrigation. See schematic diagram of Kern River basin. For records of combined discharge of river and conduit, see following page.

COOPERATION.--Gage-height record and 12 discharge measurements for river and gage-height record and 15 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only, 34 years, 681 ft<sup>3</sup>/s, 493,400 acre-ft/yr.  
Combined river and diversion, 34 years, 1,017 ft<sup>3</sup>/s, 736,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only: Maximum discharge, 40,000 ft<sup>3</sup>/s Nov. 19, 1950, gage height, 30.7 ft, from rating curve extended above 8,700 ft<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 Nov. 17-19, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 18.55 ft; no flow May 26-28, 1977.

Combined flow: Maximum discharge, 40,000 ft<sup>3</sup>/s Nov. 19, 1950; minimum daily, 123 ft<sup>3</sup>/s Sept. 22, 1951. Maximum discharge since construction of Isabella Dam in 1954, 10,100 ft<sup>3</sup>/s Dec. 6, 1966; minimum daily, 10 ft<sup>3</sup>/s Dec. 17, 1968.

EXTREMES FOR CURRENT YEAR.--River only: Maximum discharge, 2,410 ft<sup>3</sup>/s July 30, gage height, 11.66 ft; minimum daily, 49 ft<sup>3</sup>/s Sept. 18.

Combined flow: Maximum discharge, 2,800 ft<sup>3</sup>/s July 30; minimum daily, 424 ft<sup>3</sup>/s Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	1440	953	834	1840	939	243	535	817	1100	1320	669
2	1660	1350	1060	827	1890	912	239	471	786	1160	1320	554
3	1630	1350	1100	823	1890	882	236	508	802	1200	1290	516
4	1480	1350	1110	623	1890	731	232	557	886	1230	1270	680
5	1490	1350	1000	541	1890	807	266	486	1000	1360	1230	623
6	1430	1380	992	665	1890	839	317	489	1050	1420	1290	543
7	1320	1370	1020	719	1880	866	242	635	1090	1460	1320	443
8	1310	1310	1090	693	1880	912	231	684	1090	1510	1410	372
9	1260	1290	1140	672	1860	939	275	735	1050	1530	1520	289
10	1300	1300	1180	638	1590	887	264	752	980	1540	1450	383
11	1310	1350	1150	635	1350	799	294	667	1070	1570	1440	421
12	1350	1220	1110	654	1210	863	378	679	1120	1470	1370	419
13	1290	1210	1090	709	1190	862	429	652	1120	1510	1370	419
14	1360	1200	1100	762	1200	883	370	803	1080	1480	1400	348
15	1310	1210	1160	759	1090	997	391	768	1060	1470	1360	110
16	1260	1260	1160	734	901	720	531	693	969	1520	1240	67
17	1270	1260	1180	663	737	635	646	694	948	1450	1210	68
18	1280	1270	1180	704	687	496	697	687	1140	1390	1130	49
19	1400	1250	1190	744	741	653	729	570	1260	1340	1040	75
20	1560	1340	1150	746	853	756	559	500	1280	1460	945	122
21	1600	1200	1120	746	991	693	305	677	1180	1320	969	90
22	1500	1180	1090	743	1030	631	286	781	1170	1250	982	98
23	1460	1100	1000	934	1020	495	457	787	1120	1270	973	136
24	1490	1170	999	1140	926	491	458	782	1110	1250	960	268
25	1580	1050	1050	1390	821	450	527	786	1130	1190	892	312
26	1600	943	909	1550	747	530	562	648	1070	1200	808	307
27	1600	973	933	1640	924	489	537	560	1110	1310	907	328
28	1600	1030	799	1640	965	333	416	669	1210	1290	897	284
29	1580	1010	887	1640	967	325	349	755	1190	1210	842	306
30	1510	933	864	1720	---	371	394	807	1150	1390	871	318
31	1470	---	846	1830	---	315	---	938	---	1420	838	---
TOTAL	45090	36649	32612	29118	36850	21501	11860	20755	32038	42270	35864	9617
MEAN	1455	1222	1052	939	1271	694	395	670	1068	1364	1157	321
MAX	1830	1440	1190	1830	1890	997	729	938	1280	1570	1520	680
MIN	1260	933	799	541	687	315	231	471	786	1100	808	49
AC-FT	89440	72690	64690	57760	73090	42650	23520	41170	63550	83840	71140	19080
CAL YR 1983	TOTAL	1043344	MEAN	2858	MAX	6610	MIN	208	AC-FT	2069000		
WTR YR 1984	TOTAL	354224	MEAN	968	MAX	1890	MIN	49	AC-FT	702600		

## BUENA VISTA LAKE BASIN

11192501 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 1983 TO SEPTEMBER 1984

## MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	1820	1330	1220	2230	1310	632	925	1210	1490	1710	1060
2	2040	1730	1440	1210	2280	1280	628	862	1180	1550	1710	943
3	2010	1730	1480	1210	2280	1250	625	899	1200	1590	1680	905
4	1860	1730	1490	1010	2280	1100	620	948	1280	1620	1660	1070
5	1870	1730	1380	926	2280	1180	655	878	1400	1750	1620	1010
6	1810	1760	1370	1050	2280	1220	706	881	1450	1810	1680	931
7	1700	1750	1400	1110	2270	1240	631	1030	1490	1850	1710	830
8	1690	1690	1470	1080	2270	1290	620	1080	1490	1900	1800	759
9	1640	1670	1520	1060	2250	1310	663	1130	1450	1920	1920	676
10	1680	1680	1560	1030	1980	1260	652	1150	1380	1930	1840	769
11	1690	1730	1530	1020	1740	1170	682	1060	1470	1960	1830	807
12	1730	1600	1490	1040	1600	1230	765	1080	1520	1860	1760	805
13	1670	1590	1470	1090	1580	1230	813	1050	1520	1900	1760	805
14	1740	1580	1480	1140	1580	1250	757	1200	1480	1870	1790	733
15	1690	1590	1540	1140	1470	1160	779	1160	1460	1860	1750	495
16	1640	1640	1540	1110	1280	1110	919	1090	1370	1900	1630	443
17	1650	1640	1560	1040	1120	1030	1030	1090	1350	1830	1600	441
18	1660	1650	1560	1080	1070	888	1090	1080	1540	1780	1520	424
19	1780	1630	1570	1130	1120	1040	1120	962	1660	1730	1430	449
20	1940	1720	1530	1130	1230	1150	948	892	1680	1850	1340	496
21	1980	1580	1500	1130	1370	1080	695	1070	1580	1710	1360	463
22	1880	1560	1470	1130	1410	1020	677	1170	1570	1640	1370	471
23	1840	1480	1380	1320	1400	887	847	1180	1520	1660	1360	508
24	1870	1550	1380	1520	1310	883	848	1170	1500	1630	1350	640
25	1960	1430	1430	1770	1200	841	916	1180	1520	1580	1280	691
26	1980	1320	1280	1930	1120	921	952	1040	1460	1590	1200	694
27	1980	1350	1310	2020	1300	879	927	955	1500	1700	1300	715
28	1980	1410	1170	2030	1340	724	807	1070	1600	1680	1290	672
29	1960	1390	1270	2030	1340	715	740	1150	1580	1600	1230	693
30	1890	1310	1250	2110	---	760	785	1210	1540	1780	1260	700
31	1850	---	1230	2220	---	705	---	1340	---	1780	1230	---
TOTAL	56870	48040	44380	41036	47980	33113	23529	32982	43950	54300	47970	21098
MEAN	1835	1601	1432	1324	1654	1068	784	1064	1465	1752	1547	703
MAX	2210	1820	1570	2220	2280	1310	1120	1340	1680	1960	1920	1070
MIN	1640	1310	1170	926	1070	705	620	862	1180	1490	1200	424
AC-FT	112800	95290	88030	81390	95170	65680	46670	65420	87170	107700	95150	41850
CAL YR 1983	TOTAL	1164849	MEAN	3191	MAX	7010	MIN	601	AC-FT	2310000		
WTR YR 1984	TOTAL	495248	MEAN	1357	MAX	2280	MIN	424	AC-FT	982300		

## 11196420 TEHACHAPI CREEK NEAR TEHACHAPI, CA

LOCATION.--Lat 35°10'26", long 118°28'43", in NE 1/4 SW 1/4 sec.6, T.32 S., R.33 E., Kern County, Hydrologic Unit 18030003, on right bank 1.3 mi downstream from Brite Creek, and 3.2 mi northwest of Tehachapi.

DRAINAGE AREA.--53.2 mi<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 National Geodetic Vertical Datum of 1929. Prior to Aug. 5, 1964, at site 0.2 mi upstream at different datum.

REMARKS.--Records good except those for Dec. 5 through Jan. 12, which are fair.

AVERAGE DISCHARGE.--22 years, 1.16 ft<sup>3</sup>/s, 840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,560 ft<sup>3</sup>/s Mar. 1, 1983, gage height, 4.51 ft in gage well, 6.50 ft from floodmarks, 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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2030	34	0.80	Feb. 14	0200	13	0.65
Dec. 3	1600	12	0.62	Mar. 4	0130	16	0.66
Dec. 27	Unknown	*92	1.13				

Minimum daily, 0.08 ft<sup>3</sup>/s on several days in July, August, and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	.76	3.6	7.6	1.7	2.1	1.6	1.1	.17	.12	.10	.16
2	1.0	.92	3.5	6.5	1.9	2.3	1.4	1.2	.18	.12	.08	.12
3	.93	.93	4.7	5.6	1.5	2.0	1.4	1.3	.41	.11	.10	.12
4	.90	1.2	3.8	4.8	1.1	.99	1.5	1.1	.48	.10	.11	.14
5	.91	1.3	2.6	4.3	1.0	.79	1.6	.86	.45	.11	.11	.12
6	.93	1.1	2.2	4.0	.93	.85	1.5	.79	.48	.10	.11	.11
7	.97	1.0	1.9	3.6	.93	.93	1.6	.67	.48	.08	.12	.12
8	.93	.96	1.8	3.3	.93	.93	1.4	.46	.24	.08	.12	.11
9	.93	.92	4.3	3.0	.93	.93	1.4	.34	.19	.08	.13	.09
10	.93	.90	4.6	2.7	1.4	.94	1.4	.34	.17	.09	.12	.09
11	.91	1.1	4.3	2.6	1.2	1.1	1.4	.34	.17	.09	.11	.14
12	.83	2.4	4.0	2.4	2.3	1.1	1.4	.38	.15	.10	.11	.14
13	.87	1.5	3.5	2.6	2.5	1.1	1.4	.38	.15	.10	.11	.10
14	.93	1.1	3.0	2.6	4.8	2.0	1.5	.34	.14	.11	.11	.09
15	.93	1.0	2.6	2.1	3.4	.93	1.6	.47	.14	.12	.22	.10
16	.93	.94	2.4	2.3	5.7	.97	1.3	.58	.14	.12	.12	.11
17	.93	.88	2.4	2.3	2.8	1.1	1.1	.66	.14	.11	.11	.09
18	.93	1.2	2.3	2.2	2.7	1.1	1.1	.50	.14	.11	.12	.08
19	.90	1.2	2.2	2.3	2.6	.98	1.6	.57	.12	.12	.12	.09
20	.68	5.9	2.1	1.9	2.3	1.0	1.3	.69	.12	.12	.12	.11
21	.56	2.5	1.9	1.0	2.5	1.1	1.2	.61	.12	.12	.12	.10
22	.56	1.9	1.8	.93	2.6	1.1	1.1	.57	.12	.12	.12	.10
23	.56	1.9	1.7	.93	2.6	1.1	1.1	.53	.12	.12	.12	.12
24	.52	6.7	1.7	1.0	2.4	1.1	1.0	.45	.12	.13	.12	.13
25	.50	7.8	4.0	1.9	2.2	1.0	.93	.25	.12	.15	.12	.08
26	.47	4.9	11	2.1	2.1	1.0	1.1	.29	.12	.14	.12	.09
27	.50	4.4	25	2.1	2.0	1.1	1.2	.21	.12	.16	.12	.09
28	.56	4.1	20	1.9	2.1	1.1	1.2	.19	.12	.17	.12	.10
29	.56	4.0	14	1.5	2.1	1.1	1.2	.17	.12	.10	.12	.08
30	.56	3.8	10	1.3	---	1.4	1.2	.17	.12	.11	.12	.09
31	.58	---	8.7	1.4	---	1.4	---	.17	---	.10	.17	---
TOTAL	24.40	69.21	161.6	84.76	63.22	36.64	39.73	16.68	5.86	3.51	3.72	3.21
MEAN	.79	2.31	5.21	2.73	2.18	1.18	1.32	.54	.20	.11	.12	.11
MAX	1.2	7.8	25	7.6	5.7	2.3	1.6	1.3	.48	.17	.22	.16
MIN	.47	.76	1.7	.93	.93	.79	.93	.17	.12	.08	.08	.08
AC-FT	48	137	321	168	125	73	79	33	12	7.0	7.4	6.4
CAL YR 1983	TOTAL	5667.61	MEAN	15.5	MAX	2030	MIN	.02	AC-FT	11240		
WTR YR 1984	TOTAL	512.54	MEAN	1.40	MAX	25	MIN	.08	AC-FT	1020		

NOTE.--No gage-height record Dec. 5 to Jan. 12.

## TULARE LAKE BASIN

11197250 AVENAL CREEK NEAR AVENAL, CA

LOCATION.--Lat 35°51'15", long 120°07'34", in SW 1/4 NW 1/4 sec.10, T.24 S., R.17 E., Kings County, Hydrologic Unit 18030011, on right bank 550 ft downstream from road ford, 0.4 mi downstream from unnamed tributary, and 10 mi south of Avenal.

DRAINAGE AREA.--57.1 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 825 ft, from topographic map.

REMARKS.--Records good. Minor diversions for stock above station.

AVERAGE DISCHARGE.--23 years, 3.76 ft<sup>3</sup>/s, 2,720 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,600 ft<sup>3</sup>/s Feb. 24, 1969, gage height, 7.89 ft, from rating curve extended above 510 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 5.72 ft and 7.54 ft; no flow for several months in most years.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 1	1830	107	3.02
Nov. 24	2245	36	2.64
Dec. 25	0345	*320	3.55

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	.26	1.7	8.0	1.6	1.2	.81	.38	.07			
2	3.9	.32	1.4	7.1	1.7	1.2	.71	.35	.09			
3	1.3	.67	8.5	7.1	1.6	1.2	.63	.31	.11			
4	1.1	.61	8.6	7.0	1.6	1.1	.65	.28	.15			
5	.94	.39	4.2	6.5	1.5	1.2	.72	.29	.21			
6	.89	.28	3.4	6.1	1.4	1.1	.82	.28	.18			
7	.88	.24	3.1	5.9	1.4	1.0	.60	.27	.20			
8	.85	.19	2.6	5.5	1.4	.95	.54	.24	.22			
9	.89	.17	3.0	5.5	1.4	.93	.60	.23	.21			
10	.92	.15	4.2	5.2	1.5	.93	.57	.22	.20			
11	.90	.15	3.1	5.1	1.4	.93	.50	.21	.23			
12	.90	.17	5.4	5.0	1.4	.84	.48	.18	.20			
13	.87	.40	3.9	4.8	1.4	.99	.47	.17	.21			
14	.82	1.4	3.3	4.3	1.3	1.3	.43	.14	.21			
15	.85	1.0	3.2	3.8	1.3	1.1	.33	.17	.20			
16	.85	.82	3.0	3.5	1.2	.92	.34	.20	.17			
17	.46	.78	2.9	3.3	1.2	.89	.34	.17	.14			
18	.37	.97	2.8	3.2	1.2	.89	.41	.15	.08			
19	.42	.79	2.8	3.2	1.2	.86	.61	.13	0			
20	.53	.96	2.8	3.1	1.1	.78	.60	.13	0			
21	.65	1.1	2.8	3.1	1.1	.70	.52	.11	.03			
22	.48	1.2	2.8	2.8	1.2	.73	.45	.10	.04			
23	.41	1.2	2.6	2.6	1.2	.74	.36	.10	.03			
24	.29	4.9	6.8	2.5	1.2	.68	.33	.10	0			
25	.21	14	139	2.4	1.2	.62	.33	.11	0			
26	.20	4.4	35	2.3	1.2	.66	.38	.10	0			
27	.20	3.0	29	2.4	1.1	.70	.48	.11	0			
28	.20	2.6	18	2.4	1.1	.66	.44	.12	0			
29	.20	2.1	13	2.2	1.2	.58	.36	.05	0			
30	.21	1.8	11	1.8	---	.57	.35	.06	0			
31	.23	---	9.0	1.6	---	.67	---	.05	---			
TOTAL	34.92	47.02	342.9	129.3	38.3	27.62	15.16	5.51	3.18	0	0	0
MEAN	1.13	1.57	11.1	4.17	1.32	.89	.51	.18	.11	0	0	0
MAX	13	14	139	8.0	1.7	1.3	.82	.38	.23	0	0	0
MIN	.20	.15	1.4	1.6	1.1	.57	.33	.05	0	0	0	0
AC-FT	69	93	680	256	76	55	30	11	6.3	0	0	0
CAL YR 1983	TOTAL	5140.49	MEAN	14.1	MAX	476	MIN	0	AC-FT	10200		
WTR YR 1984	TOTAL	643.91	MEAN	1.76	MAX	139	MIN	0	AC-FT	1280		

11197800 POSO CREEK NEAR OILDALE, CA

LOCATION.--Lat 35°30'49", long 118°54'17", in SW 1/4 SW 1/4 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 northeast of Oildale, and 12 mi northeast of Bakersfield.

DRAINAGE AREA.--230 mi<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, from topographic map.

REMARKS.--Records fair. Oilfield waste comprises most of low flow.

AVERAGE DISCHARGE.--25 years, 39.8 ft<sup>3</sup>/s, 28,840 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,700 ft<sup>3</sup>/s Feb. 25, 1969, gage height, 12.85 ft, from rating curve extended above 1,240 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 11.57 ft; no flow for many days in 1975-82.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 4, 1958, reached a stage of 8.6 ft from floodmarks, discharge, 2,750 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 12	0930	145	7.21	Feb. 17	0645	239	7.93
Nov. 25	0915	1,460	10.86	Mar. 14	1830	169	7.64
Dec. 10	1830	273	8.07	Apr. 19	2245	125	7.44
Dec. 27	1100	*1,640	11.12				

Minimum, no flow Aug. 6 through Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	29	98	296	70	75	74	54	20	8.2	.50	
2	55	45	88	252	70	75	72	54	21	6.5	.30	
3	50	49	85	217	67	74	71	54	20	4.7	.17	
4	37	41	186	193	65	72	68	53	19	4.3	.33	
5	31	36	145	176	64	70	65	50	21	4.5	.26	
6	29	36	115	161	63	68	72	49	27	4.2	0	
7	27	36	96	150	64	67	81	46	26	3.8	0	
8	27	36	86	139	63	66	70	44	25	3.3	0	
9	29	34	82	131	63	65	66	42	25	2.8	0	
10	30	33	178	122	79	64	63	41	24	2.7	0	
11	30	41	185	117	99	64	62	40	24	2.4	0	
12	28	112	170	113	83	63	60	39	22	2.1	0	
13	26	65	143	110	80	63	59	37	21	1.8	0	
14	27	50	127	106	138	114	56	35	21	1.1	0	
15	26	48	120	101	131	125	52	35	20	.93	0	
16	26	43	111	99	129	96	51	36	19	1.7	0	
17	27	41	107	100	205	86	49	36	18	3.7	0	
18	28	63	111	95	140	85	49	35	17	5.0	0	
19	28	83	102	92	117	80	79	34	16	3.3	0	
20	27	148	97	90	105	76	101	36	15	3.0	0	
21	27	319	90	89	97	72	79	35	14	3.0	0	
22	25	156	84	88	93	73	72	36	14	3.3	0	
23	25	93	80	86	90	69	68	33	15	4.2	0	
24	26	162	80	85	86	68	63	33	13	4.4	0	
25	27	847	205	83	84	66	60	32	11	4.2	0	
26	24	392	666	81	83	66	59	33	10	4.0	0	
27	24	220	1240	79	82	68	59	30	9.5	2.7	0	
28	21	162	836	77	78	65	58	30	8.4	1.8	0	
29	21	134	555	76	76	64	56	27	7.5	1.1	0	
30	24	114	422	75	---	64	54	24	7.7	.86	0	
31	25	---	352	72	---	65	---	22	---	.63	0	
TOTAL	903	3668	7042	3751	2664	2288	1948	1185	531.1	100.22	1.56	0
MEAN	29.1	122	227	121	91.9	73.8	64.9	38.2	17.7	3.23	.050	0
MAX	55	847	1240	296	205	125	101	54	27	8.2	.50	0
MIN	21	29	80	72	63	63	49	22	7.5	.63	0	0
AC-FT	1790	7280	13970	7440	5280	4540	3860	2350	1050	199	3.1	0
CAL YR 1983	TOTAL	78587.5	MEAN	215	MAX	2000	MIN	4.4	AC-FT	155900		
WTR YR 1984	TOTAL	24081.88	MEAN	65.8	MAX	1240	MIN	0	AC-FT	47770		

## TULARE LAKE BASIN

11199500 WHITE RIVER NEAR DUCOR, CA

LOCATION.--Lat 35°48'36", long 118°55'03", in NW 1/4 SE 1/4 sec.26, T.24 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi upstream from Tyler Gulch, and 9.0 mi southeast of Ducor.

DRAINAGE AREA.--90.6 mi<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, from topographic map. October 1942 to September 1946, at site 3,800 ft downstream and October 1946 to September 1953, at site 4,300 ft downstream, and October 1971 to November 1978, at site 4,000 ft downstream, all at different datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--24 years (water years 1943-53, 1972-84), 11.3 ft<sup>3</sup>/s, 8,190 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft<sup>3</sup>/s, estimated by Bureau of Reclamation, Mar. 9, 1943; no flow for several months in most years.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	2030	42	1.64	Dec. 27	0345	200	2.54
Nov. 25	0045	*207	2.58	Feb. 16	1845	58	1.56
Dec. 10	1100	57	1.55	Mar. 14	1045	61	1.58

Minimum daily, no flow Aug. 1 through Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	8.6	17	44	16	18	19	13	4.5	2.0		
2	15	14	16	40	16	18	15	13	4.5	1.8		
3	11	10	19	37	16	18	15	13	4.5	1.5		
4	9.0	9.6	36	34	16	18	16	13	4.7	1.6		
5	7.5	9.3	25	33	16	17	15	12	5.8	1.3		
6	6.9	9.3	21	31	16	16	18	12	7.1	1.1		
7	7.1	9.3	20	29	16	16	19	11	6.1	.81		
8	7.3	9.2	18	28	15	16	17	11	6.0	.56		
9	7.6	8.7	19	27	16	16	17	10	5.6	.48		
10	8.1	8.2	43	26	30	16	16	10	5.3	.50		
11	7.4	16	33	26	21	16	16	10	5.2	.52		
12	7.1	21	33	25	18	16	15	10	5.0	.43		
13	7.3	13	27	24	18	17	15	9.9	4.9	.36		
14	7.8	12	25	23	33	41	14	9.5	4.9	.17		
15	7.8	11	24	22	23	29	13	9.8	4.8	.06		
16	7.8	11	23	22	37	25	13	10	4.6	.12		
17	7.8	10	23	23	34	25	13	9.6	4.4	.83		
18	8.1	21	24	21	27	23	13	8.9	3.9	1.3		
19	8.0	15	21	20	25	21	20	8.6	3.5	.79		
20	7.6	35	22	20	23	19	18	8.2	3.4	.57		
21	7.3	35	21	20	22	17	15	7.9	3.4	.49		
22	7.1	21	20	19	22	18	15	7.5	3.4	1.2		
23	7.2	18	20	19	20	14	14	7.0	3.2	2.6		
24	7.4	41	21	19	20	12	14	6.9	2.9	2.1		
25	7.8	101	66	19	19	12	13	6.9	2.7	1.7		
26	7.0	47	85	19	19	13	13	6.6	2.5	1.5		
27	6.7	31	147	18	19	15	14	6.3	2.4	.98		
28	6.5	25	88	18	18	13	13	5.7	2.3	.29		
29	6.7	21	68	17	18	12	13	5.1	2.1	.07		
30	7.6	18	57	17	---	12	13	4.7	2.1	.05		
31	8.1	---	49	16	---	15	---	4.6	---	.02		
TOTAL	249.6	619.2	1131	756	609	554	454	281.7	125.7	27.80	0	0
MEAN	8.05	20.6	36.5	24.4	21.0	17.9	15.1	9.09	4.19	.90	0	0
MAX	15	101	147	44	37	41	20	13	7.1	2.6	0	0
MIN	6.5	8.2	16	16	15	12	13	4.6	2.1	.02	0	0
AC-FT	495	1230	2240	1500	1210	1100	901	559	249	55	0	0

CAL YR 1983	TOTAL	17166.5	MEAN	47.0	MAX	324	MIN	3.1	AC-FT	34050
WTR YR 1984	TOTAL	4808.00	MEAN	13.1	MAX	147	MIN	0	AC-FT	9540

## 11200800 DEER CREEK NEAR FOUNTAIN SPRINGS, CA

LOCATION.--Lat 35°56'30", long 118°49'19", in SE 1/4 NE 1/4 sec.10, T.23 S., R.29 E., Tulare County, Hydrologic Unit 18030005, on left bank 1.0 mi upstream from Pothole Creek, 6.3 mi northeast of Fountain Springs, and 12 mi east of Terra Bella.

DRAINAGE AREA.--83.3 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 980 ft, from topographic map.

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

AVERAGE DISCHARGE.--16 years, 40.0 ft<sup>3</sup>/s, 28,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,340 ft<sup>3</sup>/s Feb. 24, 1969, gage height, 9.85 ft, from rating curve extended above 600 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 8.83 ft in gage well, 9.18 ft from floodmarks, and 12.54 ft from floodmarks; no flow Aug. 14-22, 1968 and for several months in 1972, 1976-77.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 6, 1966, reached a stage of 12.54 ft, from floodmarks, discharge, 5,330 ft<sup>3</sup>/s.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 1	2030	128	3.88	Dec. 27	0730	946	6.47
Nov. 11	1730	111	3.77	Feb. 10	0730	150	4.25
Nov. 24	2200	*1,050	6.66	Mar. 14	0730	204	4.27
Dec. 10	0530	319	4.81				

Minimum daily, 2.5 ft<sup>3</sup>/s Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	34	56	132	49	53	51	40	21	11	6.0	4.7
2	46	39	54	120	49	53	49	40	21	11	6.0	4.9
3	30	26	76	110	48	53	48	41	21	11	6.0	4.2
4	26	24	108	104	47	51	48	40	20	9.3	6.3	3.1
5	24	23	75	97	46	50	47	39	25	9.6	6.2	3.3
6	24	23	65	93	46	49	51	39	28	10	4.8	3.5
7	23	23	61	89	46	48	52	36	25	9.8	4.2	3.9
8	24	23	58	86	44	48	48	35	24	9.7	4.0	4.2
9	24	23	66	81	46	47	48	34	22	8.7	4.4	4.1
10	24	22	185	77	84	48	46	34	21	8.2	4.1	3.3
11	24	51	114	75	56	47	46	34	20	8.4	3.5	2.5
12	23	43	104	73	53	45	45	34	20	8.5	3.2	3.7
13	22	31	85	72	54	46	44	33	20	7.9	2.9	3.9
14	23	29	78	70	100	125	42	30	20	6.6	3.5	4.0
15	23	28	73	67	66	74	40	30	20	6.6	4.0	4.1
16	23	26	69	67	121	64	39	33	20	8.0	6.5	4.2
17	23	27	67	67	94	63	39	32	19	9.3	6.8	3.8
18	23	70	66	65	80	59	39	30	17	9.8	6.4	4.2
19	22	39	62	63	74	57	59	28	17	9.0	5.9	4.5
20	21	140	61	61	69	54	54	28	17	6.8	4.5	4.4
21	21	104	57	60	67	52	50	27	16	7.2	3.4	4.2
22	21	59	55	59	67	52	49	27	16	8.1	3.6	4.8
23	20	49	54	59	63	50	47	26	16	9.5	4.2	4.9
24	20	281	61	58	60	48	46	26	14	9.3	4.6	4.9
25	20	253	191	56	60	48	46	25	13	8.7	4.7	4.9
26	20	115	308	55	59	48	46	24	13	9.1	4.7	5.2
27	19	84	628	54	56	50	45	24	13	8.4	4.0	5.4
28	19	73	276	53	55	48	44	22	12	6.9	4.5	5.2
29	19	64	199	52	54	47	43	22	11	6.2	4.9	5.2
30	20	59	168	50	---	46	42	22	11	4.9	4.6	5.2
31	20	---	148	49	---	49	---	21	---	7.0	4.3	---
TOTAL	727	1885	3728	2274	1813	1672	1393	956	553	264.5	146.7	128.4
MEAN	23.5	62.8	120	73.4	62.5	53.9	46.4	30.8	18.4	8.53	4.73	4.28
MAX	46	281	628	132	121	125	59	41	28	11	6.8	5.4
MIN	19	22	54	49	44	45	39	21	11	4.9	2.9	2.5
AC-FT	1440	3740	7390	4510	3600	3320	2760	1900	1100	525	291	255
CAL YR 1983	TOTAL	54231.0	MEAN	149	MAX	1440	MIN	15	AC-FT	107600		
WTR YR 1984	TOTAL	15540.6	MEAN	42.5	MAX	628	MIN	2.5	AC-FT	30820		

## TULARE LAKE BASIN

11201200 DEER CREEK DIVERSION NEAR TERRA BELLA, CA

LOCATION.--Lat 35°59'27", long 118°59'06", in NE 1/4 NE 1/4 sec.30, T.22 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from diversion structure, 3.8 mi 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, from topographic map.

REMARKS.--Records fair. Diversion receives water from Deer Creek 1,000 ft upstream. Water is used for ground-water recharge.

AVERAGE DISCHARGE.--14 years, 2.28 ft<sup>3</sup>/s, 1,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 16 ft<sup>3</sup>/s Sept. 30, Oct. 2, 1983; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	7.0	5.3	.07	7.4	4.1	7.0	11	5.8	.68		
2	16	2.1	5.2	.04	7.3	2.9	4.0	8.6	5.6	.58		
3	14	0	4.8	0	7.3	1.7	2.2	5.1	5.2	.68		
4	12	0	6.2	0	7.2	.48	1.3	7.6	5.0	.69		
5	11	0	4.7	0	7.2	.26	.73	11	5.4	.29		
6	10	0	4.0	0	7.1	.24	6.9	11	6.6	.07		
7	9.2	0	2.9	0	7.1	3.7	12	11	6.2	.22		
8	9.7	0	2.5	0	7.0	6.4	12	11	5.8	.10		
9	9.1	0	2.1	0	7.2	6.2	12	11	5.2	.10		
10	9.3	0	11	0	8.5	5.2	12	11	4.8	.15		
11	9.2	.08	5.2	0	7.7	4.5	12	11	4.5	0		
12	7.7	.74	4.5	6.9	7.3	4.0	12	11	4.1	0		
13	7.4	0	2.2	9.5	7.0	3.7	12	11	4.0	0		
14	7.9	0	1.3	9.2	7.9	12	12	10	3.9	0		
15	8.5	0	.61	9.0	7.3	15	11	10	3.8	0		
16	7.8	0	.28	9.0	8.0	14	11	11	3.6	0		
17	7.1	0	.05	9.0	7.7	14	11	10	3.5	0		
18	7.7	9.6	.07	8.9	7.2	14	11	10	2.8	0		
19	7.6	8.5	.02	8.8	7.1	14	13	9.5	2.3	0		
20	6.9	11	0	8.7	6.9	14	14	9.4	2.3	0		
21	5.7	5.3	0	8.6	6.9	13	14	8.9	2.3	0		
22	6.1	4.3	6.0	8.5	6.9	13	14	8.7	2.3	0		
23	5.8	3.9	6.1	8.4	6.9	13	14	8.5	2.2	.60		
24	5.7	5.5	5.5	8.3	6.8	13	13	8.2	1.9	.64		
25	5.9	7.3	8.8	8.2	6.9	13	13	7.8	1.4	.40		
26	5.2	5.0	7.8	8.1	6.9	13	13	7.9	1.2	.19		
27	6.0	4.6	6.3	8.0	6.8	13	12	7.6	1.1	.27		
28	5.0	4.8	3.2	7.9	6.8	13	12	6.8	.96	0		
29	4.5	3.4	.21	7.8	6.7	12	12	6.3	.81	0		
30	5.5	1.8	.12	7.6	---	12	12	6.0	.66	0		
31	5.7	---	.09	7.5	---	11	---	5.9	---	0		
TOTAL	254.2	84.92	107.05	168.01	209.0	279.38	318.13	283.8	105.23	5.66	0	0
MEAN	8.20	2.83	3.45	5.42	7.21	9.01	10.6	9.15	3.51	.18	0	0
MAX	16	11	11	9.5	8.5	15	14	11	6.6	.69	0	0
MIN	4.5	0	0	0	6.7	.24	.73	5.1	.66	0	0	0
AC-FT	504	168	212	333	415	554	631	563	209	11	0	0
CAL YR 1983	TOTAL	1858.95	MEAN	5.09	MAX	16	MIN	0	AC-FT	3690		
WTR YR 1984	TOTAL	1815.38	MEAN	4.96	MAX	16	MIN	0	AC-FT	3600		



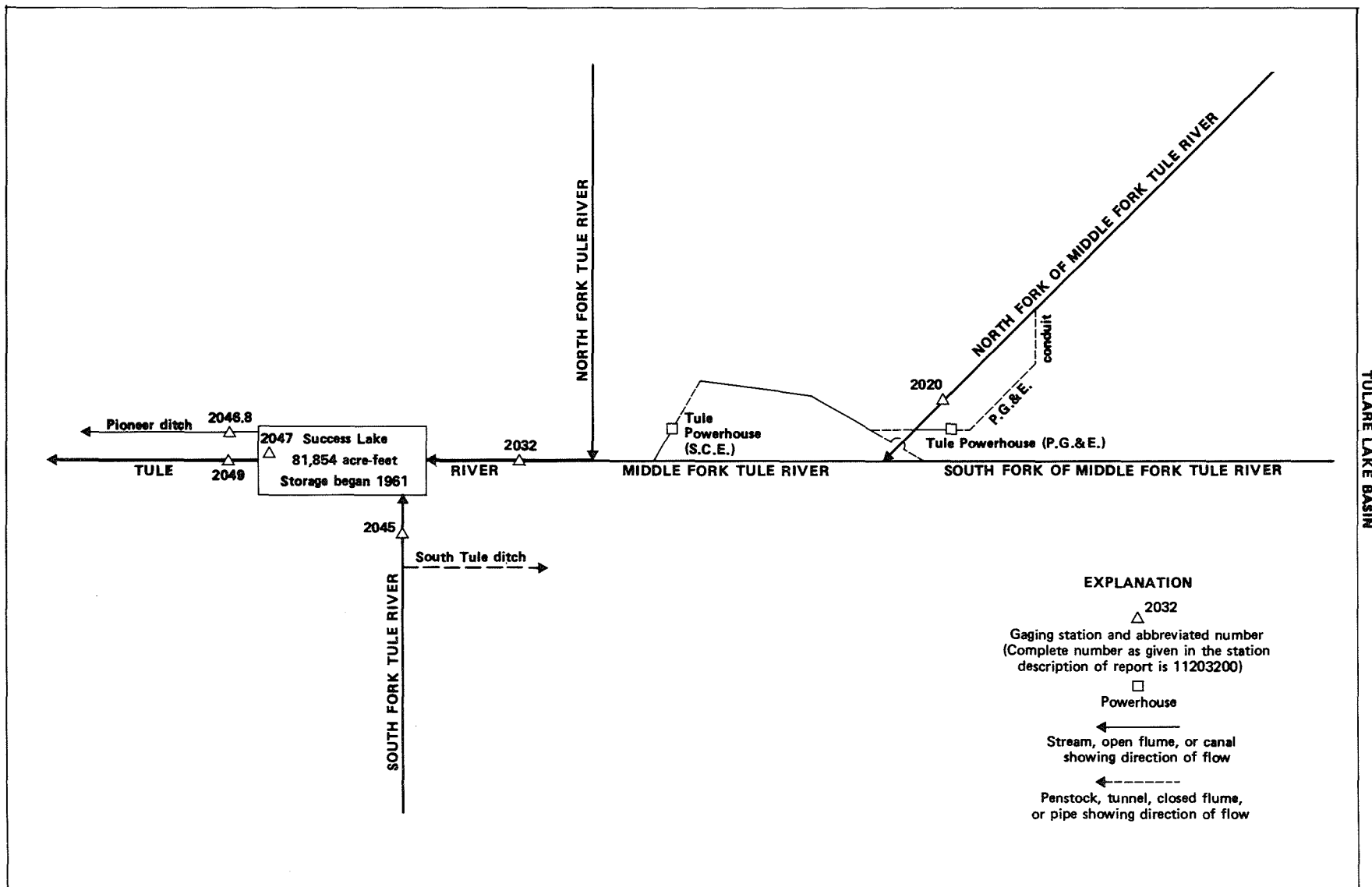


FIGURE 6.— Schematic diagram showing diversions and storage in Tule River basin.

## TULARE LAKE BASIN

11203200 TULE RIVER NEAR SPRINGVILLE, CA

LOCATION.--Lat 36°06'02", long 118°52'07", in NE 1/4 SW 1/4 sec.17, T.21 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 10 ft downstream from highway bridge, 3.5 mi southwest of Springville, and 4.1 mi upstream from Success Dam.

DRAINAGE AREA.--247 mi<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, from topographic map. Prior to Mar. 20, 1968, at site 1.9 mi upstream at different datum.

REMARKS.--Records good. Many small diversions above station for irrigation. Power is developed on Middle Fork and tributaries. Diversion to Tule River diversion ditch starts 400 ft upstream most of which is returned to the river 0.5 mi downstream. Records since Mar. 20, 1968, include flow diverted to Tule River diversion ditch.

AVERAGE DISCHARGE.--27 years, 167 ft<sup>3</sup>/s, 121,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,600 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 17.18 ft in gage well, 19.7 ft from floodmarks, site and datum then in use, from rating curve extended above 7,400 ft<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 previous site and datum, from floodmarks, discharge, 21,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	1730	364	5.39	Dec. 26	2400	3,120	8.44
Nov. 24	2045	*5,840	9.54	Feb. 16	1030	970	6.52
Dec. 10	0300	1,270	6.96	Mar. 14	0715	1,090	6.70

Minimum daily, 18 ft<sup>3</sup>/s on several days in August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	88	238	533	190	208	252	206	147	59	32	20
2	146	111	225	478	191	206	242	203	139	55	30	20
3	119	91	329	438	188	206	237	214	130	52	30	19
4	108	87	502	410	184	204	230	227	129	54	29	18
5	100	85	315	393	179	202	227	224	155	51	29	18
6	98	85	265	374	177	196	236	224	152	49	28	18
7	95	84	250	354	175	194	242	226	141	47	27	18
8	95	83	239	346	176	191	233	232	134	43	27	19
9	95	83	284	329	187	192	228	245	125	41	25	20
10	96	81	814	312	274	191	218	255	117	40	25	20
11	93	171	463	300	216	191	217	270	111	36	24	18
12	89	167	423	290	201	192	219	286	100	34	24	20
13	89	136	336	280	205	198	223	289	96	34	24	19
14	89	124	309	270	354	703	232	294	95	35	23	19
15	89	116	295	264	254	435	238	274	94	41	23	19
16	89	105	285	267	583	350	252	257	94	54	33	19
17	89	106	279	268	407	330	254	237	92	55	33	20
18	88	287	272	251	324	303	247	225	89	52	29	20
19	88	166	261	242	291	291	303	213	84	51	27	20
20	85	546	253	234	273	287	273	220	82	59	25	22
21	82	427	237	230	265	287	254	228	80	46	23	23
22	81	254	229	226	262	280	263	225	78	47	25	24
23	77	208	226	219	250	270	257	223	75	50	24	24
24	77	1310	275	214	242	264	251	223	72	46	23	24
25	77	1090	1550	210	235	263	248	217	68	46	22	24
26	75	480	1810	211	227	276	238	210	65	46	22	22
27	72	357	2300	205	225	297	227	200	61	40	23	23
28	72	309	1160	201	218	273	221	188	60	36	22	21
29	72	273	825	196	213	264	212	174	59	34	18	20
30	75	250	686	197	---	258	209	162	59	33	19	21
31	77	---	607	193	---	257	---	154	---	33	20	---
TOTAL	2831	7760	16542	8935	7166	8259	7183	7025	2983	1399	788	612
MEAN	91.3	259	534	288	247	266	239	227	99.4	45.1	25.4	20.4
MAX	154	1310	2300	533	583	703	303	294	155	59	33	24
MIN	72	81	225	193	175	191	209	154	59	33	18	18
AC-FT	5620	15390	32810	17720	14210	16380	14250	13930	5920	2770	1560	1210

CAL YR 1983	TOTAL	209126	MEAN	573	MAX	2630	MIN	62	AC-FT	414800
WTR YR 1984	TOTAL	71483	MEAN	195	MAX	2300	MIN	18	AC-FT	141800

## TULARE LAKE BASIN

11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-67, 1969 to current year.

CHEMICAL ANALYSES: Water years 1964-66.

WATER TEMPERATURES: Water years 1966-67, 1969 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to September 1967, October 1968 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1967, and since October 1968.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 35.5°C July 1, 1972; minimum recorded, 2.5°C Jan. 5-8, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 30.0°C Aug. 29; minimum recorded, 5.5°C on several days in November through January.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## TULARE LAKE BASIN

11203200 TULE RIVER NEAR SPRINGVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.5	7.5	14.0	10.5	21.0	17.5	26.5	22.0	28.0	23.0	27.5	22.0
2	11.5	7.5	14.0	12.0	21.0	17.0	27.5	23.0	28.0	23.0	28.0	22.0
3	12.0	9.0	16.0	11.5	20.0	16.5	27.5	24.0	27.5	21.5	28.5	22.5
4	12.5	10.5	16.5	13.5	18.0	16.5	28.0	23.5	28.0	22.0	28.5	22.5
5	12.0	11.0	15.5	12.5	17.5	16.0	29.5	24.5	28.0	22.0	29.5	23.5
6	11.0	10.0	15.5	11.5	19.0	15.5	29.5	25.0	28.0	22.0	28.0	23.0
7	13.0	9.5	16.0	12.0	18.5	15.5	29.5	25.0	28.5	22.0	27.5	22.0
8	12.5	10.5	17.5	13.5	19.0	15.0	29.0	24.0	29.0	23.0	27.5	22.0
9	12.5	9.5	17.5	14.0	19.5	16.0	28.0	22.5	29.5	23.5	27.5	22.0
10	13.0	10.0	17.5	14.5	19.5	16.0	27.5	22.0	29.0	24.5	27.5	22.5
11	12.5	10.5	17.5	14.0	20.0	16.0	28.0	22.5	29.0	23.5	27.0	23.5
12	13.5	10.0	18.5	15.0	20.5	16.5	28.5	22.5	29.0	23.5	28.0	23.5
13	15.0	11.0	19.0	16.0	20.5	17.0	28.0	23.5	29.0	23.5	28.0	23.0
14	16.0	12.5	17.5	15.5	21.0	17.5	29.0	23.5	27.0	23.0	27.5	22.0
15	16.5	13.5	15.0	11.0	22.0	18.0	27.5	25.0	24.5	23.0	27.0	22.0
16	16.0	13.5	14.5	10.0	22.0	18.0	27.0	24.0	27.0	22.0	26.0	22.0
17	15.5	13.5	16.0	12.5	24.0	19.5	29.0	24.5	28.5	23.5	27.0	22.0
18	14.0	12.0	17.0	13.0	24.5	20.5	27.5	25.0	29.0	24.0	27.0	22.5
19	12.5	10.0	18.0	14.0	24.0	20.5	27.0	24.0	28.5	24.0	27.0	22.5
20	11.5	9.0	19.5	15.5	23.0	19.5	27.0	24.0	27.5	22.0	26.0	22.5
21	12.5	8.5	19.0	16.0	22.5	18.5	27.0	23.5	28.0	22.0	25.0	21.0
22	14.5	10.5	19.5	15.5	23.0	18.5	24.0	20.5	28.0	23.0	24.5	20.5
23	15.5	12.0	20.0	16.5	24.0	19.5	25.0	19.5	29.0	23.0	23.5	20.0
24	15.5	13.0	19.0	17.0	24.5	20.5	26.5	22.0	28.0	22.5	22.5	19.0
25	14.0	10.5	19.0	15.5	25.0	20.5	26.0	22.0	27.5	22.0	22.0	17.0
26	11.5	8.5	20.0	16.0	25.5	21.0	27.0	22.0	27.5	21.5	22.5	17.5
27	10.0	7.0	21.0	17.5	26.0	21.5	28.0	22.5	28.5	22.0	22.5	18.0
28	11.5	7.0	22.0	18.0	27.0	22.5	28.0	23.0	29.0	23.5	23.0	18.5
29	13.0	9.0	22.0	18.5	26.5	22.5	27.5	22.0	30.0	24.0	23.0	18.5
30	13.5	10.0	22.5	19.0	26.0	21.5	28.0	22.5	29.0	24.5	22.5	18.5
31	---	---	22.5	19.0	---	---	28.0	22.5	27.0	22.5	---	---
MONTH	16.5	7.0	22.5	10.0	27.0	15.0	29.5	19.5	30.0	21.5	29.5	17.0

## 11204500 SOUTH FORK TULE RIVER NEAR SUCCESS, CA

LOCATION.--Lat 36°02'33", long 118°51'24", in NW 1/4 SW 1/4 sec.4, T.22 S., R.29 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.5 mi upstream from Crew Creek, 4 mi southeast of Success, and 5 mi upstream from mouth.

DRAINAGE AREA.--109 mi<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, from topographic map. Prior to June 26, 1951, at site 0.4 mi downstream at different datum.

REMARKS.--Records good except those for Aug. 29 to Sept. 30, which are fair. Diversions for irrigation of about 640 acres above station.

AVERAGE DISCHARGE.--52 years, 46.5 ft<sup>3</sup>/s, 33,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 12.50 ft in gage well, 13.3 ft from floodmarks, from rating curve extended above 4,300 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage Height (ft)
Nov. 24	2045	*2,330	6.64	Feb. 16	1030	329	4.02
Dec. 10	0315	389	4.21	Mar. 14	0645	424	4.31
Dec. 27	0645	1,390	5.74				

Minimum daily, 0.87 ft<sup>3</sup>/s Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	26	74	163	62	74	77	57	31	15	8.7	2.8
2	39	37	71	154	61	74	73	59	30	14	7.2	3.2
3	28	27	108	143	59	74	73	59	30	13	6.3	2.1
4	27	26	149	134	58	73	71	57	31	13	6.7	1.6
5	26	25	99	128	56	72	70	56	42	12	6.4	2.2
6	26	25	84	122	56	70	81	55	37	11	7.0	1.9
7	26	25	79	116	56	69	79	54	35	11	6.2	1.5
8	25	25	75	111	55	68	75	53	35	11	5.7	1.2
9	24	25	95	107	60	67	72	53	32	10	5.3	1.6
10	24	24	234	101	101	67	70	52	30	9.8	4.8	1.1
11	24	57	139	98	72	67	68	52	29	8.4	4.1	.87
12	23	45	126	95	69	66	65	51	27	8.7	4.8	1.1
13	23	32	102	92	72	69	65	51	26	8.6	5.5	1.4
14	24	31	95	89	130	231	64	50	25	9.2	4.7	2.5
15	24	29	90	85	84	117	63	50	24	9.8	6.4	2.8
16	24	27	85	85	190	97	63	54	23	12	11	2.3
17	24	29	86	84	140	94	64	52	22	9.5	9.2	1.3
18	24	94	83	80	116	87	64	50	21	11	8.6	.98
19	23	44	78	77	106	84	88	48	21	9.8	7.6	1.4
20	22	166	77	76	100	82	74	47	20	12	7.2	5.6
21	21	112	73	75	98	81	70	46	19	9.8	5.4	5.3
22	21	67	72	74	95	80	70	45	19	10	7.0	4.7
23	21	55	71	72	88	77	68	43	18	11	6.7	1.9
24	21	506	88	71	85	76	67	42	17	11	5.9	1.6
25	20	306	395	70	83	75	65	42	17	10	5.1	2.2
26	20	134	491	70	80	80	64	41	16	9.6	4.8	2.3
27	19	102	909	67	78	80	63	39	16	8.7	5.1	2.9
28	19	90	387	65	76	76	63	38	16	8.4	4.6	1.7
29	20	80	264	64	75	74	61	35	15	7.9	5.3	1.8
30	22	75	214	63	---	73	59	33	15	7.1	4.1	1.9
31	21	---	184	62	---	78	---	31	---	11	3.1	---
TOTAL	747	2346	5177	2893	2461	2552	2069	1495	739	323.3	190.5	65.75
MEAN	24.1	78.2	167	93.3	84.9	82.3	69.0	48.2	24.6	10.4	6.15	2.19
MAX	42	506	909	163	190	231	88	59	42	15	11	5.6
MIN	19	24	71	62	55	66	59	31	15	7.1	3.1	.87
AC-FT	1480	4650	10270	5740	4880	5060	4100	2970	1470	641	378	130
CAL YR 1983	TOTAL	86771	MEAN	238	MAX	2400	MIN	19	AC-FT	172100		
WTR YR 1984	TOTAL	21058.55	MEAN	57.5	MAX	909	MIN	.87	AC-FT	41770		

## TULARE LAKE BASIN

## 11204680 PIONEER DITCH BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'34", long 118°55'22", in SW 1/4 NW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030006, on left bank 0.1 mi downstream from Success Dam, and 5.5 mi east of Porterville.

PERIOD OF RECORD.--April 1959 to current year. Prior to October 1960, monthly diversions only, published with Tule River near Porterville.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 549.00 ft National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Feb. 1, 1961, at site 0.5 mi downstream at different datum.

REMARKS.--Records excellent. Ditch receives water from Success Lake (station 11204700).

AVERAGE DISCHARGE.--25 years, 6.90 ft<sup>3</sup>/s, 5,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 29 ft<sup>3</sup>/s Apr. 15, 1961; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	6.5	.70	.90	0	1.8	6.9	8.2	16	12	16	9.8
2	2.4	5.1	.80	.90	0	1.8	6.7	8.2	14	14	16	8.6
3	1.2	4.2	.70	.80	0	.90	8.2	9.9	11	14	17	11
4	1.2	3.6	.80	.80	0	.10	8.9	13	12	12	16	13
5	1.2	2.2	.70	.90	0	.10	8.9	14	13	11	15	11
6	1.2	1.1	.70	.90	0	.10	7.7	9.4	13	13	12	10
7	1.1	2.4	.80	.90	0	.10	5.8	7.7	13	16	11	10
8	1.1	4.0	.70	.90	0	.10	6.5	9.6	15	17	10	13
9	1.1	4.3	.80	.90	.60	.10	7.3	11	16	14	14	14
10	1.1	4.3	.70	.90	1.1	.40	8.9	15	16	14	16	14
11	1.6	3.8	.70	.90	1.1	2.2	13	16	11	14	16	13
12	2.0	2.7	.80	.90	1.1	5.6	15	14	9.3	16	12	15
13	2.0	1.2	.70	.70	1.2	5.8	12	8.4	9.7	17	10	13
14	5.1	.70	.60	.70	1.1	4.5	11	11	13	17	10	9.8
15	6.7	.70	.80	.60	1.1	3.8	9.6	15	15	15	14	9.1
16	3.8	.70	.80	.60	1.2	3.3	9.6	14	14	14	12	12
17	2.6	1.9	.90	.60	1.2	3.0	8.2	13	9.3	14	9.1	14
18	3.2	5.0	.80	.60	1.2	3.0	9.9	11	9.0	13	11	14
19	4.9	6.2	.80	.60	1.2	3.0	11	13	9.0	15	13	11
20	5.6	2.4	.80	.60	1.3	1.6	6.0	14	11	16	14	9.8
21	9.3	.70	.90	.70	1.3	1.6	4.0	17	14	15	15	9.3
22	8.5	.70	.80	.70	1.3	2.2	3.3	15	13	11	16	12
23	5.8	.70	.80	.80	1.3	2.8	5.8	14	12	8.4	16	13
24	5.8	.70	.90	.80	1.7	3.1	8.0	13	11	7.8	12	14
25	8.0	.70	.80	.80	4.7	6.5	8.9	13	15	11	10	13
26	7.7	.70	.80	.80	6.0	5.4	7.5	16	17	12	11	11
27	6.7	.70	.90	.80	3.4	4.3	7.3	15	16	12	14	9.1
28	6.7	.70	.80	.80	2.1	5.1	11	13	14	9.8	15	3.8
29	5.4	.70	.80	.80	1.8	4.7	11	12	12	8.7	16	10
30	3.6	.70	.70	.80	---	7.5	9.1	13	10	9.4	18	14
31	5.8	---	.80	.40	---	9.9	---	17	---	13	15	---
TOTAL	127.6	70.00	24.10	23.80	37.00	94.40	257.0	393.4	383.3	406.1	422.1	344.3
MEAN	4.12	2.33	.78	.77	1.28	3.05	8.57	12.7	12.8	13.1	13.6	11.5
MAX	9.3	6.5	.90	.90	6.0	9.9	15	17	17	17	18	15
MIN	1.1	.70	.60	.40	0	.10	3.3	7.7	9.0	7.8	9.1	3.8
AC-FT	253	139	48	47	73	187	510	780	760	805	837	683
CAL YR 1983	TOTAL	2123.6	MEAN	5.82	MAX	20	MIN	0	AC-FT	4210		
WTR YR 1984	TOTAL	2583.10	MEAN	7.06	MAX	18	MIN	0	AC-FT	5120		

## 11204700 SUCCESS LAKE NEAR SUCCESS, CA

LOCATION.--Lat 36°03'40", long 118°55'18", in SE 1/4 NW 1/4 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 east of Porterville.

DRAINAGE AREA.--391 mi<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 between elevations 559.0 ft, invert of outlet structure and 652.5 ft, spillway crest. Surchage flood control storage, 120,413 acre-ft between ungated spillway crest and elevation 686.8 ft, maximum spillway design flood pool. Dead storage, 557 acre-ft. 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 Dec. 7, 1966, elevation, 658.63 ft; minimum since reservoir first filled, 3,406 acre-ft Oct. 17, 1972, elevation, 579.52 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,042 acre-ft June 18, elevation, 642.73 ft; minimum, 10,381 acre-ft Nov. 10, elevation, 595.55 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23702	12775	22155	44561	35574	29452	36099	49642	59826	59993	44151	27991
2	23684	12486	22477	43926	35066	29039	36582	49939	59918	59900	43381	27791
3	23603	12220	23049	43201	34494	28639	37057	50286	60011	59789	42650	27591
4	23379	11877	24065	42418	33929	28192	37512	50635	60086	59678	41929	27383
5	23120	11535	24607	41714	33348	27721	37959	50985	60253	59567	41232	27175
6	22872	11194	25016	41019	32774	27224	38447	51355	60384	59419	40518	26969
7	22608	10828	25401	40295	32218	26714	38954	51742	60478	59235	39917	26714
8	22329	10508	25770	39556	31975	26539	39414	52133	60572	59052	39337	26433
9	22060	10418	26249	38776	31592	26501	39853	52542	60646	58851	38776	26163
10	21777	10381	28051	38058	31516	26501	40295	52955	60703	58687	38209	25885
11	21487	10577	28946	37388	31342	26520	40729	53404	60778	58143	37697	25609
12	21166	10796	29744	36703	31136	26549	41179	53907	60835	57442	37205	25325
13	20865	10909	30323	36003	30943	26666	41620	54413	60872	56768	36679	25044
14	20517	11008	30857	35278	31158	28082	42051	54873	60891	56066	36171	24737
15	20156	11079	31353	34540	31126	28813	42514	55337	60929	55389	35717	24432
16	19807	11106	31822	34251	31931	29359	42994	55735	60986	54754	35207	24138
17	19391	11046	32273	34263	32295	29870	43451	56066	61023	54126	34715	23829
18	19012	11383	32706	34205	32417	30302	43940	56399	61042	53454	34216	23540
19	18621	11451	33099	34124	32439	30707	44561	56697	61004	52773	33723	23191
20	18221	12415	33495	34021	32406	31093	45104	56998	60948	52133	33212	22828
21	17811	13117	33837	33917	32328	31461	45609	57300	60891	51483	32640	22451
22	17400	13365	34159	33792	32218	31822	46119	57621	60816	50905	31997	22103
23	16987	13521	34112	34170	32019	32162	46604	57908	60740	50349	31331	21751
24	16552	16274	33871	34750	31756	32484	47064	58179	60665	49814	30664	21419
25	16104	18925	36715	35325	31494	32785	47498	58450	60572	49175	30059	21107
26	15607	19848	40230	35895	31190	33122	47905	58705	60478	48483	29504	20807
27	15135	20476	44932	36388	30792	33507	48284	58960	60366	47769	29183	20476
28	14678	20990	46075	36448	30323	34009	48651	59199	60272	47064	28956	20148
29	14205	21428	46017	36352	29870	34552	48990	59401	60179	46368	28710	19807
30	13660	21811	45551	36207	---	35066	49330	59567	60086	45682	28456	19439
31	13191	---	45075	35955	---	35586	---	59696	---	44932	28213	---
MAX	23702	21811	46075	44561	35574	35586	49330	59696	61042	59993	44151	27991
MIN	13191	10381	22155	33792	29870	26501	36099	49642	59826	44932	28213	19439
a	600.47	612.18	633.05	626.09	620.66	625.78	635.90	642.01	642.22	632.95	619.05	609.31
b	-10403	+8620	+23264	-9120	-6085	+5716	+13744	+10366	+390	-15154	-16719	-8774
c	292	84	68	88	146	261	465	1052	1219	1296	876	584
CAL YR 1983	b	+9394										
WTR YR 1984	b	-4155										

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA

LOCATION.--Lat 36°03'23", long 118°55'22", in NW 1/4 SW 1/4 sec.35, T.21 S., R.28 E., Tulare County, Hydrologic Unit 18030012, on right bank 1,000 ft downstream from Success Dam, and 5 mi east of Porterville.

DRAINAGE AREA.--393 mi<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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to October 1960, at site 0.5 mi 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).--31 years, 211 ft<sup>3</sup>/s, 152,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 21.65 ft site and datum then in use, from rating curve extended above 1,400 ft<sup>3</sup>/s on basis 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 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 from floodmarks, site and datum then in use, discharge, 32,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,180 ft<sup>3</sup>/s Dec. 28, gage height, 7.36 ft; minimum daily, 0.90 ft<sup>3</sup>/s Jan. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	195	317	131	1020	450	520	57	84	74	82	391	115
2	195	296	131	1010	520	513	58	89	74	82	382	107
3	195	253	132	1000	542	513	58	86	74	82	366	103
4	246	288	134	996	542	524	58	82	79	82	355	103
5	240	286	135	934	539	539	58	79	84	89	355	103
6	248	283	135	906	539	546	59	77	85	97	352	102
7	248	281	129	901	520	546	59	75	84	97	308	122
8	248	266	125	901	357	357	59	72	78	97	290	133
9	252	148	127	895	460	274	59	72	75	104	278	133
10	254	117	128	837	415	258	54	72	75	98	270	133
11	257	111	129	801	376	244	51	68	72	257	252	136
12	258	112	128	796	370	235	54	65	69	350	243	137
13	257	113	130	745	373	235	59	65	69	352	254	144
14	292	113	129	743	363	216	63	68	69	340	252	156
15	298	113	127	739	354	185	59	71	65	352	241	155
16	298	120	128	509	354	173	58	74	63	349	266	145
17	311	167	125	360	360	173	66	83	63	349	268	151
18	315	192	124	360	376	175	66	85	71	349	252	151
19	315	183	125	360	389	175	64	85	83	360	248	170
20	314	185	125	360	395	175	61	86	88	359	248	195
21	311	187	125	360	398	176	61	86	93	343	278	190
22	310	190	125	360	418	176	67	86	96	335	321	179
23	308	183	317	103	443	176	70	84	97	313	329	179
24	318	178	495	1.1	457	178	70	86	97	302	332	179
25	330	172	498	1.4	460	178	67	91	92	355	295	166
26	334	147	509	.90	460	178	72	81	88	379	278	160
27	331	131	674	26	524	180	76	78	88	370	159	175
28	328	132	1060	233	554	93	76	74	85	360	115	179
29	336	132	1200	300	535	57	76	71	82	360	115	179
30	342	130	1200	331	---	57	77	72	82	364	115	179
31	341	---	1080	382	---	57	---	74	---	382	115	---
TOTAL	8825	5526	9860	17271.40	12843	8082	1892	2421	2394	8190	8323	4459
MEAN	285	184	318	557	443	261	63.1	78.1	79.8	264	268	149
MAX	342	317	1200	1020	554	546	77	91	97	382	391	195
MIN	195	111	124	.90	354	57	51	65	63	82	115	102
AC-FT	17500	10960	19560	34260	25470	16030	3750	4800	4750	16240	16510	8640
CAL YR 1983	TOTAL	298280		MEAN 817	MAX 2910	MIN 111	AC-FT 591600					
WTR YR 1984	TOTAL	90086.40		MEAN 246	MAX 1200	MIN .90	AC-FT 178700					



## TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962-69, 1971 to current year.

CHEMICAL ANALYSES: Water years 1962-69, 1971-79.

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 34.0°C July 15, Sept. 9, 1977; minimum recorded, 3.0°C Jan. 3, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 27.0°C on several days in September; minimum recorded, 7.5°C Jan. 27.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.5	22.0	20.0	19.5	10.0	9.5	10.5	9.5	10.0	8.5	11.0	10.0
2	23.0	22.5	20.0	19.0	10.0	9.5	10.0	9.5	9.5	9.0	10.5	9.5
3	22.5	22.5	20.5	18.5	10.0	9.5	10.5	9.5	10.5	8.5	11.5	10.0
4	22.5	22.0	19.5	18.5	10.5	10.0	10.0	10.0	10.0	8.5	11.5	10.0
5	22.5	21.5	20.0	19.0	10.0	9.5	10.0	10.0	9.5	8.0	11.0	10.5
6	22.5	21.5	19.5	18.5	10.0	9.0	10.0	10.0	10.0	8.5	11.5	10.5
7	22.5	21.0	20.0	18.0	10.0	9.5	10.0	10.0	10.0	8.5	11.5	10.5
8	22.5	20.5	20.0	17.0	10.0	9.5	10.0	10.0	11.5	9.0	11.0	10.5
9	22.5	20.5	18.0	17.5	9.5	9.5	10.0	10.0	10.5	8.5	11.5	11.0
10	22.5	21.0	18.0	17.0	10.0	9.5	10.0	10.0	10.5	9.5	11.5	10.0
11	22.5	21.0	17.5	16.5	10.0	9.5	10.0	10.0	10.0	9.5	11.5	10.0
12	22.5	20.5	17.5	17.0	9.5	9.5	10.0	10.0	10.0	9.0	11.5	10.0
13	22.0	21.5	17.5	17.0	10.0	9.5	10.0	9.5	10.5	9.5	11.5	10.5
14	22.5	21.0	17.0	16.5	10.0	9.5	10.0	9.5	11.0	9.5	12.0	10.5
15	22.0	21.0	17.0	15.5	9.5	9.5	10.0	9.5	10.5	9.5	12.0	10.0
16	21.5	21.0	16.5	16.0	10.0	9.5	10.0	9.0	10.5	10.0	11.5	10.5
17	21.5	20.5	16.5	16.0	9.5	9.5	9.5	9.0	10.5	9.5	12.0	10.5
18	21.5	20.5	16.5	16.0	10.0	9.5	9.5	9.0	10.5	9.5	12.5	10.5
19	21.5	20.0	16.0	15.5	9.5	9.5	9.5	8.5	10.5	9.5	12.5	11.0
20	21.0	20.0	15.5	15.0	9.5	9.5	9.5	8.5	10.5	9.5	12.0	11.0
21	21.0	20.0	15.0	14.0	10.0	9.5	9.5	8.5	11.0	9.5	13.0	10.0
22	21.0	20.0	14.0	13.0	10.0	9.0	9.0	9.0	11.0	9.5	13.0	9.5
23	20.5	19.5	13.5	13.0	10.0	9.0	15.0	9.0	10.5	9.5	12.0	10.5
24	21.0	20.0	13.5	12.5	10.0	9.5	17.5	10.0	11.0	10.0	12.0	10.5
25	20.5	20.0	12.5	10.5	10.0	9.5	18.0	9.0	11.0	10.0	12.5	10.5
26	20.5	20.0	11.0	10.5	10.0	9.5	16.0	9.5	11.0	9.5	12.5	10.0
27	20.5	20.0	10.5	10.5	10.0	9.5	17.0	7.5	11.0	9.5	13.5	11.0
28	20.5	19.5	10.5	10.0	10.0	9.5	10.0	8.0	10.5	9.5	13.0	10.5
29	20.0	19.5	10.5	10.0	10.0	9.5	9.5	9.0	11.0	9.5	13.0	11.0
30	20.0	19.5	10.0	9.5	10.0	9.5	9.5	9.0	---	---	13.0	10.5
31	20.0	19.5	---	---	10.0	9.5	9.5	8.5	---	---	13.0	9.5
MONTH	24.5	19.5	20.5	9.5	10.5	9.0	18.0	7.5	11.5	8.0	13.5	9.5

## TULARE LAKE BASIN

11204900 TULE RIVER BELOW SUCCESS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

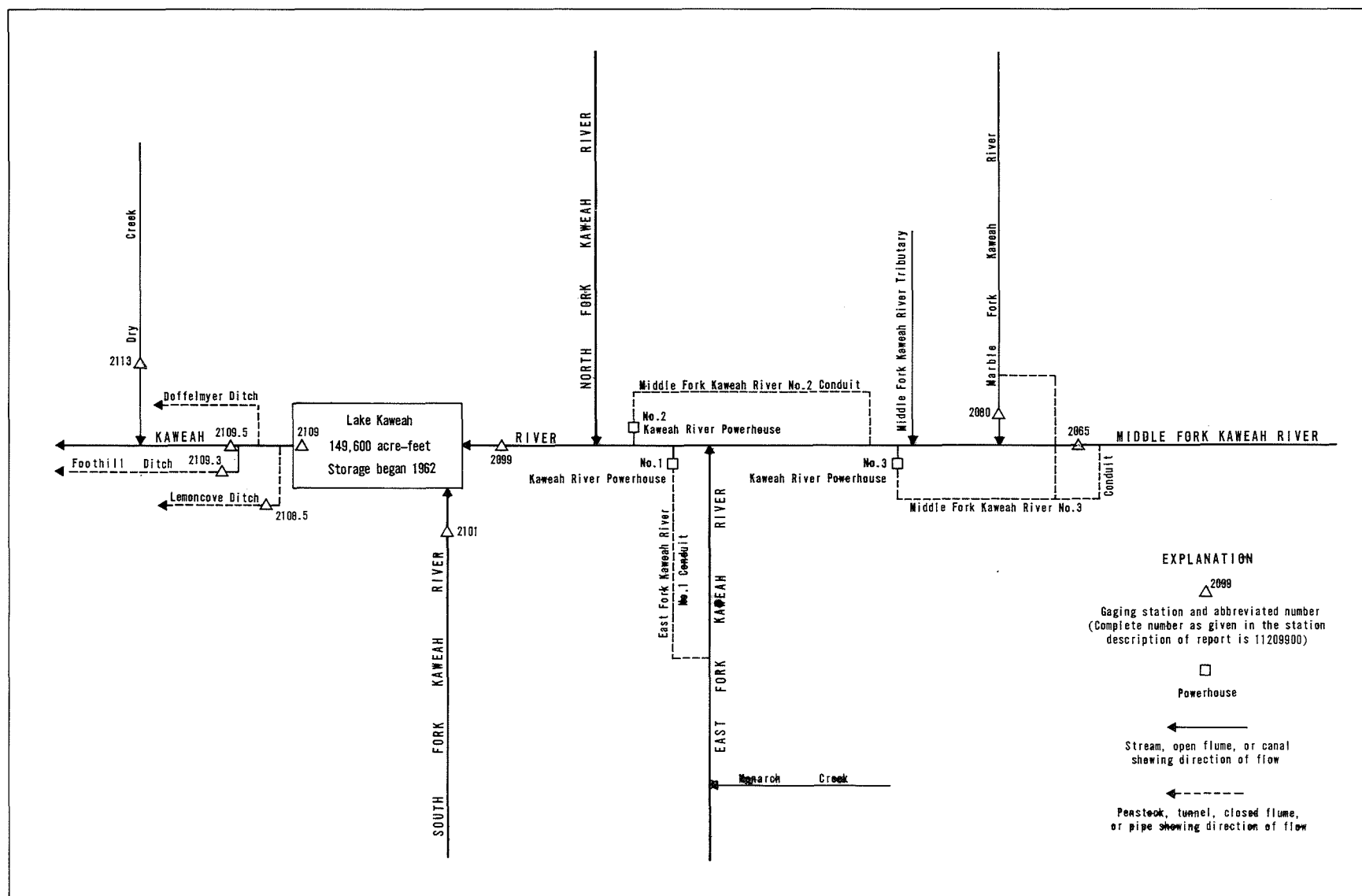


FIGURE 7. — Schematic diagram showing diversions and storage in Kaweah River basin.

## TULARE LAKE BASIN

11206500 MIDDLE FORK KAWEAH RIVER NEAR POTWISHA CAMP, CA

LOCATION.--Lat 36°30'48", long 118°47'27", unsurveyed, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on right bank 0.5 mi southeast of Potwisha Camp, and 0.7 mi upstream from confluence with Marble Fork Kaweah River.

DRAINAGE AREA.--102 mi<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, from topographic map. Prior to October 1955, at datum 0.70 ft higher.

REMARKS.--Records good, except those for Nov. 24, which are poor. Middle Fork No. 3 conduit diverts from left bank of Middle Fork Kaweah River, 0.1 mi upstream from station. Flow from this conduit joins with that of Marble Fork Kaweah River No. 3 conduit, and the combined flow passes through Kaweah River No. 3 powerhouse of Southern California Edison Co. Water is returned to Kaweah River 2.7 mi 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 12 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 35 years, 146 ft<sup>3</sup>/s, 105,800 acre-ft/yr.  
Combined river and diversion: 35 years, 188 ft<sup>3</sup>/s, 136,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 46,800 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 29.0 ft from floodmarks, datum then in use, by slope-area measurement of maximum flow; minimum daily, 0.1 ft<sup>3</sup>/s Nov. 12-15, 1949.  
Combined flow, maximum discharge, 46,800 ft<sup>3</sup>/s Dec. 23, 1955; minimum daily, 7.7 ft<sup>3</sup>/s Oct. 4, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 2,700 ft<sup>3</sup>/s Nov. 24, based on runoff correlation study with Marble Fork Kaweah River (see station 11208000), gage height, unknown; minimum daily, 6.5 ft<sup>3</sup>/s Oct. 13.  
Combined flow, maximum discharge, 2,740 ft<sup>3</sup>/s Nov. 24; minimum daily, 28 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	17	103	207	73	80	135	172	451	125	48	10
2	61	15	93	185	73	87	135	196	394	117	32	8.8
3	47	24	150	171	71	91	135	302	358	118	26	9.1
4	39	14	142	167	71	94	134	352	373	117	19	9.1
5	33	12	111	167	72	96	128	322	373	109	15	9.3
6	27	12	103	162	73	97	147	340	297	102	12	9.0
7	24	12	101	157	73	103	134	404	263	96	9.2	8.2
8	24	12	99	149	72	108	141	501	242	90	9.2	8.6
9	20	12	171	139	103	111	130	571	237	82	11	8.8
10	16	11	226	131	124	111	172	619	242	73	12	8.8
11	12	635	169	123	90	113	189	696	235	66	11	8.8
12	7.9	171	139	115	88	104	208	763	230	58	13	9.0
13	6.5	130	124	107	119	151	244	784	222	59	13	9.0
14	8.8	77	121	98	140	348	284	688	198	60	14	8.8
15	11	58	112	93	110	187	330	492	160	82	22	9.8
16	11	46	106	90	239	153	353	404	151	202	30	11
17	11	153	103	84	137	156	316	453	184	257	19	11
18	11	130	94	78	123	142	268	482	190	186	20	11
19	11	113	88	76	113	147	273	550	197	153	66	12
20	10	347	81	73	107	164	225	631	182	133	46	12
21	11	187	73	71	104	178	221	663	170	110	54	12
22	11	125	71	69	95	175	239	693	165	114	43	12
23	11	111	73	67	88	181	261	714	166	115	27	12
24	11	589	244	66	85	185	289	675	162	85	15	12
25	10	320	860	68	82	188	274	628	149	70	14	12
26	20	210	574	68	77	232	221	629	152	59	14	11
27	10	173	490	64	76	221	188	641	160	52	13	11
28	11	146	339	65	75	199	169	608	169	50	13	11
29	12	123	281	70	76	183	168	586	151	39	13	11
30	11	112	261	73	---	156	172	556	145	34	13	12
31	11	---	239	74	---	150	---	521	---	50	13	---
TOTAL	575.2	4097	5941	3327	2829	4691	6283	16636	6768	3063	679.4	308.1
MEAN	18.6	137	192	107	97.6	151	209	537	226	98.8	21.9	10.3
MAX	61	635	860	207	239	348	353	784	451	257	66	12
MIN	6.5	11	71	64	71	80	128	172	145	34	9.2	8.2
AC-FT	1140	8130	11780	6600	5610	9300	12460	33000	13420	6080	1350	611

CAL YR 1983 TOTAL 147877.2 MEAN 405 MAX 1760 MIN 6.5 AC-FT 293300  
WTR YR 1984 TOTAL 55197.7 MEAN 151 MAX 860 MIN 6.5 AC-FT 109500

NOTE.--No gage-height record Nov. 24.

## 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 1983 TO SEPTEMBER 1984

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	63	159	257	125	133	192	232	513	189	117	50
2	124	66	149	235	125	140	192	256	456	181	101	48
3	110	55	205	221	123	144	192	361	420	182	95	46
4	102	52	195	217	123	147	191	413	435	182	88	44
5	96	50	163	217	124	149	185	383	435	174	84	44
6	90	49	155	212	125	150	205	401	358	167	81	45
7	86	48	153	208	125	156	192	465	324	161	77	44
8	86	48	151	200	124	161	199	562	303	155	73	43
9	82	46	225	190	155	165	187	631	297	146	72	41
10	78	46	282	182	176	165	230	679	302	137	72	40
11	73	685	226	174	142	167	248	757	294	131	68	36
12	68	226	196	167	140	158	268	824	289	128	68	37
13	66	190	180	159	171	205	304	846	282	131	65	41
14	64	137	177	149	192	402	344	750	258	131	66	40
15	62	118	169	145	162	241	390	554	219	153	75	38
16	60	105	163	142	291	207	413	465	210	273	84	37
17	59	213	160	136	188	210	376	514	243	320	76	36
18	59	189	151	130	174	196	328	543	249	253	81	35
19	57	172	145	128	164	201	333	612	256	221	132	40
20	54	402	138	125	158	218	285	693	244	201	96	41
21	54	243	130	123	155	233	281	725	234	177	83	41
22	53	181	128	121	147	230	299	755	229	181	82	39
23	52	167	130	119	140	236	321	776	230	181	75	38
24	52	629	301	118	137	240	349	737	226	151	68	37
25	49	363	912	119	134	243	334	689	213	136	63	36
26	47	263	622	119	129	287	281	691	216	125	60	32
27	46	225	538	115	128	276	248	703	224	118	56	30
28	46	201	387	116	127	254	229	670	233	116	53	30
29	46	180	331	121	129	238	228	648	215	106	52	29
30	51	169	312	125	---	211	232	618	209	102	51	28
31	52	---	290	126	---	206	---	583	---	119	51	---
TOTAL	2142	5581	7623	4916	4333	6369	8056	18536	8616	5128	2365	1166
MEAN	69.1	186	246	159	149	205	269	598	287	165	76.3	38.9
MAX	124	685	912	257	291	402	413	846	513	320	132	50
MIN	46	46	128	115	123	133	185	232	209	102	51	28
AC-FT	4250	11070	15120	9750	8590	12630	15980	36770	17090	10170	4690	2310
CAL YR 1983	TOTAL	166088	MEAN	455	MAX	1790	MIN	46	AC-FT	329400		
WTR YR 1984	TOTAL	74831	MEAN	204	MAX	912	MIN	28	AC-FT	148400		

## TULARE LAKE BASIN

11206700 EMERALD LAKE OUTFLOW NEAR GIANT FOREST, CA

LOCATION.--Lat 36°35'54", long 118°40'32", in NE 1/4 NE 1/4 sec.25, T.15 S., R.30 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank at outlet of Emerald Lake, and 5.9 mi northeast of Giant Forest.

DRAINAGE AREA.--0.44 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1983 to September 1984.

GAGE.--Water-stage recorder. Altitude of gage is 9,180 ft, from topographic map.

REMARKS.--Records fair except those for October through April, which are poor. No storage or diversion above station.

COOPERATION.--Periodic observations of gage height furnished by National Park Service for acid precipitation research study.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 15 ft<sup>3</sup>/s May 20-22; minimum daily, 0.02 ft<sup>3</sup>/s on several days in December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.05	.10	.03	.52	.80	.60	2.0	7.1	3.9	1.5	.34
2	.74	.04	.12	.03	.48	.86	.24	2.5	6.8	3.9	1.3	.33
3	.48	.05	.07	.03	.61	.93	.25	2.9	6.2	4.6	1.2	.32
4	.37	.04	.05	.03	.61	1.0	.30	3.0	5.9	4.1	1.1	.31
5	1.1	.05	.03	.03	.67	.96	.74	3.0	5.6	3.9	.97	.30
6	.97	.05	.03	.04	.67	.90	1.2	3.3	4.6	3.5	.90	.30
7	.67	.04	.04	.48	.67	.94	1.0	3.7	3.9	3.3	.82	.30
8	.61	.12	.06	.54	.62	1.0	1.2	4.3	4.1	3.1	.74	.30
9	.42	.12	.05	.54	.57	1.0	.90	4.6	4.1	2.7	.67	.30
10	.26	.14	.05	.20	.51	1.0	1.2	5.3	4.1	2.4	.67	.29
11	.15	.32	.04	.14	.45	1.0	1.6	7.1	4.3	2.3	.61	.29
12	.15	.20	.04	.10	.58	1.1	2.0	7.8	3.7	2.3	.67	.28
13	.13	.10	.04	.08	.67	1.1	2.4	7.5	4.6	2.3	.67	.28
14	.12	.07	.04	.06	.67	1.1	2.8	5.8	4.1	2.1	.67	.27
15	.11	.11	.05	.06	.67	1.1	3.3	3.5	3.1	2.0	.67	.27
16	.10	.08	.05	.06	.67	.88	3.2	2.4	3.1	2.7	.67	.29
17	.10	.06	.04	.07	.50	.66	3.1	3.5	4.8	3.1	.67	.34
18	.09	.06	.03	.08	.49	.46	2.7	5.8	5.6	4.8	.61	.30
19	.09	.09	.03	.10	.53	.45	2.6	8.7	5.9	3.1	.54	.26
20	.08	.15	.03	.12	.61	.56	2.3	15	5.3	2.1	.50	.20
21	.08	.05	.02	.15	.61	.97	2.1	15	4.6	1.9	.47	.22
22	.07	.03	.02	.18	.34	1.4	2.5	15	5.1	2.6	.48	.20
23	.07	.03	.02	.22	.36	1.5	3.0	14	4.8	3.5	.46	.13
24	.06	.03	.02	.17	.37	1.3	3.3	14	4.8	2.3	.45	.08
25	.06	.04	.02	.23	.42	1.8	2.7	12	4.6	1.9	.43	.08
26	.06	.03	.03	.22	.45	1.9	2.2	12	5.1	1.6	.42	.07
27	.05	.03	.03	.21	.50	1.6	1.9	11	5.3	1.5	.40	.06
28	.05	.03	.02	.52	.57	1.5	1.8	11	5.1	1.5	.39	.06
29	.05	.04	.02	.54	.62	1.6	1.8	10	4.8	1.4	.38	.05
30	.05	.06	.02	.49	---	1.7	1.9	9.2	4.6	1.3	.37	.04
31	.04	---	.02	.55	---	1.1	---	8.0	---	1.6	.36	---
TOTAL	8.12	2.31	1.23	6.30	16.01	34.17	56.83	232.9	145.7	83.3	20.76	6.86
MEAN	.26	.077	.040	.20	.55	1.10	1.89	7.51	4.86	2.69	.67	.23
MAX	1.1	.32	.12	.55	.67	1.9	3.3	15	7.1	4.8	1.5	.34
MIN	.04	.03	.02	.03	.34	.45	.24	2.0	3.1	1.3	.36	.04
AC-FT	16	4.6	2.4	12	32	68	113	462	289	165	41	14

WTR YR 1984 TOTAL 614.49 MEAN 1.68 MAX 15 MIN .02 AC-FT 1220

NOTE.--No gage-height record October through April.

11206700 EMERALD LAKE OUTFLOW NEAR GIANT FOREST, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1983 to September 1984.

## WATER QUALITY DATA

DATE	TIME	MEDIUM	STREAM- FLOW, INSTAN- TANEOUS (CFS)	DIS- CHARGE, IN CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)
JUN , 1983												
23...	--	9	--	--	--	--	--	.39	.02	.30	.13	.3
JUL												
07...	--	9	--	--	--	--	--	.29	.03	.40	.10	.3
20...	--	9	--	--	--	--	--	.29	.02	.40	.08	.3
AUG												
02...	--	9	--	--	--	--	--	.25	<.01	.30	.08	--
16...	1200	9	--	--	--	--	--	.26	.07	<.20	.11	.3
SEP												
13...	0830	9	--	--	--	--	--	.31	.05	.30	.10	.3
OCT												
12...	1000	9	.22	--	--	--	--	.36	.09	.40	.16	.3
NOV												
09...	1200	9	--	.12	--	--	--	.37	.04	.40	.21	.3
DEC												
05...	1500	9	.08	--	--	--	--	.50	.09	.40	.23	.3
MAR , 1984												
28...	1500	9	1.88	--	4	6.0	1.0	.62	.05	.40	.16	.3
APR												
29...	1500	9	--	1.8	--	6.0	.0	.59	.08	.50	.12	.3
MAY												
29...	1630	9	9.3	--	7	6.1	3.5	.40	.05	.50	.14	.3
JUN												
25...	1330	9	4.1	--	6	6.5	11.0	.30	<.01	.40	.11	.3
JUL												
24...	--	9	--	2.3	6	6.3	12.0	.40	.04	.40	.16	<.0
AUG												
21...	1200	9	.48	--	5	6.4	16.0	.40	.07	.30	.12	.3
SEP												
18...	1215	9	.31	--	--	6.5	15.5	.50	.09	.30	.14	.3

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SiO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN , 1983												
23...	.14	.01	<.05	1.5	.08	.003	.08	.055	<.10	10	4	1
JUL												
07...	.33	<.01	<.05	1.5	.05	.002	.06	.083	<.10	10	15	3
20...	.06	<.01	<.05	1.4	.04	.002	.04	.063	<.10	10	12	3
AUG												
02...	--	--	--	1.3	--	<.001	.04	.067	<.002	20	6	1
16...	--	.01	<.05	1.2	--	<.001	.04	--	<.10	10	4	<1
SEP												
13...	.06	<.01	<.05	1.4	--	<.001	.05	.036	<.10	10	<3	1
OCT												
12...	.07	.01	<.05	1.5	--	<.001	.02	.069	<.10	<10	11	3
NOV												
09...	.09	.05	<.05	1.4	--	<.001	.04	.036	<.10	20	5	1
DEC												
05...	.09	<.01	<.05	1.9	--	<.001	.12	.012	<.10	20	6	3
MAR , 1984												
28...	.23	.03	<.01	2.5	.08	.009	.09	.047	<.01	--	12	6
APR												
29...	.25	.02	<.01	2.3	.04	.003	.04	.052	.02	--	9	2
MAY												
29...	.22	<.01	<.01	1.3	--	<.001	.12	.062	<.01	30	--	10
JUN												
25...	.13	<.01	<.01	1.3	--	--	--	--	<.01	--	8	3
JUL												
24...	.14	<.01	<.01	1.5	.12	.002	.12	.031	<.01	--	--	8
AUG												
21...	.15	.01	<.01	1.4	.00	.028	.04	.012	<.01	--	11	6
SEP												
18...	.10	<.00	<.00	1.5	--	<.002	.02	<.005	<.002	--	14	8

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

## TULARE LAKE BASIN

11208000 MARBLE FORK KAWEAH RIVER AT POTWISHA CAMP, CA

LOCATION.--Lat 36°31'08", long 118°48'03", in NE 1/4 SW 1/4 sec.23, T.16 S., R.29 E., Tulare County, Hydrologic Unit 18030007, Sequoia National Park, on left bank 0.1 mi north of Potwisha Camp, 0.3 mi upstream from confluence with Middle Fork Kaweah River, and 7.9 mi northeast of Three Rivers.

DRAINAGE AREA.--51.4 mi<sup>2</sup>.

PERIOD OF RECORD.--March 1950 to current year. Monthly discharge only for March 1950, published in WSP 1315-A. Prior to October 1954, records for river and conduit published separately; combined flow only, October 1954 to September 1960.

GAGE.--Water-stage recorder on river; water-stage recorder and concrete control for conduit diversion. Altitude of gage is 2,150 ft, from topographic map.

REMARKS.--Records good. Marble Fork Kaweah River No. 3 conduit diverts from left bank of Marble Fork 0.3 mi above station. Water is returned to Kaweah River 2.7 mi 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 13 discharge measurements for conduit furnished by Southern California Edison Co., in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 34 years, 81.1 ft<sup>3</sup>/s, 58,760 acre-ft/yr.  
Combined river and diversion: 34 years, 106 ft<sup>3</sup>/s, 76,800 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 12,500 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 13.4 ft from rating curve extended above 1,100 ft<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 Dec. 23, 1955; minimum daily, 0.82 ft<sup>3</sup>/s Oct. 4, 5, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 1,360 ft<sup>3</sup>/s Nov. 24, gage height, 7.23 ft; minimum daily, 0.98 ft<sup>3</sup>/s Sept. 6.  
Combined flow, maximum discharge, 1,410 ft<sup>3</sup>/s Nov. 24; minimum daily, 7.3 ft<sup>3</sup>/s Sept. 9, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	4.3	42	88	33	36	62	99	200	33	14	7.0
2	36	8.8	41	79	33	40	61	120	167	30	6.6	3.6
3	29	9.0	46	72	32	43	64	179	154	37	6.5	2.4
4	21	1.9	45	68	32	45	67	212	157	29	7.3	1.4
5	18	1.9	40	68	33	46	64	198	164	25	7.2	1.1
6	12	2.0	37	68	34	46	66	210	118	21	7.6	.98
7	6.9	2.0	34	68	33	48	64	251	102	19	7.5	1.1
8	4.3	2.1	33	66	33	49	77	307	93	15	7.1	1.2
9	2.2	2.1	54	62	43	51	67	340	90	9.8	7.1	1.6
10	1.7	2.1	76	57	53	50	90	359	98	9.0	7.5	1.9
11	1.7	337	54	53	42	52	113	404	90	8.6	7.2	2.1
12	1.7	95	49	50	40	47	122	438	88	8.9	7.2	2.1
13	1.8	64	46	48	46	56	141	448	82	8.9	8.3	2.3
14	1.8	30	44	44	52	185	161	391	74	25	9.9	1.9
15	1.8	22	41	42	47	98	184	261	57	23	10	4.5
16	1.9	17	37	42	91	73	194	227	52	163	11	5.5
17	1.9	44	35	38	54	72	164	252	77	185	7.7	4.1
18	1.9	52	30	35	48	64	138	259	83	194	7.2	3.9
19	1.9	33	28	34	45	66	137	306	81	124	13	5.0
20	1.9	187	25	33	42	78	114	351	71	63	7.5	3.6
21	1.9	68	22	32	42	88	112	356	64	52	6.9	3.2
22	2.0	43	22	30	38	86	123	368	61	65	7.4	3.3
23	2.1	37	23	29	36	88	140	372	62	113	8.4	3.1
24	2.2	406	79	29	35	90	165	343	59	47	7.8	3.2
25	2.3	208	444	29	35	90	161	314	53	28	8.0	3.1
26	6.0	88	277	30	33	100	121	309	54	18	8.0	3.3
27	2.0	65	213	30	33	93	107	314	55	12	8.2	3.7
28	2.0	58	145	29	32	91	99	288	53	8.0	6.9	2.9
29	2.0	48	115	30	33	85	97	276	48	7.1	7.5	2.5
30	2.3	43	110	32	---	72	103	262	44	6.8	8.6	1.5
31	4.6	---	104	34	---	69	---	244	---	19	9.4	---
TOTAL	208.8	1981.2	2391	1449	1183	2197	3378	9058	2651	1407.1	254.5	87.08
MEAN	6.74	66.0	77.1	46.7	40.8	70.9	113	292	88.4	45.4	8.21	2.90
MAX	36	406	444	88	91	185	194	448	200	194	14	7.0
MIN	1.7	1.9	22	29	32	36	61	99	44	6.8	6.5	.98
AC-FT	414	3930	4740	2870	2350	4360	6700	17970	5260	2790	505	173
CAL YR 1983	TOTAL	73654.4	MEAN	202	MAX	1060	MIN	1.7	AC-FT	146100		
WTR YR 1984	TOTAL	26245.68	MEAN	71.9	MAX	448	MIN	.98	AC-FT	52060		



## 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 1983 TO SEPTEMBER 1984

MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	25	79	127	75	76	107	139	243	69	41	13
2	69	35	76	118	75	81	106	162	209	66	33	9.9
3	62	29	82	112	74	84	109	220	196	74	29	9.0
4	55	29	81	109	74	86	111	251	199	65	26	8.2
5	52	27	76	109	75	87	108	238	206	61	24	7.9
6	46	25	73	109	76	88	110	251	159	56	23	7.4
7	42	24	70	109	75	90	108	293	143	51	22	7.9
8	39	23	69	108	75	91	121	349	134	47	20	7.7
9	37	22	90	104	85	93	111	383	131	43	18	7.3
10	36	22	113	99	95	92	134	402	140	39	18	7.4
11	33	358	89	95	83	94	156	447	132	36	17	8.3
12	31	113	80	92	81	89	163	481	131	35	17	8.7
13	29	89	77	90	88	98	182	488	125	34	16	9.5
14	29	61	76	86	94	230	202	433	117	51	17	9.0
15	29	54	75	84	88	142	225	305	99	51	17	8.4
16	28	49	74	84	134	116	235	269	94	193	22	9.4
17	28	78	74	81	96	115	205	293	119	215	19	11
18	28	88	71	78	90	107	178	300	125	224	17	12
19	25	69	70	77	87	110	177	347	122	154	27	13
20	24	225	67	76	84	122	154	393	112	92	22	12
21	24	105	64	75	84	132	153	398	104	81	18	11
22	23	79	64	73	81	130	165	410	100	94	17	11
23	23	73	65	72	79	132	182	415	100	143	17	11
24	22	445	123	72	77	134	206	386	97	76	16	11
25	22	247	490	72	76	134	201	356	91	56	14	11
26	19	129	320	72	73	144	163	351	91	46	13	10
27	20	109	255	70	73	137	148	357	92	40	13	10
28	19	101	185	70	72	135	140	331	90	36	12	9.2
29	19	91	155	71	73	128	138	319	85	33	12	8.4
30	22	84	149	74	---	117	144	305	81	31	13	7.3
31	26	---	143	76	---	115	---	287	---	44	14	---
TOTAL	1023	2908	3575	2744	2392	3529	4642	10359	3867	2336	604	286.9
MEAN	33.0	96.9	115	88.5	82.5	114	155	334	129	75.4	19.5	9.56
MAX	69	445	490	127	134	230	235	488	243	224	41	13
MIN	19	22	64	70	72	76	106	139	81	31	12	7.3
AC-FT	2030	5770	7090	5440	4740	7000	9210	20550	7670	4630	1200	569
CAL YR 1983	TOTAL	88049	MEAN	241	MAX	1100	MIN	19	AC-FT	174600		
WTR YR 1984	TOTAL	38265.9	MEAN	105	MAX	490	MIN	7.3	AC-FT	75900		

## TULARE LAKE BASIN

11209900 KAWEAH RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°26'38", long 118°54'09", in SW 1/4 SW 1/4 sec.13, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank opposite schoolhouse in Three Rivers, 0.2 mi downstream from North Fork Kaweah River.

DRAINAGE AREA.--418 mi<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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Diversions to 200 acres above station. Power is developed on the Middle and East Fork Kaweah River.

AVERAGE DISCHARGE.--26 years, 577 ft<sup>3</sup>/s, 418,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft<sup>3</sup>/s Dec. 5, 1966, gage height, 16.69 ft in gage well, 19.0 ft from floodmarks, from rating curve extended above 13,000 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 13.68 ft and 16.69 ft; minimum daily, 14 ft<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 from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	1030	3,950	7.58	Mar. 14	0400	2,870	7.07
Nov. 24	1830	*11,500	9.98	May 12	2100	2,710	6.98
Dec. 10	0015	2,120	6.62	July 17	2145	2,210	6.68
Dec. 25	1445	6,310	8.47				

Minimum daily, 62 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	352	154	530	940	441	471	645	709	1180	387	221	91
2	366	198	506	868	438	491	615	725	1030	362	183	87
3	308	167	634	813	431	506	626	974	987	364	167	83
4	274	164	733	776	429	515	637	1110	967	357	159	80
5	255	157	568	770	429	521	619	1030	1100	335	151	78
6	240	151	523	751	431	515	645	1080	880	316	143	78
7	226	149	505	731	430	530	619	1210	790	291	139	78
8	229	150	499	711	425	533	652	1420	725	276	130	75
9	217	146	627	677	477	544	612	1600	698	259	126	73
10	209	144	1130	653	667	541	678	1740	717	236	125	71
11	198	1340	752	630	527	555	772	1920	690	220	121	72
12	186	608	693	605	497	535	790	2090	675	213	121	73
13	178	537	604	583	540	558	868	2210	663	203	115	77
14	176	364	586	557	717	1570	955	2020	721	230	113	77
15	174	317	570	546	577	874	1050	1500	862	222	121	71
16	171	277	547	544	1090	725	1120	1290	929	559	140	70
17	168	429	540	523	717	725	1050	1360	815	695	138	70
18	168	698	513	498	648	675	942	1390	594	727	127	71
19	164	402	493	489	598	663	1040	1550	580	636	203	76
20	162	1690	469	474	577	694	880	1690	558	482	164	82
21	160	853	436	466	563	737	827	1840	535	423	141	79
22	154	575	432	454	541	725	874	1880	521	365	135	77
23	150	504	439	445	515	731	911	1910	518	501	130	76
24	148	3340	802	440	503	737	987	1840	497	332	120	76
25	147	1920	4270	442	494	737	961	1690	466	272	113	'75
26	139	926	3130	446	471	815	827	1660	463	236	107	71
27	139	744	2610	424	471	827	766	1670	468	219	101	68
28	135	677	1590	421	463	778	663	1580	477	206	96	66
29	135	601	1250	431	463	731	667	1500	454	190	92	64
30	144	561	1130	442	---	682	705	1420	429	179	90	62
31	153	---	1060	446	---	682	---	1320	---	198	90	---
TOTAL	6025	18943	29171	17996	15570	20923	24003	46928	20989	10491	4122	2247
MEAN	194	631	941	581	537	675	800	1514	700	338	133	74.9
MAX	366	3340	4270	940	1090	1570	1120	2210	1180	727	221	91
MIN	135	144	432	421	425	471	612	709	429	179	90	62
AC-FT	11950	37570	57860	35700	30880	41500	47610	93080	41630	20810	8180	4460
CAL YR 1983	TOTAL	575291	MEAN	1576	MAX	6250	MIN	135	AC-FT	1141000		
WTR YR 1984	TOTAL	217408	MEAN	594	MAX	4270	MIN	62	AC-FT	431200		

## 11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964-66, 1968 to current year.

CHEMICAL ANALYSES: Water years 1964-66, 1977.

WATER TEMPERATURES: Water years 1966, 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to December 1966, January 1968 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to December 1966, and since January 1968.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 30.0°C July 14, 15, 1972, July 15, 18, 1977; minimum recorded, 0.5°C Jan. 7, 1971, Dec. 12, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.5°C Aug. 18, 29, Sept. 5; minimum recorded, 4.0°C Nov. 22, 27, Dec. 6.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## TULARE LAKE BASIN

11209900 KAWEAH RIVER AT THREE RIVERS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	5.5	12.0	9.5	16.5	13.5	22.5	18.0	25.0	20.5	24.5	20.0
2	10.5	6.0	13.0	10.5	17.0	13.5	24.0	19.0	24.5	20.0	25.0	19.5
3	11.5	7.0	14.5	10.5	16.0	13.0	24.5	20.0	24.0	19.0	25.5	20.0
4	12.0	8.5	14.0	11.5	14.5	13.5	25.0	20.5	24.5	19.5	25.5	20.5
5	11.0	9.5	13.0	10.0	14.5	13.0	25.5	20.5	24.5	19.5	26.5	21.5
6	10.0	9.5	13.0	10.0	16.0	13.5	26.0	21.0	24.5	19.5	25.5	21.0
7	12.5	8.0	13.5	10.0	15.5	13.0	25.5	21.0	25.0	19.5	25.0	20.0
8	11.5	9.5	14.5	11.0	16.0	12.5	25.0	20.5	25.5	20.5	25.0	20.0
9	12.0	8.5	14.0	10.5	17.0	13.0	24.0	19.0	25.5	21.0	25.0	20.0
10	12.5	9.0	14.0	10.5	16.5	13.5	24.0	18.5	25.0	21.5	25.0	20.5
11	11.5	9.5	14.5	10.5	17.0	13.0	24.5	19.0	25.5	20.5	25.0	22.0
12	12.5	9.0	16.0	11.0	17.5	13.5	24.5	19.5	25.5	21.5	25.5	21.5
13	14.0	10.0	16.0	11.5	18.0	14.0	25.0	21.0	25.5	21.0	25.0	21.0
14	14.5	10.5	14.0	11.5	18.0	14.5	25.0	20.5	24.5	21.0	25.0	20.0
15	14.0	11.0	11.0	8.5	18.5	14.5	24.0	21.5	23.0	21.0	25.0	20.0
16	13.5	11.0	12.0	8.0	19.5	14.0	23.0	20.0	25.5	20.5	25.5	20.5
17	13.5	11.5	13.5	10.0	21.0	16.0	24.5	19.5	26.0	21.5	25.0	21.0
18	11.5	10.0	14.0	10.5	21.0	17.0	23.0	19.0	26.5	22.0	24.5	21.0
19	10.0	7.5	15.0	11.0	20.5	17.0	23.0	19.5	25.5	22.0	25.0	20.5
20	9.0	6.5	15.5	11.5	19.5	15.5	23.0	19.5	24.0	19.5	24.5	21.0
21	11.0	6.5	15.5	12.0	19.5	15.0	23.5	20.0	24.5	19.5	24.0	19.5
22	13.0	9.0	16.0	12.0	20.0	15.5	20.5	17.5	25.0	20.0	23.5	19.5
23	14.5	10.5	16.5	12.0	21.0	16.5	22.0	17.0	25.0	21.0	21.5	18.5
24	14.5	11.5	15.5	12.5	21.0	17.0	23.5	18.5	24.5	20.0	21.5	18.0
25	12.0	7.5	15.5	12.0	21.0	16.5	23.5	19.0	23.5	19.5	20.5	16.0
26	8.5	6.0	16.5	13.0	22.0	17.5	24.5	19.0	24.5	19.5	21.5	16.0
27	7.5	5.0	17.5	14.0	22.5	18.0	25.0	20.0	25.5	20.0	22.0	16.5
28	10.0	5.0	17.0	13.5	23.0	18.5	25.0	20.0	26.0	21.0	22.0	17.0
29	11.5	7.0	17.5	14.0	22.5	19.0	24.5	19.5	26.5	21.5	21.5	17.0
30	12.5	9.0	18.0	14.5	22.5	18.0	24.5	20.0	25.0	22.0	21.0	17.0
31	---	---	18.0	14.5	---	---	25.5	21.0	24.5	20.5	---	---
MONTH	14.5	5.0	18.0	8.0	23.0	12.5	26.0	17.0	26.5	19.0	26.5	16.0

## 11210100 SOUTH FORK KAWEAH RIVER AT THREE RIVERS, CA

LOCATION.--Lat 36°25'00", long 118°54'48", in SW 1/4 SE 1/4 sec.26, T.17 S., R.28 E., Tulare County, Hydrologic Unit 18030007, on right bank 200 ft upstream from unnamed tributary, 0.5 mi upstream from mouth, and 1.8 mi southwest of Three Rivers.

DRAINAGE AREA.--86.7 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 807.22 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several small diversions above station for irrigation.

AVERAGE DISCHARGE.--26 years, 76.7 ft<sup>3</sup>/s, 55,570 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 9.30 ft in gage well, 10.4 ft from floodmarks, from rating curve extended above 2,600 ft<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 from floodmarks, discharge, 10,000 ft<sup>3</sup>/s.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	1845	*1,620	4.91
Dec. 25	1445	903	4.23
May 13	2315	550	5.15

Minimum daily, 2.2 ft<sup>3</sup>/s Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	19	72	125	48	52	68	106	142	18	10	2.9
2	39	26	68	113	48	52	65	127	123	17	11	2.8
3	34	22	87	104	46	52	64	194	111	18	9.4	2.6
4	33	20	107	98	46	53	66	216	102	20	8.1	2.3
5	33	19	81	94	45	52	67	182	142	18	7.2	2.3
6	32	19	72	90	46	52	71	200	104	15	6.8	2.3
7	30	18	69	87	45	51	67	227	92	14	6.1	2.3
8	29	18	66	83	45	51	75	268	82	12	5.2	2.2
9	27	17	74	80	50	53	72	293	75	12	4.3	2.2
10	25	17	116	76	75	53	80	314	71	11	3.8	2.6
11	23	78	96	74	58	54	97	349	67	10	3.7	2.8
12	22	66	95	72	54	54	99	373	62	9.1	3.4	2.6
13	21	52	80	70	55	56	114	388	58	8.6	3.2	2.7
14	21	40	76	67	88	149	135	362	55	8.9	3.2	2.6
15	21	36	73	65	65	94	153	274	53	11	3.5	2.4
16	20	32	70	68	152	76	167	208	57	16	5.6	2.3
17	20	46	69	64	102	74	159	233	50	28	5.7	2.3
18	20	102	66	61	84	68	135	244	45	19	4.3	2.3
19	20	54	63	60	76	66	144	272	41	44	6.4	2.6
20	19	285	60	58	71	68	115	309	39	39	9.6	3.2
21	18	136	58	57	68	74	102	319	37	28	6.3	3.2
22	17	88	58	55	67	75	110	316	35	22	6.6	3.2
23	17	77	57	54	63	75	121	313	32	27	6.9	3.3
24	18	460	103	53	61	76	144	306	30	21	5.4	3.3
25	17	298	597	52	60	77	143	273	28	16	5.5	3.2
26	15	141	488	51	57	84	110	255	26	13	4.9	3.2
27	15	106	430	50	56	85	94	244	25	11	3.1	3.1
28	15	93	255	49	54	85	88	224	23	10	2.9	3.0
29	15	82	186	49	52	80	84	201	22	8.8	2.7	2.5
30	16	76	159	49	---	74	90	181	20	8.1	2.5	2.3
31	18	---	143	48	---	75	---	162	---	9.2	2.6	---
TOTAL	708	2543	4094	2176	1837	2140	3099	7933	1849	522.7	169.9	80.6
MEAN	22.8	84.8	132	70.2	63.3	69.0	103	256	61.6	16.9	5.48	2.69
MAX	39	460	597	125	152	149	167	388	142	44	11	3.3
MIN	15	17	57	48	45	51	64	106	20	8.1	2.5	2.2
AC-FT	1400	5040	8120	4320	3640	4240	6150	15740	3670	1040	337	160
CAL YR 1983	TOTAL	89752.0	MEAN	246	MAX	1020	MIN	13	AC-FT	178000		
WTR YR 1984	TOTAL	27152.2	MEAN	74.2	MAX	597	MIN	2.2	AC-FT	53860		

## TULARE LAKE BASIN

11210850 LEMONCOVE DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'55", long 119°00'22", in SW 1/4 SW 1/4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, on left bank 250 ft downstream from outlet tunnel of Terminus Dam, and 2.4 mi northeast of Lemnecove.

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

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 546.3 ft 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. At times up to 3 ft<sup>3</sup>/s is diverted 200 ft upstream into Doffelmyer ditch for irrigation.

AVERAGE DISCHARGE.--22 years, 4.87 ft<sup>3</sup>/s, 3,530 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 8.8 ft<sup>3</sup>/s May 5, 1970; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.8	2.0	1.1	1.0	1.1	6.0	4.9	7.0	7.8	8.0	8.0
2	6.0	5.8	1.9	1.1	1.0	1.0	6.1	5.5	7.0	7.6	8.0	8.0
3	6.0	5.9	1.9	1.1	1.0	2.6	6.1	6.0	7.0	7.8	8.0	8.0
4	6.0	5.3	1.9	1.1	1.0	4.3	6.1	6.0	7.0	7.9	8.0	8.0
5	6.0	5.0	1.9	1.1	1.0	4.0	6.1	6.0	7.0	7.9	8.0	8.0
6	6.0	5.0	1.9	2.7	1.0	3.9	6.1	6.0	7.0	7.9	8.0	8.0
7	6.0	5.0	1.9	2.0	1.0	3.9	6.2	6.6	7.0	7.9	8.0	8.0
8	6.0	5.0	1.9	1.1	1.0	3.5	6.3	7.0	7.0	7.9	8.0	8.0
9	6.0	5.1	1.6	1.1	1.0	3.4	6.3	7.0	7.0	7.9	8.0	8.0
10	6.0	5.0	1.0	1.1	1.0	3.5	6.4	7.0	7.0	7.9	8.0	8.0
11	6.0	5.1	1.0	1.0	1.0	3.7	6.4	7.0	7.0	7.9	8.0	8.0
12	6.0	5.2	1.1	1.0	1.0	4.5	6.4	7.0	7.0	7.8	8.0	8.0
13	6.0	5.2	1.1	1.0	1.0	5.0	6.4	7.0	7.0	7.9	8.0	8.0
14	6.0	5.2	1.1	1.0	1.5	5.0	6.4	7.1	6.9	8.0	7.9	7.9
15	6.0	5.2	1.0	1.0	2.6	5.1	6.4	7.3	7.0	8.1	7.9	7.9
16	6.0	5.2	1.0	1.0	2.6	5.4	6.4	7.3	7.0	8.0	8.1	7.9
17	6.0	5.2	1.0	1.0	2.6	5.5	6.4	7.3	7.0	8.0	7.9	7.9
18	6.0	5.2	1.0	1.0	2.6	5.2	6.4	7.3	7.0	8.0	7.9	7.9
19	6.0	5.2	4.9	1.0	2.6	4.9	6.4	7.3	7.0	8.0	7.9	7.9
20	6.0	5.2	7.0	1.0	2.6	4.9	6.4	7.3	7.0	8.0	7.9	7.9
21	6.0	5.2	3.2	1.0	2.6	4.9	6.4	7.3	7.4	8.0	7.9	7.9
22	6.0	5.2	1.1	1.0	2.6	4.3	6.4	7.3	7.8	8.0	7.9	7.9
23	6.0	3.2	1.1	1.0	2.5	4.0	6.4	7.3	7.8	8.0	7.9	7.9
24	5.9	1.9	1.1	1.0	2.5	4.0	6.4	7.3	7.9	8.0	8.0	7.9
25	5.8	1.9	1.2	1.0	2.6	4.0	6.4	7.3	7.9	8.0	8.0	7.9
26	5.8	1.9	1.1	1.0	2.6	4.0	6.4	7.1	7.9	8.0	8.0	7.5
27	5.8	1.9	1.1	1.0	2.6	4.1	6.4	7.0	7.9	8.0	8.0	6.7
28	5.8	1.9	1.1	1.0	1.6	4.9	5.4	7.0	7.9	8.0	8.0	6.7
29	5.8	1.9	1.1	1.0	1.0	6.0	5.0	7.0	7.9	8.0	8.0	6.7
30	5.8	1.9	1.1	1.0	---	6.0	5.0	7.0	8.0	8.0	8.0	6.7
31	5.8	---	1.1	1.0	---	6.0	---	7.0	---	8.2	8.2	---
TOTAL	184.5	131.7	52.4	34.5	50.7	132.6	185.9	212.5	218.3	246.4	247.4	233.1
MEAN	5.95	4.39	1.69	1.11	1.75	4.28	6.20	6.85	7.28	7.95	7.98	7.77
MAX	6.0	5.9	7.0	2.7	2.6	6.0	6.4	7.3	8.0	8.2	8.2	8.0
MIN	5.8	1.9	1.0	1.0	1.0	1.0	5.0	4.9	6.9	7.6	7.9	6.7
AC-FT	366	261	104	68	101	263	369	421	433	489	491	462
CAL YR 1983	TOTAL	1341.6	MEAN	3.68	MAX	8.0	MIN	0	AC-FT	2660		
WTR YR 1984	TOTAL	1930.0	MEAN	5.27	MAX	8.2	MIN	1.0	AC-FT	3830		

## TULARE LAKE BASIN

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11210900 LAKE KAWEAH NEAR LEMONCOVE, CA

LOCATION.--Lat 36°24'53", long 119°00'07", in SE 1/4 SW 1/4 sec.25, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030007, in control tower near left abutment of Terminus Dam on Kaweah River, 2.1 mi northeast of Lemoncove.

DRAINAGE AREA.--560 mi<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 between elevations 520.0 ft invert of outlet structure, and 694.0 ft spillway crest. Dead storage, 33 acre-ft. Spillway design flood pool elevation, 745.1 ft, capacity, 256,167 acre-ft. 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 July 3, 4, 1967, elevation, 699.39 ft storage increased by a temporary sandbag dam in the ungated spillway; minimum since reservoir first filled, 7,559 acre-ft Oct. 20, 1970, elevation, 568.38 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 143,040 acre-ft May 27, elevation, 694.04 ft; minimum, 9,001 acre-ft March 9, elevation, 576.86 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28378	13183	41686	61868	36642	23739	37822	85413	141418	94042	36075	11354
2	28065	13390	42057	59767	34874	21672	38857	86888	140581	92181	34142	11129
3	27557	13510	42826	58289	33170	19645	39900	88928	139595	90369	32233	10938
4	26869	13632	43888	57236	31746	17653	40970	91366	138461	88666	30379	10758
5	26108	13726	44442	56536	30446	15965	42005	93551	137896	86903	28587	10580
6	25423	13811	44838	55999	29157	14350	43192	95856	136880	85081	26931	10569
7	24779	13849	45182	55416	27802	12705	44410	98463	135719	83188	25229	10653
8	24118	13878	45517	54789	26414	10933	45658	101561	134375	81272	23385	10731
9	23442	13859	45995	54573	25311	9001	46827	105071	132889	79290	21612	10801
10	22785	13806	47846	54549	24860	9038	48125	108787	131392	77246	20184	10879
11	22122	15944	48912	54512	23889	10038	49672	112924	129737	75157	18977	10962
12	21413	16710	49786	54393	22785	10899	51223	117183	128019	73070	17842	11033
13	20669	17059	50392	54237	21853	11787	52977	121548	126274	70956	16936	11069
14	19926	17059	50968	54022	21566	14900	54933	125315	124378	68902	16275	11093
15	19166	16953	51478	53676	20915	16579	57138	127909	122244	66852	15727	11109
16	18409	16848	51920	53273	21846	17842	59540	129902	120038	65309	15410	11117
17	17647	16981	52342	52777	22257	19092	61778	132094	117903	64059	15194	11133
18	16909	18086	52706	52166	22606	20254	63746	134077	115855	62849	14941	11157
19	16189	18392	52977	51536	22861	21393	65932	136187	113978	61534	14810	11177
20	15524	21967	53166	50876	23042	22599	67711	138272	112270	59830	14631	11221
21	14991	23817	53296	50186	23182	23917	69324	140277	110488	58028	14384	11273
22	14507	24633	53427	49467	23399	25214	71067	141761	108957	56121	14136	11338
23	14016	25140	53285	48642	23611	26483	72874	142620	107621	54657	13887	11395
24	13524	31728	53629	47579	23924	27763	74916	142868	106141	52942	13632	11456
25	13274	36216	61688	46366	24414	29043	76872	142868	104537	51118	13362	11505
26	13201	38181	67107	45150	24911	30437	78504	142983	102879	49161	13087	11555
27	13201	39431	70090	43857	25386	31902	79977	143040	101167	47070	12776	11592
28	13192	40251	69338	42513	25783	33242	81331	142849	99453	44891	12424	11629
29	13155	40828	67254	41204	25363	34498	82592	142581	97703	42575	12104	11662
30	13142	41276	65375	39900	---	35616	83997	142199	95904	40282	11833	11691
31	13151	---	63746	38337	---	36765	---	141894	---	38103	11592	---
MAX	28378	41276	70090	61868	36642	36765	83997	143040	141418	94042	36075	11691
MIN	13142	13183	41686	38337	20915	9001	37822	85413	95904	38103	11592	10569
a	587.37	625.87	645.15	622.93	607.86	621.30	659.57	693.44	667.25	622.69	583.78	584.02
b	-15534	+28125	+22470	-25409	-12974	+11402	+47232	+57897	-45990	-57801	-26511	+99
c	250	104	84	102	107	154	440	1149	1249	1180	500	307

CAL YR 1983 b -2545  
WTR YR 1984 b -16994

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

## TULARE LAKE BASIN

11210930 FOOTHILL DITCH BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'48", long 119°00'47", in NW 1/4 NW 1/4 sec.35, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.7 mi downstream from Terminus Dam, and 2.1 mi 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 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.--23 years, 16.9 ft<sup>3</sup>/s, 12,240 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 50 ft<sup>3</sup>/s Apr. 7, 1979; no flow many days in 1975, 1978-84.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	12	0			4.0	9.6	11	16	16	15	12
2	14	12	0			7.5	9.6	11	16	16	15	12
3	14	12	0			7.5	9.6	11	16	16	15	11
4	14	12	0			7.5	9.6	12	16	16	15	11
5	14	12	0			7.3	9.8	12	16	16	15	11
6	14	12	0			7.3	9.4	11	16	16	15	9.8
7	14	12	0			7.3	8.9	11	16	16	15	8.9
8	14	12	0			7.5	8.9	11	16	16	15	8.9
9	15	12	0			7.5	8.7	11	16	16	15	8.9
10	14	13	0			7.7	8.7	12	16	16	14	11
11	15	13	0			8.0	8.7	12	16	16	14	12
12	15	13	0			11	11	13	16	14	14	12
13	15	14	0			12	12	13	16	16	14	13
14	15	14	0			12	12	13	16	16	14	13
15	15	14	0			12	12	13	16	15	14	13
16	15	14	0			12	12	13	16	15	13	12
17	15	9.6	0			12	12	13	16	16	13	13
18	15	0	0			12	12	14	16	16	13	13
19	15	0	0			12	12	14	16	16	13	13
20	14	0	3.8			12	12	14	16	15	13	13
21	14	0	6.4			12	12	15	16	15	13	13
22	14	0	3.1			12	12	15	16	15	13	12
23	14	0	0			10	12	16	16	15	13	12
24	14	0	0			10	12	16	16	15	13	12
25	13	0	0			10	12	16	16	15	13	12
26	13	0	0			10	12	16	16	15	13	12
27	13	0	0			10	12	16	16	15	13	12
28	12	0	0			10	12	16	16	15	13	12
29	13	0	0			10	11	16	16	15	12	12
30	13	0	0			9.8	11	16	16	15	13	12
31	13	---	0			9.6	---	16	---	15	12	---
TOTAL	435	212.6	13.3	0	0	299.5	326.5	419	480	480	425	352.5
MEAN	14.0	7.09	.43	0	0	9.66	10.9	13.5	16.0	15.5	13.7	11.8
MAX	15	14	6.4	0	0	12	12	16	16	16	15	13
MIN	12	0	0	0	0	4.0	8.7	11	16	14	12	8.9
AC-FT	863	422	26	0	0	594	648	831	952	952	843	699
CAL YR 1983	TOTAL	2801.8	MEAN	7.68	MAX	17	MIN	0	AC-FT	5560		
WTR YR 1984	TOTAL	3443.4	MEAN	9.41	MAX	16	MIN	0	AC-FT	6830		



## TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA

LOCATION.--Lat 36°24'51", long 119°00'42", in SE 1/4 SE 1/4 sec.26, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on left bank 0.6 mi downstream from Terminus Dam, and 2.2 mi northeast of Lemoncove.

DRAINAGE AREA.--561 mi<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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Flow regulated by Lake Kaweah (station 11210900). Lemoncove ditch (station 11210850) diverts water from Lake Kaweah for irrigation. Foothill ditch (station 11210930) diverts water from the gage pool for irrigation. Doffelmyer ditch diverts up to 3 ft<sup>3</sup>/s 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).--23 years, 718 ft<sup>3</sup>/s 520,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,610 ft<sup>3</sup>/s June 3, 1969, gage height, 8.77 ft; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,650 ft<sup>3</sup>/s Dec. 29, gage height, 6.67 ft; minimum daily, 11 ft<sup>3</sup>/s Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	603	153	410	2130	1440	1370	156	61	1620	1400	1330	195		
2	599	118	402	2140	1480	1630	143	61	1620	1380	1240	192		
3	641	114	346	1760	1420	1640	136	68	1640	1350	1210	166		
4	710	116	343	1500	1270	1630	137	71	1630	1290	1170	152		
5	728	116	394	1310	1210	1500	141	72	1620	1290	1120	147		
6	666	116	410	1200	1200	1440	100	72	1520	1310	1040	77		
7	620	133	410	1200	1240	1470	68	73	1500	1320	1040	20		
8	620	145	410	1200	1250	1490	72	75	1520	1310	1100	20		
9	611	163	410	957	1160	1610	70	79	1570	1320	1060	20		
10	590	182	376	801	1080	620	72	94	1600	1340	890	16		
11	578	183	374	801	1130	137	73	104	1620	1350	769	11		
12	590	331	393	801	1170	139	72	234	1650	1340	728	14		
13	599	421	397	801	1120	138	71	296	1640	1340	607	34		
14	598	421	397	801	1060	104	72	439	1670	1330	460	42		
15	602	421	405	845	1040	136	72	470	1720	1330	407	43		
16	604	378	410	900	926	170	73	453	1740	1320	307	43		
17	601	333	410	915	710	174	75	456	1740	1340	248	40		
18	586	324	413	931	611	154	77	616	1710	1390	250	38		
19	574	343	435	936	594	147	76	750	1620	1410	253	38		
20	546	207	446	936	594	150	76	984	1510	1420	260	38		
21	462	137	442	941	599	152	75	1140	1510	1400	263	31		
22	424	276	453	941	530	154	75	1440	1370	1370	261	24		
23	421	336	599	995	492	161	76	1780	1250	1310	252	25		
24	424	267	723	1110	439	164	76	2060	1310	1270	242	26		
25	308	67	735	1180	331	166	76	1990	1350	1250	240	26		
26	195	93	1000	1190	296	166	77	1880	1360	1280	240	25		
27	156	225	1710	1210	299	167	77	1930	1400	1340	248	24		
28	152	376	2380	1230	328	167	72	1960	1400	1380	261	24		
29	164	421	2590	1230	750	166	66	1900	1400	1430	244	24		
30	164	421	2370	1240	---	163	65	1850	1410	1400	214	24		
31	166	---	2150	1360	---	161	---	1700	---	1390	195	---		
TOTAL	15302	7337	23143	35492	25769	17636	2567	25158	46220	41700	18149	1599		
MEAN	494	245	747	1145	889	569	85.6	812	1541	1345	585	53.3		
MAX	728	421	2590	2140	1480	1640	156	2060	1740	1430	1330	195		
MIN	152	67	343	801	296	104	65	61	1250	1250	195	11		
AC-FT	30350	14550	45900	70400	51110	34980	5090	49900	91680	82710	36000	3170		
MEAN a	265	730	1115	734	667	771	904	1792	812	448	184	79.6		
AC-FT a	16290	43440	68560	45130	38370	47410	53790	110200	48320	27550	11310	4740		
CAL YR 1983	TOTAL	677857	MEAN	1857	MAX	4440	MIN	18	AC-FT	1345000	MEAN a	1874	AC-FT a	1357000
WTR YR 1984	TOTAL	260072	MEAN	711	MAX	2590	MIN	11	AC-FT	515900	MEAN a	710	AC-FT a	515400

a Adjusted for change in contents and evaporation from Lake Kaweah and for diversions to Lemoncove and Foothill ditches.

## TULARE LAKE BASIN

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

## WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1962-79.

WATER TEMPERATURES: Water years 1971 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1970 to current year.

INSTRUMENTATION.--Temperature recorder since November 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 30.0°C Sept. 9, 1984; minimum recorded, 5.0°C Jan. 9, 10, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 30.0°C Sept. 9; minimum recorded 6.5°C Nov. 27, Dec. 1, 2, 5, 8.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11210950 KAWEAH RIVER BELOW TERMINUS DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## TULARE LAKE BASIN

11211300 DRY CREEK NEAR LEMONCOVE, CA

LOCATION.--Lat 36°26'51", long 119°01'38", in NE 1/4 SE 1/4 sec.15, T.17 S., R.27 E., Tulare County, Hydrologic Unit 18030012, on right bank 0.5 mi downstream from Bequette Canyon, 2.9 mi upstream from mouth, and 4.4 mi north of Lemoncove.

DRAINAGE AREA.--75.6 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 570 ft, from topographic map. Prior to Mar. 8, 1969, 1.6 mi downstream at different datum.

REMARKS.--Records good. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--25 years, 26.2 ft<sup>3</sup>/s, 18,980 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 7.30 ft in gage well, 8.94 ft from floodmarks, site and datum then in use; no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a discharge of 6,070 ft<sup>3</sup>/s from slope-area measurement. Flood of 1867 is believed to have exceeded that of December 1955, from information by local residents.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2130	*1,100	4.85	Feb. 16	1100	191	2.92
Dec. 10	0400	169	2.82	Mar. 14	0845	198	2.95
Dec. 25	1900	855	4.51				

Minimum daily, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	5.8	21	72	26	30	29	15	5.3	1.5		
2	14	6.3	19	64	26	30	25	15	5.2	1.4		
3	11	6.5	22	59	25	30	25	15	5.2	1.2		
4	8.0	6.5	58	55	25	29	24	14	5.7	1.1		
5	7.1	6.3	33	52	24	28	24	14	6.9	.95		
6	6.8	6.3	27	49	24	27	24	14	8.0	.83		
7	6.8	6.6	24	46	24	27	24	13	7.2	.59		
8	6.6	6.7	22	44	24	26	23	13	6.9	.25		
9	6.7	6.7	23	42	28	26	23	12	6.4	.04		
10	6.9	6.6	103	41	70	25	22	12	6.0	.01		
11	7.0	8.3	49	39	42	25	22	11	5.7	.01		
12	7.0	12	55	39	34	25	22	11	5.4	0		
13	6.7	13	39	38	33	26	21	11	5.2	0		
14	6.7	13	35	36	66	105	19	11	5.2	0		
15	6.9	11	31	35	45	48	17	11	5.2	0		
16	7.0	9.3	29	39	114	39	17	11	5.0	0		
17	6.8	9.7	27	42	80	40	17	11	4.8	0		
18	6.7	33	27	37	59	36	18	10	4.7	0		
19	6.7	13	26	35	51	33	28	9.6	4.4	0		
20	6.6	87	25	34	46	31	27	9.1	4.2	0		
21	6.3	88	24	33	43	30	22	8.7	4.1	0		
22	6.1	37	24	32	41	30	20	8.4	4.1	0		
23	5.7	20	26	31	39	28	18	8.1	3.9	0		
24	5.7	224	31	31	37	27	18	7.8	3.6	0		
25	5.7	251	409	30	36	26	17	7.7	3.3	0		
26	5.7	67	491	29	35	26	17	7.7	3.0	0		
27	5.5	41	445	29	33	28	17	7.5	2.1	0		
28	5.3	31	191	28	32	26	16	7.4	1.9	0		
29	5.2	27	123	27	31	25	16	6.8	1.7	0		
30	5.3	24	98	27	---	25	15	6.4	1.6	0		
31	5.6	---	82	26	---	26	---	5.7	---	0		
TOTAL	220.1	1083.6	2639	1221	1193	983	627	324.9	141.9	7.88	0	0
MEAN	7.10	36.1	85.1	39.4	41.1	31.7	20.9	10.5	4.73	.25	0	0
MAX	16	251	491	72	114	105	29	15	8.0	1.5	0	0
MIN	5.2	5.8	19	26	24	25	15	5.7	1.6	0	0	0
AC-FT	437	2150	5230	2420	2370	1950	1240	644	281	16	0	0
CAL YR 1983	TOTAL	43456.40	MEAN	119	MAX	1530	MIN	2.0	AC-FT	86200		
WTR YR 1984	TOTAL	8441.38	MEAN	23.1	MAX	491	MIN	0	AC-FT	16740		

11211790 COTTONWOOD CREEK NEAR ELDERWOOD, CA

LOCATION.--Lat 36°31'47", long 119°07'33", in SE 1/4 SE 1/4 sec.15, T.16 S., R.26 E., Tulare County, Hydrologic Unit 18030012, on left bank 25 ft upstream from State Highway 65 bridge, 4.0 mi north of Elderwood, and 8.0 mi north of Woodlake.

DRAINAGE AREA.--60.4 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 575 ft, from topographic map.

REMARKS.--Records fair except those for March through September, which are poor. No regulation or diversion above station.

AVERAGE DISCHARGE.--13 years, 17.1 ft<sup>3</sup>/s, 12,390 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft<sup>3</sup>/s Jan. 22, 1983, gage height, 7.22 ft, maximum gage height, 7.65 ft Feb. 20, 1980 (backwater from debris); no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 24, 1969, reached a stage of 10.4 ft from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 40 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Oct. 2	0245	51	1.87	Feb. 16	0830	80	1.35
Nov. 24	2100	264	2.80	Mar. 14	0545	68	1.14
Dec. 25	1415	*305	2.82				

Minimum daily, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	9.6	8.3	34	21	21	15	8.8	4.1	.96	.11	0
2	19	9.9	8.1	31	21	20	15	8.6	4.0	.94	.09	0
3	11	9.7	9.1	28	21	20	14	8.5	4.1	.83	.08	0
4	10	9.2	11	26	21	20	14	8.4	4.2	.78	.07	0
5	10	9.1	8.9	25	21	19	14	8.3	4.4	.74	.05	0
6	8.9	9.1	8.6	24	21	19	14	8.2	4.6	.70	.05	0
7	8.3	8.8	8.9	23	20	19	14	8.2	4.3	.57	.04	0
8	6.9	9.0	8.9	23	20	19	13	8.1	4.0	.45	.04	0
9	7.0	8.7	10	22	23	19	13	8.0	3.7	.30	.03	0
10	6.9	8.5	17	22	34	18	13	7.8	3.5	.17	.03	.01
11	7.4	11	13	22	21	18	13	7.6	3.3	.09	.03	.02
12	7.5	12	14	22	21	18	12	7.5	3.1	.04	.02	.03
13	7.8	11	11	23	21	18	12	7.3	3.0	.01	.02	.03
14	8.4	10	10	22	27	41	12	7.2	2.8	0	.02	.03
15	8.6	10	9.6	22	21	26	11	7.0	2.6	0	.01	.04
16	9.1	9.8	9.3	25	47	23	11	6.9	2.5	0	.01	.05
17	9.4	12	9.1	25	30	21	11	6.7	2.4	0	0	.07
18	9.1	16	9.0	23	25	19	12	6.5	2.3	0	0	.09
19	9.1	11	9.2	23	24	18	13	6.4	2.2	0	0	.15
20	9.2	26	9.4	23	23	18	13	6.2	2.1	0	0	.20
21	9.1	28	9.6	22	22	17	12	6.1	2.1	0	0	.23
22	9.2	13	10	22	22	17	11	5.9	2.0	0	0	.28
23	9.4	10	11	22	22	17	10	5.7	1.9	1.5	0	.35
24	9.4	51	16	22	22	16	9.8	5.5	1.7	1.8	0	.42
25	9.2	66	137	22	22	16	9.6	5.3	1.6	1.4	0	.49
26	9.0	22	140	22	22	16	9.5	5.1	1.5	.70	0	.53
27	9.3	12	153	22	22	16	9.3	5.0	1.2	.45	0	.58
28	8.9	10	78	21	21	15	9.1	4.8	1.1	.30	0	.63
29	8.9	9.1	53	21	21	15	9.0	4.6	1.0	.23	0	.68
30	9.1	8.5	43	21	---	15	8.9	4.4	.97	.17	0	.70
31	9.5	---	39	21	---	15	---	4.2	---	.14	0	---
TOTAL	297.6	450.0	892.0	726	679	589	357.2	208.8	82.27	13.27	0.70	5.61
MEAN	9.60	15.0	28.8	23.4	23.4	19.0	11.9	6.74	2.74	.43	.023	.19
MAX	23	66	153	34	47	41	15	8.8	4.6	1.8	.11	.70
MIN	6.9	8.5	8.1	21	20	15	8.9	4.2	.97	0	0	0
AC-FT	590	893	1770	1440	1350	1170	709	414	163	26	1.4	11
CAL YR 1984	TOTAL	26030.50	MEAN	71.3	MAX	943	MIN	2.9	AC-FT	51630		
WTR YR 1984	TOTAL	4301.45	MEAN	11.8	MAX	153	MIN	0	AC-FT	8530		

## TULARE LAKE BASIN

11212000 SAND CREEK NEAR ORANGE COVE, CA

LOCATION.--Lat 36°37'36", long 119°14'48", in SW 1/4 NW 1/4 sec.15, T.15 S., R.25 E., Tulare County, Hydrologic Unit 18030012, on right bank 3.8 mi east of Orange Cove.

DRAINAGE AREA.--31.6 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1944 to September 1954, annual maximum, water years 1956, 1967, 1969, February 1971 to September 1984 (discontinued).

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

REMARKS.--Records good. Flood control dam 2.9 mi upstream was completed in October 1980. Capacity, 1,200 acre-feet at maximum design release of 700 ft<sup>3</sup>/s.

AVERAGE DISCHARGE.--23 years (water years 1945-54, 1972-84), 4.49 ft<sup>3</sup>/s, 3,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,050 ft<sup>3</sup>/s Feb. 10, 1978, gage height, 5.78 ft, in gage well, 6.38 ft from floodmarks, from rating curve extended above 160 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow for several months in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1969, reached a stage of 8.35 ft from floodmarks, discharge, 2,900 ft<sup>3</sup>/s. Maximum discharge since 1944, 3,520 ft<sup>3</sup>/s Jan. 25, 1969, gage height, 8.75 ft, from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 82 ft<sup>3</sup>/s Dec. 27, gage height, 3.05 ft; minimum daily, 0.04 ft<sup>3</sup>/s on several days in August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.4	4.7	11	12	6.2	6.0	4.8	3.3	.28	.15	.06	.06
2	5.7	4.6	10	11	6.2	5.9	4.6	3.2	.26	.15	.06	.05
3	4.6	4.5	11	11	6.1	5.8	4.4	3.1	.24	.15	.07	.05
4	4.2	4.4	11	10	6.1	5.8	4.4	2.9	.29	.15	.08	.04
5	4.0	4.3	10	9.9	6.1	5.6	4.4	2.8	.65	.16	.08	.04
6	3.8	4.4	10	9.4	6.1	5.4	4.5	2.8	1.4	.15	.08	.04
7	3.8	4.4	9.9	9.0	6.1	5.3	4.5	2.6	1.4	.15	.06	.04
8	3.8	4.5	9.7	8.6	6.1	5.1	4.4	2.4	1.2	.15	.07	.04
9	4.1	4.3	10	8.4	8.3	4.8	4.4	2.1	1.0	.16	.06	.04
10	4.3	4.2	11	8.2	14	4.4	4.4	2.0	.77	.18	.07	.05
11	4.2	5.1	11	8.1	8.3	4.1	4.4	1.9	.64	.21	.08	.06
12	4.3	4.6	11	7.9	7.3	3.9	4.4	1.9	.54	.24	.08	.06
13	4.5	4.9	10	7.8	7.3	4.0	4.3	1.9	.45	.25	.08	.05
14	4.7	4.7	9.9	7.7	12	11	4.1	1.8	.41	.23	.08	.05
15	4.5	4.4	9.8	7.4	8.5	5.6	2.9	2.0	.38	.21	.10	.05
16	4.4	4.3	9.6	8.4	20	4.7	2.9	2.2	.34	.22	.10	.05
17	4.3	5.7	9.4	8.4	11	5.2	3.4	2.0	.28	.26	.06	.05
18	4.3	7.8	9.4	7.5	9.2	4.5	2.7	1.7	.22	.23	.06	.05
19	4.0	5.2	9.4	7.2	8.3	4.3	3.8	1.5	.19	.24	.05	.05
20	4.1	13	9.4	7.1	7.8	4.0	3.5	1.3	.18	.32	.06	.06
21	4.0	20	9.1	7.1	7.5	3.8	2.8	1.2	.19	.30	.07	.08
22	4.0	9.2	9.0	6.9	7.5	3.7	2.5	1.0	.17	.18	.07	.08
23	4.1	6.8	9.7	6.8	7.1	3.5	2.1	.85	.16	.15	.05	.10
24	4.2	23	12	6.7	6.8	3.5	2.2	.72	.15	.13	.05	.12
25	4.3	33	44	6.6	6.7	4.4	3.5	.63	.13	.13	.05	.12
26	4.2	16	40	6.6	6.5	4.3	3.0	.66	.14	.10	.04	.12
27	4.3	13	55	6.5	6.3	3.8	2.2	.59	.13	.08	.05	.11
28	4.0	12	24	6.5	6.2	3.5	2.4	.46	.15	.09	.04	.11
29	4.0	12	17	6.5	6.1	3.5	3.5	.40	.14	.10	.04	.10
30	4.5	11	14	6.3	---	3.5	3.3	.34	.13	.11	.04	.09
31	4.6	---	13	6.2	---	4.3	---	.31	---	.08	.06	---
TOTAL	135.2	260.0	449.3	247.7	231.7	147.2	108.7	52.56	12.61	5.41	2.00	2.01
MEAN	4.36	8.67	14.5	7.99	7.99	4.75	3.62	1.70	.42	.17	.065	.067
MAX	7.4	33	55	12	20	11	4.8	3.3	1.4	.32	.10	.12
MIN	3.8	4.2	9.0	6.2	6.1	3.5	2.1	.31	.13	.08	.04	.04
AC-FT	268	516	891	491	460	292	216	104	25	11	4.0	4.0
CAL YR 1983	TOTAL	10561.30	MEAN	28.9	MAX	336	MIN	3.6	AC-FT	20950		
WTR YR 1984	TOTAL	1654.39	MEAN	4.52	MAX	55	MIN	.04	AC-FT	3280		

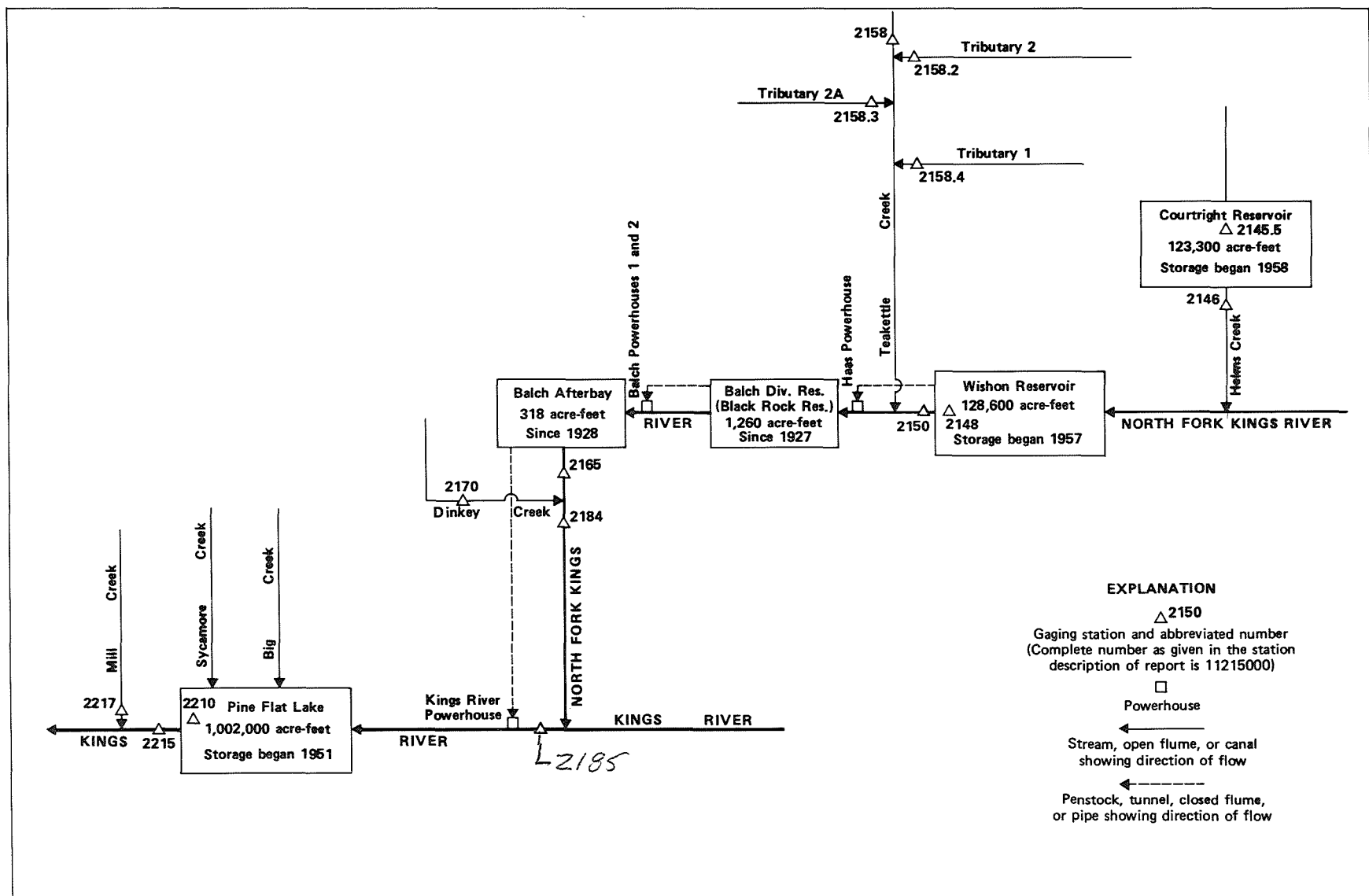


FIGURE 8. — Schematic diagram showing diversions and storage in Kings River basin.

## TULARE LAKE BASIN

11214550 COURTRIGHT RESERVOIR NEAR NELSON MOUNTAIN, CA

ATION.--Lat 37°04'45", long 119°58'07", in NW 1/4 NW 1/4 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 upstream from mouth, 4.6 mi east of Nelson Mountain, and 9.7 mi west of Blackcap Mountain.

INAGE AREA.--39.7 mi<sup>2</sup>.

IOD OF RECORD.--October 1958 to September 1982 (monthend elevation and contents only), October 1982 to current year.

E.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

ARKS.--Reservoir is formed by rockfill dam completed in 1958. Usable capacity, 123,300 acre-ft between elevations 7,902 ft, invert of tunnel and 8,184 ft, elevation of spillway. Dead storage negligible. Records, including extremes, represent contents at 2400 hours. Water is released from reservoir for power generation through Helms powerplant during periods of peak power demands and is stored in Wishon Reservoir (station 11214800). During periods of low power demands, water is pumped back into Courtright Reservoir and stored for additional power generation. See schematic diagram of Kings River basin.

PERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project. Records not rounded to Geological Survey standards.

REMES FOR PERIOD OF RECORD.--Maximum contents, 124,220 acre-ft Sept. 26, 1982, elevation, 8,184.57 ft; no contents in 1961-62, 1968, 1970.

REMES FOR CURRENT YEAR.--Maximum contents, 122,067 acre-ft June 4, elevation, 8,183.25 ft; minimum, 19,746 acre-ft Sept. 21, elevation, 8,079.31 ft.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
120742	108098	98923	101964	103379	105101	104427	83919	114387	104091	74665	43225
120774	107306	98980	102022	103408	105130	102280	84345	117268	102852	72910	43161
120774	106503	99261	102108	103407	105189	100024	85051	121097	101505	70606	41992
120774	105719	99318	102137	103466	105248	97832	85278	122067	103277	73887	38139
120774	104925	99346	102165	103524	105307	97999	85926	120871	99684	77836	34492
120565	104106	99374	102252	103582	105365	98194	86589	118853	96444	74482	28999
120565	103524	99402	102309	103611	105424	98447	87424	117584	97748	72470	25831
120565	103553	99431	102396	103669	105513	96831	88434	116261	97720	69944	24296
120694	103553	99684	102424	103931	105601	94635	87450	118154	97692	66620	26616
120694	103640	99755	102424	103989	105719	93712	89609	120164	97678	63394	24033
120694	104281	99854	102539	104062	105808	91992	89243	120373	97636	65973	21086
120964	104486	99911	102597	104077	105926	89846	90848	120485	95715	65783	20109
120694	104632	99939	102655	104281	106221	87967	93118	120501	93672	63260	20128
120678	104369	99968	102713	104340	106310	88564	92957	121226	93929	61496	20770
120646	103611	100024	102742	104486	106429	89216	92339	118202	94091	58985	23951
120464	102814	100053	102800	104544	106488	89898	92822	115150	91379	58437	29490
120324	102252	100109	102829	104544	106607	88096	92903	114124	88668	56674	26511
119491	101477	100138	102886	104544	106666	86295	94145	110575	86142	56674	23400
118853	100820	100166	102915	104544	106577	84395	95481	112379	82713	56655	26797
117805	100364	100194	102944	104544	106696	83022	96334	112794	79914	55371	21895
116757	99684	100223	103017	104632	106844	83296	95345	112471	82614	52679	19746
116245	98783	100308	103176	104925	107022	83570	97400	107544	85481	50360	25444
115322	99177	100364	103204	104954	107201	83769	98587	103916	82428	48510	30946
114527	99177	100791	103204	104954	107112	83271	102539	107708	78739	45557	27746
113674	98965	101219	103204	105013	105985	83644	104807	106355	78405	50649	24384
112902	98965	101420	103233	105013	106162	82477	110605	103626	74792	55493	22375
112056	98839	101534	103219	104984	106547	82774	113829	101262	73432	52220	22121
111245	98783	101620	103204	105013	106399	82997	115228	97247	79169	48493	23256
110453	98839	101677	103233	105042	106488	83246	114077	99022	84270	46651	26832
109695	98895	101820	103262	---	103060	83570	115635	101921	81568	46202	31199
108879	---	101907	103320	---	104310	---	116293	---	78786	43769	---
120964	108098	101907	103320	105042	107201	104427	116293	122067	104091	77836	43225
108879	98783	98923	101964	103379	103060	82477	83919	97247	73432	43769	19746
8174.81	8167.95	8170.07	8171.01	8172.23	8171.73	8156.39	8179.63	8170.08	8152.47	8117.05	8099.73
-11767	-9984	+3012	+1413	+1722	-732	-20740	+32723	-14372	-23135	-35017	-12570

YR 1983 b -11211  
YR 1984 b -89447



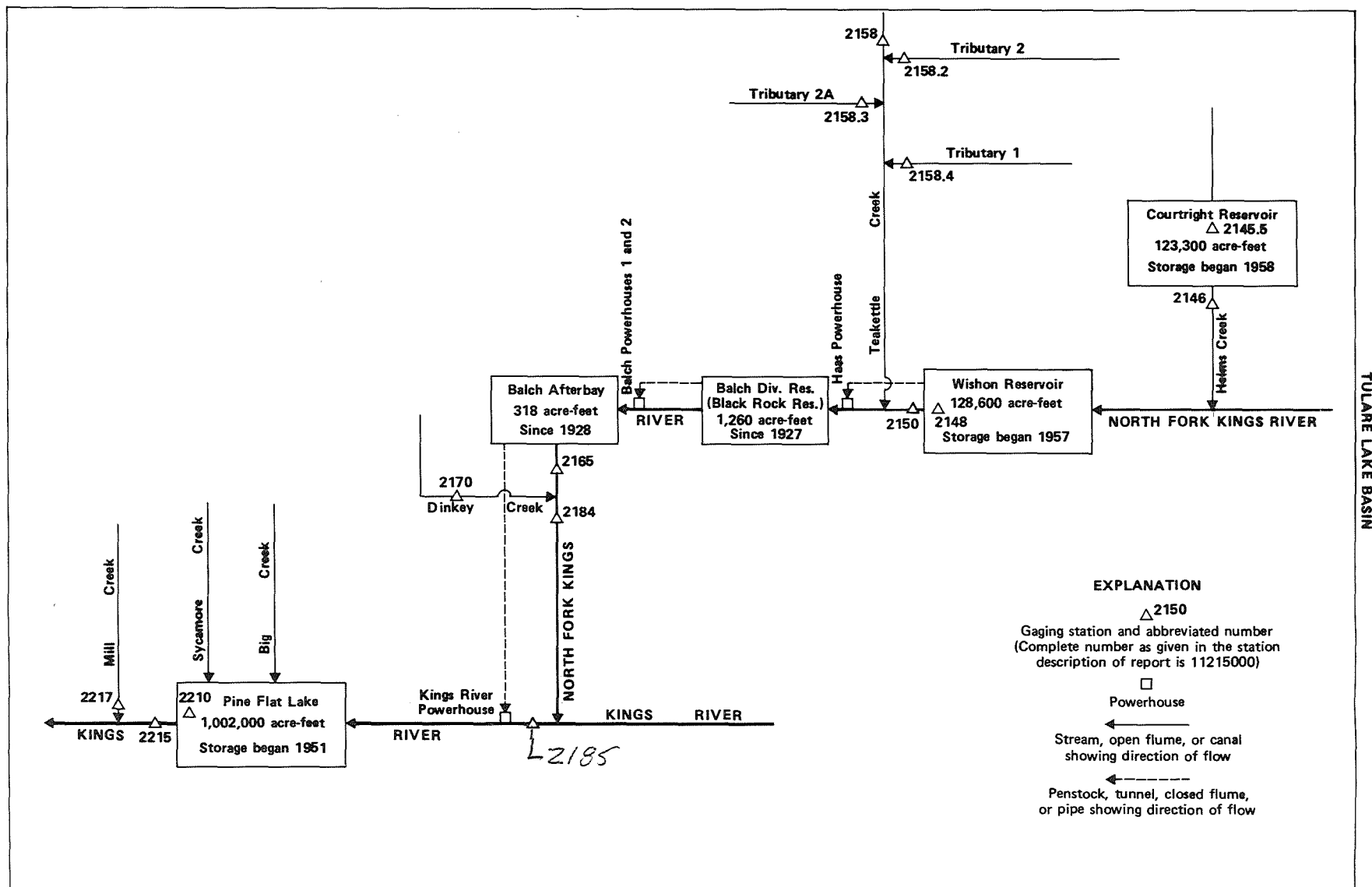


FIGURE 8. — Schematic diagram showing diversions and storage in Kings River basin.

## TULARE LAKE BASIN

11217000 DINKEY CREEK AT DINKEY MEADOW, NEAR SHAVER LAKE, CA

LOCATION.--Lat 37°02'50", long 119°08'52", in SW 1/4 NW 1/4 sec.21, T.10 S., R.26 E., Fresno County, Hydrologic Unit 18030010, Sierra National Forest, on left bank 0.5 mi downstream from Dinkey Meadow, 2.0 mi south of Dinkey Creek Post Office, and 14.4 mi southeast of town of Shaver Lake.

DRAINAGE AREA.--50.7 mi<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, from topographic map. September 1910 to September 1915, at site 1 mi upstream at different datum. October 1921 to September 1935, at present site at same datum.

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

AVERAGE DISCHARGE.--21 years (water years 1922-35, 1978-84), 121 ft<sup>3</sup>/s, 87,660 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,200 ft<sup>3</sup>/s Apr. 11, 1982, gage height, 12.07 ft; minimum recorded, 0.2 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0845	1,840	6.94	Mar. 13	2315	2,160	7.26
Nov. 24	1515	*4,420	9.03	May 13	1945	698	5.18
Dec. 25	0300	2,940	7.95				

Minimum daily, 2.7 ft<sup>3</sup>/s Sept. 16, 27-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	24	103	186	89	97	153	185	181	26	13	3.5
2	43	24	98	166	86	104	148	222	154	25	12	3.3
3	33	19	91	156	86	109	151	288	138	22	11	3.3
4	29	15	98	159	86	114	160	288	161	20	9.9	3.4
5	23	14	96	166	90	110	161	286	156	18	8.7	3.7
6	21	13	89	159	91	110	176	310	116	15	8.2	3.1
7	19	15	86	155	90	115	160	353	101	14	7.9	3.1
8	18	17	91	147	87	123	177	410	96	15	7.5	3.3
9	17	15	107	137	113	125	148	423	92	14	6.8	3.2
10	17	17	114	130	103	136	292	441	87	14	6.7	3.1
11	17	521	105	123	97	144	267	488	74	14	6.7	3.9
12	16	160	98	116	102	130	269	511	70	12	6.6	3.6
13	15	150	102	109	120	349	303	529	70	13	6.5	2.9
14	15	93	110	96	118	490	336	473	75	17	5.7	2.9
15	15	69	106	98	124	242	374	337	79	21	6.0	2.8
16	14	56	102	98	143	183	359	269	69	21	5.4	2.7
17	14	321	101	92	111	186	337	294	65	28	5.4	2.9
18	15	138	93	83	105	163	267	315	58	48	5.7	3.9
19	15	265	89	84	100	177	259	362	53	58	5.4	3.2
20	15	413	83	82	97	200	218	397	50	75	5.2	3.2
21	14	162	77	84	96	208	209	394	49	39	5.1	3.4
22	14	112	77	81	83	203	228	389	47	32	5.2	3.4
23	13	114	76	80	82	201	289	389	43	38	5.5	3.4
24	12	1270	399	84	82	204	329	371	39	27	5.2	3.7
25	11	379	1560	88	80	210	286	337	35	23	4.3	3.9
26	11	192	690	89	78	247	210	328	32	20	4.4	3.9
27	11	160	475	84	80	226	184	315	31	17	4.6	2.7
28	12	137	278	87	83	222	176	293	28	14	4.4	2.7
29	12	118	232	101	87	207	173	269	27	13	3.8	2.7
30	22	108	293	100	---	168	181	246	26	12	4.1	2.8
31	24	---	242	92	---	160	---	215	---	19	4.3	---
TOTAL	579	5111	6361	3512	2789	5663	6980	10727	2302	744	201.2	97.6
MEAN	18.7	170	205	113	96.2	183	233	346	76.7	24.0	6.49	3.25
MAX	52	1270	1560	186	143	490	374	529	181	75	13	3.9
MIN	11	13	76	80	78	97	148	185	26	12	3.8	2.7
AC-FT	1150	10140	12620	6970	5530	11230	13840	21280	4570	1480	399	194
CAL YR	1983	TOTAL	112701	MEAN	309	MAX	1810	MIN	11	AC-FT	233500	
WTR YR	1984	TOTAL	45066.8	MEAN	123	MAX	1560	MIN	2.7	AC-FT	89390	

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 SW 1/4 NE 1/4 sec.21, T.12 S., R.26 E., Fresno County, Hydrologic Unit 18030010, on right bank 0.8 mi downstream from North Fork, 2.4 mi southwest of Balch Camp, and 8.5 mi southeast of Trimmer.

DRAINAGE AREA.--1,342 mi<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. WRD CA-72-2: Adjusted data for 1971.

GAGE.--Water-stage recorder. Datum of gage is 942.42 ft 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).--33 years, 2,353 ft<sup>3</sup>/s, 1,705,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 85,200 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 23.08 ft, from rating curve extended above 22,000 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; minimum daily, 86 ft<sup>3</sup>/s Oct. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1950, reached a stage of 21.6 ft from floodmarks, discharge, 74,200 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 9,720 ft<sup>3</sup>/s May 14; minimum daily, 420 ft<sup>3</sup>/s Oct. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1990	984	1640	2140	1240	1360	2520	2890	7220	4040	2350	1270
2	2050	1010	1470	2010	1230	1260	2420	2930	6360	3470	2080	1260
3	1910	862	1570	1990	1240	1190	2420	3680	5970	3950	1910	1220
4	1720	804	1330	2180	992	1200	2470	4480	5670	4000	1900	1270
5	1730	568	1600	2020	970	1220	2490	4440	6050	3650	1740	1220
6	1670	506	1550	2120	1170	1200	2410	4490	5080	3350	1710	1180
7	1540	775	1480	1960	1240	1290	2430	4970	4580	2950	1580	1220
8	1500	843	1470	1950	1120	1260	2670	5850	4240	2920	1530	1180
9	1470	777	1790	2020	1480	1380	2510	6650	4070	2680	1520	1150
10	1440	772	2070	1940	1690	1420	2780	6870	4310	2540	1630	1270
11	1410	2650	1700	1890	1380	1480	3060	7940	4210	2170	1590	1210
12	1410	1610	1760	1770	1210	1540	3050	8770	4150	2360	1390	1300
13	1480	1580	1600	1800	1510	1920	3320	9400	4210	2460	1460	1200
14	1400	1290	1610	1500	1720	3750	3760	9720	4270	2410	1440	1130
15	1370	1380	1570	1470	1590	2380	4210	7390	3990	2290	1690	1150
16	1350	967	1530	1040	2810	2120	4710	6120	3600	3070	1960	1160
17	1330	1920	1270	981	1910	2010	4510	6190	3930	3220	1770	1180
18	1320	2030	1210	943	1600	1950	3920	6120	4180	3400	1700	1160
19	1320	1650	1320	1080	1450	1910	3860	6800	4290	3580	2310	1170
20	1130	4130	1240	1050	1330	2030	3380	7890	4270	3570	1950	1250
21	982	2200	1380	1050	1550	2350	3190	8550	4060	3290	1750	1150
22	929	1940	1420	977	1460	2290	3210	8650	3990	2790	1780	1170
23	884	1770	1410	1240	1430	2320	3440	9230	4030	3820	1650	654
24	871	6220	2210	1380	1520	2350	4010	9420	3980	2830	1590	643
25	890	3900	8340	1250	1190	2440	4150	8690	3940	2650	1540	619
26	1050	2400	6840	1190	1160	2610	3510	8680	4030	2290	1430	820
27	944	1950	5900	1130	1290	2760	3140	8560	4180	2110	1420	958
28	857	1920	3760	993	1280	2670	2950	8430	4340	2220	1270	1130
29	420	1970	2980	1040	1310	2640	2790	8180	4290	2080	1320	638
30	579	1670	2800	1090	---	2480	2830	8150	4060	2230	1320	693
31	823	---	2530	1170	---	2460	---	7530	---	2270	1420	---
TOTAL	39769	53048	70350	46364	41072	61240	96120	217660	135550	91060	51700	32625
MEAN	1283	1768	2269	1496	1416	1975	3204	7021	4518	2937	1668	1088
MAX	2050	6220	8340	2180	2810	3750	4710	9720	7220	4040	2350	1300
MIN	420	506	1210	943	970	1190	2410	2890	3600	2080	1270	619
AC-FT	78880	105200	139500	91960	81470	121500	190700	431700	268900	180600	102500	64710
MEAN a	700	1723	2305	1448	1395	2125	3249	8325	4207	2528	1086	479
AC-FT a	43040	102500	141700	89030	80240	130700	193300	511900	250300	155400	66780	28500

CAL YR 1983 TOTAL 1983827 MEAN 5435 MAX 20800 MIN 420 AC-FT 3935000 MEAN a 5349 AC-FT a 3873000  
WTR YR 1984 TOTAL 936558 MEAN 2559 MAX 9720 MIN 420 AC-FT 1858000 MEAN a 2471 AC-FT a 1794000

a Adjusted for change in contents in Wishon and Courtright Reservoirs.

## TULARE LAKE BASIN

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

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956 to current year.

CHEMICAL ANALYSES: Water years 1956-66, 1968-70, 1973 to current year.

BIOLOGICAL DATA: Water years 1978-81.

WATER TEMPERATURES: Water years 1967 to current year.

SEDIMENT RECORDS: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1966 to current year.

INSTRUMENTATION.--Temperature recorder since October 1966.

REMARKS.--Quality of water samples are obtained at the gaging station upstream from the powerplant. Temperature recorder located 1 mi downstream from gaging station. Temperature subject to fluctuation because of powerplant operation upstream. Temperature sensor inundated by Pine Flat Lake from Oct. 1 to Dec. 3, Dec. 24 to Jan. 9, Feb. 18 to Mar. 10, and from Mar. 14 to July 24.

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, 20.5°C Sept. 13, 14; minimum recorded, 4.0°C Jan. 15, 18, 19, 24.

## WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV , 1983											
23...	1330	1200	45	6.6	6.0	740	.70	11.6	96	K9	29
JAN , 1984											
25...	1400	841	43	6.8	9.0	740	.90	12.1	107	K2	42
MAR											
14...	1530	2170	35	6.6	10.0	740	5.0	10.6	97	K21	K15
MAY											
31...	1230	6490	11	6.4	15.0	735	5.4	9.4	96	--	K5
JUL											
26...	1230	1640	22	6.6	19.5	740	.90	10.8	121	K3	K11
SEP											
20...	1215	585	41	7.0	20.5	735	.80	9.0	104	K32	180

DATE	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)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV , 1983											
23...	15	0	4.7	.70	2.6	26	.3	.9	16	3.2	.40
JAN , 1984											
25...	17	0	5.3	.84	3.3	29	.4	.8	18	3.1	1.0
MAR											
14...	12	0	3.9	.60	2.4	29	.3	.7	13	3.5	2.2
MAY											
31...	5	0	1.6	.20	.8	24	.2	.5	6	1.4	.20
JUL											
26...	9	0	2.9	.40	1.7	28	.3	.6	11	2.1	1.2
SEP											
20...	13	0	4.4	.50	2.3	26	.3	1.1	15	2.7	1.0

See footnotes at end of table.

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

## WATER QUALITY DATA

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1983											
23...	<.1	11	33	33	.04	<.10	.09	.8	.01	.01	<.01
JAN , 1984											
25...	<.1	14	36	39	.05	<.10	.02	<.2	<.01	<.01	.02
MAR											
14...	.1	12	29	34	.04	<.10	.03	.2	.03	<.01	.03
MAY											
31...	<.1	4.4	10	13	.01	<.10	.03	.2	.02	.02	<.01
JUL											
26...	<.1	5.2	18	21	.02	<.10	.12	.4	.01	.01	.02
SEP											
20...	<.1	7.4	31	29	.04	<.10	.02	<.2	.01	.01	<.01

		ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DATE	TIME									
NOV , 1983										
23...	1330	20	1	10	<.5	<1	<1	<3	2	49
MAR , 1984										
14...	1530	80	2	10	<.5	<1	<1	<3	<1	62
MAY										
31...	1230	40	<1	8	<1	<1	<1	<3	<1	15
SEP										
20...	1215	40	1	9	<1	<1	<1	<3	<1	16

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1983											
23...	2	7	11	.2	<10	2	<1	<1	33	<6	20
MAR , 1984											
14...	<1	<4	4	<.1	<10	<1	<1	<1	30	<6	6
MAY											
31...	<1	4	<1	<.1	<10	4	<1	2	12	<6	8
SEP											
20...	2	<4	4	<.1	<10	<1	<1	<1	30	<6	11

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.

## TULARE LAKE BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

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

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT  
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	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
NOV 23...	1330	1190	6.0	3	9.6	85
JAN 25...	1400	841	9.0	2	4.5	68
MAR 14...	1530	2190	10.0	11	65	53
MAY 31...	1230	6470	15.0	20	349	56
JUL 26...	1230	1640	19.5	16	71	53
SEP 20...	1215	590	20.5	3	4.8	60

## TULARE LAKE BASIN

## 11221000 PINE FLAT LAKE NEAR PIEDRA, CA

LOCATION.--Lat 36°49'58", long 119°19'29", in SE 1/4 NE 1/4 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 upstream from Mill Creek, 3.5 mi northeast of Piedra, and 16 mi northeast of Sanger.

DRAINAGE AREA.--1,545 mi<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 between elevations 565.5 ft, bottom of lower tier of river outlets, and 951.5 ft, 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 July 15, 1967, June 8, 9, 1974, elevation, 952.76 ft; minimum since gross pool elevation first obtained, 66,339 acre-ft Sept. 12, 1977, elevation, 691.29 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 949,232 acre-ft June 5, elevation, 942.66 ft; minimum, 514,428 acre-ft Sept. 30, elevation, 854.22 ft.

## 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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	861856	770788	735163	758674	675394	735861	744659	782442	947848	879178	669416	535605
2	859080	769561	730292	753616	676440	734815	746064	780382	948828	875983	661959	534848
3	855495	767622	725834	748376	677488	733721	747219	779712	948828	870163	654453	534049
4	851106	765328	721243	743456	677916	732428	748275	780638	948252	865675	647225	533459
5	846246	762073	716618	738255	678011	730937	749482	781670	949232	860385	639810	532535
6	841938	758776	711962	733968	679251	729151	750590	782700	948366	854139	632623	531318
7	838447	755890	706980	730540	681447	727269	751749	784403	947271	846676	625159	530312
8	835716	753111	702357	726873	683935	725290	753212	787608	946292	839629	617560	530354
9	832668	750338	698477	723463	687292	723808	754323	792324	945429	832294	609740	530186
10	829466	747570	695865	719766	691233	722377	755839	797578	944796	823031	604256	530228
11	825953	748678	691957	716177	694368	720849	757812	804895	943990	815147	599290	530145
12	822447	747671	688684	712158	696736	719667	759485	813987	942898	806886	593989	530479
13	818740	746616	688924	708248	700125	719766	761717	824252	941634	798986	588713	530731
14	815306	745210	692341	703767	703913	724697	764718	835180	940429	790872	583637	530437
15	812037	741553	695865	699301	707712	725933	768438	841293	938479	783319	579505	530312
16	808777	735612	699059	693933	714607	726526	772886	845006	935218	775961	575782	530186
17	805523	732129	701678	688444	719076	726922	776833	848836	931790	769613	571375	529935
18	802487	729747	704156	682882	722624	727319	779558	852784	928029	763497	567461	529474
19	800291	733422	706882	677822	725883	727517	782597	858047	924446	757964	564991	528805
20	798257	743005	709322	674490	728507	727714	783732	865239	921100	754474	562179	528260
21	795704	747872	712207	672780	730143	728259	784145	873783	917930	746014	559678	527592
22	793623	749835	715147	670883	731186	728805	785126	882212	914992	738803	557569	526882
23	791442	747421	718043	669746	732179	729846	786107	891300	912059	735462	555163	525379
24	788798	755434	723018	670505	733322	730888	787608	900665	906211	727120	552762	523462
25	785849	757560	745411	671357	733721	732179	789057	908457	902344	720504	550239	521633
26	782958	754879	761261	672163	734317	733869	789369	915951	898430	713185	547510	520801
27	780330	751296	771197	672733	735015	736011	789006	923254	894415	705470	544913	518893
28	777759	747471	771658	673018	735512	737805	787918	930079	890299	697848	542113	518024
29	774627	743856	769561	673350	735861	739653	786314	936018	886582	689886	539699	516162
30	772528	739553	766704	673872	---	741303	784455	941462	882599	682452	537756	514428
31	771658	---	763140	674490	---	743105	---	945141	---	676107	536786	---
MAX	861856	770788	771658	758674	735861	743105	789369	945141	949232	879178	669416	535605
MIN	771658	729747	688684	669746	675394	719667	746659	779712	882599	676107	536786	514428
a	910.00	903.65	908.33	890.30	902.91	904.36	912.49	941.95	930.86	890.64	859.58	854.22
b	-92980	-32105	+23587	-88650	+61371	+7244	+41350	+160686	-62542	-206492	-139321	-22358
c	1669	544	329	373	553	1100	1638	3275	3902	4521	3605	3036

CAL YR 1983 b +118468

WTR YR 1984 b -350210

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.



## TULARE LAKE BASIN

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA

LOCATION.--Lat 36°49'50", long 119°20'07", in SW 1/4 NW 1/4 sec.2, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030012, on right bank 0.6 mi downstream from Pine Flat Dam, and 2.9 mi northeast of Piedra.

DRAINAGE AREA.--1,545 mi<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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1956, at site 0.2 mi downstream at datum 3.48 ft lower.

REMARKS.--Records good. Flow regulated by Pine Flat Lake (station 11221000) 0.6 mi 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).--31 years, 2,448 ft<sup>3</sup>/s, 1,774,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,100 ft<sup>3</sup>/s June 3, 4, 8, 9, 1969, gage height, 10.73 ft; minimum daily, 1.1 ft<sup>3</sup>/s Feb. 26, 27, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,250 ft<sup>3</sup>/s July 30, gage height, 7.58 ft; minimum daily, 17 ft<sup>3</sup>/s Nov. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3540	1490	4130	4850	967	1600	1910	4080	5740	5950	5940	1840
2	3610	1730	4190	4940	829	1900	1950	4130	5740	6060	5950	1720
3	3870	1800	4190	5000	812	1990	2040	4130	5840	6160	5860	1580
4	4150	2010	4150	5000	865	2060	2050	4060	5880	6410	5640	1580
5	4290	2200	4170	5000	1010	2170	2080	4020	5520	6580	5550	1710
6	3980	2200	4170	4620	776	2280	2110	4040	5360	6580	5430	1780
7	3470	2250	4210	4020	277	2450	2130	4080	5090	6600	5380	1730
8	3010	2280	4120	4040	151	2470	2130	4150	4660	6600	5430	1130
9	3190	2250	4330	4040	141	2320	2180	4130	4470	6600	5550	1190
10	3210	2280	4120	4040	40	2320	2240	4100	4530	6620	4430	1180
11	3310	2140	4190	4040	57	2480	2300	4130	4530	6600	4190	1180
12	3400	2240	3870	4080	127	2400	2410	4060	4640	6580	4130	1180
13	3480	2250	1780	4060	150	2320	2430	4080	4790	6580	4120	1180
14	3290	2010	156	4020	79	2080	2410	4130	4810	6560	4040	1170
15	3090	3330	156	4080	102	2130	2440	4230	4930	6530	3920	1190
16	3090	4040	171	4040	55	2170	2480	4170	5300	6530	3910	1220
17	3080	4020	186	4000	38	2140	2610	4150	5690	6510	3920	1260
18	2920	3480	191	4000	51	2120	2730	4020	6020	6480	3830	1360
19	2570	46	178	3870	105	2050	2700	4060	6040	6460	3560	1500
20	2330	17	184	2920	170	2110	3090	4130	5950	6460	3290	1540
21	2260	98	184	2100	941	2260	2980	4150	5800	6460	3110	1520
22	1970	1030	199	2100	1150	2220	2900	4230	5810	6440	2900	1480
23	2010	3130	185	2120	1130	2000	3080	4470	5970	6390	2870	1460
24	2260	3850	167	1200	1110	2070	3360	4560	5960	6250	2880	1520
25	2430	3560	64	974	1080	2000	3540	4680	5970	6130	2870	1520
26	2500	4040	1230	974	1060	1970	3520	4740	6020	6090	2840	1580
27	2360	4150	2560	967	1060	1980	3500	4740	6250	6110	2810	1580
28	2180	4060	4340	967	1170	1980	3700	4870	6340	6230	2720	1600
29	1980	4060	4700	974	1180	1980	3870	5090	6200	6200	2600	1520
30	1640	4100	4760	961	---	1900	3960	5290	5970	6000	2320	1480
31	1280	---	4760	954	---	1900	---	5550	---	5880	1980	---
TOTAL	89750	76141	75991	98951	16683	65820	80830	134450	165820	197630	123970	43480
MEAN	2895	2538	2451	3192	575	2123	2694	4337	5527	6375	3999	1449
MAX	4290	4150	4760	5000	1180	2480	3960	5550	6340	6620	5950	1840
MIN	1280	17	64	954	38	1600	1910	4020	4470	5880	1980	1130
AC-FT	178000	151000	150700	196300	33090	130600	160300	266700	328900	392000	245900	86240

CAL YR 1983 TOTAL 2056872 MEAN 5635 MAX 13600 MIN 17 AC-FT 4080000 MEAN a 5743 AC-FT a 4158000  
WTR YR 1984 TOTAL 1169516 MEAN 3195 MAX 6620 MIN 17 AC-FT 2320000 MEAN a 2659 AC-FT a 1930000

a 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, 6.5°C on several days in January 1982.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 19.0°C Sept. 23; minimum recorded, 7.0°C Feb. 17.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11221500 KINGS RIVER BELOW PINE FLAT DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## TULARE LAKE BASIN

11221700 MILL CREEK NEAR PIEDRA, CA

LOCATION.--Lat 36°49'07", long 119°20'27", in NE 1/4 NE 1/4 sec.10, T.13 S., R.24 E., Fresno County, Hydrologic Unit 18030008, on left bank 150 ft upstream from road bridge, 0.7 mi upstream from mouth, and 2.3 mi east of Piedra.

DRAINAGE AREA.--127 mi<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, from topographic map. Prior to July 14, 1958, at site 150 ft upstream at same datum.

REMARKS.--Records good. Some small diversions above station for irrigation. See schematic diagram of Kings River basin.

AVERAGE DISCHARGE.--27 years, 48.3 ft<sup>3</sup>/s, 34,990 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s Dec. 6, 1966, gage height, 9.53 ft in gage well, 10.2 ft from floodmarks; maximum gage height, 9.65 ft 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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2145	1,350	4.61	Feb. 16	0345	1,320	4.59
Dec. 26	0115	*2,140	5.16	Mar. 14	0700	358	3.58

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	15	40	135	39	68	55	31	8.4	2.0		
2	17	17	37	119	38	66	51	31	8.0	2.0		
3	14	16	39	108	37	64	48	31	7.6	2.0		
4	13	16	81	99	37	62	46	30	7.6	2.3		
5	12	15	61	92	37	61	46	28	8.5	2.3		
6	11	14	50	86	35	58	48	27	11	2.5		
7	11	14	45	79	35	56	47	26	13	1.7		
8	11	13	41	75	34	55	44	24	13	1.4		
9	12	14	43	71	42	53	44	23	12	.66		
10	12	13	151	67	173	52	42	22	12	.34		
11	12	17	105	65	99	52	43	21	11	.20		
12	11	17	144	64	75	51	42	19	10	.20		
13	11	18	91	62	68	59	40	18	9.8	.15		
14	10	19	74	60	42	227	39	18	9.2	0		
15	11	18	65	57	87	108	36	18	9.2	0		
16	11	17	59	58	652	85	34	18	9.1	0		
17	11	22	56	71	249	83	34	17	8.6	0		
18	11	52	52	64	172	78	34	17	8.5	0		
19	12	30	49	57	141	72	50	16	7.9	0		
20	11	83	48	54	122	67	58	16	7.3	0		
21	12	118	45	52	111	63	45	15	6.7	0		
22	11	58	44	51	104	61	40	14	6.2	0		
23	11	39	47	50	98	58	37	14	5.8	0		
24	11	329	64	49	91	56	35	13	5.4	0		
25	11	350	649	48	86	54	33	13	5.0	0		
26	11	111	1080	46	81	52	34	12	4.7	0		
27	12	72	828	46	77	55	34	12	4.3	0		
28	11	57	343	45	74	53	34	11	4.1	0		
29	11	50	223	44	70	51	32	10	3.8	0		
30	12	44	179	42	---	50	31	9.0	3.3	0		
31	14	---	157	41	---	51	---	8.9	---	0		
TOTAL	374	1668	4990	2057	3006	2081	1236	582.9	241.0	17.75	0	0
MEAN	12.1	55.6	161	66.4	104	67.1	41.2	18.8	8.03	.57	0	0
MAX	23	350	1080	135	652	227	58	31	13	2.5	0	0
MIN	10	13	37	41	34	50	31	8.9	3.3	0	0	0
AC-FT	742	3310	9900	4080	5960	4130	2450	1160	478	35	0	0
CAL YR 1983	TOTAL	72098.0	MEAN	198	MAX	2920	MIN	3.9	AC-FT	143000		
WTR YR 1984	TOTAL	16253.65	MEAN	44.4	MAX	1080	MIN	0	AC-FT	32240		

11224500 LOS GATOS CREEK ABOVE NUNEZ CANYON, NEAR COALINGA, CA

LOCATION.--Lat 36°12'53", long 120°28'11", in NW 1/4 SE 1/4 sec.5, T.20 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on right bank 50 ft downstream from highway bridge, 1.1 mi upstream from Nunez Canyon, 3.0 mi downstream from White Creek, and 8.1 mi northwest of Coalinga.

DRAINAGE AREA.--95.8 mi<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 National Geodetic Vertical Datum of 1929. Prior to Aug. 2, 1959, at site 100 ft downstream at same datum.

REMARKS.--Records fair except those for December, which are poor. No communication Nov. 24, Dec. 24, 25 when intakes were plugged with silt. Minor diversion for irrigation and stock ponds.

AVERAGE DISCHARGE.--39 years, 6.00 ft<sup>3</sup>/s, 4,350 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (SINCE 1950).--Maximum discharge, 4,360 ft<sup>3</sup>/s Feb. 24, 1969, gage height, 10.34 ft in gage well, 11.30 ft from floodmarks, from rating curve extended above 800 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 10.34 ft, maximum gage height, 10.65 ft in gage well, 11.95 ft 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 probably occurred on Nov. 24 and Dec. 25; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.1	2.8	6.5	9.4	3.6	2.8	2.3	1.1	.20	.02		
2	5.0	3.6	5.5	9.2	3.7	2.8	2.2	1.1	.16	.02		
3	3.8	3.7	15	8.7	3.5	2.7	2.1	1.1	.13	.01		
4	3.1	3.4	16	8.3	3.5	2.6	1.9	.97	.12	.01		
5	2.6	3.4	10	7.9	3.4	2.7	2.0	.90	.31	0		
6	2.3	3.1	8.7	7.4	3.4	2.8	2.1	.86	.35	0		
7	2.2	2.9	7.9	6.9	3.4	2.8	1.9	.75	.36	0		
8	2.2	2.8	7.0	6.5	3.4	2.8	1.8	.67	.35	0		
9	2.3	2.8	8.4	6.4	3.6	2.7	1.8	.61	.33	0		
10	2.5	2.8	14	6.0	3.8	2.6	1.8	.56	.31	0		
11	2.3	5.5	11	6.0	3.6	2.6	1.8	.51	.30	0		
12	2.2	5.7	13	6.0	3.6	2.6	1.7	.51	.29	0		
13	2.2	5.7	10	6.0	3.4	2.9	1.6	.49	.32	0		
14	2.3	6.3	9.2	6.0	3.0	3.9	1.3	.46	.31	0		
15	2.4	5.4	8.5	5.5	2.9	3.0	1.0	.43	.31	0		
16	2.4	5.0	7.9	5.3	2.8	2.8	1.0	.41	.31	0		
17	2.3	4.7	7.5	5.0	2.7	2.6	1.1	.39	.29	0		
18	2.2	4.7	7.0	4.6	2.8	2.5	1.5	.40	.24	0		
19	2.2	4.7	7.0	4.4	2.7	2.5	2.1	.39	.19	0		
20	2.2	4.9	7.0	4.4	2.6	2.4	2.0	.37	.15	0		
21	2.0	5.4	6.9	4.9	2.7	2.3	1.6	.35	.13	0		
22	1.9	5.1	6.5	4.5	2.8	2.3	1.3	.37	.11	0		
23	1.9	5.0	6.7	4.2	2.8	2.3	1.2	.34	.09	0		
24	1.9	15	17	4.1	2.7	2.2	1.0	.33	.08	0		
25	1.8	20	59	4.0	2.7	2.2	.96	.34	.06	0		
26	1.8	11	38	3.9	2.7	2.2	1.3	.32	.05	0		
27	1.6	8.7	24	3.9	2.6	2.2	1.6	.30	.04	0		
28	1.4	7.8	17	3.8	2.8	2.2	1.8	.28	.04	0		
29	1.8	6.9	14	3.7	2.8	2.1	1.3	.30	.03	0		
30	2.1	6.6	12	3.6	---	2.1	1.1	.28	.03	0		
31	2.4	---	10	3.5	---	2.1	---	.25	---	0		
TOTAL	77.4	175.4	398.2	174.0	90.0	79.3	48.16	16.44	5.99	0.06	0	0
MEAN	2.50	5.85	12.8	5.61	3.10	2.56	1.61	.53	.20	.002	0	0
MAX	8.1	20	59	9.4	3.8	3.9	2.3	1.1	.36	.02	0	0
MIN	1.4	2.8	5.5	3.5	2.6	2.1	.96	.25	.03	0	0	0
AC-FT	154	348	790	345	179	157	96	33	12	.1	0	0
CAL YR 1983	TOTAL	17193.8	MEAN	47.1	MAX	1950	MIN	1.1	AC-FT	34100		
WTR YR 1984	TOTAL	1064.95	MEAN	2.91	MAX	59	MIN	0	AC-FT	2110		

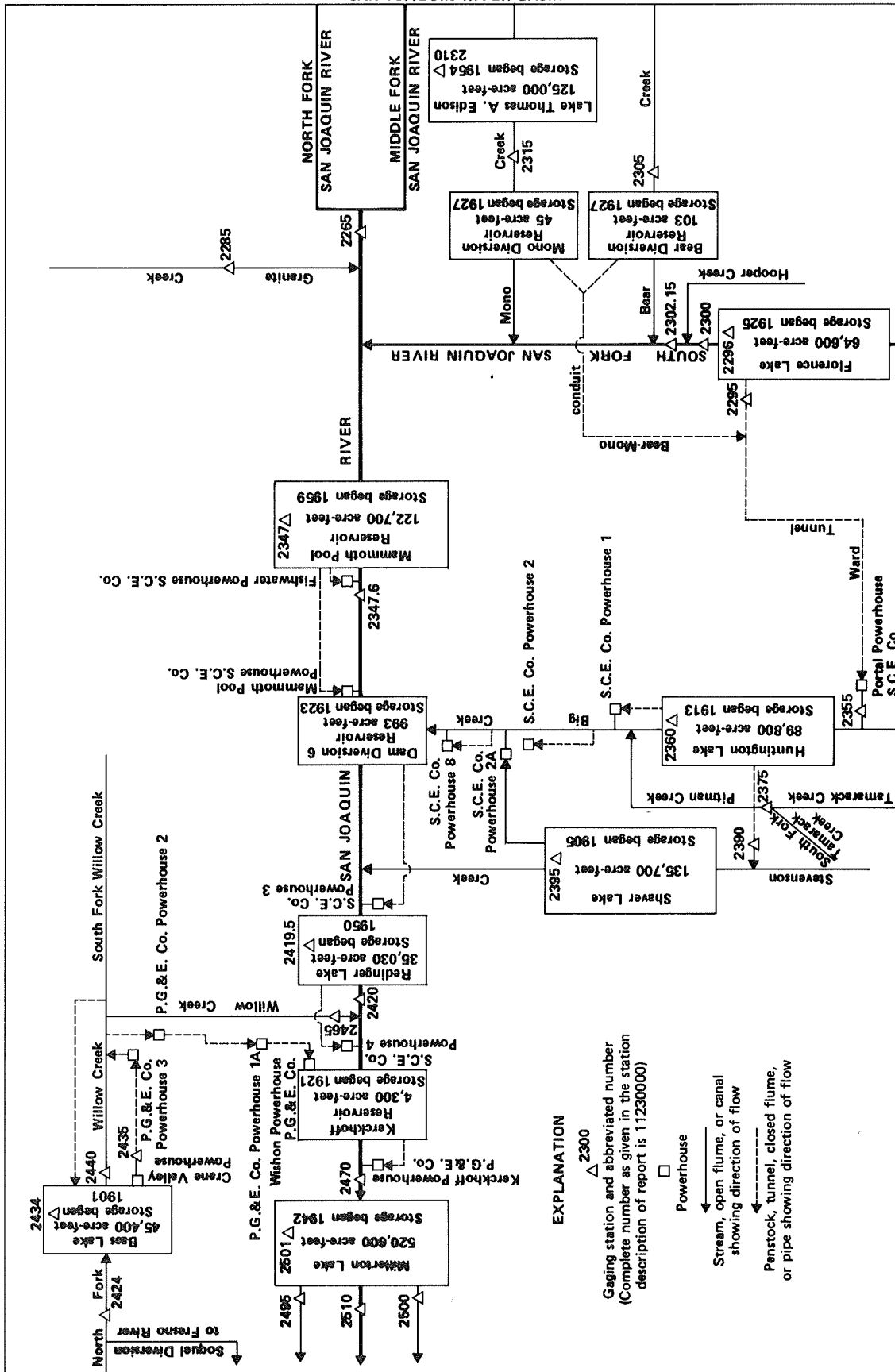


FIGURE 9. -- Schematic diagram showing diversions and storage in San Joaquin River basin.

11229600 FLORENCE LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°16'26", long 118°58'23", in NW 1/4 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 northeast of town of Big Creek.

DRAINAGE AREA.--171 mi<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, 64,406 acre-ft between elevations 7,220.94 ft, throat of Venturi tube in Ward Tunnel intake and 7,327.50 ft, top of spillway drum gates, NGVD. Additional storage of 168 acre-ft 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, 65,990 acre-ft July 3, 1932, elevation, 7,329.14 ft; 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, 64,281 acre-ft July 18, elevation, 7,327.37 ft; minimum, 935 acre-ft several days in November, elevation, 7230.31 ft.

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

7,220.94	0	7,235	1,774	7,260	11,608	7,290	31,966
7,222	63	7,240	2,976	7,265	14,580	7,300	39,851
7,224	201	7,245	4,666	7,270	17,755	7,310	48,284
7,227	495	7,250	6,648	7,275	21,097	7,320	57,312
7,230	887	7,255	8,950	7,280	24,588	7,330	66,826

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29014	4623	1248	1298	1181	1187	1257	1337	51888	63714	63571	59104
2	28044	3447	1235	1278	1178	1198	1248	1402	52518	63331	63532	58702
3	27091	2360	1223	1269	1178	1200	1246	1552	52716	63341	63571	58159
4	26212	1332	1235	1269	1178	1204	1264	1701	54180	63360	63475	57544
5	25547	1000	1246	1273	1178	1204	1267	1774	55897	63197	63427	57034
6	25024	935	1250	1273	1178	1210	1264	1842	56942	63120	63360	56488
7	24517	935	1246	1260	1178	1221	1282	2185	57201	63657	63216	55943
8	23985	935	1244	1251	1178	1232	1307	3049	57843	64089	63044	55391
9	23422	935	1244	1233	1188	1237	1282	4569	59160	64050	62853	54849
10	22840	935	1250	1225	1188	1244	1344	5475	60460	64002	62700	54290
11	22241	935	1259	1214	1197	1248	1339	6899	61796	64098	62633	53742
12	21640	935	1260	1209	1197	1239	1359	8633	63120	64166	62462	53269
13	21029	935	1264	1200	1205	1271	1412	10747	64069	63839	62243	52779
14	20383	935	1266	1187	1204	1276	1490	12784	64185	63484	62081	52293
15	19750	935	1264	1192	1214	1264	1600	13464	64050	63580	62014	51780
16	19114	935	1257	1190	1217	1239	1682	13663	63772	63820	62024	51378
17	18417	1096	1251	1176	1210	1237	1621	14165	63705	64098	61976	50860
18	17561	1214	1233	1175	1210	1226	1483	14921	63944	64281	62233	50389
19	16709	1362	1233	1178	1205	1248	1413	16446	63925	63848	62481	49901
20	15766	1339	1212	1171	1202	1293	1378	18609	63590	63695	62471	49469
21	14803	1312	1204	1170	1200	1312	1352	21063	63321	63465	62414	48985
22	14642	1284	1204	1168	1193	1309	1362	24042	63341	63408	62395	48459
23	13579	1276	1205	1168	1195	1316	1438	27522	63427	63264	62300	47919
24	12442	1412	1428	1168	1188	1328	1528	31085	63532	63024	62128	47345
25	11330	1346	1806	1168	1178	1332	1511	34388	63733	62967	61872	46999
26	10247	1321	1550	1163	1171	1353	1434	37727	63954	62910	61587	46645
27	9182	1303	1408	1161	1176	1327	1387	40833	64021	63207	61255	46387
28	8136	1284	1362	1163	1176	1323	1361	43995	63973	63618	60914	45899
29	7161	1264	1339	1170	1176	1305	1341	47008	64002	63724	60517	45599
30	6270	1253	1346	1175	---	1278	1337	49319	63944	63877	60054	45045
31	5392	---	1328	1180	---	1273	---	50860	---	63906	59584	---
MAX	29014	4623	1806	1298	1217	1353	1682	50860	64185	64281	63571	59104
MIN	5392	935	1204	1161	1171	1187	1246	1337	51888	62910	59584	45045
a	7246.92	7232.23	7232.65	7231.81	7231.79	7232.34	7232.70	7312.92	7327.02	7326.98	7322.43	7306.24
b	-24076	-4139	+75	-148	-4	+97	+64	+49523	+13084	-38	-4322	-14539
CAL YR 1983	b	+342										
WTR YR 1984	b	+15577										

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

## SAN JOAQUIN RIVER BASIN

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 northeast of town of Big Creek.

DRAINAGE AREA.--90.0 mi<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, 125,035 acre-ft between elevations 7,508.9 ft, invert of outlet works and 7,642.50 ft, 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, 125,983 acre-ft Sept. 26, 1982, elevation, 7,643.55 ft; minimum since appreciable storage was attained, 5,080 acre-ft Mar. 27, 1969, elevation, 7,553.09 ft.  
NOTE.--Prior to 1960, maximum and minimum daily contents were published.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,998 acre-ft July 16, elevation, 7,642.48 ft; minimum, 38,834 acre-ft Mar. 6, elevation, 7,588.71 ft.

Capacity table (elevation, in feet NGVD, and contents, in acre-feet)							
7,508.9	0	7,535	513	7,560	9,521	7,610	68,616
7,515	18	7,540	928	7,570	18,137	7,620	85,006
7,520	64	7,545	1,833	7,580	28,515	7,630	102,367
7,525	156	7,550	3,567	7,590	40,454	7,640	120,424
7,530	297	7,555	6,147	7,600	53,769	7,644	127,820

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	120884	120442	107181	92155	66126	42664	40467	44440	87186	118152	124591	122485
2	120884	120479	106626	91343	65264	41829	40581	44493	88709	118756	124628	122337
3	120865	120516	106232	90515	64454	40988	40594	44702	90118	119343	124683	122189
4	120829	120553	105625	89723	63649	40164	40632	45135	91878	119911	124739	122079
5	120681	120516	105090	88932	62819	39346	40721	45581	93316	120332	124720	121914
6	120626	119874	104572	88109	61965	38834	40823	46083	94480	120516	124628	121711
7	120553	118976	104091	87306	61175	38846	40899	46706	95454	120902	124553	121527
8	120442	118299	103540	86469	60347	38871	41014	47679	96310	121527	124479	121307
9	120332	117622	103113	85652	59625	38896	41077	48524	97202	122097	124479	121123
10	120186	117055	102580	84854	58836	38933	41281	49672	98167	122595	124424	120884
11	120131	116544	102137	83957	58035	38958	41446	51023	99046	123094	124368	120608
12	120241	115943	101588	83129	57256	38983	41612	52402	99962	123592	124294	120351
13	120332	115324	101093	82287	56536	39108	41842	54150	100845	124128	124220	120131
14	120387	114723	100562	81380	55737	39170	42124	55836	101712	124628	124146	119892
15	120387	114142	100033	80594	54997	39183	42484	57083	102580	124905	124128	119654
16	120424	113543	99469	79793	54249	39183	42947	58151	103433	124998	124146	119434
17	120516	113161	98922	78897	53420	39220	43504	59215	104358	124961	124091	119178
18	120516	112600	98360	78003	52639	39245	43894	60332	105321	124665	124035	118958
19	120516	112311	97781	77163	51822	39258	44075	61727	106286	124831	123980	118811
20	120516	112130	97167	76309	50995	39308	44114	63528	107288	124720	123851	118866
21	120424	111569	96607	75492	50218	39396	44114	65233	108293	124739	123795	118921
22	120424	111046	96136	74613	49402	39447	44114	67272	109245	124757	123758	119013
23	120498	110505	95577	73737	48524	39560	44153	69327	110289	124665	123684	119086
24	120590	110343	95349	72915	47666	39686	44257	71295	111262	124628	123555	118921
25	120645	110055	95577	72062	46812	39724	44401	73236	112239	124535	123426	118829
26	120645	109748	95594	71167	45991	40013	44440	75394	113307	124461	123278	118774
27	120645	109334	95158	70275	45135	40101	44453	77541	114251	124387	123131	118701
28	120700	108796	94706	69406	44309	40215	44453	79677	115378	124387	123001	118609
29	120755	108257	94410	68460	43491	40253	44414	81749	116490	124368	122928	118518
30	120810	107808	93750	67756	---	40366	44414	83754	117494	124368	122817	118408
31	120773	---	92952	66929	---	40416	---	85567	---	124498	122688	---
MAX	120884	120553	107181	92155	66126	42664	44453	85567	117494	124998	124739	122485
MIN	120131	107808	92952	66929	43491	38834	40467	44440	87186	118152	122688	118408
a	7640.19	7633.05	7624.63	7608.92	7592.37	7589.97	7593.08	7620.33	7638.40	7642.21	7641.23	7638.90
b	-111	-12965	-14856	-26023	-23438	-3075	+3998	+41153	+31927	+7004	-1810	-4280

CAL YR 1983 b -22281

WTR YR 1984 b -2476

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

b Change in contents, in acre-feet.



## 11234700 MAMMOTH POOL RESERVOIR NEAR BIG REEK, CA

LOCATION.--Lat 37°19'45", long 119°19'40", in SW 1/4 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 northwest of town of Big Creek.

DRAINAGE AREA.--995 mi<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, 119,940 acre-ft between elevations 3,100.00 ft, invert of power tunnel and 3,330.00 ft, crest of spillway, NGVD. Additional storage of 2,780 acre-ft is not available for release. Water is diverted through tunnel for power development; water is returned to river 8.5 mi downstream from dam. See schematic diagram of San Joaquin River basin.

COOPERATION.--Records furnished by Southern California Edison Co. in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 126,503 acre-ft June 2, 3, 1969; maximum elevation, 3,335.86 ft June 3, 1969; minimum contents since appreciable storage was attained, 2,956 acre-ft Feb. 6, 1982, elevation, 3,128.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 121,581 acre-ft May 30, elevation, 3,331.48 ft; minimum, 5,507 acre-ft Apr. 2, elevation, 3,145.25 ft.

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

3,100	0	3,130	3,114	3,180	14,060	3,260	56,381
3,105	417	3,140	4,605	3,190	17,414	3,280	72,109
3,110	861	3,150	6,402	3,200	21,400	3,300	89,781
3,115	1,355	3,160	8,618	3,220	31,109	3,320	109,336
3,120	1,900	3,170	11,165	3,240	42,787	3,336	126,661

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40628	35498	57208	90956	39567	19203	5572	8224	121203	112192	102280	63382
2	41269	35796	56440	90769	37504	18903	5507	9840	120981	111888	101474	62141
3	40966	35876	57327	90079	35424	18458	5531	12478	120604	111699	100216	60925
4	40426	35515	56861	89382	32891	18020	6003	14869	121214	111291	98550	59306
5	39779	35367	56191	89271	30664	17287	5587	15676	120892	110790	97245	58503
6	39639	35157	55507	88605	28484	16744	6040	16266	120516	110062	96049	57936
7	38972	35077	54714	87803	26259	15813	5569	17474	119656	109182	94670	57275
8	38719	34947	53998	86822	24185	15208	5715	20063	118783	108513	93372	56521
9	38490	34583	54248	85436	23871	14487	5874	23264	117810	107478	92034	56002
10	38107	34320	54965	83013	23500	12946	6202	28053	116965	106521	90779	55529
11	37849	38226	55363	80371	23309	11458	6034	35446	116005	105600	89373	55088
12	37623	38683	57060	77625	23147	9683	5615	43639	114923	104674	88614	54671
13	37617	39208	59164	75480	23269	8547	5693	53309	113961	103761	87308	54134
14	37403	38924	61344	73060	23044	10438	6210	61925	113370	102839	85909	53642
15	36988	38244	63436	70677	22972	9761	7464	65278	112433	101892	84611	53309
16	36646	37344	65406	68343	23436	8419	9019	66121	111709	101424	83834	52815
17	36349	40462	66637	65839	22394	7126	10223	67382	111239	101464	82519	52322
18	35899	41610	66024	63264	21027	5549	10467	69661	110999	102879	81205	51957
19	35384	42222	65366	60925	21082	6410	10161	72849	110644	106694	80089	51768
20	35015	45916	64599	58984	20772	6939	8956	77651	111270	108533	79177	51425
21	34611	46562	63374	56898	20772	6961	7329	82879	110425	109007	78507	50938
22	34253	46457	60948	54513	20701	7161	5732	88070	109699	109523	77419	50397
23	33918	46131	58653	53147	20642	6612	5619	93741	110300	108307	75891	50473
24	34147	54141	58863	52210	20547	6347	6163	99192	110644	107908	74466	49872
25	34041	56213	71267	51390	20226	6189	6548	103921	110769	107622	73237	49235
26	33695	58212	77427	50418	20185	6546	5528	108688	110842	106806	72159	48493
27	33317	58556	84222	49419	20100	6454	5563	113275	110988	105994	70960	47791
28	33434	58661	86447	47943	20063	6063	5585	117799	111353	105086	69456	46993
29	33957	58429	87381	45793	19664	5973	5838	121437	111867	104192	67846	46060
30	34639	57876	89049	43684	---	5853	6795	121581	112233	103610	66225	46353
31	35174	---	90648	41685	---	5836	---	121381	---	102720	64479	---
MAX	41269	58661	90648	90956	39567	19203	10467	121581	121214	112192	102280	63382
MIN	33317	34320	53998	41685	19664	5549	5507	8224	109699	101424	64479	46060
a	3227.35	3262.02	3300.93	3238.24	3195.80	3147.07	3151.89	3331.30	3322.78	3313.47	3270.65	3245.54
b	-7437	+22702	+32772	-48963	-22021	-13828	+959	+114586	-9148	-9513	-38241	-18126

CAL YR 1983 b -23820

WTR YR 1984 b +3742

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

## SAN JOAQUIN RIVER BASIN

11236000 HUNTINGTON LAKE NEAR BIG CREEK, CA

LOCATION.--Lat 37°14'03", long 119°12'41", in SW 1/4 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 northeast of town of Big Creek.

DRAINAGE AREA.--80.5 mi<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, 89,166 acre-ft between elevations 6,819.90 ft, invert of outlet tunnel No. 1 and 6,950.00 ft, spillway crest at dam 1. NGVD. Additional storage of 600 acre-ft 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, 90,491 acre-ft May 31, 1926, elevation, 6,950.92 ft; minimum 2,103 acre-ft Nov. 6, 1937, elevation, 6,838.53 ft.

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, 88,923 acre-ft Sept. 19, elevation, 6,949.83 ft; minimum, 41,202 acre-ft Apr. 10, elevation, 6,910.98 ft.

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

6,819.90	0	6,835	1,552	6,870	11,293	6,920	50,812
6,820	8	6,840	2,354	6,880	16,370	6,930	62,555
6,822	142	6,845	3,324	6,890	22,882	6,940	75,344
6,825	382	6,850	4,480	6,900	30,861	6,950	89,166
6,830	899	6,860	7,427	6,910	40,216	6,951	90,606

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88666	86247	86686	85162	72954	58846	44713	52016	83095	88308	88337	88194
2	88794	86317	86516	84951	72482	58441	44270	52345	83150	88237	88480	88194
3	88837	86303	86558	84867	72012	58036	43749	53278	83637	88365	88565	88194
4	88708	86303	86431	84615	71556	57632	43260	54323	84839	88523	88637	88108
5	88494	86078	86345	84546	71192	57254	42858	55365	85895	88651	88594	88108
6	88237	85852	86289	84252	70752	57089	42425	56488	86501	88809	88594	88065
7	87979	85571	86190	83930	70325	56511	42036	57869	86700	88851	88623	88108
8	87865	85458	86021	83581	69887	55810	41711	59782	86941	88751	88523	88208
9	87922	85289	86247	83206	69322	55111	41415	61613	87112	88580	88451	88208
10	87965	85247	87211	82790	68337	54590	41202	63135	87750	88637	88480	88208
11	87808	85557	87452	82415	67408	53760	41314	65181	87722	88680	88580	88237
12	87566	85683	87410	81931	66511	53256	41395	67687	87822	88823	88608	88279
13	87225	85740	87438	81463	65795	52674	41670	70312	87765	88680	88594	88322
14	86956	85726	87324	80995	65332	52038	42312	72639	87808	88680	88523	88365
15	86714	85712	87282	80556	65144	51621	43312	73756	87836	88551	88551	88594
16	86416	85655	87197	80242	64956	50879	44375	73940	87951	88737	88623	88594
17	86176	85951	87126	79941	64633	50156	45366	74682	88051	88308	88651	88608
18	86176	85923	86927	79777	64372	49590	46016	75865	88265	88365	88637	88708
19	86233	86317	86729	79572	64049	48863	46497	77285	88079	88666	88623	88923
20	86317	87027	86530	79042	63714	48370	46842	78893	87665	88594	88594	88680
21	86388	87168	86078	78486	63369	47935	47068	80119	87168	88480	88551	88408
22	85712	87381	84923	77958	62839	47510	47359	80406	87225	88279	88537	88108
23	85726	87537	84196	77514	62286	47284	47978	80624	87438	88465	88537	87850
24	85866	88422	84532	77016	61772	47133	49050	81036	87608	88551	88494	87865
25	85979	88022	86007	76505	61247	46842	50078	81284	87808	88422	88422	87367
26	86035	86913	86176	75945	60762	46745	50779	81615	87893	88322	88351	86885
27	86035	86487	86176	75451	60252	46464	51172	81973	88079	88422	88265	86303
28	86078	86587	85852	74920	59770	46272	51419	82221	88437	88565	88165	85923
29	86021	86729	85331	74403	59314	45995	51565	82485	88580	88680	88165	85345
30	85979	86757	85289	73888	---	45664	51711	82859	88651	88909	88151	84853
31	86078	---	85275	73375	---	45218	---	83039	---	88766	88194	---
MAX	88837	88422	87452	85162	72954	58846	51711	83039	88651	88909	88651	88923
MIN	85712	85247	84196	73375	59314	45218	41202	52016	83095	88237	88151	84853
a	6947.83	6948.31	6947.26	6938.51	6927.33	6914.86	6920.80	6945.66	6949.64	6949.72	6949.32	6946.96
b	-2502	+679	-1482	-11900	-14061	-14096	+6493	+31328	+5612	+115	-572	-3341

CAL YR 1983 b -2547

WTR YR 1984 b -3727

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

b Change in contents, in acre-feet.

11242400 NORTH FORK WILLOW CREEK NEAR SUGAR PINE, CA

LOCATION.--Lat 37°23'52", long 119°33'55", in SW 1/4 NE 1/4 sec.21, T.6 S., R.22 E., Madera County, Hydrologic Unit 18040006, on right bank at road bridge 0.6 mi downstream from Sequel Campground, 3.0 mi upstream from Chilkoot Creek, and 4.7 mi southeast of Sugar Pine.

DRAINAGE AREA.--16.9 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 5,200 ft, from topographic map.

REMARKS.--Records good. No storage above station.

AVERAGE DISCHARGE.--19 years, 27.7 ft<sup>3</sup>/s, 20,070 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,750 ft<sup>3</sup>/s Jan. 13, 1980, gage height, 7.41 ft, from rating curve extended above 300 ft<sup>3</sup>/s on basis of a step-backwater survey; minimum daily, 0.29 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0730	162	4.03	Dec. 25	1615	387	4.59
Nov. 24	1515	*501	4.80	Feb. 16	0015	156	4.00
Dec. 9	2200	153	3.99	Mar. 13	2145	196	4.13

Minimum daily, 2.4 ft<sup>3</sup>/s Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	13	37	85	36	35	42	46	30	13	4.6	3.0
2	19	11	36	76	35	35	42	50	28	12	4.2	2.8
3	15	9.9	42	70	35	35	42	51	26	12	4.1	2.5
4	13	9.5	53	68	35	35	41	53	40	12	4.0	2.5
5	13	9.2	37	68	34	33	41	52	36	11	3.7	2.5
6	12	9.2	33	65	33	35	43	51	33	11	3.7	2.5
7	12	9.5	32	62	34	34	41	54	31	10	3.6	2.5
8	12	9.3	33	60	33	34	43	60	29	9.5	3.6	2.8
9	12	9.2	59	57	39	35	41	64	26	9.1	3.2	2.8
10	12	10	70	55	39	35	52	66	25	9.0	3.2	2.7
11	11	75	51	53	35	35	49	71	24	8.8	3.2	2.5
12	11	37	44	51	36	35	48	78	23	8.4	3.2	2.9
13	11	39	42	50	45	67	52	81	23	8.1	3.2	3.0
14	11	28	41	48	44	77	56	76	22	7.8	3.2	2.8
15	11	21	40	47	57	58	59	65	22	8.5	3.0	2.7
16	11	20	38	49	77	50	61	56	22	9.2	3.4	2.7
17	10	101	41	46	48	52	62	54	20	7.8	3.2	2.7
18	10	49	38	44	43	48	60	54	19	7.2	2.9	9.6
19	9.8	65	36	43	41	48	59	55	19	7.0	2.8	6.0
20	9.6	91	34	42	40	48	53	57	18	6.7	2.8	3.2
21	9.5	49	32	42	39	47	52	56	18	6.8	2.8	2.8
22	9.2	37	31	41	38	47	52	54	18	7.0	3.0	2.8
23	9.2	41	31	40	37	47	53	52	17	8.0	3.0	2.7
24	9.2	200	83	40	36	46	55	50	16	6.9	2.8	3.0
25	9.1	98	292	40	35	46	54	46	16	6.5	2.7	2.9
26	8.8	61	206	39	35	48	49	44	15	6.0	2.8	2.8
27	8.8	51	188	37	34	48	47	42	15	5.7	2.6	2.7
28	8.8	46	122	37	34	47	45	39	14	5.3	2.4	2.7
29	8.8	41	99	37	35	47	44	36	14	5.2	2.6	2.5
30	9.1	39	121	37	---	44	45	34	14	4.7	2.9	2.6
31	9.2	---	104	36	---	45	---	32	---	4.7	3.0	---
TOTAL	346.1	1288.8	2146	1565	1142	1376	1483	1679	673	254.9	99.4	92.2
MEAN	11.2	43.0	69.2	50.5	39.4	44.4	49.4	54.2	22.4	8.22	3.21	3.07
MAX	21	200	292	85	77	77	62	81	40	13	4.6	9.6
MIN	8.8	9.2	31	36	33	33	41	32	14	4.7	2.4	2.5
AC-FT	686	2560	4260	3100	2270	2730	2940	3330	1330	506	197	183
CAL YR 1983	TOTAL	30797.2	MEAN	84.4	MAX	292	MIN	8.8	AC-FT	61090		
WTR YR 1984	TOTAL	12145.4	MEAN	33.2	MAX	292	MIN	2.4	AC-FT	24090		

## SAN JOAQUIN RIVER BASIN

11243400 BASS LAKE NEAR BASS LAKE, CA

LOCATION.--Lat 37°17'33", long 119°31'43", in SE 1/4 NE 1/4 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 southeast of town of Bass Lake, and 5 mi north of North Fork.

DRAINAGE AREA.--50.4 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1911 to September 1982 (monthend contents only), October 1982 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 between elevations, 3,280.22 ft, invert of outlet conduit No. 3 and 3,376.40 ft, top of spillway gates. Additional storage of 300 acre-ft 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 is 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 from North Fork Willow Creek through Soquel ditch into Nelder Creek (Fresno River basin) during October and from March to July each year. Chilkoot ditch can divert up to 7 ft<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. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 45,960 acre-ft June 17, 1923, elevation, 3,376.8 ft; minimum, 35 acre-ft Nov. 19, 1953, elevation, 3,270.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,894 acre-ft June 26, elevation, 3,373.37 ft; minimum, 24,260 acre-ft Sept. 29, elevation, 3,355.69 ft.

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34892	31552	32640	33990	31180	32053	33011	34913	39831	41619	38229	30389
2	34965	31317	32510	33908	31044	32053	33031	34944	39973	41466	37989	30082
3	35028	31083	32720	33856	30909	32092	33092	34944	40093	41216	37858	29768
4	35070	30841	32680	33795	30773	32112	33122	34955	40333	40943	37858	29474
5	35112	30600	32580	33754	30629	32122	33152	34965	40518	40616	37858	29173
6	35165	30369	32460	33713	30523	32142	33234	34965	40671	40616	37629	28865
7	35207	30110	32320	33662	30485	32122	33275	35028	40790	40572	37401	28558
8	35270	29873	32231	33622	30513	32092	33305	35323	40943	40562	37150	28261
9	35291	29607	32540	33571	30677	32083	33346	35631	41063	40498	36934	27944
10	35334	29427	32720	33499	30763	32073	33611	35941	41161	40278	36674	27646
11	35376	29806	32850	33438	30812	32063	33836	36232	41259	40115	36394	27342
12	35419	29787	32830	33356	30889	32053	33908	36566	41335	39918	36134	27041
13	35482	29863	32770	33275	31112	32670	33990	36880	41466	39733	35888	26752
14	35493	29787	32690	33193	31277	33071	34062	37161	41521	39639	35674	26563
15	35546	29664	32620	33102	31581	33214	34124	37444	41619	39668	35376	26563
16	35609	29502	32530	33061	31885	33305	34196	37695	41729	39581	35123	26563
17	35503	30006	32470	32960	32043	33428	34289	37935	41839	39352	34892	26401
18	35228	30072	32380	32870	32142	33489	34371	38153	41751	39112	34610	26140
19	34850	30369	32281	32770	32162	33489	34537	38382	41553	38872	34351	25890
20	34526	30879	32216	32680	32191	33397	34620	38600	41521	38752	34093	25596
21	34279	30928	32023	32570	32221	33285	34662	38818	41586	38752	33785	25489
22	34134	32970	31905	32480	32231	33203	34724	39025	41641	38752	33479	25480
23	33754	30928	31758	32350	32231	33112	34756	39232	41707	38948	33173	25462
24	33499	32530	32013	32241	32231	33031	34923	39406	41795	38948	32850	25356
25	33244	32780	34186	32122	32221	32940	34944	39591	41839	38916	32530	25101
26	32991	32870	34892	32033	32191	32900	34949	39755	41894	38839	32211	24856
27	32730	32950	34839	31993	32162	32920	34955	39918	41773	38872	31905	24613
28	32460	32970	34485	32033	32092	32960	34955	40060	41652	38872	31601	24372
29	32211	32880	34258	31914	32063	32960	34944	40115	41488	38861	31317	24260
30	32211	32780	34227	31473	---	32981	34923	39995	41575	38763	31015	24269
31	31709	---	34114	31336	---	33011	---	39897	---	38523	30686	---
MAX	35609	32970	34892	33990	32231	33489	34955	40115	41894	41619	38229	30389
MIN	31709	29427	31758	31336	30485	32053	33011	34913	39831	38523	30686	24260
a	3363.77	3364.85	3366.16	3363.42	3364.13	3365.08	3366.94	3371.54	3373.08	3370.28	3362.72	3355.70
b	-3078	+1071	+1334	-2778	+727	+948	+1912	+4974	+1678	-3052	-7837	-6417

CAL YR 1983 b +564

WTR YR 1984 b -10518

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

## 11249500 MADERA CANAL AT FRIANT, CA

LOCATION.--Lat 37°00'10", long 119°42'21", in NW 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Madera County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi 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 downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at right end of Friant Dam for irrigation between San Joaquin and Chowchilla Rivers.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--41 years, 333 ft<sup>3</sup>/s, 241,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,330 ft<sup>3</sup>/s July 2, 1973, May 21, 1983; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1130				0	621	559	525	596	566	1270	514
2	1120				0	621	638	524	547	547	1260	512
3	1120				0	620	746	524	529	567	1270	487
4	1110				0	685	681	542	576	688	1270	472
5	1110				0	760	576	553	504	807	1260	470
6	1100				0	780	546	554	417	876	1250	468
7	1080				0	815	529	555	399	932	1240	460
8	1070				0	879	531	584	348	1050	1230	453
9	1050				0	901	532	600	320	1170	1220	452
10	1040				0	934	533	619	371	1200	1210	450
11	1030				0	984	533	545	400	1190	1190	449
12	831				0	1040	534	436	452	1150	877	416
13	550				0	1100	514	422	513	1140	670	398
14	313				0	1130	501	432	529	1140	651	385
15	200				0	984	548	455	495	1160	614	367
16	200				0	837	597	496	476	1170	592	361
17	200				0	766	641	511	475	1160	549	360
18	199				0	748	688	479	511	1150	516	399
19	297				0	705	664	499	577	1140	537	663
20	350				0	681	551	520	601	1130	552	805
21	350				357	680	502	506	598	1120	590	870
22	349				430	679	504	499	596	1110	608	897
23	347				296	680	505	499	595	1100	589	891
24	442				220	682	534	499	593	1100	545	928
25	403				343	685	581	449	590	1090	529	1010
26	319				418	631	602	421	630	1030	526	1040
27	267				501	600	603	454	650	995	542	1120
28	293				597	602	604	491	647	991	595	1170
29	316				623	603	605	549	617	1060	615	1120
30	315				---	605	553	609	600	1100	577	978
31	79				---	576	---	628	---	1230	530	---
TOTAL	18580	0	0	0	3785	23614	17235	15979	15752	31859	25474	19365
MEAN	599	0	0	0	131	762	574	515	525	1028	822	646
MAX	1130	0	0	0	623	1130	746	628	650	1230	1270	1170
MIN	79	0	0	0	0	576	501	421	320	547	516	360
AC-FT	36850	0	0	0	7510	46840	34190	31690	31240	63190	50530	38410
CAL YR 1983	TOTAL	271396	MEAN	744	MAX	1330	MIN	0	AC-FT	538300		
WTR YR 1984	TOTAL	171643	MEAN	469	MAX	1270	MIN	0	AC-FT	340500		

## SAN JOAQUIN RIVER BASIN

11250000 FRIANT-KERN CANAL AT FRIANT, CA

LOCATION.--Lat 36°59'53", long 119°42'11", in SE 1/4 SW 1/4 sec.5, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040006, at Friant Dam 0.9 mi northeast of Friant.

PERIOD OF RECORD.--March 1949 to current year.

GAGE.--Discharge computed on basis of valve openings in dam and head on valves. Prior to July 8, 1949, nonrecording gages at various sites and datums. July 8 to Sept. 30, 1949, water-stage recorder at site 0.2 mi downstream.

REMARKS.--Canal diverts from Millerton Lake (station 11250100) at left end of Friant Dam for irrigation in upper San Joaquin Valley.

COOPERATION.--Records of discharge furnished by Bureau of Reclamation and reviewed by Geological Survey, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--35 years, 1,422 ft<sup>3</sup>/s, 1,030,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,330 ft<sup>3</sup>/s June 25, 1982; no flow for several months in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	920	1310			969	2500	1290	1650	2880	4020	3260	2080
2	921	1240			1750	2160	1270	1740	2690	4110	3190	1960
3	826	1220			1650	1990	1330	1740	2790	4330	3050	2030
4	819	1170			1080	2110	1380	1590	2860	4460	2820	2090
5	847	1110			886	2250	1410	1400	2900	4510	2940	2050
6	818	1110			1760	2300	1300	1510	2910	4430	3070	2050
7	765	1130			2680	2400	1160	1580	2970	4320	3130	2000
8	737	1250			3030	2450	1170	1720	3160	4540	3130	1740
9	803	1360			3020	2320	1290	2040	3430	4670	3130	1720
10	883	1360			2890	2240	1410	2180	3780	4580	3090	1780
11	959	1300			2770	2350	1480	2120	4060	4320	2940	1760
12	1070	1120			2850	2330	1500	1930	4280	4390	2910	1710
13	1240	1000			2900	2200	1440	2100	4460	4340	2990	1670
14	1230	947			3010	1900	1270	2120	4430	3930	3240	1560
15	1090	1020			3260	1720	1370	2160	4110	4130	3340	1390
16	1160	1130			3200	1640	1540	2220	3640	4380	3180	1510
17	1250	1180			3560	1390	1720	2160	3530	4460	2310	1570
18	1290	1200			3740	1370	1830	2080	3500	4450	1840	1620
19	1340	1210			4110	1360	1590	1980	3750	4350	2040	1710
20	1380	1220			4400	1300	1120	2140	4210	3930	2190	1800
21	1390	1060			4150	1300	1030	2390	4220	3490	2280	1760
22	1370	608			3800	1350	1150	2460	3890	3460	2380	1540
23	1320	395			3710	1350	1240	2550	3640	3250	2410	1620
24	1320	94			3740	1240	1410	2630	3750	2870	2290	1660
25	1400	0			3720	1290	1660	2550	3850	2690	2180	1630
26	1560	0			3770	1400	1700	2250	3950	2560	2310	1680
27	1650	0			4080	1510	1590	2030	4130	2340	2380	1710
28	1580	0			4190	1600	1430	2150	4180	2290	2390	1660
29	1380	0			3410	1710	1460	2250	4070	2560	2550	1560
30	1370	0			---	1690	1580	2680	3980	2780	2620	1620
31	1380	---			---	1450	---	3000	---	3060	2460	---
TOTAL	36068	25744	0	0	88085	56170	42120	65100	110000	118000	84040	52240
MEAN	1163	858	0	0	3037	1812	1404	2100	3667	3806	2711	1741
MAX	1650	1360	0	0	4400	2500	1830	3000	4460	4670	3340	2090
MIN	737	0	0	0	886	1240	1030	1400	2690	2290	1840	1390
AC-FT	71540	51060	0	0	174700	111400	83550	129100	218200	234100	166700	103600
CAL YR 1983	TOTAL	485583	MEAN	1330	MAX	4700	MIN	0	AC-FT	963200		
WTR YR 1984	TOTAL	677567	MEAN	1851	MAX	4670	MIN	0	AC-FT	1344000		

## 11250100 MILLERTON LAKE AT FRIANT, CA

LOCATION.--Lat 37°00'00", long 119°42'13", in SW 1/4 SW 1/4 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 northeast of Friant.

DRAINAGE AREA.--1,638 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1941 to current year. Monthend contents only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Prior to May 29, 1944, nonrecording gage on left bank at same datum.

REMARKS.--Reservoir is formed by gravity-type concrete dam with spillway near center, completed in December 1942. Control valves installed in February 1944 and spillway gates installed in November 1947. Usable capacity, 503,200 acre-ft between elevations 375.4 ft invert of river outlet, and 578.0 ft top of drum-type spillway gates. Not available for release, 17,400 acre-ft. Millerton Lake is one of the storage units in Central Valley Project. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 528,700 acre-ft June 12, 1973, elevation, 579.66 ft; minimum since lake first filled, 133,600 acre-ft Apr. 11, 1969, elevation, 467.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 499,700 acre-ft June 6, elevation, 573.71 ft; minimum, 162,300 acre-ft Sept. 30, elevation, 480.23 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	366500	296400	331900	419000	408900	371500	417300	470700	494100	421600	274400	196300
2	362900	295900	331600	418000	410400	371000	418500	469700	496100	418200	270200	195100
3	359700	295200	331600	416700	412000	370800	419900	469000	496900	413800	266100	194100
4	355900	294600	331800	415400	414600	370500	420200	469400	496900	409400	262600	193400
5	352000	293800	331700	414100	418100	369800	422100	471800	498600	404700	259000	192300
6	347700	292700	331500	412900	420000	369200	423100	474100	499700	399200	254900	191000
7	344600	292900	331400	411500	420000	368500	426000	475900	499500	394100	251200	189600
8	342000	292500	331100	410000	419100	368000	429000	477400	498400	388400	246800	188800
9	338900	291700	331000	408800	418400	367300	430700	478300	496500	382300	242800	188000
10	335400	290900	330000	407800	417000	368400	431000	477700	493800	376200	239000	187200
11	331600	291200	330200	406800	416100	369200	432600	475700	490600	370900	235200	186300
12	329500	293800	329100	405800	415100	370100	433800	474400	486900	365700	232000	185400
13	327700	295700	328000	404700	413900	371300	435700	472500	482900	360000	229000	185300
14	326000	297500	328400	403600	413300	371200	438700	471200	479100	354100	225500	184900
15	324900	298900	332900	402500	412400	373400	441200	471700	475700	347900	222000	184600
16	323700	300000	336400	401500	413300	377500	443300	472700	473400	341300	219300	184000
17	322400	300200	340300	400500	412800	381400	444700	473500	471400	334800	217400	183300
18	321100	302000	345800	399400	411300	385000	446700	474800	469300	328100	216300	182800
19	319800	306000	351500	399800	408500	386300	448900	476000	467100	322200	215300	181400
20	318700	311700	357000	399100	404900	388300	452200	477100	462800	316400	214100	179700
21	317000	315600	362600	400000	401200	391900	455800	477900	458600	311800	212200	178100
22	314900	319300	369700	399400	398000	392900	459200	478800	456200	306900	210600	176700
23	313300	322200	377300	400300	395100	395400	462300	478900	452400	303600	209100	175100
24	310500	327400	384400	400700	391900	398300	465100	479300	448500	299400	207700	173300
25	308600	332700	397000	401700	388700	401100	466800	480100	444800	296500	206800	171600
26	305700	333400	410400	402200	385000	403800	468800	481600	441200	293600	205300	169800
27	304500	333300	419900	402300	380700	406500	470900	483700	437000	291200	203600	167800
28	302300	333000	421700	402400	375800	409100	472700	485300	432900	289100	201800	165800
29	300100	332600	422000	403400	372400	411300	472100	486600	429000	286100	200200	164100
30	298000	332300	421300	404600	---	413100	471500	488500	425300	282900	198600	162300
31	297100	---	420600	406800	---	415400	---	490800	---	278700	197200	---
MAX	366500	333400	422000	419000	420000	415400	472700	490800	499700	421600	274400	196300
MIN	297100	290900	328000	399100	372400	367300	417300	469000	425300	278700	197200	162300
a	525.07	534.64	556.37	553.17	544.88	555.17	567.71	571.84	557.46	579.80	493.55	480.23
b	-74000	+35200	+88300	-13800	-34400	+43000	+56100	+19300	-65500	-146600	-81500	-34900
c	990	500	340	230	500	970	1660	3190	3460	3390	2340	1660

CAL YR 1983 b +61400

WTR YR 1984 b -208800

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA

LOCATION.--Lat 36°59'04", long 119°43'24", in SW 1/4 SW 1/4 sec.7, T.11 S., R.21 E., Fresno County, Hydrologic Unit 18040001, on left bank 0.5 mi west of Friant, 1.5 mi downstream from Cottonwood Creek, 2 mi downstream from Friant Dam, and at mile 268.1.

DRAINAGE AREA.--1,676 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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 National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation). Oct. 18, 1907, to Nov. 9, 1913, nonrecording gage at site 4.5 mi upstream at different datum. Nov. 10, 1913, to Sept. 30, 1968, water-stage recorder at site 2.5 mi upstream at different datum.

REMARKS.--Records good except those for Nov. 2 to Dec. 1, which are fair. Flow regulated by Millerton Lake (station 11250100) beginning in 1941, and by reservoirs described in REMARKS for San Joaquin River below Kerckhoff powerhouse (station 11247000). 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).--77 years, 2,452 ft<sup>3</sup>/s, 1,776,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,200 ft<sup>3</sup>/s Dec. 11, 1937, gage height, 23.8 ft site and datum then in use; minimum, 38 ft<sup>3</sup>/s regulated, July 29, 1940. Maximum discharge since construction of Friant Dam in 1941, 12,400 ft<sup>3</sup>/s June 6, 1969; minimum, 5.5 ft<sup>3</sup>/s Oct. 20, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,660 ft<sup>3</sup>/s Dec. 28, gage height 7.78 ft; minimum daily, 28 ft<sup>3</sup>/s Dec. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2100	1050	3120	4600	1650	62	293	128	124	136	150	113
2	1800	998	3120	4590	1170	48	306	128	124	137	150	113
3	1580	998	3130	4580	1070	48	317	131	124	136	149	113
4	1580	996	3120	4570	956	48	317	129	124	133	149	113
5	1570	997	3090	4550	982	49	312	129	124	131	149	115
6	1570	995	3110	4540	1010	50	319	128	125	130	148	98
7	1570	996	3110	4530	1010	51	332	128	125	130	147	78
8	1570	996	3100	4510	1010	51	345	127	125	130	124	86
9	1570	994	3100	4490	820	52	353	126	125	128	104	85
10	1570	994	3110	4480	453	51	355	126	124	127	103	86
11	1330	994	3100	4470	267	49	360	127	124	126	103	97
12	1060	995	3100	4490	257	50	363	124	124	126	103	122
13	1050	997	2680	4500	247	53	368	124	124	126	103	137
14	1050	998	1480	4480	241	83	377	125	146	127	103	149
15	1050	999	272	4450	233	78	351	123	168	126	103	149
16	1050	999	120	4420	242	90	232	123	166	124	102	149
17	1050	1000	99	4400	243	95	232	124	166	124	122	150
18	1050	701	99	4400	233	93	233	123	166	122	140	136
19	1050	234	83	4130	203	91	237	121	165	135	136	107
20	1040	150	65	3650	161	89	176	120	164	149	135	89
21	1040	118	48	3410	82	91	91	121	163	149	135	89
22	1040	246	28	3410	72	91	91	117	161	149	122	89
23	1040	959	29	3410	106	92	92	118	160	149	109	89
24	1040	1820	386	2830	105	91	100	119	159	148	109	89
25	1040	2230	1440	2150	104	91	123	118	159	146	109	88
26	1050	2810	2680	2670	103	120	123	120	158	147	109	88
27	1040	3000	4120	2930	103	181	124	122	158	149	110	88
28	1040	3000	4570	2940	93	210	126	123	149	148	111	87
29	1040	3000	4640	2970	68	246	126	122	137	148	110	86
30	1040	3010	4630	2920	---	264	127	124	136	148	111	86
31	1040	---	4620	2450	---	277	---	124	---	149	111	---
TOTAL	38710	38274	69399	120920	13294	3035	7301	3842	4297	4233	3769	3164
MEAN	1249	1276	2239	3901	458	97.9	243	124	143	137	122	105
MAX	2100	3010	4640	4600	1650	277	377	131	168	149	150	150
MIN	1040	118	28	2150	68	48	91	117	124	122	102	78
AC-FT	76780	75920	137700	239800	26370	6020	14480	7620	8520	8400	7480	6280
MEAN a	1827	2734	3681	3679	3037	3386	3189	3105	3292	2642	2368	1933
AC-FT a	112300	162700	226300	226200	174700	208200	189800	190900	195900	162500	145600	115000
CAL YR 1983	TOTAL	1578300	MEAN	4324	MAX	11800	MIN	28	AC-FT	3131000	MEAN a	6490
WTR YR 1984	TOTAL	310238	MEAN	848	MAX	4640	MIN	28	AC-FT	615400	MEAN a	2907
											AC-FT a	4711000
												2110000

a Adjusted for change in contents and evaporation from Millerton Lake and for diversions to Madera and Friant-Kern canals.

Note.-- No gage-height record Nov. 2 to Dec. 1.



## SAN JOAQUIN RIVER BASIN

11251000 SAN JOAQUIN RIVER BELOW FRIANT, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1983 to September 1984.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEC C)	CALCIUM DIS- SOLVED (HG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (HG/L AS HG)	SODIUM, DIS- SOLVED (HG/L AS NA)	POTAS- SIUM, DIS- SOLVED (HG/L AS K)	ALKA- LITY FIELD (HG/L AS CACO3)	
SEP , 1984											
06...	1120	88	37	6.6	12.5	3.6	.70	3.2	.80	24	
		SULFATE DIS- SOLVED (HG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (HG/L AS CL)	FLUO- RIDE, DIS- SOLVED (HG/L AS F)	BROMIDE DIS- SOLVED (HG/L AS BR)	SILICA, DIS- SOLVED (HG/L AS SIO2)	PHOS- PHORUS, ORTHO, DIS- SOLVED (HG/L AS P)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
DATE											
SEP , 1984											
06...	1.8	1.7	.00	<.00	10	.00	1	20	<1	4	
		COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DATE											
SEP , 1984											
06...	1	43	3	8	11	<.1	<2	<1	<1	8	

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

## SAN JOAQUIN RIVER BASIN

11253310 CANTUA CREEK NEAR CANTUA CREEK, CA

LOCATION.--Lat 36°24'08", long 120°25'57", in SE 1/4 SE 1/4 sec.34, T.17 S., R.14 E., Fresno County, Hydrologic Unit 18030012, on left bank 9.2 mi southwest of town of Cantua Creek, and 19 mi north of Coalinga.

DRAINAGE AREA.--46.4 mi<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, from topographic map. Prior to October 1966, crest-stage gage at datum 2.00 ft lower.

REMARKS.--Records good except those for period of no gage-height record, which are fair. Some small dams for stock use above station.

AVERAGE DISCHARGE.--18 years, 3.59 ft<sup>3</sup>/s, 2,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,420 ft<sup>3</sup>/s Mar. 1, 1983, gage height, 5.72 ft; maximum gage height, 6.60 ft Feb. 24, 1969; no flow for several months in most years.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Dec. 25	Unknown	*248	2.86

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	1.9	2.4	8.0	1.8	1.6	1.5	.96	.01			
2	1.9	2.2	2.1	6.8	1.9	1.6	1.5	.94	.01			
3	1.6	1.6	5.9	6.8	1.9	1.6	1.4	.88	.01			
4	1.5	1.5	6.6	6.7	1.8	1.5	1.3	.84	.02			
5	1.4	1.5	3.7	6.2	1.8	1.5	1.3	.82	.03			
6	1.4	1.5	3.2	5.8	1.8	1.5	1.4	.80	.03			
7	1.4	1.5	2.9	5.6	1.8	1.5	1.4	.77	.03			
8	1.4	1.5	2.6	5.3	1.8	1.5	1.3	.73	.03			
9	1.4	1.5	7.1	5.4	1.9	1.5	1.3	.64	.02			
10	1.4	1.4	8.3	5.0	2.0	1.5	1.3	.56	.02			
11	1.3	3.6	6.2	4.9	1.9	1.5	1.3	.54	.01			
12	1.3	2.4	6.2	4.8	1.9	1.5	1.2	.50	.01			
13	1.3	2.0	4.4	4.6	1.9	1.6	1.2	.45	.01			
14	1.3	2.4	3.6	4.1	1.8	3.0	1.1	.41	.01			
15	1.3	2.0	3.5	3.5	1.8	2.0	.97	.50	0			
16	1.4	1.8	3.4	3.4	1.9	1.8	.94	.62	0			
17	1.3	1.8	3.2	3.2	1.9	1.7	.93	.57	0			
18	1.3	1.9	3.1	3.0	1.8	1.7	1.1	.47	0			
19	1.3	1.8	3.1	2.8	1.9	1.6	1.2	.41	0			
20	1.3	1.9	3.1	2.7	1.8	1.6	1.2	.30	0			
21	1.3	2.3	3.1	3.0	1.9	1.6	1.1	.18	0			
22	1.2	2.1	3.0	2.8	2.0	1.6	1.0	.14	0			
23	1.2	2.0	2.9	2.5	1.8	1.6	.95	.09	0			
24	1.2	4.7	10	2.4	1.8	1.5	.87	.07	0			
25	1.2	10	130	2.3	1.7	1.5	.85	.06	0			
26	1.2	4.1	33	2.1	1.7	1.5	.98	.06	0			
27	1.2	3.2	29	2.1	1.7	1.4	1.1	.05	0			
28	1.2	2.9	20	2.1	1.7	1.4	1.1	.04	0			
29	1.2	2.6	13	2.0	1.6	1.4	1.0	.03	0			
30	1.3	2.4	11	2.0	---	1.4	.96	.02	0			
31	1.3	---	9.0	1.9	---	1.4	---	.01	---			
TOTAL	43.5	74.0	348.6	123.8	53.0	49.6	34.75	13.46	0.25	0	0	0
MEAN	1.40	2.47	11.2	3.99	1.83	1.60	1.16	.43	.008	0	0	0
MAX	3.5	10	130	8.0	2.0	3.0	1.5	.96	.03	0	0	0
MIN	1.2	1.4	2.1	1.9	1.6	1.4	.85	.01	0	0	0	0
AC-FT	86	147	691	246	105	98	69	27	.5	0	0	0

CAL YR 1983 TOTAL 7107.26 MEAN 19.5 MAX 671 MIN .95 AC-FT 14100  
WTR YR 1984 TOTAL 740.96 MEAN 2.03 MAX 130 MIN 0 AC-FT 1470

NOTE.--No gage-height record Dec. 14 to Jan. 18.

## SAN JOAQUIN RIVER BASIN

11253500 JAMES BYPASS NEAR SAN JOAQUIN, CA

LOCATION.--Lat 36°39'09", long 120°10'49", in NE 1/4 SW 1/4 sec.1, T.15 S., R.16 E., Fresno County, Hydrologic Unit 18030012, on right bank 3.2 mi north of San Joaquin.

PERIOD OF RECORD.--October 1947 to current year. Published as "Fresno Slough bypass" in WSP 1315-A and 1735. Daily discharge for period October 1954 to September 1972 are in files of Bureau of Reclamation. Monthly totals published in WDR CA-72-2.

GAGE.--Water-stage recorder. Altitude of gage is 160 ft, from topographic map.

REMARKS.--Diversion above station for irrigation. James Bypass carries overflow from Kings River to San Joaquin River.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--37 years, 279 ft<sup>3</sup>/s, 202,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 5,570 ft<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 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	648	1420	3690	4200	100	0	0					
2	1420	1470	3640	4260	40	0	25					
3	1770	1630	3620	4290	20	0	25					
4	1740	1810	3720	4270	20	0	10					
5	1940	1960	3780	4300	20	10	25					
6	2180	2160	3750	4280	20	20	15					
7	2330	2330	3720	4270	20	20	0					
8	2440	2390	3720	4200	20	10	0					
9	2240	2430	3780	4150	20	10	0					
10	1640	2460	3720	4120	20	10	0					
11	1670	2460	3720	4160	20	10	0					
12	1660	2500	3750	4140	20	10	0					
13	1700	2390	3780	4130	10	10	0					
14	1800	2480	3410	4080	10	10	0					
15	1900	2490	1530	4060	10	10	0					
16	1660	2360	545	4060	10	10	0					
17	1500	2550	489	4090	15	30	0					
18	1460	3050	427	4050	15	50	0					
19	1710	3400	229	4040	15	35	0					
20	1880	2930	125	3570	10	35	0					
21	1760	646	125	2830	10	20	0					
22	1780	4.0	125	1920	10	10	0					
23	1700	1020	125	1440	0	10	0					
24	1650	1710	125	1240	0	0	0					
25	1570	2860	125	1040	0	0	0					
26	1690	3380	125	504	0	0	0					
27	1720	3500	330	440	0	0	0					
28	1710	3680	1740	390	0	0	0					
29	1620	3720	2610	347	0	0	0					
30	1470	3720	3590	200	---	0	0					
31	1440	---	4040	200	---	0	---					
TOTAL	53398	70910.0	68205	93271	455	330	100	0	0	0	0	0
MEAN	1723	2364	2200	3009	15.7	10.6	3.33	0	0	0	0	0
MAX	2440	3720	4040	4300	100	50	25	0	0	0	0	0
MIN	648	4.0	125	200	0	0	0	0	0	0	0	0
AC-FT	105900	140600	135300	185000	902	655	198	0	0	0	0	0
CAL YR 1983	TOTAL	1197296	MEAN	3280	MAX	5360	MIN	3.0	AC-FT	2375000		
WTR YR 1984	TOTAL	286669.0	MEAN	783	MAX	4300	MIN	0	AC-FT	568600		

## SAN JOAQUIN RIVER BASIN

11257500 FRESNO RIVER NEAR KNOWLES, CA

LOCATION.--Lat 37°14'14", long 119°46'26", in SE 1/4 NW 1/4 sec.15, T.8 S., R.20 E., Madera County, Hydrologic Unit 18040007, on left bank at Fresno Crossing, 0.1 mi downstream from Bean Gulch, and 6 mi northeast of Knowles.

DRAINAGE AREA.--133 mi<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 National Geodetic Vertical Datum of 1929. Prior to June 13, 1930, nonrecording gage 10 ft upstream and June 13, 1930, to Jan. 13, 1931, water-stage recorder at site 40 ft upstream at datum 0.34 ft lower.

REMARKS.--Records good except those for July to September, which are fair. Diversions for irrigation of 160 acres above station. Diversions into Fresno River basin above station of up to 60 ft<sup>3</sup>/s at times since 1888 from the Merced River basin. Diversions are for irrigation downstream from station.

AVERAGE DISCHARGE.--69 years (water years 1912, 1917-84), 85.6 ft<sup>3</sup>/s, 62,020 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,300 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 11.52 ft, from rating curve extended above 4,500 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2115	2,260	5.55	Dec. 25	1630	*2560	5.85
Dec. 10	0500	674	3.26	Mar. 14	0415	603	3.10

Minimum daily, 1.7 ft<sup>3</sup>/s Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	51	77	313	94	112	138	80	35	22	6.2	2.5
2	52	80	73	280	94	107	129	86	34	24	6.2	3.2
3	37	55	178	258	91	103	124	84	33	23	5.6	4.8
4	31	48	286	237	89	101	118	83	37	22	5.6	4.3
5	28	44	152	221	86	98	120	81	68	21	6.1	2.9
6	25	44	107	208	86	94	137	77	52	20	6.2	1.9
7	25	43	94	195	86	92	128	73	47	19	6.3	1.7
8	26	44	86	188	85	90	119	74	44	20	5.8	1.8
9	29	44	104	179	96	88	122	75	37	19	4.7	2.0
10	29	48	408	170	205	88	122	73	34	18	4.2	2.3
11	27	181	251	166	131	85	132	72	35	19	3.7	2.4
12	25	134	291	162	111	83	125	74	32	19	3.5	2.7
13	25	124	183	158	118	117	120	74	32	18	3.7	2.2
14	28	123	150	150	228	364	115	73	31	17	4.4	2.9
15	27	70	135	143	171	213	112	72	31	9.9	4.1	2.9
16	28	53	114	150	435	199	108	69	31	11	3.9	2.8
17	28	225	113	153	259	256	122	62	28	8.7	4.4	3.0
18	28	266	105	141	203	209	113	61	26	7.3	4.5	3.2
19	29	119	95	137	176	186	147	59	23	7.1	3.3	3.0
20	29	490	90	131	159	174	151	57	22	7.9	2.7	3.0
21	28	273	83	131	175	159	125	55	22	8.2	2.1	3.7
22	29	142	81	121	177	152	112	55	20	11	2.1	3.4
23	31	101	85	119	155	148	107	54	19	16	2.5	3.5
24	31	652	142	117	144	147	101	50	16	18	4.4	3.7
25	32	572	1520	115	135	141	95	49	14	18	5.3	4.2
26	31	223	1250	112	126	142	92	49	15	12	4.8	4.1
27	31	154	1250	106	118	142	93	47	11	10	4.6	3.6
28	32	121	570	102	114	127	91	43	14	9.1	4.2	3.6
29	33	100	407	100	108	126	82	40	16	8.1	2.2	4.1
30	35	87	387	98	---	128	79	39	20	4.6	1.9	4.1
31	40	---	372	95	---	136	---	37	---	6.0	2.0	---
TOTAL	986	4711	9239	4956	4255	4407	3479	1977	879	453.9	131.2	93.5
MEAN	31.8	157	298	160	147	142	116	63.8	29.3	14.6	4.23	3.12
MAX	77	652	1520	313	435	364	151	86	68	24	6.3	4.8
MIN	25	43	73	95	85	83	79	37	11	4.6	1.9	1.7
AC-FT	1960	9340	18330	9830	8440	8740	6900	3920	1740	900	260	185

CAL YR 1983 TOTAL 122043 MEAN 334 MAX 4800 MIN 15 AC-FT 242100  
WTR YR 1984 TOTAL 35567.6 MEAN 97.2 MAX 1520 MIN 1.7 AC-FT 70550

Note.--Beaver activity affected stage-discharge relationship.

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, 33.5°C July 5, 1984; minimum recorded, 0.0°C Jan. 5, 7, 1973, Dec. 8, 9, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 33.5°C July 5; minimum recorded, 5.0°C Jan. 13.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

[illegible]

## SAN JOAQUIN RIVER BASIN

197

11257950 HENSLEY LAKE NEAR DAULTON, CA

LOCATION.--Lat 37°06'34", long 119°53'05", in NE 1/4 NW 1/4 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 southeast of Daulton.

DRAINAGE AREA.--236 mi<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, between elevations 448.0 ft lowest outlet, and 540.0 ft crest of spillway. Dead storage, 4,970 acre-ft. 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 June 6, 1979, elevation, 539.52 ft; minimum since reservoir first filled, 8,790 acre-ft Sept. 30, 1984, elevation, 459.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,417 acre-ft Oct. 1, elevation, 511.94 ft; minimum, 8,790 acre-ft Sept. 30, elevation, 459.06 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51417	16571	27053	34748	37468	47060	45308	42079	34105	24223	10136	8882
2	50783	16653	27275	33019	37673	47083	45297	41917	33728	23811	9884	8877
3	49715	16722	27643	31201	37960	47117	45443	41776	33344	23404	9754	8877
4	48378	16785	28372	30359	38238	47163	45556	41582	33000	23039	9640	8873
5	46934	16842	28810	30368	38444	47221	45376	41420	32715	22670	9517	8873
6	45534	16893	29102	30422	38703	47244	45218	41302	32479	22297	9417	8869
7	44255	16944	29387	30368	38974	47186	45027	41195	32309	21853	9348	8861
8	42984	16995	29682	30313	39235	47198	44892	41012	32150	21356	9318	8857
9	41711	17047	29942	30341	39507	47152	44847	40777	31953	20851	9283	8853
10	40468	17143	30796	30705	40034	47072	44780	40500	31711	20347	9228	8848
11	39214	17304	31450	31035	40437	46968	44713	40256	31432	19828	9172	8840
12	37970	17635	32197	31321	40745	46773	44545	40065	31109	19298	9155	8836
13	36748	17898	32706	31664	40991	46728	44512	39833	30778	18769	9147	8836
14	35517	18157	33096	31916	41625	47394	44356	39570	30459	18244	9049	8832
15	34299	18330	33469	32234	42068	47451	44177	39277	30132	17707	8957	8828
16	33096	18485	33796	32479	43061	47463	44000	38984	29808	17168	8953	8828
17	31888	18776	34183	32801	43833	47521	43833	38683	29396	16665	8948	8823
18	30696	19471	34504	33115	44311	47521	43700	38372	28934	16184	8944	8823
19	29458	19786	34572	33507	44724	47532	43612	38073	28459	15675	8940	8819
20	28215	20721	34876	33834	45094	47497	43579	37775	28058	15171	8936	8815
21	26977	21526	35082	34192	45636	47336	43524	37478	27747	14689	8932	8811
22	25747	21891	35358	34514	46066	47163	43402	37183	27446	14189	8928	8811
23	24526	22154	35686	34836	46431	46945	43347	36889	27155	13678	8923	8807
24	23326	23101	36074	35161	46670	46716	43193	36636	26867	13195	8915	8799
25	22079	24962	39549	35418	46785	46419	43050	36385	26546	12740	8911	8799
26	20829	25525	43072	35755	46899	46259	42908	36104	26195	12284	8907	8799
27	19597	25912	44735	36074	46957	46021	42733	35815	25846	11809	8907	8794
28	18749	26253	42275	36335	47060	45907	42525	35527	25459	11327	8907	8794
29	18090	26555	39329	36606	47026	45715	42405	35200	25043	10897	8902	8794
30	17401	26744	37703	36929	---	45568	42231	34856	24631	10627	8894	8790
31	16754	---	36325	37193	---	45409	---	34475	---	10417	8886	---
MAX	51417	26744	44735	37193	47060	47532	45556	42079	34105	24223	10136	8882
MIN	16754	16571	27053	30313	37468	45409	42231	34475	24631	10417	8886	8790
a	474.36	487.93	498.26	499.12	508.20	506.78	503.91	496.39	485.33	462.77	459.29	459.06
b	-34939	+9990	+9581	+868	+9833	-1617	-3178	-7756	-9844	-14214	-1531	-96
c	479	123	89	84	163	319	458	786	726	678	413	357

CAL YR 1983 b +11315

WTR YR 1984 b -42903

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA

LOCATION.--Lat 37°06'16", long 119°53'13", in NE 1/4 SW 1/4 sec.34, T.9 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 350 ft upstream from Willow Creek, 2,000 ft downstream from Hidden Dam, and 5.2 mi southeast of Daulton.

DRAINAGE AREA.--237 mi<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, from topographic map. See WDR CA-75-3 for history of changes prior to Oct. 1, 1975.

REMARKS.--Records fair except those for periods of backwater from beaver dams, which are poor. Flow completely regulated by Hensley Lake (station 11257950) since October 1975.

AVERAGE DISCHARGE.--43 years, 120 ft<sup>3</sup>/s, 86,940 acre-ft/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 Dec. 23, 1955, gage height, 17.64 ft site and datum then in use, from rating curve extended above 6,400 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 17.60 ft site and datum then in use; maximum gage height, 17.69 ft Feb. 24, 1969, site and datum then in use; no flow at times most years. Maximum discharge since construction of Hidden Dam in 1975, 4,190 ft<sup>3</sup>/s Mar. 1, 1983, gage height, 8.83 ft; no flow at times in 1975-78, 1981, 1984.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 3, 1938, reached a discharge of 15,000 ft<sup>3</sup>/s, furnished by Bureau of Reclamation.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,780 ft<sup>3</sup>/s Dec. 27, gage height, 8.23 ft; minimum, no flow several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	136	1.3	1160	2.8	154	208	170	215	209	142	.20
2	346	1.4	1.3	1190	2.8	138	146	170	215	209	135	.10
3	561	1.0	1.6	1180	2.7	112	41	168	215	209	73	.10
4	691	.90	1.5	734	2.9	112	70	176	213	193	62	.10
5	734	1.0	1.4	251	3.2	128	228	170	199	183	66	.10
6	712	.90	1.6	251	3.1	141	217	146	166	185	55	.10
7	667	1.0	1.6	251	3.2	143	195	139	132	218	40	.10
8	662	.50	1.2	248	3.2	143	187	166	122	237	20	.10
9	657	.50	1.4	148	3.3	146	170	195	131	239	16	.10
10	652	.40	1.5	44	3.7	167	157	209	150	244	27	.10
11	657	.50	1.7	46	3.5	180	163	201	166	253	27	0
12	662	.50	1.5	47	5.1	196	166	174	183	258	12	.10
13	652	.50	1.3	47	2.2	205	165	183	189	260	1.2	.10
14	643	.50	1.3	48	2.5	212	183	199	189	260	50	.10
15	638	.60	1.3	48	2.5	219	195	211	189	265	54	.10
16	628	.70	1.2	48	3.4	226	193	213	189	268	2.6	0
17	615	1.0	1.2	48	3.5	230	187	217	226	253	2.9	0
18	619	.80	1.2	21	2.7	230	182	217	248	244	2.2	0
19	642	.70	1.2	3.2	2.1	219	182	217	248	251	1.0	0
20	647	1.3	1.2	3.0	2.2	213	163	211	222	251	1.2	0
21	643	1.2	1.2	2.6	2.8	232	148	199	179	242	1.2	0
22	643	1.0	1.2	2.6	2.8	249	156	201	165	248	1.1	0
23	633	1.0	1.2	2.2	1.6	256	157	189	165	253	.90	0
24	628	1.9	1.4	2.5	68	256	165	173	165	248	.20	0
25	643	3.0	1.9	2.6	117	256	171	174	173	237	.10	0
26	643	1.2	1.7	2.6	117	256	170	183	182	232	.10	0
27	638	1.3	1070	2.6	108	239	174	191	182	242	.10	0
28	442	1.4	2220	2.6	136	219	178	191	193	248	.20	0
29	338	1.2	2160	2.7	160	210	171	197	207	224	.30	0
30	341	1.3	1310	2.8	---	209	170	209	209	146	.30	0
31	341	---	1170	3.0	---	218	---	215	---	113	.30	---
TOTAL	18221	165.20	7966.1	5845.0	773.8	6114	5058	5874	5627	7122	794.90	1.50
MEAN	588	5.51	257	189	26.7	197	169	189	188	230	25.6	.050
MAX	734	136	2220	1190	160	256	228	217	248	268	142	.20
MIN	203	.40	1.2	2.2	1.6	112	41	139	122	113	.10	0
AC-FT	36140	328	15800	11590	1530	12130	10030	11650	11160	14130	1580	3.0
CAL YR 1983	TOTAL	166376.7	MEAN	456	MAX	3830	MIN	.40	AC-FT	330000	MEAN	a 481
WTR YR 1984	TOTAL	63562.50	MEAN	174	MAX	2220	MIN	0	AC-FT	126100	MEAN	a 121
												AC-FT a 87840

a Adjusted for change in contents and evaporation from Hensley Lake.

NOTE.--Backwater from beaver dams Nov. 2-14, Jan. 19 to Feb. 23, Aug. 13, 14, Aug. 16 to Sept. 1, and Sept. 11-15.



## 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, Nov. 26, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 1, 2, 7, 8; minimum recorded, 9.0°C Nov. 27-29, Jan. 28.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## SAN JOAQUIN RIVER BASIN

11258000 FRESNO RIVER BELOW HIDDEN DAM, NEAR DAULTON, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA

LOCATION.--Lat 37°16'23", long 119°52'49", in NE 1/4 NW 1/4 sec.3, T.8 S., R.19 E., Madera County, Hydrologic Unit 18040007, on left bank 0.9 mi upstream from Willow Creek and 4.7 mi northeast of Raymond.

DRAINAGE AREA.--173 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 680 ft, from topographic map.

REMARKS.--Records good except those for Oct. 1 to Jan. 4, which are fair. No large storage or diversions above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft<sup>3</sup>/s Dec. 22, 1982, gage height, 14.08 ft; no flow for many days in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 660 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2045	3,240	9.59	Dec. 25	1100	*3,790	10.00
Dec. 10	0230	1,300	7.72	Mar. 14	0500	738	6.77

Minimum daily, 0.01 ft<sup>3</sup>/s Sept. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	13	64	313	89	109	94	48	15	4.1	.63	.11
2	31	17	58	272	88	105	88	51	14	3.9	.56	.07
3	23	19	288	244	87	103	84	52	13	3.3	.50	.06
4	19	18	554	220	86	103	80	48	14	3.2	.46	.06
5	17	17	180	202	83	102	80	45	24	2.9	.44	.09
6	15	17	120	186	82	97	83	44	25	2.6	.44	.10
7	15	17	100	172	82	93	80	42	22	2.4	.40	.06
8	14	15	89	162	81	91	75	39	20	2.2	.38	.03
9	14	16	89	154	84	88	75	37	18	2.0	.35	.03
10	14	16	657	148	161	88	73	34	17	1.7	.35	.05
11	15	58	281	144	117	88	74	34	15	1.5	.32	.05
12	15	68	388	141	99	85	72	33	14	1.4	.32	.05
13	14	61	199	137	98	93	69	32	14	1.2	.30	.09
14	13	61	150	132	215	368	68	30	13	1.2	.28	.10
15	13	42	130	125	144	161	64	29	13	1.1	.27	.10
16	14	30	118	127	436	163	62	31	13	1.2	.28	.10
17	14	146	111	132	249	220	62	31	12	1.1	.30	.10
18	13	251	103	122	172	170	62	29	11	1.0	.28	.09
19	13	77	95	117	148	140	75	28	9.5	.93	.19	.05
20	13	626	92	114	134	127	82	27	8.8	.78	.20	.03
21	13	336	86	112	174	114	72	25	8.3	.84	.22	.02
22	13	117	85	110	218	106	65	24	8.2	.77	.19	.01
23	12	80	94	107	159	102	61	23	8.2	.83	.17	.01
24	12	716	178	105	142	100	58	22	7.7	1.0	.17	.33
25	12	624	2210	103	134	98	55	22	6.9	1.1	.22	.78
26	12	178	1820	101	124	96	54	21	6.3	1.2	.23	.35
27	12	111	1780	98	119	93	55	21	5.8	1.2	.23	.32
28	12	89	712	98	117	88	54	20	5.3	1.0	.23	.30
29	12	77	486	96	113	86	52	18	4.5	.91	.23	.32
30	12	69	427	95	---	84	49	16	4.2	.81	.22	.35
31	12	---	400	92	---	85	---	15	---	.73	.17	---
TOTAL	468	3982	12144	4481	4035	3646	2077	971	370.7	50.10	9.53	4.21
MEAN	15.1	133	392	145	139	118	69.2	31.3	12.4	1.62	.31	.14
MAX	35	716	2210	313	436	368	94	52	25	4.1	.63	.78
MIN	12	13	58	92	81	84	49	15	4.2	.73	.17	.01
AC-FT	928	7900	24090	8890	8000	7230	4120	1930	735	99	19	8.4

CAL YR 1983	TOTAL	129497.4	MEAN	355	MAX	4910	MIN	5.6	AC-FT	256900
WTR YR 1984	TOTAL	32238.54	MEAN	88.1	MAX	2210	MIN	.01	AC-FT	63950

## SAN JOAQUIN RIVER BASIN

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1980 to current year.

INSTRUMENTATION.--Temperature recorder since July 9, 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 36.0°C July 28, 1980; minimum recorded, 1.5°C Dec. 10-14, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 35.5°C July 17, 18; minimum recorded, 6.0°C Dec. 7,

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11258960 CHOWCHILLA RIVER ABOVE WILLOW CREEK, NEAR RAYMOND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	11.0	17.5	15.0	28.5	22.0	31.5	24.5	32.5	24.0	27.5	19.5
2	15.0	10.5	21.0	15.5	28.0	22.0	33.0	26.0	30.5	23.0	29.5	20.0
3	17.0	12.0	23.0	17.0	27.0	21.0	33.5	27.5	30.0	21.0	30.0	20.5
4	16.0	13.5	23.0	17.5	---	---	33.5	27.5	31.0	22.0	31.0	21.5
5	16.0	14.0	22.5	16.5	---	---	34.0	28.0	31.0	22.0	31.0	23.0
6	17.5	14.0	22.0	15.5	25.0	20.5	34.5	28.0	30.5	21.5	30.0	21.0
7	18.0	13.0	23.5	16.0	25.5	19.5	34.0	27.5	32.0	22.5	29.0	19.5
8	16.0	13.5	24.5	17.5	26.0	19.5	33.5	25.5	33.0	23.5	31.0	20.0
9	16.5	11.5	25.0	18.5	26.5	20.0	32.0	24.0	33.5	24.0	33.0	20.5
10	17.5	14.5	24.5	18.0	26.5	20.0	32.5	23.0	32.5	24.5	30.5	21.0
11	18.0	13.5	25.5	18.5	27.0	20.5	33.5	23.5	32.0	24.5	29.0	21.5
12	19.0	14.0	27.0	20.0	27.0	21.0	33.5	24.5	32.0	24.0	28.0	20.0
13	20.5	15.0	28.0	21.5	27.5	21.0	33.5	24.5	30.5	23.5	28.5	21.5
14	22.0	16.0	25.5	19.5	26.0	22.0	33.0	26.5	30.5	23.0	29.5	20.5
15	22.5	17.0	22.5	18.0	28.5	22.0	33.5	26.0	29.5	24.0	28.5	20.0
16	21.5	17.5	23.5	16.5	30.0	23.0	34.0	26.5	30.0	22.5	29.5	20.5
17	21.5	17.0	24.5	18.5	31.0	24.5	35.5	27.0	31.0	23.5	30.0	22.0
18	17.5	15.0	25.0	18.0	30.5	24.0	35.5	27.0	31.0	23.5	31.0	23.0
19	17.5	14.0	26.5	19.0	29.5	23.5	34.5	26.5	29.5	22.5	30.5	22.0
20	17.5	13.0	27.0	20.5	29.0	22.5	34.5	25.5	28.5	21.0	26.5	21.5
21	18.5	13.5	26.5	20.5	28.5	22.0	32.0	23.5	29.5	22.0	25.5	18.5
22	20.5	15.0	27.5	20.5	29.5	22.0	29.5	20.5	31.0	23.0	25.5	18.0
23	22.5	16.5	28.0	21.5	30.5	23.0	31.0	22.5	30.5	22.0	23.5	16.5
24	22.0	16.5	26.5	21.5	31.0	23.5	31.5	23.5	28.5	20.5	21.5	14.5
25	19.0	14.0	27.0	20.5	31.5	24.5	31.0	23.0	28.5	19.5	22.0	16.0
26	18.0	12.5	28.0	21.5	31.0	24.5	31.5	22.5	28.5	20.0	23.5	15.5
27	16.5	12.5	29.0	22.0	31.5	24.5	33.0	23.5	30.0	22.0	24.5	16.5
28	18.0	12.0	30.5	23.5	31.5	25.0	31.5	23.5	30.5	23.0	24.0	17.0
29	19.0	13.0	30.5	24.5	30.0	24.5	31.5	22.5	31.0	24.0	23.0	17.0
30	19.5	14.5	31.0	25.0	30.5	23.5	32.5	23.0	29.5	23.5	23.0	17.0
31	---	---	29.5	24.0	---	---	32.5	24.0	27.0	20.5	---	---
MONTH	22.5	10.5	31.0	15.0	31.5	19.5	35.5	20.5	33.5	19.5	33.0	14.5

## SAN JOAQUIN RIVER BASIN

11258990 H. V. EASTMAN LAKE NEAR RAYMOND, CA

LOCATION.--Lat 37°13'00", long 119°59'04", in SW 1/4 SE 1/4 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 west of Raymond.

DRAINAGE AREA.--235 mi<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, between elevations, 410.0 ft invert elevation to outlet tunnel, and 587.0 ft crest of ungated spillway. Inactive pool, 10,150 acre-ft. Reservoir is used for flood control, irrigation, recreation, and fish and wildlife enhancement. Records, including extremes, represent total contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 145,687 acre-ft June 4, 5, 1979, elevation, 584.22 ft; minimum since initial season of normal operation, 1,978 acre-ft Nov. 20, 1977, elevation, 440.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 124,276 acre-ft Mar. 15, elevation, 571.48 ft; minimum, 24,562 acre-ft Sept. 30, elevation, 488.78 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114293	104648	106864	114787	114123	122943	120299	109207	81818	46902	28201	25094
2	114246	104663	106192	113814	114293	123167	119950	108755	80787	45609	27737	25086
3	114185	104678	105820	112754	114478	123359	119650	108318	79801	44240	27170	25070
4	114154	104692	106490	111683	114648	123568	119318	107838	78846	42919	26739	25062
5	114092	104692	106162	110556	114818	123648	119003	107313	77884	41765	26383	25039
6	114030	104707	105672	109797	115004	123632	118657	106834	76951	40803	26118	25023
7	113953	104692	105107	109843	115175	123616	118342	106341	76076	40036	26014	25015
8	113861	104663	104515	109722	115345	123584	117950	105850	75191	39460	25878	25007
9	113753	104648	104013	109737	115609	123568	117605	105315	74324	38908	25695	24991
10	113661	104766	104574	109873	115920	123536	117276	104722	73474	38349	25536	24984
11	113553	104841	104441	110009	116184	123504	117011	104042	72514	37803	25409	24968
12	113460	105033	104530	110131	116418	123456	116776	103173	71497	37290	25362	24952
13	113061	105152	104220	110252	116652	123552	116542	102205	70412	36892	25346	24937
14	112539	105256	103836	110343	117104	124115	116293	101183	69197	36478	25338	24929
15	112003	105315	103880	110404	117480	124276	116028	100181	67943	36029	25338	24913
16	111515	105419	104175	110525	118342	124244	115624	99255	66697	35564	25330	24905
17	111012	105597	104471	110631	118893	124147	115113	98333	65462	35092	25330	24890
18	110510	106237	104722	110829	119271	123970	114648	97172	64212	34614	25314	24882
19	110024	106476	104959	111103	119571	123777	114246	96216	62865	34129	25298	24858
20	109525	107822	105181	111332	119871	123568	113907	95264	61484	33657	25283	24819
21	109027	108770	105389	111591	120330	123343	113661	94275	60068	33170	25259	24788
22	108514	109057	105627	111835	120822	123103	113445	93206	58666	32687	25251	24772
23	108018	109881	105850	112080	121171	122894	113122	92100	57312	32207	25235	24741
24	107747	109283	106371	112294	121474	122671	112585	90973	55949	31730	25212	24710
25	107478	110297	111469	112524	121744	122462	112003	90004	54611	31256	25196	24679
26	106983	109949	115190	112738	122015	122207	111438	88861	53308	30803	25180	24655
27	106490	109434	118138	112968	122255	121935	110936	87738	52052	30336	25172	24632
28	105999	108830	117997	113168	122510	121617	110480	86607	50765	29872	25164	24616
29	105508	108213	117120	113383	122718	121219	110100	85402	49459	29404	25149	24585
30	104974	107538	116356	113584	---	120901	109676	84204	48168	28955	25117	24562
31	104648	---	115671	113784	---	120615	---	82987	---	28602	25102	---
MAX	114293	110297	118138	114787	122718	124276	120299	109207	81818	46902	28201	25094
MIN	104648	104648	103836	109722	114123	120615	109676	82987	48168	28602	25102	24562
a	558.77	560.71	566.04	564.82	570.51	569.19	562.13	543.36	514.32	493.78	489.47	488.78
b	-9691	+2890	+8133	-1887	+8934	-2103	-10939	-26689	-34819	-19566	-3500	-540
c	597	223	111	101	193	389	569	996	869	846	682	573

CAL YR 1983 b +7157

WTR YR 1984 b -89777

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

b Change in contents, in acre-feet.

c Evaporation, in acre-feet.

## 11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA

LOCATION.--Lat 37°12'56", long 119°59'25", in SE 1/4 SW 1/4 sec.22, T.8 S., R.18 E., Madera County, Hydrologic Unit 18040007, on left bank 1,800 ft downstream from Buchanan Dam, and 4.6 mi west of Raymond.

DRAINAGE AREA.--236 mi<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 11258990) 1,800 ft upstream beginning Jan. 1, 1976.

GAGE.--Water-stage recorder and concrete control since October 1975. Altitude of gage is 420 ft, from topographic map. October 1921 to September 1923, at site 2.4 mi upstream at different datum. October 30 to May 17, 1972, at site 0.3 mi upstream at datum 407.32 ft National Geodetic Vertical Datum of 1929. May 18, 1972, to Sept. 30, 1972, at site 500 ft downstream at different datum. Oct. 1, 1975, to Mar. 2, 1982, at datum 1.00 ft higher.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from H. V. Eastman Lake since 1976).--53 years (water years 1922-23, 1931-72, 1976-84), 108 ft<sup>3</sup>/s, 78,250 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 16.50 ft site and datum then in use, from rating curve extended above 6,000 ft<sup>3</sup>/s on basis of slope-area measurement at gage height, 15.06 ft; no flow for part of each year except 1937-38, 1940-43. Maximum discharge since construction of Buchanan Dam in 1975, 5,020 ft<sup>3</sup>/s Mar. 1, 1983, gage height, 11.67 ft; no flow many days most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,010 ft<sup>3</sup>/s Dec. 27, gage height, 7.23 ft; no flow for several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	1.0	408	793	.10	.10	242	270	538	622	178	0
2	51	1.0	408	788	.10	.10	234	273	495	645	207	0
3	51	1.2	408	784	.10	.10	220	257	479	689	259	0
4	51	1.2	408	784	.10	.10	220	274	479	645	207	0
5	51	1.2	408	779	.10	54	242	274	476	559	172	0
6	51	1.2	408	588	.10	95	222	274	453	469	116	0
7	51	1.2	402	176	.10	95	215	274	442	366	62	0
8	51	1.2	402	244	.10	95	238	295	436	254	64	0
9	51	1.1	402	165	.10	95	226	305	432	240	85	0
10	51	1.3	402	98	.10	95	210	305	427	250	73	0
11	51	1.4	402	98	.30	95	192	363	472	261	54	0
12	51	1.4	402	98	.20	94	184	462	508	233	21	0
13	189	1.3	398	98	.10	95	181	498	538	181	.10	0
14	246	1.3	394	98	.60	94	195	498	600	194	.10	0
15	244	1.1	134	98	.30	95	195	476	629	203	0	0
16	242	1.2	.10	99	.20	181	246	463	626	215	0	0
17	242	1.1	.10	99	.10	244	288	476	626	215	0	0
18	248	1.4	0	35	.10	252	268	495	622	213	0	0
19	252	1.4	0	.40	.10	226	242	495	649	212	0	4.5
20	252	1.0	0	.30	.10	212	228	495	672	212	0	12
21	252	.50	0	.30	.10	213	192	505	686	212	0	4.7
22	252	.30	0	.20	.10	203	173	538	688	213	0	4.9
23	252	.20	.10	.20	.10	197	219	552	669	213	0	5.6
24	131	402	0	.10	.10	197	288	552	676	212	0	4.7
25	139	408	.60	.10	.10	197	284	488	668	212	0	5.0
26	248	408	330	.10	.10	197	300	570	633	212	0	5.0
27	248	408	825	.10	.10	219	281	577	622	212	0	5.0
28	250	408	1000	.10	.10	236	263	583	622	210	0	5.1
29	250	408	997	.10	.20	244	238	603	626	215	0	5.3
30	250	408	868	.10	---	224	242	603	626	202	0	5.3
31	162	---	793	.10	---	224	---	588	---	163	0	---
TOTAL	4961	2875.20	10599.90	5924.20	4.10	4468.40	6968	13681	17115	9154	1498.20	67.1
MEAN	160	95.8	342	191	.14	144	232	441	570	295	48.3	2.24
MAX	252	408	1000	793	.60	252	300	603	688	689	259	12
MIN	51	.20	0	.10	.10	.10	173	257	427	163	0	0
AC-FT	9840	5700	21020	11750	8.1	8860	13820	27140	33950	18160	2970	133

CAL YR 1983 TOTAL 158220.8 MEAN 433 MAX 4460 MIN 0 AC-FT 313800 MEAN a 454 AC-FT a 328700  
WTR YR 1984 TOTAL 77316.10 MEAN 211 MAX 1000 MIN 0 AC-FT 153400 MEAN a 96.1 AC-FT a 69760

a Adjusted for change in contents and evaporation from H. V. Eastman Lake.

## SAN JOAQUIN RIVER BASIN

11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958-65, 1976 to current year.

CHEMICAL ANALYSES: Water years 1958-65. Published as "at Buchanan Damsite."

WATER TEMPERATURES: Water years 1976 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 1975.

REMARKS.--Water temperatures are affected by regulation from Buchanan Dam.

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, 31.0°C Aug. 14; minimum recorded, 8.0°C Dec. 21, Feb. 18.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.0	12.5	15.0	13.5	13.5	13.0	12.0	12.0	14.0	9.0	19.0	11.5
2	14.0	13.0	15.5	14.5	13.5	13.0	12.0	12.0	15.0	8.5	19.5	11.5
3	14.0	13.5	15.5	14.0	13.5	13.0	12.0	12.0	15.5	10.0	20.0	11.5
4	14.5	13.5	15.5	14.5	13.5	13.0	12.0	12.0	16.0	9.5	20.5	12.5
5	14.0	13.5	15.5	14.5	13.0	12.5	12.0	12.0	15.5	9.5	14.5	11.5
6	14.0	13.5	15.5	14.0	12.5	12.5	12.0	12.0	15.0	9.0	12.0	11.5
7	14.0	13.5	15.0	13.0	12.5	12.5	12.0	11.5	15.0	9.5	12.0	11.5
8	14.5	13.5	13.0	12.5	13.0	12.5	12.0	11.5	15.0	9.5	12.0	11.5
9	14.0	13.5	13.5	12.5	12.5	12.5	12.0	11.5	14.0	11.5	12.0	11.5
10	14.5	13.5	13.5	13.5	13.0	12.5	11.5	11.5	15.0	10.0	12.0	11.5
11	14.5	13.5	15.0	12.5	12.5	12.5	12.0	11.5	12.5	8.5	12.0	11.5
12	14.5	13.5	14.5	13.5	12.5	12.5	12.0	11.5	13.5	9.0	12.0	11.5
13	14.0	13.5	14.0	11.5	12.5	12.5	11.5	11.5	12.5	10.0	11.5	11.5
14	14.0	13.5	12.0	11.0	12.5	12.0	11.5	11.0	12.5	8.5	12.0	11.5
15	14.0	13.5	13.5	11.5	13.0	12.5	11.5	11.0	14.5	10.5	12.0	11.5
16	14.0	13.5	14.0	12.5	13.5	12.5	11.5	11.0	14.0	10.0	12.0	11.5
17	13.5	13.5	14.0	13.5	13.5	11.5	11.5	11.0	14.5	8.5	12.0	11.5
18	14.0	13.5	13.5	12.0	14.0	11.0	12.0	10.0	15.0	8.0	12.0	11.5
19	14.0	13.5	13.0	12.0	12.5	11.5	12.0	9.0	15.5	8.5	12.0	11.5
20	14.0	13.5	12.5	11.5	12.5	9.5	11.0	8.0	16.5	9.5	12.0	11.5
21	14.0	13.5	12.5	10.0	10.5	8.0	10.5	9.5	13.0	10.0	12.0	11.5
22	14.0	13.5	11.0	9.0	10.0	9.0	12.5	9.5	14.0	8.5	12.0	11.5
23	13.5	13.5	13.5	10.0	10.5	9.0	12.0	10.0	16.0	8.5	---	---
24	15.5	13.5	13.5	13.5	11.0	9.5	12.5	8.5	17.0	10.5	---	---
25	15.0	13.5	13.5	13.0	13.5	11.0	13.0	9.0	16.0	9.0	---	---
26	14.0	13.5	13.0	13.0	12.5	12.0	12.0	9.0	17.0	9.0	---	---
27	14.0	13.5	13.0	13.0	12.5	12.0	11.5	8.5	17.5	9.0	---	---
28	14.0	13.5	13.0	13.0	12.5	12.0	12.5	8.0	18.0	10.0	---	---
29	14.0	14.0	13.0	13.0	12.5	12.0	13.5	8.5	16.0	10.0	---	---
30	14.0	13.5	13.5	13.0	12.0	12.0	14.5	9.0	---	---	---	---
31	14.0	14.0	---	---	12.0	12.0	15.5	9.5	---	---	---	---
MONTH	15.5	12.5	15.5	9.0	14.0	8.0	15.5	8.0	18.0	8.0	---	---



11259000 CHOWCHILLA RIVER BELOW BUCHANAN DAM, NEAR RAYMOND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	12.0	11.5	12.5	12.0	15.5	15.5	21.0	20.0	---	---
2	---	---	12.0	11.5	12.5	12.0	16.0	15.5	21.0	20.5	---	---
3	---	---	13.0	11.5	12.5	12.0	16.0	15.5	21.0	20.5	---	---
4	---	---	12.0	11.5	12.5	12.0	16.5	16.0	21.0	20.5	---	---
5	---	---	12.0	11.5	12.5	12.5	16.5	16.5	21.0	20.5	---	---
6	---	---	12.0	11.5	12.5	12.5	16.5	16.5	21.5	20.5	---	---
7	---	---	12.0	11.5	12.5	12.5	17.0	16.5	21.5	20.5	---	---
8	---	---	12.0	11.5	12.5	12.5	17.0	16.5	21.5	20.5	---	---
9	---	---	12.0	11.5	12.5	12.5	17.0	16.5	21.5	20.5	---	---
10	---	---	12.0	11.5	12.5	12.5	17.5	17.0	21.5	20.5	---	---
11	---	---	12.0	12.0	13.0	12.5	17.5	17.0	21.5	20.5	---	---
12	12.0	11.5	12.0	12.0	12.5	12.5	17.5	17.0	25.0	20.5	---	---
13	12.0	11.5	12.0	12.0	12.5	12.5	19.0	17.0	30.0	20.5	---	---
14	12.0	11.5	12.0	12.0	13.0	12.5	17.5	17.5	31.0	20.5	---	---
15	12.0	11.5	12.0	12.0	13.0	12.5	18.0	17.5	---	---	---	---
16	12.0	11.5	12.0	12.0	13.0	12.5	18.0	17.5	---	---	---	---
17	12.0	11.5	12.0	12.0	13.0	13.0	18.5	18.0	---	---	---	---
18	11.5	11.5	12.0	12.0	13.0	13.0	18.5	18.0	---	---	---	---
19	12.0	11.5	12.0	12.0	13.5	13.0	18.5	18.0	---	---	---	---
20	12.0	11.5	12.0	12.0	13.5	13.5	19.0	18.5	---	---	21.5	19.5
21	12.0	11.5	12.0	12.0	14.0	13.5	19.0	18.5	---	---	23.0	18.5
22	12.0	11.5	12.0	12.0	14.0	13.5	19.0	18.5	---	---	22.5	18.5
23	12.0	11.5	12.0	12.0	14.0	14.0	19.5	19.0	---	---	22.0	18.5
24	12.0	11.5	12.0	12.0	14.5	14.0	19.5	19.0	---	---	21.5	17.0
25	12.0	11.5	12.0	12.0	14.5	14.0	20.0	19.0	---	---	21.5	17.5
26	12.0	11.5	12.0	12.0	14.5	14.0	20.0	19.5	---	---	22.0	18.0
27	12.0	11.5	12.5	12.0	15.0	14.5	20.0	19.5	---	---	22.0	18.5
28	12.0	11.5	12.5	12.0	15.0	15.0	20.5	19.5	---	---	22.0	18.5
29	12.0	11.5	12.5	12.0	15.5	15.0	20.5	20.0	---	---	21.5	18.0
30	12.0	11.5	12.5	12.0	15.5	15.0	20.5	20.0	---	---	20.5	18.5
31	---	---	12.5	12.0	---	---	20.5	20.0	---	---	---	---
MONTH	---	---	13.0	11.5	15.5	12.0	20.5	15.5	---	---	---	---

## SAN JOAQUIN RIVER BASIN

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA  
(Hydrologic bench-mark station)

LOCATION.--Lat 37°43'54", long 119°33'28", unsurveyed, Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on right bank 10 ft downstream from footbridge at Happy Isles, 0.4 mi downstream from Illilouette Creek, and 2.0 mi southeast of Yosemite National Park Headquarters.

DRAINAGE AREA.--181 mi<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 National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1916, nonrecording gage at datum 0.55 ft lower.

REMARKS.--Records good. Up to 5 ft<sup>3</sup>/s can be diverted above station for Yosemite Valley water supply.

AVERAGE DISCHARGE.--69 years, 355 ft<sup>3</sup>/s, 257,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 12.73 ft, from rating curve extended above 4,000 ft<sup>3</sup>/s on basis of contracted-opening measurements at gage heights 10.4 ft and 11.55 ft; minimum, 1.5 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 14	0145	*2,850	6.97	June 5	0015	2,830	6.95
May 24	0230	2,710	6.84	July 17	1915	2,790	6.91

Minimum daily, 36 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	272	99	233	360	188	163	339	515	1870	684	237	97
2	339	108	222	315	185	182	316	535	1550	677	208	88
3	313	99	219	297	182	187	317	781	1340	676	189	80
4	255	91	224	295	183	193	351	1020	1660	687	181	73
5	222	84	217	300	190	193	335	934	1940	668	169	71
6	201	77	219	298	191	212	351	882	1210	627	161	72
7	187	82	206	293	189	230	378	1030	905	592	150	77
8	270	98	209	283	183	245	462	1430	824	551	147	79
9	228	88	221	268	191	261	372	1640	819	463	153	77
10	188	86	226	257	190	279	493	1700	842	386	157	74
11	160	514	231	242	180	281	510	1980	815	349	156	71
12	136	360	217	229	179	255	487	2260	818	337	153	69
13	122	318	226	215	186	278	572	2370	822	349	140	68
14	109	231	250	196	183	309	757	2410	850	338	135	71
15	100	201	243	204	197	274	920	1650	738	305	139	66
16	93	192	230	196	213	240	992	1180	805	446	139	63
17	87	467	227	178	185	239	916	1260	974	811	130	62
18	83	327	207	172	181	222	747	1350	1080	1050	126	70
19	79	435	199	171	175	244	608	1720	947	954	123	88
20	75	668	179	163	173	316	505	2170	920	887	121	98
21	71	388	170	163	179	381	460	2290	840	494	116	87
22	66	301	175	156	167	378	488	2240	809	397	129	76
23	62	290	176	154	165	399	650	2370	821	321	214	65
24	63	584	272	159	162	441	856	2390	829	279	167	58
25	60	478	820	162	154	445	802	2240	827	268	133	53
26	57	349	660	158	150	516	577	2250	819	257	115	47
27	54	322	530	156	156	488	483	2160	825	251	99	43
28	51	293	420	158	154	470	426	2300	865	250	91	40
29	50	268	364	169	154	460	418	2280	919	240	102	38
30	58	249	466	179	---	401	473	2220	844	220	104	36
31	81	---	430	188	---	388	---	2030	---	221	101	---
TOTAL	4192	8147	8888	6734	5165	9570	16361	53587	30127	15035	4485	2057
MEAN	135	272	287	217	178	309	545	1729	1004	485	145	68.6
MAX	339	668	820	360	213	516	992	2410	1940	1050	237	98
MIN	50	77	170	154	150	163	316	515	738	220	91	36
AC-FT	8310	16160	17630	13360	10240	18980	32450	106300	59760	29820	8900	4080
CAL YR 1983	TOTAL	295332	MEAN	809	MAX	4690	MIN	50	AC-FT	585800		
WTR YR 1984	TOTAL	164348	MEAN	449	MAX	2410	MIN	36	AC-FT	326000		

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

CHEMICAL ANALYSES: Water years 1968 to current year.

BIOLOGICAL DATA: Water years 1973-81.

WATER TEMPERATURES: Water years 1966-77, 1979 to current year.

SEDIMENT RECORDS: Water years 1970-71, 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1965 to September 1977, October 1978 to current year.

INSTRUMENTATION.--Temperature recorder October 1965 to September 1977 and since October 1978.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum recorded, 20.0°C July 15, 1979; minimum recorded, 0.0°C on many days during winter period in most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 18.5°C July 3, 4; minimum recorded, 0.0°C several days during November through March.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
NOV , 1983												
30...	1330	248	21	6.0	3.5	655	.60	11.6	102	K4	K2	
JAN , 1984												
27...	1300	154	22	6.5	3.5	665	.50	11.7	100	K2	K2	
JUN												
01...	0945	1960	3	6.3	7.5	660	1.1	10.7	103	30	K5	
JUL												
27...	1400	248	10	6.3	14.0	660	--	9.8	110	K4	K4	
DATE		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)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV , 1983												
30...	6	0	2.1	.19	1.6	35	.3	.4	6	1.5	2.1	
JAN , 1984												
27...	7	0	2.2	.29	2.0	38	.4	.4	9	1.1	1.8	
JUN												
01...	2	0	.80	.06	.50	29	.2	.3	10	1.6	.3	
JUL												
27...	--	--	--	--	--	--	--	--	4	--	--	--
DATE		FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV , 1983												
30...	<.1	7.8	15	20	.02	<.10	.05	.4	<.01	<.01	.03	
JAN , 1984												
27...	<.1	9.4	18	23	.02	.45	.16	.3	.07	.03	.05	
JUN												
01...	<.1	3.0	9	13	.01	<.10	.08	.3	.02	.02	<.01	
JUL												
27...	--	--	--	--	--	<.10	.08	.2	.01	.01	.02	

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 1983 TO SEPTEMBER 1984

DATE	TIME	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
NOV , 1983										
30...	1330	40	<1	5	<.5	<1	<1	<3	<1	48
JUN , 1984										
01...	0945	50	<1	4	<1	<1	<1	<3	<1	26

DATE	TIME	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
NOV , 1983												
30...	2	6	4	<.1	<10	<1	<1	<1	27	<6	8	
JUN , 1984												
01...	<1	6	<1	<.1	<10	<1	<1	<1	7	<6	7	

DATE	TIME	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	GROSS BETA, DIS- SOLVED (PCI/L AS YT-90)	RADIUM 226, DIS- SOLVED (PCI/L METHOD EXTRAC- TION (UG/L)	URANIUM DIS- SOLVED (UG/L)
JUL , 1984										
27...	1400	.6	<.4	1.1	.5	1.0	.5	.06	.49	

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.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11264500 MERCED RIVER AT HAPPY ISLES BRIDGE, NEAR YOSEMITE, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT  
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (°C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
NOV 30...	1330	248	3.5	1	0.67	66
JAN 27...	1330	154	3.5	<0.5	--	38
JUNE 01...	0945	1980	7.5	4	21	44
JUL 27...	1030	252	14.0	1	0.68	92

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

## SAN JOAQUIN RIVER BASIN

11266500 MERCED RIVER AT POHONO BRIDGE, NEAR YOSEMITE, CA

LOCATION.--Lat 37°43'01", long 119°39'55", Mariposa County, Hydrologic Unit 18040008, Yosemite National Park, on left bank 150 ft upstream from Pohono bridge, 0.4 mi upstream from Artist Creek, and 4.8 mi southwest of Yosemite National Park headquarters.

DRAINAGE AREA.--321 mi<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 National Geodetic Vertical Datum of 1929. Prior to Sept. 5, 1918, at datum 1.8 ft higher. Sept. 5, 1918, to Sept. 30, 1955, at datum 1.0 ft higher.

REMARKS.--Records good except those for period of no gage-height record Oct. 30 to Nov. 30, which are fair. No diversions between stations at Happy Isles bridge and Pohono bridge.

AVERAGE DISCHARGE.--68 years, 624 ft<sup>3</sup>/s, 452,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,400 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 21.52 ft from floodmarks in well, from rating curve extended above 17,000 ft<sup>3</sup>/s on basis of computation of flow over diversion dam for Yosemite powerhouse, 1 mi downstream at gage heights 20.1 ft and 21.98 ft, present datum; minimum, 3.3 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
May 14	0115	*5,030	8.94	June 5	0030	4,000	8.05
May 24	0230	4,300	8.32				

Minimum daily, 49 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	396	155	518	904	442	372	757	1120	2790	925	273	114
2	519	165	494	787	429	410	727	1180	2320	882	250	107
3	469	150	503	730	416	419	740	1540	2040	864	227	98
4	374	140	487	724	419	434	808	2010	2410	883	218	91
5	321	130	456	740	437	430	768	1880	3050	853	205	87
6	287	120	476	722	437	467	801	1800	2050	800	195	86
7	262	140	456	702	430	504	856	2010	1630	747	184	89
8	357	155	463	673	417	537	1040	2630	1450	692	177	92
9	319	145	496	633	439	574	836	3040	1390	580	178	90
10	267	135	508	608	423	617	1140	3120	1430	482	182	88
11	228	1100	511	571	404	619	1180	3500	1330	428	179	86
12	200	800	468	531	418	559	1130	3940	1310	404	181	83
13	181	700	492	499	442	610	1300	4180	1290	406	168	81
14	167	500	552	468	418	782	1620	4300	1310	405	162	83
15	158	440	533	471	468	649	1940	3080	1190	368	161	80
16	150	430	503	478	508	565	2070	2190	1240	484	163	76
17	140	1050	497	424	425	561	2000	2280	1410	789	156	75
18	135	740	454	395	416	524	1630	2410	1510	1310	151	84
19	128	1050	437	404	410	557	1400	2930	1390	1080	147	105
20	123	1500	389	384	406	705	1130	3570	1340	1120	144	112
21	117	790	369	405	423	848	1050	3730	1240	638	140	103
22	112	640	381	378	379	845	1120	3600	1180	499	136	92
23	108	630	384	372	382	880	1280	3790	1180	410	218	82
24	110	1250	560	384	379	969	1950	3800	1170	355	195	74
25	106	950	2020	395	358	983	1680	3500	1150	328	158	68
26	100	750	1790	382	348	1180	1240	3470	1130	312	139	63
27	94	700	1360	371	360	1110	1060	3300	1120	299	122	58
28	91	620	1020	376	356	1050	962	3470	1150	293	111	54
29	89	580	914	404	352	1050	960	3440	1210	282	117	51
30	94	540	1180	423	---	918	1040	3350	1130	262	120	49
31	130	---	1160	443	---	885	---	3030	---	257	118	---
TOTAL	6332	17195	20831	16181	11941	21613	36215	91190	45540	18437	5275	2501
MEAN	204	573	672	522	412	697	1207	2942	1518	595	170	83.4
MAX	519	1500	2020	904	508	1180	2070	4300	3050	1310	273	114
MIN	89	120	369	371	348	372	727	1120	1120	257	111	49
AC-FT	12560	34110	41320	32100	23680	42870	71830	180900	90330	36570	10460	4960
CAL YR 1983	TOTAL	541798	MEAN	1484	MAX	8320	MIN	89	AC-FT	1075000		
WTR YR 1984	TOTAL	293251	MEAN	801	MAX	4300	MIN	49	AC-FT	581700		

## 11269500 LAKE McCLURE AT EXCHEQUER, CA

LOCATION.--Lat 37°35'02", long 120°16'09", in NW 1/4 SE 1/4 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 east of Exchequer, and 5.5 mi northeast of Merced Falls.

DRAINAGE AREA.--1,037 mi<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 between elevations 440.0 ft invert entrance to outlet tunnel, and 867.0 ft top of spillway gates. Dead storage, 300 acre-ft. 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 July 14, 15, 1969, elevation, 867.2 ft; 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 Dec. 14, 1977, elevation, 593.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 885,800 acre-ft June 7, elevation, 846.4 ft; minimum, 569,500 acre-ft Sept. 30, elevation, 787.9 ft.

## 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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	769400	607100	691000	754100	669200	688900	709000	734600	875700	853200	757400	651500
2	764800	607100	690400	750700	669700	689400	709000	734000	877600	852000	754100	648000
3	760300	608000	692000	746800	669200	689400	708500	735100	878200	849500	750700	645000
4	755200	608000	694600	742900	669200	689900	708500	737300	880100	845800	747300	641500
5	750100	608500	694600	739500	669200	689400	707900	739500	883300	843400	742900	638000
6	745100	608500	694100	734000	668200	688900	707900	741800	885200	840900	739500	635100
7	739500	609000	693100	729600	668200	689400	707900	743400	885800	837900	735700	632200
8	734000	609500	691500	725200	668200	689400	707900	741800	885200	834800	731800	629200
9	728500	609500	691000	719800	667700	689400	708500	752400	884600	831800	728000	626300
10	723600	610000	693100	714900	667700	689400	708500	757400	884600	828700	724100	622900
11	718200	614200	694100	704200	667700	689900	709500	763700	883900	825100	720900	620000
12	712800	618100	695200	698900	667700	689900	711100	771100	882000	821500	717100	617600
13	706900	621900	695200	695200	667700	689900	712200	779700	881400	817900	713300	614200
14	701000	624400	695200	691500	668700	692000	714400	788400	880100	814900	709500	611400
15	695200	625800	694100	687800	670200	693100	718200	794200	878200	811400	706900	608000
16	689400	627800	693600	684200	675400	694100	721400	796600	877600	807200	703100	605700
17	683600	635100	692500	681600	678500	695700	724100	799500	877000	804200	699400	602800
18	677900	639000	691500	679000	680000	696200	726900	802500	875100	803100	696800	600000
19	671800	640000	689900	677400	680500	697300	728500	806600	874400	801300	693100	597200
20	665600	653500	688300	674800	681600	698300	729600	813100	872500	798900	689900	595300
21	659500	659000	686800	672800	684200	699400	730200	819100	871300	796000	686200	591100
22	654000	661000	684700	671200	685200	699400	731300	824500	870000	792500	682600	590600
23	648000	661000	683100	671200	685700	699900	731800	831800	868100	789000	679500	587900
24	642000	673800	684200	670700	686800	701000	734000	838500	866300	786100	676400	585100
25	636100	682600	711100	670700	687800	702600	736200	844000	864400	782600	673300	582800
26	630700	685700	737900	670700	687800	703700	737300	850100	862500	779100	670700	580900
27	624900	687800	754600	670200	687800	705800	736800	854400	861300	775700	667100	577700
28	618600	688900	757400	670200	688900	706900	736200	859400	859400	771700	664100	575400
29	612800	689900	756900	669700	688900	707400	735700	864400	857500	768200	661000	572700
30	607600	691000	756300	670200	---	707900	735100	869400	855700	764800	658000	569500
31	606100	---	756300	669700	---	709000	---	873200	---	761400	654500	---
MAX	769400	691000	757400	754100	688900	709000	737300	873200	885800	853200	757400	651500
MIN	606100	607100	683100	669700	667700	688900	707900	734000	855700	761400	654500	569500
a	795.8	812.8	824.8	808.7	812.4	816.2	821.0	844.4	841.6	825.7	805.7	787.9
b	-167300	+84900	+65300	-86600	+19200	+20100	+26100	+138100	-17500	-94300	-106900	-85000
CAL YR 1983	b	+70100										
WTR YR 1984	b	-203900										

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

b Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11270900 MERCED RIVER BELOW MERCED FALLS DAM, NEAR SNELLING, CA

LOCATION.--Lat 37°31'18", long 120°19'53", in SE 1/4 SW 1/4 sec.4, T.5 S., R.15 E., Merced County, Hydrologic Unit 18040008, on right bank 0.1 mi south of Merced Falls, 0.2 mi downstream from Merced Falls Dam, and 5.8 mi east of Snelling.

DRAINAGE AREA.--1,061 mi<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 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 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.

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).--83 years, 1,593 ft<sup>3</sup>/s, 999,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1901-13, 1916-84): Maximum discharge observed, 47,700 ft<sup>3</sup>/s Jan. 31, 1911, gage height, 23.3 ft 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 Dec. 4, 1950, gage height, 22.6 ft from floodmarks, site and datum then in use, from rating curve extended above 16,000 ft<sup>3</sup>/s on basis of computation of peak flow over dam; minimum daily, 3.4 ft<sup>3</sup>/s Mar. 5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft<sup>3</sup>/s Jan. 12, gage height, 9.85 ft; minimum daily, 195 ft<sup>3</sup>/s Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3160	195	1280	4330	1080	1010	1500	1930	2110	2120	1930	1610
2	3160	213	1440	4300	1080	1010	1500	1930	2110	2080	1930	1610
3	3160	226	1470	4300	1100	1010	1510	1920	2110	2070	1930	1610
4	3160	208	1450	4300	1100	1100	1530	1930	2070	2090	1930	1570
5	3170	204	1660	4290	1090	1190	1550	1920	2120	2080	1930	1550
6	3180	206	1910	4310	1100	1180	1550	1990	2030	2090	1930	1550
7	3190	200	1930	4330	1100	1170	1550	1990	2010	2140	1940	1550
8	3190	203	1930	4330	1090	1160	1550	2060	2010	2140	1970	1530
9	3200	197	1940	4330	1100	1140	1550	2020	2010	2100	1940	1500
10	3200	199	1920	4340	1100	1150	1540	2020	1990	2110	1880	1470
11	3210	196	1930	4370	1100	1150	1540	2020	2000	2110	1850	1460
12	3220	199	1940	4390	1100	1160	1540	1960	2000	2090	1870	1460
13	3220	212	1930	3910	1050	1180	1540	1920	1990	2080	1850	1450
14	3230	207	1930	3320	1000	1180	1550	1920	2030	2110	1820	1460
15	3250	209	1920	3300	997	1180	1540	1910	2040	2120	1790	1430
16	3240	208	1900	3320	1000	1170	1590	1920	2040	2120	1730	1420
17	3260	213	1940	3300	1000	1180	1640	1920	2020	2110	1730	1370
18	3260	353	1940	2680	993	1170	1650	1950	2040	2100	1740	1330
19	3280	503	1940	2420	996	1160	1650	1960	2050	2100	1730	1300
20	3280	523	1930	2140	995	1160	1640	1950	2020	2090	1700	1260
21	3290	507	1930	2000	1030	1200	1650	1970	2020	2080	1680	1270
22	3300	847	1940	1990	997	1220	1640	1960	2020	2070	1660	1230
23	3290	1010	1940	1700	1010	1300	1650	1930	2030	2050	1630	1220
24	3280	1060	2060	1280	1010	1330	1680	1910	2040	2050	1620	1230
25	3270	1030	2070	1120	1010	1320	1720	1890	2030	2050	1630	1220
26	3270	1030	2500	1110	1010	1310	1800	2010	2030	2030	1630	1220
27	3260	1010	3060	1100	1010	1360	1910	1950	2010	1970	1620	1230
28	3250	1010	4340	1110	1010	1410	1940	1940	2030	1960	1610	1230
29	3100	1090	4340	1120	998	1470	1930	1920	2110	1960	1610	1230
30	2940	1020	4350	1110	---	1480	1930	1970	2150	1940	1600	1230
31	970	---	4350	1080	---	1490	---	2080	---	1930	1610	---
TOTAL	97440	14488	69110	91030	30256	37700	49060	60670	61270	64140	55020	41800
MEAN	3143	483	2229	2936	1043	1216	1635	1957	2042	2069	1775	1393
MAX	3300	1090	4350	4390	1100	1490	1940	2080	2150	2140	1970	1610
MIN	970	195	1280	1080	993	1010	1500	1890	1990	1930	1600	1220
AC-FT	193300	28740	137100	180600	60010	74780	97310	120300	121500	127200	109100	82910

CAL YR 1983 TOTAL 1376476 MEAN 3771 MAX 7830 MIN 195 AC-FT 2730000 MEAN a 3901 AC-FT a 2824000  
WTR YR 1984 TOTAL 671984 MEAN 1836 MAX 4390 MIN 195 AC-FT 1333000 MEAN a 1593 AC-FT a 1156100

a Adjusted for diversion to Northside 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 NW 1/4 SW 1/4 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 upstream from Dry Creek, and 4.0 mi northeast of Cressey.

DRAINAGE AREA.--1,117 mi<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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Most water released from Lake McClure (station 11269500) is diverted upstream into the Main Canal of Merced Irrigation District. Flow past station consists of releases from diversion dam, irrigation return flow, and tributary inflow. No records computed above 200 ft<sup>3</sup>/s.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										---	142	137
2										---	127	145
3										---	123	142
4										---	127	142
5										---	140	140
6										---	147	131
7										---	140	123
8										---	125	118
9										---	147	123
10										176	137	127
11										179	135	121
12										189	129	123
13										173	142	125
14										161	137	127
15										170	140	127
16										---	153	131
17										192	153	156
18										173	156	158
19										167	170	150
20										156	173	158
21										156	179	150
22										156	167	137
23										161	156	150
24										167	145	158
25										186	133	167
26										192	150	179
27										179	164	176
28										164	150	167
29										167	142	---
30										161	137	---
31										156	133	---
TOTAL										---	4499	---
MEAN										---	145	---
MAX										---	179	---
MIN										---	123	---
AC-FT										---	8920	---
a	34110	379	698	2070	1180	49610	77350	101200	104500	116200	102400	76640

a Diversion, in acre-feet, to Main Canal near diversion dam, near Merced Falls, furnished by Merced Irrigation District.

## SAN JOAQUIN RIVER BASIN

11271320 DRY CREEK NEAR SNELLING, CA

LOCATION.--Lat 37°33'18", long 120°27'44", in NE 1/4 SE 1/4 sec.30, T.4 S., R.14 E., Merced County, Hydrologic Unit 18040002, on left bank 650 ft downstream from Fields Road, and 2.8 mi northwest of Snelling.

DRAINAGE AREA.--67.6 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 230 ft, from topographic map.

REMARKS.--Records good. Small weir upstream from gage regulates storage for stock pond and irrigation pumping.

AVERAGE DISCHARGE.--18 years, 23.7 ft<sup>3</sup>/s, 17,170 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,710 ft<sup>3</sup>/s Jan. 21, 1969, gage height, 17.01 ft; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1700	1,170	8.44	Dec. 24	1330	*3,980	13.54
Nov. 24	1700	1,960	10.08				

Minimum, no flow many days May through September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	.87	15	59	6.4	8.5	3.1	.56		0		
2	2.9	.50	13	48	6.2	7.9	4.7	.59		0		
3	1.9	.38	108	42	5.9	7.2	3.6	.55		0		
4	1.3	.30	54	38	5.9	6.9	3.1	.44		.09		
5	1.1	.29	26	35	5.5	6.6	2.7	.32		.16		
6	.76	.58	19	33	5.2	6.1	2.4	.24		.11		
7	.48	.38	15	31	4.9	5.9	2.1	.19		.08		
8	.36	.29	13	29	4.8	5.5	1.9	.16		.06		
9	.27	.25	25	27	4.9	5.1	1.7	.18		.03		
10	.30	.22	53	25	7.1	4.8	1.6	.19		.01		
11	.29	.63	69	22	7.8	4.5	1.6	.14		0		
12	.27	.90	62	18	6.2	4.2	1.5	2.3		0		
13	.27	2.2	31	15	15	4.5	1.3	2.0		0		
14	.27	2.6	24	14	95	14	1.0	1.5		0		
15	.27	2.5	21	13	124	8.0	.96	1.1		0		
16	.27	2.4	19	39	280	6.9	.97	.44		0		
17	.27	247	17	31	52	16	.72	.21		0		
18	.27	71	14	19	27	10	3.6	.27		0		
19	.27	24	13	15	18	6.8	4.4	.19		0		
20	.27	640	12	14	14	5.7	4.5	.12		0		
21	.26	119	10	13	369	5.0	3.0	.10		0		
22	.23	36	16	12	74	4.2	2.2	.07		0		
23	.38	28	60	11	33	3.8	1.7	.05		0		
24	.50	604	922	11	23	3.4	1.4	.03		0		
25	.35	187	1130	10	17	3.2	.79	.01		0		
26	.27	45	646	9.5	13	3.1	.62	0		0		
27	.23	32	281	8.8	12	3.1	.77	0		0		
28	.22	26	104	8.0	10	2.8	.86	0		0		
29	.20	20	65	7.4	9.3	2.6	.72	0		0		
30	.25	17	189	7.1	---	2.1	.63	0		0		
31	.95	---	98	6.8	---	2.2	---	0		0		
TOTAL	17.93	2111.29	4144	671.6	1256.1	180.6	60.14	11.95	0	0.54	0	0
MEAN	.58	70.4	134	21.7	43.3	5.83	2.00	.39	0	.017	0	0
MAX	2.9	640	1130	59	369	16	4.7	2.3	0	.16	0	0
MIN	.20	.22	10	6.8	4.8	2.1	.62	0	0	0	0	0
AC-FT	36	4190	8220	1330	2490	358	119	24	0	1.1	0	0
CAL YR 1983	TOTAL	30031.79	MEAN	82.3	MAX	2340	MIN	.20	AC-FT	59570		
WTR YR 1984	TOTAL	8454.15	MEAN	23.1	MAX	1130	MIN	0	AC-FT	16770		

## 11272500 MERCED RIVER NEAR STEVINSON, CA

LOCATION.--Lat 37°22'15", long 120°55'46", in SW 1/4 NE 1/4 sec.36, T.6 S., R.9 E., Merced County, Hydrologic Unit 18040002, on right bank 4.4 mi upstream from mouth, and 5.3 mi northwest of Stevinson.

DRAINAGE AREA.--1,273 mi<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 higher, Aug. 16, 1955, to Sept. 30, 1959, at datum 54.74 ft higher.

REMARKS.--Records good, except those for periods of backwater, which are fair. Practically entire flow is diverted above station for irrigation of 120,000 acres during low runoff years. Some return flow enters above station. Flow regulated by three reservoirs, combined capacity, 1,035,000 acre-ft, the largest of which is Lake McClure (station 11269500).

AVERAGE DISCHARGE.--44 years, 741 ft<sup>3</sup>/s, 536,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft<sup>3</sup>/s Dec. 5, 1950, elevation, 73.79 ft present datum; no flow July 19 to Aug. 21, 1961, result of temporary dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,400 ft<sup>3</sup>/s Jan. 1, elevation, 68.50 ft; minimum daily, 228 ft<sup>3</sup>/s Aug. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2170	1890	1370	4360	1350	1100	507	416	349	364	325	278
2	2250	845	1520	4300	1340	1080	540	395	365	423	280	283
3	2280	654	1770	4280	1330	982	502	409	407	340	252	307
4	2330	582	1890	4270	1300	821	496	401	385	282	240	309
5	2380	532	1970	4260	1280	606	497	383	414	273	279	299
6	2470	491	2030	4250	1270	578	503	434	459	257	294	266
7	2560	459	2230	4240	1250	579	465	487	401	267	267	273
8	2560	437	2290	4240	1240	578	464	450	390	295	237	286
9	2550	414	2320	4230	1230	615	492	414	414	313	228	262
10	2590	400	2350	4210	1230	600	470	392	440	263	252	282
11	2610	406	2390	4210	1240	586	479	379	464	270	261	290
12	2590	408	2400	4210	1240	593	448	383	404	295	287	286
13	2590	396	2440	4200	1230	575	456	444	402	289	286	293
14	2640	397	2430	3990	1210	545	403	473	413	265	283	280
15	2700	398	2410	3490	1240	577	428	431	377	285	256	285
16	2730	384	2390	3400	1220	615	430	422	332	322	248	287
17	2740	380	2350	3400	1370	612	392	425	377	288	240	296
18	2710	469	2240	3390	1240	601	371	422	386	269	257	336
19	2670	608	2090	3100	1170	625	449	382	319	253	291	317
20	2840	614	1960	2830	1170	630	488	389	321	247	351	301
21	3120	969	1900	2670	1170	594	468	398	329	253	335	299
22	3160	876	1890	2510	1430	512	472	383	312	260	299	306
23	3180	848	1900	2440	1310	506	489	350	323	303	281	305
24	3180	1030	1930	2280	1210	519	446	353	407	308	276	328
25	3200	1340	2660	1970	1180	509	423	347	411	304	260	314
26	3190	1360	3300	1740	1160	498	404	371	375	336	298	314
27	3110	1120	3200	1640	1150	490	343	417	322	340	306	321
28	3030	1090	3220	1550	1120	494	351	396	313	305	294	378
29	3000	1140	3790	1470	1120	493	423	350	305	284	282	338
30	2950	1250	4040	1420	---	466	468	331	324	309	261	344
31	2820	---	4260	1380	---	490	---	331	---	328	272	---
TOTAL	84900	22187	74930	99930	36000	19069	13567	12358	11240	9190	8578	9063
MEAN	2739	740	2417	3224	1241	615	452	399	375	296	277	302
MAX	3200	1890	4260	4360	1430	1100	540	487	464	423	351	378
MIN	2170	380	1370	1380	1120	466	343	331	305	247	228	262
AC-FT	168400	44010	148600	198200	71410	37820	26910	24510	22290	18230	17010	17980
CAL YR 1983	TOTAL	1168927	MEAN	3203	MAX	6850	MIN	380	AC-FT	2319000		
WTR YR 1984	TOTAL	401012	MEAN	1096	MAX	4360	MIN	228	AC-FT	795400		

NOTE.--Stage-discharge relationship affected by variable backwater from October to March.

## SAN JOAQUIN RIVER BASIN

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA

LOCATION.--Lat 37°21'02", long 120°58'34", in NW 1/4 SW 1/4 sec.3, T.7 S., R.9 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft downstream from bridge on Hills Ferry Road, 650 ft downstream from Merced River, and 3.5 mi northeast of Newman.

DRAINAGE AREA.--9,520 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

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 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.--72 years, 2,150 ft<sup>3</sup>/s, 1,558,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (river only), 30,700 ft<sup>3</sup>/s Mar. 4, 1983, elevation, 65.78 ft; river and Merced River Slough, 34,400 ft<sup>3</sup>/s Feb 26, 1969, elevation, 65.90 ft present datum; minimum, 15 ft<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 from floodmarks; flood of February 1886, reached a stage of 19.8 ft from floodmarks; and flood of 1911 reached a stage of 19 ft from floodmarks. All stages referred to datum in use from 1931 to 1959. Discharges unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,500 ft<sup>3</sup>/s Jan. 1, elevation, 63.50 ft; minimum daily, 503 ft<sup>3</sup>/s July 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3970	4880	7370	14300	4530	1880	1070	984	689	727	734	623
2	4180	3630	7980	14400	4450	1880	1140	971	679	789	697	636
3	4510	3270	8600	14500	3900	1780	1180	943	727	739	638	737
4	5050	3090	8950	14500	3370	1630	1190	931	716	685	599	783
5	5690	2950	9220	14400	3090	1380	1180	853	758	640	645	770
6	6050	2850	9390	14300	2770	1310	1200	872	854	601	644	691
7	6330	2840	9620	14200	2550	1280	1180	937	893	601	620	668
8	6410	2910	9750	14000	2420	1300	1160	949	896	606	597	682
9	6420	3000	9800	13800	2350	1400	1140	887	922	638	608	646
10	6450	3070	9840	13700	2310	1400	1150	804	966	605	604	699
11	6510	3310	9880	13600	2270	1390	1170	773	990	588	605	749
12	6550	3540	9930	13500	2230	1370	1120	767	983	595	631	708
13	6530	3720	10000	13300	2210	1310	1080	807	983	589	655	682
14	6410	3830	10100	13100	2190	1240	1030	899	955	586	674	679
15	6250	3870	10100	12500	2160	1280	1020	926	912	588	654	650
16	5980	3850	10000	12200	2160	1410	1040	935	829	619	657	634
17	5640	3880	9750	12100	2270	1460	1020	963	774	612	652	637
18	5450	4040	8750	12100	2250	1480	1010	964	799	609	677	649
19	5420	4310	6910	11800	2180	1520	1050	937	748	569	748	642
20	5390	4350	5030	11300	2120	1560	1100	916	721	547	802	630
21	5700	4650	4120	11000	2080	1530	1120	889	701	522	806	618
22	5920	4970	3760	10600	2210	1410	1120	851	699	503	750	620
23	6120	5030	3590	10200	2440	1330	1130	809	732	604	729	623
24	6260	5010	3520	9720	2480	1250	1100	758	818	640	715	650
25	6300	4390	4050	9000	2320	1170	1070	739	815	673	686	638
26	6310	4190	5410	8100	2140	1130	1020	755	783	734	715	647
27	6170	4340	6670	7320	2040	1120	971	784	728	760	737	653
28	5920	5000	7470	6480	1980	1090	943	802	677	739	749	682
29	5750	5810	8420	5460	1930	1090	971	778	680	696	741	631
30	5670	6590	10200	4850	---	1060	991	757	703	685	683	646
31	5450	---	13200	4600	---	1050	---	712	---	709	644	---
TOTAL	180760	121170	251380	354930	73400	42490	32666	26652	24130	19798	21096	20003
MEAN	5831	4039	8109	11450	2531	1371	1089	860	804	639	681	667
MAX	6550	6590	13200	14500	4530	1880	1200	984	990	789	806	783
MIN	3970	2840	3520	4600	1930	1050	943	712	677	503	597	618
AC-FT	358500	240300	498600	704000	145600	84280	64790	52860	47860	39270	41840	39680
CAL YR 1983	TOTAL	4287780	MEAN	11750	MAX	30300	MIN	2330	AC-FT	8505000		
WTR YR 1984	TOTAL	1168475	MEAN	3193	MAX	14500	MIN	503	AC-FT	2318000		

11274000 SAN JOAQUIN RIVER NEAR NEWMAN, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1983 to September 1984.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	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)	ALKA- LITY FIELD (MG/L AS CACO3)
SEP , 1984										
07...	1115	622	530	7.4	23.0	28	13	59	3.1	97
SEP , 1984										
07...	65	58	.20	.10	16	.11	3	220	<1	8
SEP , 1984										
07...	1	26	2	14	140	<.1	<2	<1	5	<3

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

## SAN JOAQUIN RIVER BASIN

11274500 ORESTIMBA CREEK NEAR NEWMAN, CA

LOCATION.--Lat 37°18'56", long 121°07'27", in NE 1/4 NE 1/4 sec.19, T.7 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 20 ft downstream from bridge at California Aqueduct siphon, 3 mi downstream from Oso Creek, and 5.5 mi west of Newman. Prior to Feb. 6, 1984, at site 240 ft upstream.

DRAINAGE AREA.--134 mi<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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1958, at site 1,080 ft downstream at datum 24.14 ft lower. Oct. 1, 1958, to Aug. 13, 1969, at site 960 ft downstream at datum 27.14 ft lower.

REMARKS.--Records fair. No storage or diversion above station except for minor stock ponds.

AVERAGE DISCHARGE.--52 years, 17.2 ft<sup>3</sup>/s, 12,460 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s Apr. 2, 1958, gage height, 6.57 ft site and datum then in use, from rating curve extended above 5,000 ft<sup>3</sup>/s; no flow for all or parts of each year.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2030	333	5.24	Dec. 25	0230	*991	6.27
Dec. 10	0015	254	5.00				

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	5.6	47	5.8	5.5	3.6	.62				
2		0	5.1	42	5.6	5.2	4.2	.62				
3		0	18	39	5.4	4.7	4.3	.67				
4		0	66	35	5.4	4.8	4.3	.81				
5		0	26	34	5.4	4.3	4.4	.88				
6		0	15	32	5.4	4.2	4.5	.80				
7		0	14	30	5.5	4.1	3.9	.85				
8		0	13	29	5.5	4.2	3.7	.98				
9		0	34	27	6.1	4.2	3.6	1.0				
10		0	119	25	6.7	4.1	3.7	1.2				
11		.15	68	25	6.7	3.9	3.7	1.2				
12		.02	81	24	8.1	4.0	3.4	1.2				
13		.12	45	23	8.9	4.5	2.9	1.1				
14		.05	34	23	9.8	8.1	2.9	.84				
15		.02	28	23	9.8	10	2.5	.71				
16		.10	24	25	11	8.1	2.4	.65				
17		.23	20	25	12	7.1	2.2	.60				
18		1.0	19	24	11	6.5	2.2	.35				
19		3.0	17	20	9.0	5.9	2.9	.19				
20		11	15	21	8.6	5.6	3.4	.07				
21		40	14	18	10	5.0	3.1	.01				
22		20	17	14	11	4.6	2.4	.07				
23		10	18	12	9.0	4.4	2.1	.28				
24		52	30	10	7.5	4.3	1.7	.32				
25		87	637	9.0	6.1	4.2	1.3	.28				
26		33	260	8.0	5.7	4.4	1.0	.12				
27		17	134	7.0	5.7	4.1	.90	0				
28		8.9	84	6.6	5.7	3.9	.84	0				
29		6.7	60	6.4	5.4	4.0	.71	0				
30		6.0	60	6.2	---	3.6	.65	0				
31		---	57	6.0	---	3.3	---	0				
TOTAL	0	296.29	2037.7	676.2	217.8	154.8	83.40	16.42	0	0	0	0
MEAN	0	9.88	65.7	21.8	7.51	4.99	2.78	.53	0	0	0	0
MAX	0	87	637	47	12	10	4.5	1.2	0	0	0	0
MIN	0	0	5.1	6.0	5.4	3.3	.65	0	0	0	0	0
AC-FT	0	588	4040	1340	432	307	165	33	0	0	0	0
CAL YR 1983	TOTAL	32184.80	MEAN	88.2	MAX	2560	MIN	0	AC-FT	63840		
WTR YR 1984	TOTAL	3482.61	MEAN	9.52	MAX	637	MIN	0	AC-FT	6910		

11274630 DEL PUERTO CREEK NEAR PATTERSON, CA

LOCATION.--Lat 37°29'12", long 121°12'29", in SE 1/4 NW 1/4 sec.21, T.5 S., R.7 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 1.0 mi upstream from California Aqueduct crossing, and 4.4 mi west of Patterson.

DRAINAGE AREA.--72.6 mi<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, from topographic map. Prior to June 1965, crest-stage gage at site 1.0 mi downstream at different datum.

REMARKS.--Records good, except those during spring and summer months, which are fair. Some stock ponds and small diversions above station.

AVERAGE DISCHARGE.--19 years, 7.80 ft<sup>3</sup>/s, 5,650 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft<sup>3</sup>/s Feb. 16, 1959, gage height, 14.68 ft site and datum then in use, from rating curve extended above 690 ft<sup>3</sup>/s; no flow for several months in most years.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	2215	120	3.07
Dec. 9	2215	178	3.34
Dec. 25	1215	*454	4.39

Minimum, no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	2.2	3.6	20	6.1	5.6	2.4	1.1	.07	.05		
2	2.9	2.2	2.5	18	6.2	5.4	2.5	1.3	.06	.05		
3	2.1	2.0	7.6	16	6.0	5.4	2.4	1.1	.07	.04		
4	1.9	2.1	36	14	5.7	4.8	2.5	1.0	.07	.04		
5	2.0	2.1	11	14	5.8	4.2	2.6	1.1	.13	.04		
6	2.0	2.0	6.4	13	5.7	4.3	2.5	1.0	.10	.04		
7	2.1	1.9	4.6	12	5.6	4.1	2.3	.92	.12	.03		
8	2.2	1.9	4.2	12	5.6	4.1	2.2	.80	.11	.03		
9	2.1	1.9	28	11	5.8	4.0	2.2	.84	.09	.01		
10	2.2	2.2	63	10	6.9	3.8	2.1	.81	.09	0		
11	2.3	14	37	10	6.7	3.7	2.3	.72	.09	0		
12	2.2	9.0	43	9.9	6.5	3.7	2.2	.73	.08	0		
13	2.3	6.0	23	9.6	6.7	4.2	1.9	.74	.08	0		
14	2.3	9.7	15	8.7	12	6.3	1.6	.59	.09	0		
15	2.3	5.7	11	8.4	8.6	5.0	1.5	.76	.08	0		
16	2.2	3.9	9.2	11	11	4.6	1.4	.79	.09	0		
17	2.0	6.2	7.7	9.9	13	4.8	1.4	.78	.07	0		
18	2.0	11	6.5	8.2	9.3	3.9	1.5	.64	.07	0		
19	2.1	6.1	6.1	7.3	7.9	3.4	2.0	.55	.06	0		
20	2.1	9.5	5.8	7.5	7.5	3.3	1.7	.50	.06	0		
21	2.1	23	4.9	8.4	11	3.2	1.4	.47	.08	0		
22	2.0	9.3	7.2	7.7	9.5	3.1	1.3	.39	.07	0		
23	1.9	4.9	12	7.3	8.3	3.0	1.2	.30	.06	0		
24	1.9	20	25	6.9	6.7	3.0	1.0	.25	.05	0		
25	1.7	42	317	6.7	6.2	2.8	.93	.22	.06	0		
26	1.7	12	104	6.5	6.3	2.8	.98	.17	.06	0		
27	1.6	5.8	58	6.1	6.0	2.7	1.1	.14	.06	0		
28	1.6	3.8	41	6.2	5.7	2.6	1.1	.11	.06	0		
29	1.6	3.0	29	6.2	5.7	2.4	.97	.10	.06	0		
30	2.0	3.0	29	6.1	---	2.3	.98	.09	.06	0		
31	2.0	---	26	6.1	---	2.2	---	.10	---	0		
TOTAL	66.8	228.4	984.3	304.7	214.0	118.7	52.16	19.11	2.30	0.33	0	0
MEAN	2.15	7.61	31.8	9.83	7.38	3.83	1.74	.62	.077	.011	0	0
MAX	5.4	42	317	20	13	6.3	2.6	1.3	.13	.05	0	0
MIN	1.6	1.9	2.5	6.1	5.6	2.2	.93	.09	.05	0	0	0
AC-FT	132	453	1950	604	424	235	103	38	4.6	.7	0	0
CAL YR 1983	TOTAL	17831.12	MEAN	48.9	MAX	973	MIN	.70	AC-FT	35370		
WTR YR 1984	TOTAL	1990.80	MEAN	5.44	MAX	317	MIN	0	AC-FT	3950		

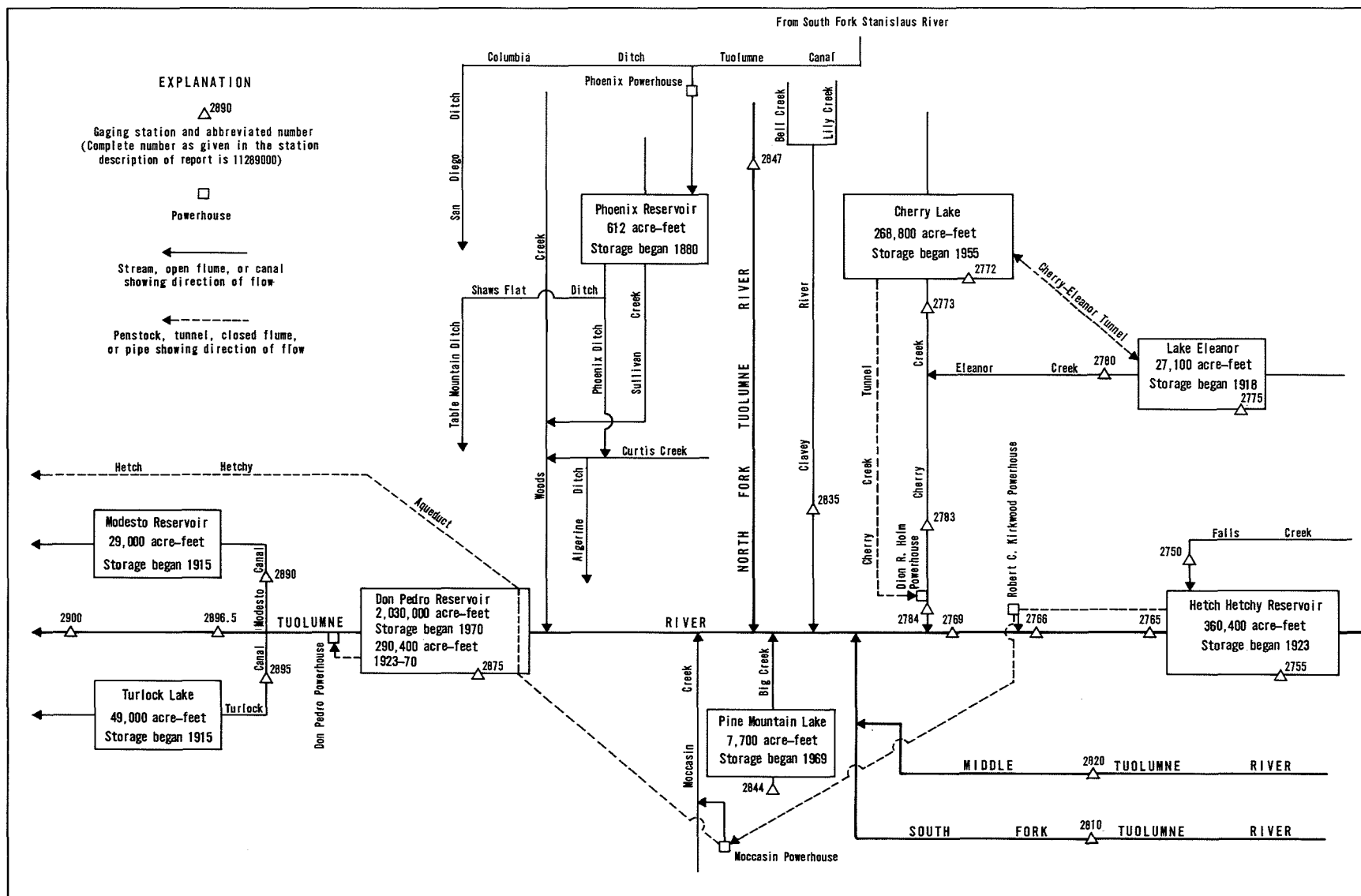


FIGURE 10. — Schematic diagram showing diversions and storage in Tuolumne River basin.



## 11275500 HETCH HETCHY RESERVOIR AT HETCH HETCHY, CA

LOCATION.--Lat 37°56'52", long 119°47'13", in NW 1/4 NW 1/4 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 downstream from Falls Creek.

DRAINAGE AREA.--455 mi<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 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 in 1923 and raised to 3,812.0 ft in 1937. Storage began Apr. 6, 1923. Ten-foot drum gates were installed on spillway in 1949. Capacity, 360,400 acre-ft between gage heights 3,512.0 ft bottom outlet, and 3,806.0 ft top of drum-type spillway gates. Water is diverted from reservoir through tunnel to Robert C. Kirkwood powerplant 15 mi downstream. Flow is diverted from powerplant tailrace in a closed conduit through Hetch Hetchy aqueduct to Moccasin Creek powerplant with flows in excess of aqueduct capacity being spilled to the river. At Moccasin Creek diversion dam, water re-enters Hetch Hetchy aqueduct and flows into Crystal Springs Reservoir, which supplies city of San Francisco. Surplus water is spilled into Don Pedro Reservoir (station 11287500) at Red Mountain Bar. Flow down river is for State Department of Fish and Game and Raker Act requirements. Hetch Hetchy Reservoir is main storage unit of Hetch Hetchy water-supply system for San Francisco. See schematic diagram of Tuolumne River basin. Records, including extremes, represent contents at 0800 hours.

COOPERATION.--Record of gage heights furnished by city and county of San Francisco.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 369,100 acre-ft Dec. 3, 1950, gage height, 3,810.4 ft; no contents at times in 1929-31.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 364,700 acre-ft June 5, gage height, 3,808.2 ft; minimum, 261,200 acre-ft Mar. 20, gage height, 3,752.9 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 0800

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	327000	287100	303100	314000	291100	270100	266600	277600	361900	361700	350400	309400
2	326800	286000	302700	314300	290200	269300	266600	276900	360400	361900	349400	308100
3	326600	284900	302200	314100	289300	268400	266200	276400	360800	361900	348400	306600
4	326200	283600	302400	313900	288400	267800	265900	277800	361400	361900	347400	305300
5	325700	282300	302000	314100	287400	267300	265900	279300	364700	361500	346100	303700
6	324900	281100	301400	314100	286700	266400	265700	280400	362500	362500	344900	302200
7	324000	279600	301100	314100	286000	265700	265700	281600	360800	362700	343500	300700
8	323000	278600	300500	313800	284900	265000	266100	284300	360400	362500	342400	299400
9	321900	277300	300100	313600	284000	264700	266600	288900	362700	362300	341200	297900
10	321200	276000	300700	313000	283400	264300	266600	295000	363100	361700	339900	296400
11	320500	276000	300700	312600	282700	263800	267700	301200	363100	361400	338500	295200
12	318100	279600	301100	311900	281600	263400	268200	309100	362900	361000	337400	293500
13	316800	281300	300700	311100	280900	263100	268700	318700	362700	360800	336000	292000
14	315300	281800	300500	310200	280200	263400	270000	329100	363100	360600	334900	290400
15	313900	281800	300500	309300	279500	263300	272300	337400	363100	360200	333300	289100
16	312400	281400	300300	308400	279800	262900	275700	338100	362900	360000	332000	287400
17	310800	282700	300100	307600	279500	262600	279500	335800	363500	359800	330800	286000
18	309300	287800	299800	306500	278700	262000	282500	334700	363900	360200	329300	284500
19	307800	288200	299200	305500	278200	261500	284700	336000	363100	360800	328200	283100
20	306300	293700	298700	304400	277800	261200	285300	340600	362900	361000	326800	281800
21	304800	295700	297900	301600	277300	261300	284500	330600	362300	360800	325500	280200
22	303300	295900	297000	300300	276800	261500	283300	353500	362100	360400	324000	278900
23	301600	296100	296400	299400	276200	261700	282500	357400	362100	359600	322600	277300
24	300100	299400	295700	298300	275500	262000	282700	361200	362500	359000	321300	275800
25	298700	302700	300500	297500	275000	262400	283600	363100	362700	358000	319800	274200
26	297000	303800	305300	296600	274100	262900	283600	362700	362700	357200	318300	272600
27	295200	304000	309300	295700	273000	264300	282900	361900	362300	356000	317000	271200
28	293500	304200	310800	294800	272100	265400	281600	361900	362500	354900	315400	269600
29	292000	304000	310900	293700	271000	266100	280200	362300	362700	353900	313900	268000
30	290200	303700	311300	292800	---	266400	278700	362900	362700	352700	312400	266600
31	288500	---	313900	292000	---	266600	---	362500	---	351500	310900	---
MAX	327000	304200	313900	314300	291100	270100	285300	363100	364700	362700	350400	309400
MIN	288500	276000	295700	292000	271000	261200	265700	276400	360400	351500	310900	266600
a	3768.2	3776.4	3781.9	3770.1	3758.5	3756.0	3762.8	3807.1	3807.2	3801.5	3780.3	3756.0
b	-39100	+15200	+10200	-21900	-21000	-4400	+12100	+83800	+200	-11200	-40600	-44300

CAL YR 1983 b +18900  
WTR YR 1984 b -61000

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

## SAN JOAQUIN RIVER BASIN

11276500 TUOLUMNE RIVER NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°56'15", long 119°47'50", in SW 1/4 SE 1/4 sec.17, T.1 N., R.20 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on left bank 0.9 mi downstream from O'Shaughnessy Dam at Hetch Hetchy, and 2.5 mi downstream from Falls Creek.

DRAINAGE AREA.--457 mi<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, from topographic map. Prior to Jan. 1, 1915, water-stage recorder at site 1 mi 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 upstream at different datum.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 1 mi 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, 723,800 acre-ft/yr; 17 years (water years 1968-84), 453 ft<sup>3</sup>/s, 328,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,900 ft<sup>3</sup>/s June 1, 1943, gage height, 13.90 ft; no flow at times in 1968-70.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,180 ft<sup>3</sup>/s May 30, gage height, 11.82 ft; minimum daily, 58 ft<sup>3</sup>/s Jan. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	73	67	69	66	68	81	973	6460	1710	127	114
2	60	73	63	67	68	68	86	988	4720	1470	130	105
3	63	73	78	66	68	67	81	991	3110	1470	132	105
4	66	73	71	65	67	68	81	998	3550	1420	131	105
5	66	73	67	65	71	68	80	1000	5430	857	134	105
6	66	73	66	64	68	68	80	1000	4230	917	136	105
7	66	73	65	64	67	67	80	1010	2950	1020	135	105
8	72	73	65	64	67	67	80	1010	779	976	133	104
9	76	72	70	64	67	67	80	1030	1610	771	131	104
10	76	72	73	63	67	67	80	1230	2310	530	129	103
11	76	74	75	63	67	66	79	1670	2170	352	129	103
12	76	73	71	63	67	66	80	1550	2140	236	132	103
13	76	74	68	62	68	67	80	1830	2130	178	132	103
14	76	73	67	62	68	68	80	1790	2330	146	132	103
15	76	72	66	62	74	68	80	1770	2300	140	132	93
16	76	72	66	61	80	68	80	3700	2300	137	132	86
17	76	93	66	61	70	70	81	3490	2880	145	132	86
18	76	77	64	61	69	68	82	3060	3510	144	132	86
19	76	86	63	61	69	68	356	2830	3240	207	132	85
20	76	94	63	726	69	68	814	2960	3010	225	132	85
21	75	80	63	736	70	67	986	3330	2540	158	132	85
22	74	78	62	60	75	67	983	4110	2220	139	132	85
23	74	77	63	60	74	67	981	5130	2290	138	131	85
24	74	102	73	60	70	67	981	5740	2410	136	130	85
25	74	87	104	60	70	67	981	6620	2470	136	130	84
26	73	81	118	59	69	67	982	6720	2440	134	130	83
27	73	80	93	60	69	67	981	6330	2360	132	130	83
28	73	79	77	60	68	67	980	6450	2380	132	130	83
29	73	79	72	59	68	67	978	6650	2540	131	130	83
30	73	79	77	59	---	67	972	6860	2430	130	130	83
31	73	---	72	58	---	68	---	6670	---	128	130	---
TOTAL	2252	2338	2228	3264	2010	2090	12426	99490	85239	14545	4070	2827
MEAN	72.6	77.9	71.9	105	69.3	67.4	414	3209	2841	469	131	94.2
MAX	76	102	118	736	80	70	986	6860	6460	1710	136	114
MIN	60	72	62	58	66	66	79	973	779	128	127	83
AC-FT	4470	4640	4420	6470	3990	4150	24650	197300	169100	28850	8070	5610
CAL YR 1983	TOTAL	509076	MEAN	1391	MAX	10100	MIN	60	AC-FT	1010000		
WTR YR 1984	TOTAL	232779	MEAN	636	MAX	6860	MIN	58	AC-FT	461700		

## 11276600 TUOLUMNE RIVER ABOVE EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'46", long 119°56'46", in SE 1/4 SW 1/4 sec.1, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.5 mi upstream from Early Intake, 2.4 mi upstream from Cherry Creek, and 5.0 mi west of Mather.

DRAINAGE AREA.--484 mi<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, from topographic map.

REMARKS.--Records good. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 12 mi upstream.

AVERAGE DISCHARGE.--14 years, 494 ft<sup>3</sup>/s, 357,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft<sup>3</sup>/s July 7, 1983, gage height, 21.38 ft; minimum daily, 33 ft<sup>3</sup>/s Aug. 17, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943, reached a stage of 22.1 ft, discharge, 12,900 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,820 ft<sup>3</sup>/s May 30, gage height, 20.26 ft; minimum daily, 67 ft<sup>3</sup>/s Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	81	116	199	85	108	101	944	6750	1840	134	131
2	71	78	105	175	91	107	117	961	5300	1420	135	110
3	67	77	167	159	90	105	109	964	3300	1440	140	109
4	70	76	278	149	89	104	107	964	3590	1400	139	109
5	70	76	160	141	89	102	107	963	5690	954	139	109
6	70	76	134	134	89	100	108	966	4590	846	144	108
7	70	77	127	128	88	99	105	970	3380	986	143	108
8	70	76	125	123	87	98	107	975	1020	966	141	108
9	78	76	136	119	90	97	107	986	1360	789	139	107
10	78	77	290	115	98	96	110	1110	2340	568	137	107
11	78	106	231	112	94	95	110	1650	2260	393	136	107
12	78	87	250	109	93	95	106	1520	2180	277	140	107
13	78	93	170	107	104	100	104	1760	2180	201	140	107
14	78	104	151	105	145	126	103	2070	2370	172	140	106
15	77	85	138	103	150	134	102	1350	2410	148	140	104
16	77	84	128	105	338	137	101	3950	2350	148	140	88
17	77	238	127	102	178	152	103	3790	2930	146	140	87
18	77	207	121	100	149	139	105	3320	3700	154	139	88
19	77	112	114	98	135	126	237	2980	3490	185	139	88
20	77	386	110	450	126	119	701	3060	3240	238	139	87
21	77	208	106	933	141	113	964	3400	2750	190	139	87
22	77	143	105	141	140	109	961	4210	2290	148	139	86
23	77	123	115	97	132	106	956	5310	2330	146	138	86
24	77	320	171	94	126	104	955	6020	2470	144	138	86
25	76	362	693	91	123	102	956	6800	2560	142	138	86
26	76	187	918	90	118	101	957	6980	2540	141	138	86
27	76	149	597	88	115	101	955	6580	2450	140	137	86
28	76	136	342	88	112	98	952	6630	2450	138	137	85
29	76	127	241	86	110	97	947	6870	2630	137	137	85
30	77	120	284	85	---	95	940	7130	2560	136	137	86
31	79	---	260	85	---	98	---	6930	---	135	136	---
TOTAL	2356	4147	7010	4711	3525	3363	12393	102113	89460	14868	4298	2934
MEAN	76.0	138	226	152	122	108	413	3294	2982	480	139	97.8
MAX	94	386	918	933	338	152	964	7130	6750	1840	144	131
MIN	67	76	105	85	85	95	101	944	1020	135	134	85
AC-FT	4670	8230	13900	9340	6990	6670	24580	202500	177400	29490	8530	5820
CAL YR 1983	TOTAL	564166	MEAN	1546	MAX	9810	MIN	67	AC-FT	1119000		
WTR YR 1984	TOTAL	251178	MEAN	686	MAX	7130	MIN	67	AC-FT	498200		

## SAN JOAQUIN RIVER BASIN

11276900 TUOLUMNE RIVER BELOW EARLY INTAKE, NEAR MATHER, CA

LOCATION.--Lat 37°52'54", long 119°58'09", in NW 1/4 SW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 0.6 mi upstream from Cherry Creek, 0.7 mi downstream from Robert C. Kirkwood powerplant and Hetch Hetchy aqueduct, and 6.3 mi west of Mather.

DRAINAGE AREA.--487 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,200 ft, from topographic map.

REMARKS.--Records fair. Flow regulated by Hetch Hetchy Reservoir (station 11275500) 13 mi 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.--18 years, 865 ft<sup>3</sup>/s, 432,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,300 ft<sup>3</sup>/s June 4, 1969, gage height, 9.82 ft; minimum daily, 12 ft<sup>3</sup>/s Nov. 28-30, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,940 ft<sup>3</sup>/s May 26, gage height, 9.40 ft; minimum daily, 147 ft<sup>3</sup>/s Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266	264	277	391	252	276	223	1230	7060	2150	214	172
2	200	255	265	379	256	266	311	1250	5500	1710	207	162
3	247	246	361	358	253	261	297	1260	3740	1720	210	179
4	243	239	368	333	247	216	289	1240	3970	1660	208	185
5	235	235	337	318	258	291	275	1220	5860	1160	211	178
6	231	200	306	301	274	284	274	1240	4660	999	231	174
7	225	270	291	288	261	277	264	1280	3690	1160	222	167
8	220	263	283	245	252	268	273	1300	1280	1100	213	161
9	237	257	306	298	253	265	294	1310	1580	970	201	170
10	250	254	445	286	261	263	292	1440	2630	715	198	196
11	243	288	410	276	245	273	289	1990	2650	535	197	186
12	237	274	421	264	253	287	280	1870	2550	414	193	177
13	232	287	344	259	280	286	275	2080	2540	348	233	170
14	228	310	318	255	319	308	265	2500	2730	320	225	171
15	226	277	297	259	308	309	211	1650	2780	312	220	155
16	241	267	284	278	523	306	291	4220	2700	322	219	151
17	257	440	280	272	334	316	281	4080	3270	315	209	188
18	255	331	291	257	202	319	277	3750	3860	316	209	185
19	250	291	301	265	180	318	405	3540	3790	332	211	169
20	250	574	286	581	176	307	920	3690	3560	367	225	163
21	248	363	270	813	182	296	1210	3970	3000	326	219	156
22	244	317	262	310	175	288	1220	4570	2530	277	211	194
23	255	301	270	259	163	278	1240	5440	2570	317	203	155
24	273	582	336	251	151	272	1240	6130	2750	308	199	189
25	269	461	952	247	177	283	1220	7240	2860	301	197	180
26	262	326	1230	247	286	300	1210	7590	2840	295	201	175
27	258	306	862	242	299	294	1190	7040	2720	291	218	165
28	256	312	566	241	291	284	1190	6930	2720	284	213	158
29	253	301	436	252	284	272	1150	7210	2910	290	209	152
30	268	285	467	261	---	264	1210	7420	2890	311	204	147
31	289	---	437	253	---	264	---	7100	---	303	197	---
TOTAL	7648	9376	12559	9539	7395	8791	18366	112780	98190	20228	6527	5130
MEAN	247	313	405	308	255	284	612	3638	3273	653	211	171
MAX	289	582	1230	813	523	319	1240	7590	7060	2150	233	196
MIN	200	200	262	241	151	216	211	1220	1280	277	193	147
AC-FT	15170	18600	24910	18920	14670	17440	36430	223700	194800	40120	12950	10180
CAL YR 1983	TOTAL	637004	MEAN	1745	MAX	9400	MIN	200	AC-FT	1263000		
WTR YR 1984	TOTAL	316529	MEAN	865	MAX	7590	MIN	147	AC-FT	627800		

## 11277200 CHERRY LAKE NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'33", long 119°54'47", in SE 1/4 NW 1/4 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 upstream from Eleanor Creek, 7 mi north of Early Intake, and 7.3 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--117 mi<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 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 between gage heights 4,430 ft bottom of sluice gates, and 4,700 ft 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, 274,100 acre-ft July 4, 1983, gage height, 4,702.9 ft; normal minimum since reservoir first filled, 162,300 acre-ft Jan. 24, 1960, gage height, 4,502.1 ft. Reservoir drained for inspection in 1961 and 1964.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 270,300 acre-ft June 20, gage height, 4,700.8 ft; minimum, 162,300 acre-ft Mar. 12, gage height, 4,635.1 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	218300	187600	197300	195700	175300	165800	166100	182400	251900	268100	240300	206600
2	218000	187400	196200	195100	175000	165300	166100	183200	253500	267900	239200	206300
3	217000	187100	195200	194400	174500	164900	165900	184100	255100	267600	237800	206100
4	216000	186500	194100	194100	174200	164700	166100	185500	258100	267600	236800	204800
5	214600	185800	193000	193900	174200	164400	166200	186600	260400	267200	236500	203700
6	213500	185500	191700	193500	173600	164000	166400	188100	261600	266700	235300	202400
7	212200	185400	190300	192800	173100	163500	166700	189500	261800	266000	234100	201100
8	211000	185000	189200	192400	172600	163000	168200	191600	261800	265800	232900	200000
9	209900	184300	189000	191900	172300	162900	168200	193900	262000	264800	231700	199800
10	208600	184300	189000	190900	171900	162700	168500	196600	263200	263400	230600	198600
11	207000	192500	189200	190300	171400	162700	168500	199500	263500	262000	229400	197300
12	205500	194400	188700	189600	171200	162300	168500	202700	263900	260400	228900	196300
13	204200	195100	188200	188900	170900	163200	168900	206300	264400	259300	227600	195400
14	202700	194600	187900	187900	170800	163600	170200	209400	265300	258400	226400	194400
15	201400	194100	187700	187300	170800	163500	172500	210900	265800	258300	225200	193500
16	200100	194100	187300	186500	171100	163300	174000	211500	266900	257200	224100	193500
17	198700	198900	186900	185500	171100	163200	175700	212300	268600	256000	222900	192500
18	197600	198400	186900	184600	171400	163200	176800	213800	269500	255100	221500	191600
19	196600	199700	186300	184000	171200	163200	177600	216100	269900	253900	221200	190600
20	195500	200900	185500	183000	170900	163200	177600	219200	270300	252600	220000	189800
21	194300	200800	184600	182200	170500	163300	177800	222000	270100	251800	218900	188900
22	193500	199700	184100	181300	170200	163500	179000	224900	269700	251600	217700	188700
23	192800	198900	183500	180700	169500	163500	179300	227900	269500	250400	216400	188700
24	191700	203000	184700	179900	168800	163800	180400	230700	269400	249200	215300	187700
25	190800	203200	191100	179100	168300	164600	181200	233400	269000	248000	214000	186800
26	189600	202600	194600	178400	168000	165000	181200	236000	268500	246800	213800	185800
27	188500	201700	195700	177800	167600	165300	181200	238900	268100	245400	212700	185000
28	187400	200800	195500	177100	167000	165300	181200	241800	267900	244400	211300	184300
29	186600	199700	195400	177100	166200	165500	181900	244700	267900	244000	210200	183500
30	186300	198400	195700	176500	---	165500	181900	247500	267900	242800	209100	183500
31	186900	---	195700	175700	---	165300	---	250000	---	241500	207800	---
MAX	218300	203200	197300	195700	175300	165800	181900	250000	270300	268100	240300	206600
MIN	186300	184300	183500	175700	166200	162300	165900	182400	251900	241500	207800	183500
a	4651.1	4658.3	4656.6	4643.9	4637.7	4637.1	4647.9	4689.3	4699.5	4684.3	4664.1	4648.9
b	-31600	+11500	-2700	-20000	-9500	-900	+16600	+68100	+17900	-26400	-33700	-24300

CAL YR 1983 b +19700

WTR YR 1984 b -35000

a Gage height, in feet, at end of month.  
b 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 SE 1/4 SW 1/4 sec.5, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.7 mi downstream from Cherry Valley Dam, 3.5 mi upstream from Eleanor Creek, 6.7 mi north of Early Intake, and 7.2 mi west of Hetch Hetchy.

DRAINAGE AREA.--118 mi<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 National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--Records good. Flow regulated by Cherry Lake (station 11277200) 0.7 mi 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).--24 years (water years 1961-84), 35.7 ft<sup>3</sup>/s, 25,860 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,210 ft<sup>3</sup>/s July 10, 1974, gage height, 10.53 ft; minimum daily, 1.6 ft<sup>3</sup>/s Apr. 10, 1957, Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 62 ft<sup>3</sup>/s Dec. 25, gage height, 4.18 ft; minimum daily, 5.6 ft<sup>3</sup>/s Oct. 5, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	7.1	9.7	13	8.0	8.3	10	9.1	10	18	16	16
2	6.2	6.9	9.9	12	7.8	8.3	10	9.3	10	17	16	16
3	6.0	6.9	12	12	7.7	8.3	10	9.3	10	17	16	17
4	5.7	6.9	11	11	7.7	8.1	10	9.0	10	17	16	17
5	5.6	6.9	11	11	7.7	8.0	9.9	8.9	10	17	16	16
6	5.7	6.9	10	11	7.7	8.0	9.9	8.9	11	17	16	16
7	5.6	6.9	9.9	10	7.7	8.0	9.9	8.9	11	17	16	16
8	5.7	6.9	10	9.9	7.7	8.6	10	8.9	11	17	16	16
9	5.9	6.9	15	9.7	7.9	9.5	9.9	8.9	10	17	16	16
10	5.9	7.1	16	9.6	7.9	9.6	10	8.9	10	17	16	16
11	5.9	9.0	16	9.4	7.7	9.6	10	8.9	10	17	16	16
12	5.7	8.3	14	9.3	7.7	9.6	9.9	8.9	10	17	16	16
13	5.7	9.0	12	9.2	8.5	10	9.7	9.0	10	17	16	16
14	6.1	8.5	12	8.9	8.3	10	9.6	9.2	10	17	16	16
15	6.1	8.0	11	8.9	9.7	11	9.6	9.1	10	17	16	16
16	6.1	8.1	11	9.1	10	10	9.6	9.3	10	17	16	16
17	6.3	21	11	8.8	9.0	11	9.6	9.2	10	17	16	16
18	6.4	11	11	8.6	8.6	11	9.9	9.5	10	17	16	16
19	6.4	12	10	8.6	8.6	10	9.9	9.6	10	17	16	16
20	6.4	13	10	8.4	8.3	10	9.9	9.9	11	17	16	16
21	6.4	10	9.9	8.3	8.6	10	9.7	9.9	11	17	16	16
22	6.4	9.7	9.9	8.3	8.5	9.9	9.6	10	11	17	16	16
23	6.4	9.8	10	8.3	8.4	9.9	9.6	10	11	17	16	16
24	6.4	20	13	8.3	8.3	9.9	9.6	10	10	17	16	16
25	6.4	13	36	8.0	8.3	9.9	9.6	10	10	17	16	16
26	6.6	12	38	8.0	8.3	9.9	9.6	10	9.3	17	16	16
27	6.6	11	30	8.0	8.1	9.9	9.6	10	9.6	17	16	16
28	6.6	11	19	8.0	8.0	9.9	9.6	10	10	17	16	16
29	6.6	10	15	8.0	8.1	10	9.3	10	9.7	17	16	16
30	6.7	9.9	16	8.0	---	10	9.0	10	12	17	16	16
31	7.0	---	14	8.0	---	10	---	10	---	16	16	---
TOTAL	194.4	293.7	443.3	287.6	238.8	296.2	292.5	292.6	307.6	527	496	482
MEAN	6.27	9.79	14.3	9.28	8.23	9.55	9.75	9.44	10.3	17.0	16.0	16.1
MAX	8.9	21	38	13	10	11	10	10	12	18	16	17
MIN	5.6	6.9	9.7	8.0	7.7	8.0	9.0	8.9	9.3	16	16	16
AC-FT	386	583	879	570	474	588	580	580	610	1050	984	956
CAL YR 1983	TOTAL	71075.6	MEAN	195	MAX	2640	MIN	5.6	AC-FT	141000		
WTR YR 1984	TOTAL	4151.7	MEAN	11.4	MAX	38	MIN	5.6	AC-FT	8230		

11277500 LAKE ELEANOR NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'27", long 119°52'48", in SE 1/4 NW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, 720 ft from left bank on upstream side of dam on Eleanor Creek, 1.7 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--78.1 mi<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 National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1927, nonrecording gage on upstream side of dam at same site and datum.

REMARKS.--Reservoir is formed by multiple-arch dam completed in 1918; storage began June 23, 1918. Usable capacity, 26,110 acre-ft between gage heights, 4,620.9 ft, natural outlet of old lake and 4,660.0 ft, top of 5-ft 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 Dec. 11, 1937, from capacity table then in use, gage height, 4,663.4 ft; no usable contents at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,400 acre-ft Nov. 17, Dec. 25, gage height, 4,661.3 ft; minimum 9,820 acre-ft Mar. 12, gage height, 4,641.4 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27200	21300	24200	25800	18300	11500	12400	19500	26700	26900	26600	25000
2	27100	21400	24100	25600	18100	11300	12200	20100	26500	27000	26600	25000
3	27000	21300	24100	25500	17700	11100	12000	20600	26700	27100	26500	24900
4	26900	21000	24100	25600	17400	10900	12000	21300	27300	27200	26500	24900
5	26800	20800	24100	25600	17200	10700	11900	21900	27100	27100	26400	24800
6	26700	20500	24000	25500	16800	10500	11900	22400	26900	27000	26400	24800
7	26600	20200	23900	25400	16600	10300	11900	23100	26500	26900	26400	24800
8	26700	20100	23900	25300	16300	10100	12000	23900	26500	26900	26300	24800
9	26700	19900	24100	25200	16000	10100	12200	24800	26500	26900	26300	24700
10	26800	19700	24000	25000	15800	10100	12400	26000	26600	26800	26200	24600
11	26800	24600	24000	24800	15500	9980	12600	26800	26700	26900	26100	24500
12	26800	26100	24100	24700	15200	9820	12700	27200	26700	26900	26100	24200
13	26800	26500	24100	24400	15100	10300	12900	26900	26700	26900	26100	24000
14	26800	26200	24100	24100	14900	11000	13500	26600	26800	26900	26100	23800
15	26800	26000	24100	23900	14900	11200	14100	26600	26900	26900	26000	23700
16	26800	26100	24000	23600	15000	11300	15000	26600	27000	26900	26000	23200
17	26600	27400	24000	23400	14800	11300	15900	26700	27000	27000	25900	22800
18	26300	26400	23900	23000	14600	11100	16500	26900	27000	27000	25800	22500
19	26000	26800	23700	22600	14400	11000	16900	27000	26900	27000	25800	22100
20	25600	26900	23400	22300	14100	11100	17200	27000	26800	27100	25700	21800
21	25200	25500	23200	22000	14000	11300	17300	26800	26800	27000	25700	21400
22	24800	25100	22900	21500	13700	11300	17500	26600	26900	26900	25600	21600
23	24400	24900	22700	21200	13500	11400	17800	26700	26900	26900	25500	20800
24	24000	27200	23500	20900	13200	11500	18300	26800	26900	26800	25500	20400
25	23500	26100	27400	20600	12900	11600	18800	26800	26900	26800	25400	20100
26	23200	25400	27200	20300	12600	12000	19000	26900	26900	26800	25400	19800
27	22700	25000	26700	19900	12400	12400	19100	27000	26900	26800	25300	19300
28	22200	24800	26100	19500	12000	12500	19100	27200	26900	26700	25300	19000
29	21800	24700	25900	19200	11800	12600	19100	27100	26800	26700	25200	18600
30	21400	24400	26200	19000	---	12600	19100	27000	26800	26700	25100	18200
31	21100	---	26100	18600	---	12500	---	26800	---	26700	25100	---
MAX	27200	27400	27400	25800	18300	12600	19100	27200	27300	27200	26600	25000
MIN	21100	19700	22700	18600	11800	9820	11900	19500	26500	26700	25100	18200
a	4654.6	4685.1	4659.9	4651.8	4643.9	4644.8	4652.4	4660.7	4660.7	4660.6	4658.9	4651.4
b	-6100	+3300	+1700	-7500	-6800	+700	+6600	+7700	0	-100	-1600	-6900

CAL YR 1983 b +2500

WTR YR 1984 b -9000

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

11278000 ELEANOR CREEK NEAR HETCH HETCHY, CA

LOCATION.--Lat 37°58'09", long 119°52'52", in NW 1/4 SW 1/4 sec.3, T.1 N., R.19 E., Tuolumne County, Hydrologic Unit 18040009, Yosemite National Park, on right bank 0.5 mi downstream from Lake Eleanor Dam, 1.1 mi upstream from Miguel Creek, and 5.5 mi northwest of Hetch Hetchy.

DRAINAGE AREA.--78.4 mi<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, from topographic map. November 1909 to November 1915, nonrecording gage and water-stage recorder at site 1 mi upstream at different datum.

REMARKS.--Records good. Flow regulated by Lake Eleanor (station 11277500) 0.5 mi 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, 161,400 acre-ft/yr; 25 years (water years 1960-84), 89.7 ft<sup>3</sup>/s, 65,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft<sup>3</sup>/s Nov. 19, 1950, gage height, 14.95 ft, from rating curve extended above 1,600 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 9.94 ft and 12.24 ft; no flow at times in 1910, 1930-31, 1933, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,130 ft<sup>3</sup>/s Nov. 17, gage height, 8.79 ft; minimum daily, 5.0 ft<sup>3</sup>/s Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	348	6.1	324	431	5.5	7.6	7.6	8.5	585	127	18	19
2	351	5.9	302	279	5.6	7.6	7.6	8.5	470	82	17	20
3	282	5.9	303	189	5.6	7.6	7.6	8.5	274	89	18	20
4	224	5.7	303	162	5.6	7.6	7.2	8.5	251	124	19	20
5	171	5.6	289	192	5.6	7.6	7.5	9.4	724	151	19	19
6	153	5.6	275	186	5.6	7.6	7.2	8.9	601	152	18	19
7	79	5.6	261	158	5.6	7.6	7.2	8.9	562	108	18	19
8	26	5.6	254	126	5.6	7.3	7.6	9.4	328	81	18	19
9	26	5.6	241	88	5.7	7.2	7.6	9.4	216	81	18	19
10	25	5.6	222	63	5.8	7.2	8.1	14	230	54	20	19
11	25	10	94	47	5.6	7.2	7.6	19	239	32	21	19
12	25	186	13	38	5.6	7.2	8.1	425	242	26	21	18
13	25	615	13	28	6.4	7.9	7.6	956	248	26	21	18
14	25	649	13	20	5.9	7.8	8.1	1070	259	25	21	17
15	25	519	12	13	8.5	8.3	8.1	942	275	23	20	17
16	25	460	12	9.1	7.5	8.1	8.5	506	288	23	20	17
17	25	2780	12	6.6	5.9	8.5	8.9	402	337	23	20	17
18	23	1340	11	5.9	5.6	8.2	8.9	391	361	23	20	17
19	21	1050	10	5.7	5.6	7.8	8.5	425	353	23	20	17
20	19	1630	9.1	5.6	5.6	7.6	8.5	608	339	23	20	17
21	17	909	7.6	5.6	5.6	7.6	8.5	844	257	40	20	17
22	15	602	6.9	5.6	5.6	7.6	8.5	739	208	49	20	17
23	13	492	6.7	5.6	6.7	7.6	8.5	661	212	49	19	17
24	9.8	1390	11	5.6	7.6	7.6	8.5	642	216	31	19	17
25	6.2	1600	747	5.6	7.6	7.6	8.5	647	219	23	19	16
26	5.0	834	2250	5.4	7.6	7.6	8.9	545	220	23	19	16
27	6.1	581	1360	5.2	7.6	7.6	8.1	503	217	20	19	16
28	5.7	483	780	5.2	7.6	7.6	8.1	538	212	18	19	16
29	9.0	414	452	5.2	7.6	7.6	8.1	625	210	18	19	16
30	8.2	362	490	5.2	---	7.9	8.5	683	206	18	18	16
31	6.1	---	645	5.2	---	7.8	---	668	---	18	18	---
TOTAL	2024.1	16963.2	9729.3	2112.3	181.9	237.6	242.2	12933.0	9359	1603	596	531
MEAN	65.3	565	314	68.1	6.27	7.66	8.07	417	312	51.7	19.2	17.7
MAX	351	2780	2250	431	8.5	8.5	8.9	1070	724	152	21	20
MIN	5.0	5.6	6.7	5.2	5.5	7.2	7.2	8.5	206	18	17	16
AC-FT	4010	33650	19300	4190	361	471	480	25650	18560	3180	1180	1050
CAL YR 1983	TOTAL	126826.3	MEAN	347	MAX	2780	MIN	5.0	AC-FT	251600		
WTR YR 1984	TOTAL	56512.6	MEAN	154	MAX	2780	MIN	5.0	AC-FT	112100		



## 11278300 CHERRY CREEK NEAR EARLY INTAKE, CA

LOCATION.--Lat 37°53'40", long 119°57'42", in NW 1/4 SE 1/4 sec.35, T.1 N., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 1.2 mi upstream from mouth, 1.3 mi north of Early Intake, and 10.3 mi southwest of Hetch Hetchy.

DRAINAGE AREA.--226 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 2,272.00 ft National Geodetic Vertical Datum of 1929 (levels by city and county of San Francisco).

REMARKS.--Records good except those for Oct. 1-5, Oct. 12 to Jan. 12, which are fair. Flow regulated by Cherry Lake (station 11277200) 10 mi upstream and Lake Eleanor (station 11277500) 9.8 mi upstream. Diversion from Cherry Lake to Dion R. Holm powerplant began Aug. 1, 1960. Water is returned to creek 1.2 mi below station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE (since diversion to Dion R. Holm powerplant).--24 years (water years 1961-84), 149 ft<sup>3</sup>/s, 108,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft<sup>3</sup>/s Feb. 1, 1963, gage height, 14.50 ft, from rating curve extended above 4,600 ft<sup>3</sup>/s; minimum daily, 0.30 ft<sup>3</sup>/s Apr. 5, 6, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,970 ft<sup>3</sup>/s Nov. 17, gage height, 10.95 ft; minimum daily, 15 ft<sup>3</sup>/s Oct. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	360	18	350	450	60	76	63	49	640	185	38	37
2	360	18	320	280	59	75	63	61	522	114	38	38
3	300	17	330	200	58	73	61	56	350	120	38	38
4	240	16	330	170	57	71	59	52	254	146	39	38
5	200	16	310	210	56	68	59	50	766	183	39	38
6	170	16	290	195	55	66	60	48	659	189	39	38
7	131	16	280	180	54	65	58	47	613	157	38	38
8	41	16	270	170	53	63	59	46	411	112	38	37
9	40	16	260	160	57	64	59	46	257	111	38	36
10	40	23	250	150	67	62	64	48	271	96	38	36
11	40	80	180	145	60	61	65	177	280	61	41	37
12	39	250	140	135	59	60	59	602	283	51	41	36
13	40	660	120	127	75	69	56	1050	288	50	41	36
14	40	690	116	114	109	107	54	1070	298	50	40	34
15	40	590	112	103	110	104	52	758	313	48	40	34
16	40	490	110	102	233	106	51	490	326	47	40	34
17	39	2900	108	95	132	108	53	426	367	47	40	34
18	38	1500	106	89	112	104	57	430	398	47	39	35
19	37	1100	100	85	99	96	79	506	392	46	39	35
20	35	1700	94	82	92	86	75	716	378	46	38	34
21	32	940	85	81	102	79	66	853	313	53	39	34
22	30	640	84	79	94	74	60	801	245	75	38	34
23	27	520	84	76	92	71	57	724	250	75	38	34
24	23	1500	250	74	91	68	54	692	254	67	38	34
25	18	1700	800	72	90	66	52	700	257	45	38	34
26	15	900	2400	70	85	66	52	606	257	45	38	34
27	16	620	1450	67	82	66	52	540	254	44	38	34
28	17	520	820	66	80	63	51	576	249	39	37	34
29	18	440	480	65	78	61	50	663	245	39	37	34
30	21	390	560	63	---	60	49	730	241	39	37	34
31	19	---	700	61	---	63	---	720	---	38	37	---
TOTAL	2506	18302	11889	4016	2451	2321	1749	14333	10631	2465	1197	1063
MEAN	80.8	610	384	130	84.5	74.9	58.3	462	354	79.5	38.6	35.4
MAX	360	2900	2400	450	233	108	79	1070	766	189	41	38
MIN	15	16	84	61	53	60	49	46	241	38	37	34
AC-FT	4970	36300	23580	7970	4860	4600	3470	28430	21090	4890	2370	2110
CAL YR 1983	TOTAL	237554	MEAN	651	MAX	4050	MIN	15	AC-FT	471200		
WTR YR 1984	TOTAL	72923	MEAN	199	MAX	2900	MIN	15	AC-FT	144600		

NOTE.--No gage-height record Oct. 1-5, Oct. 12 to Jan. 12.

## SAN JOAQUIN RIVER BASIN

11278400 CHERRY CREEK BELOW DION R. HOLM POWERHOUSE, NEAR MATHER, CA

LOCATION.--Lat 37°53'24", long 119°58'08", in NE 1/4 NW 1/4 sec.2, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 600 ft upstream from mouth, 0.5 mi downstream from powerhouse, 0.8 mi northwest of Early Intake, and 6.2 mi west of Mather.

DRAINAGE AREA.--234 mi<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, from topographic map.

REMARKS.--Records good except those for April 17 to May 23, which are fair. Flow regulated by Cherry Lake (station 11277200) 11 mi upstream and Lake Eleanor (station 11277500) 10 mi upstream. Prior to May 1971, Cherry Creek Canal diverted 2 mi upstream from station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--21 years, 711 ft<sup>3</sup>/s, 515,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,300 ft<sup>3</sup>/s Apr. 11, 1982, gage height, 15.36 ft, from rating curve extended above 4,400 ft<sup>3</sup>/s on basis of combined peak flow for Cherry Creek near Early Intake (station 11278300) and Dion R. Holm powerplant; minimum daily, 1.6 ft<sup>3</sup>/s June 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,170 ft<sup>3</sup>/s Nov. 17, gage height, 12.60 ft; minimum daily, 149 ft<sup>3</sup>/s Sept. 23, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	622	800	1250	1490	855	889	295	666	1460	361	610	583
2	622	792	1250	1320	850	920	746	674	1090	741	608	152
3	763	782	1290	1210	849	887	746	669	539	754	616	152
4	999	779	1290	1180	772	712	744	664	950	319	593	629
5	917	726	1250	1180	676	909	736	623	1280	810	159	631
6	916	587	1210	1170	847	910	741	508	1370	810	609	623
7	913	784	1200	1140	849	909	600	664	1310	692	611	630
8	681	781	1210	1100	850	905	285	656	1110	279	616	587
9	684	783	1290	1050	857	904	730	657	796	768	612	152
10	815	784	1420	1030	868	875	740	657	441	950	614	628
11	821	630	1040	956	777	694	740	793	870	892	600	635
12	814	859	1080	989	677	897	734	1180	881	852	274	630
13	809	1220	1040	976	873	910	727	1530	898	676	613	632
14	808	1510	1020	964	903	943	595	1690	898	581	617	635
15	678	1340	1010	957	922	940	281	1370	915	220	614	589
16	679	1260	992	961	739	940	787	1100	853	673	617	150
17	812	4050	1000	951	602	916	678	1040	543	674	619	635
18	805	2460	782	944	582	730	685	1040	1040	675	610	633
19	805	2030	980	941	619	928	708	1080	1230	671	166	632
20	807	2600	980	939	712	914	705	1180	1200	676	619	630
21	803	1940	974	940	902	905	587	1470	1130	587	616	630
22	669	1560	968	940	891	899	298	1410	1070	245	613	320
23	549	1430	974	939	888	897	684	1340	1070	704	617	149
24	796	2660	1070	936	891	861	684	1360	1080	690	615	629
25	791	2810	2210	934	806	621	682	1470	1080	669	596	630
26	790	1850	4460	932	629	886	679	1380	1090	668	161	630
27	790	1540	2980	933	880	883	681	1150	1080	672	616	634
28	792	1420	2040	932	873	879	572	1200	1080	575	619	551
29	660	1310	1580	608	871	876	260	1460	876	213	627	588
30	665	1270	1630	988	---	868	678	1580	736	674	616	149
31	797	---	1730	987	---	847	---	1570	---	711	620	---
TOTAL	23872	43347	43200	31517	23310	27054	18808	33831	29966	19482	17313	15478
MEAN	770	1445	1394	1017	804	873	627	1091	999	628	558	516
MAX	999	4050	4460	1490	922	943	787	1690	1460	950	627	635
MIN	549	587	782	608	582	621	260	508	441	213	159	149
AC-FT	47350	85980	85690	62510	46240	53660	37310	67100	59440	38640	34340	30700
CAL YR 1983	TOTAL	537608	MEAN	1473	MAX	4940	MIN	400	AC-FT	1066000		
WTR YR 1984	TOTAL	327178	MEAN	894	MAX	4460	MIN	149	AC-FT	649000		

NOTE.--No gage-height record April 17 to May 23.

## 11281000 SOUTH FORK TUOLUMNE RIVER NEAR OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'18", long 120°00'43", in SE 1/4 SE 1/4 sec.29, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 75 ft downstream from highway bridge on Big Oak Flat Road, 0.5 mi southwest of Oakland Recreation Camp, and 0.6 mi upstream from Middle Tuolumne River.

DRAINAGE AREA.--87.0 mi<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, from topographic map. Prior to Nov. 22, 1931, at site 50 ft upstream and Nov. 22, 1931, to July 19, 1977, at datum 1.00 ft higher.

REMARKS.--Records good. No diversion above station. One small recreation reservoir (capacity unknown) is located approximately 3.5 mi upstream. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--61 years, 99.5 ft<sup>3</sup>/s, 72,090 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,900 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 11.9 ft from floodmarks, present datum, from rating curve extended above 3,300 ft<sup>3</sup>/s on basis of slope-area measurements at gage heights 9.08 ft and 11.9 ft; minimum, 0.3 ft<sup>3</sup>/s Aug 23, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 900 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1600	995	6.36	Dec. 25	1845	2,830	8.41
Nov. 24	1600	*3,410	8.85				

Minimum daily, 8 ft<sup>3</sup>/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71	44	141	455	136	143	171	150	86	31	14	9.4
2	78	41	147	325	133	145	165	171	77	30	14	9.3
3	57	34	336	295	130	143	160	180	72	29	14	9.0
4	43	32	265	280	128	143	160	211	82	28	14	8.7
5	38	30	180	285	127	140	160	192	122	27	14	9.3
6	36	30	157	270	125	140	163	185	87	26	14	8.6
7	35	30	148	255	122	140	157	191	80	24	13	8.4
8	34	31	147	245	120	140	178	219	72	23	14	8.4
9	34	30	291	235	135	140	163	231	67	23	14	8.4
10	34	31	400	230	147	140	171	229	64	22	12	8.4
11	33	401	379	220	133	141	185	240	60	22	12	8.5
12	32	165	312	210	132	136	177	251	58	21	12	8.6
13	31	208	229	200	184	211	190	261	56	21	12	8.8
14	30	143	213	190	208	333	212	250	55	20	12	8.8
15	31	102	193	185	222	250	226	210	58	22	12	8.8
16	30	87	177	200	387	221	237	155	64	22	12	8.3
17	30	536	181	185	226	246	237	159	55	22	12	8.0
18	30	263	165	175	197	220	214	166	52	21	11	8.4
19	30	220	155	167	180	207	214	179	48	19	11	13
20	29	550	147	162	170	206	199	192	46	18	10	11
21	28	229	139	160	206	207	187	183	45	17	10	10
22	28	165	135	155	185	198	185	171	41	18	10	9.7
23	28	155	142	151	177	193	196	169	42	18	10	9.3
24	28	1210	405	148	169	194	209	160	40	19	10	9.5
25	28	546	2200	146	162	192	213	143	38	18	10	9.6
26	27	281	1950	143	153	203	175	138	37	17	10	9.4
27	26	219	1250	139	150	204	160	128	35	16	10	9.0
28	26	191	677	137	148	192	150	123	34	15	9.7	8.8
29	25	167	554	138	144	193	142	114	33	15	9.4	8.7
30	28	152	551	138	---	178	144	107	32	15	9.3	8.8
31	31	---	540	138	---	181	---	95	---	14	9.3	---
TOTAL	1069	6323	12906	6362	4836	5720	5500	5553	1738	654	360.7	272.9
MEAN	34.5	211	416	205	167	185	183	179	57.9	21.1	11.6	9.10
MAX	78	1210	2200	455	387	333	237	261	122	32	14	13
MIN	25	30	135	137	120	136	142	95	32	14	9.3	8.0
AC-FT	2120	12540	25600	12620	9590	11350	10910	11010	3450	1300	715	541
CAL YR 1983	TOTAL	126939	MEAN	348	MAX	2590	MIN	23	AC-FT	251800		
WTR YR 1984	TOTAL	51294.6	MEAN	141	MAX	2200	MIN	8.0	AC-FT	101700		

## SAN JOAQUIN RIVER BASIN

11282000 MIDDLE TUOLUMNE RIVER AT OAKLAND RECREATION CAMP, CA

LOCATION.--Lat 37°49'42", long 120°00'38", in SW 1/4 NW 1/4 sec.28, T.1 S., R.18 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on left bank 1,000 ft downstream from Oakland Recreation Camp, 0.8 mi upstream from South Fork Tuolumne River, and 2.7 mi east of Buck Meadows Post Office.

DRAINAGE AREA.--73.5 mi<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, from topographic map.

REMARKS.--Records good. No regulation but small diversion above station for irrigation. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--68 years, 79.5 ft<sup>3</sup>/s, 57,600 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,920 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 11.75 ft from flood profile, 11.05 ft from floodmarks inside gage well, from rating curve extended above 2,300 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	1445	470	4.41	Dec. 26	1400	1,190	6.55
Nov. 24	1630	*1,300	6.79	May 14	0115	605	4.91
Dec. 3	1645	420	4.21				

Minimum daily, 3.0 ft<sup>3</sup>/s Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	28	110	276	128	116	149	189	177	32	7.7	3.7
2	58	32	113	236	126	119	143	209	155	30	7.4	3.7
3	44	27	234	215	123	119	142	211	149	29	7.4	3.7
4	36	24	168	204	121	120	145	266	166	27	7.2	3.3
5	29	23	127	203	120	118	145	247	216	25	6.9	3.2
6	27	22	119	195	119	119	147	238	151	24	6.6	3.1
7	25	21	111	187	117	120	149	249	143	23	6.5	3.2
8	24	22	110	180	116	121	169	299	128	21	6.2	3.2
9	24	22	160	172	123	123	147	337	114	20	5.9	3.1
10	24	23	188	167	134	123	161	343	110	19	5.7	3.1
11	24	215	203	162	125	125	183	370	104	19	5.6	3.3
12	23	133	170	158	123	122	173	401	91	18	5.2	3.5
13	22	135	140	156	146	143	185	433	87	17	4.8	3.1
14	22	91	140	152	142	212	213	444	87	16	4.8	3.3
15	22	69	137	151	170	176	243	379	84	15	4.8	3.5
16	22	62	128	155	249	155	269	270	82	14	4.7	3.3
17	21	287	127	148	159	179	269	293	76	16	4.4	4.1
18	21	190	120	142	143	152	245	293	69	19	4.0	3.0
19	21	146	115	146	134	145	228	323	63	17	3.9	3.8
20	20	463	109	139	129	149	204	367	60	14	3.8	4.0
21	20	185	105	143	148	156	190	359	55	13	4.0	4.2
22	19	129	108	136	135	155	190	338	52	12	3.9	3.9
23	19	121	112	134	134	154	209	345	49	12	3.9	3.7
24	19	588	196	133	132	161	236	333	46	13	4.0	3.7
25	20	355	910	133	126	168	243	301	44	13	4.1	3.9
26	19	194	995	132	119	174	204	287	40	11	4.1	3.3
27	18	155	627	128	119	179	184	267	38	10	4.0	3.4
28	17	138	373	127	118	168	172	267	36	9.5	3.9	3.3
29	17	125	293	128	116	169	167	262	34	8.9	4.2	3.3
30	18	117	356	129	---	156	176	235	34	8.5	4.1	3.4
31	22	---	357	129	---	157	---	195	---	8.1	3.7	---
TOTAL	767	4142	7261	4996	3894	4553	5680	9350	2740	534.0	157.4	104.3
MEAN	24.7	138	234	161	134	147	189	302	91.3	17.2	5.08	3.48
MAX	58	588	995	276	249	212	269	444	216	32	7.7	4.2
MIN	17	21	105	127	116	116	142	189	34	8.1	3.7	3.0
AC-FT	1520	8220	14400	9910	7720	9030	11270	18550	5430	1060	312	207

CAL YR 1983	TOTAL	94842	MEAN	260	MAX	1150	MIN	14	AC-FT	188100
WTR YR 1984	TOTAL	44178.7	MEAN	121	MAX	995	MIN	3.0	AC-FT	87630

## 11284400 BIG CREEK ABOVE WHITES GULCH, NEAR GROVELAND, CA

LOCATION.--Lat 37°50'31", long 120°11'02", in SW 1/4 NE 1/4 sec.23, T.1 S., R.16 E., Tuolumne County, Hydrologic Unit 18040009, on right bank 500 ft upstream from Whites Gulch, and 2.5 mi east of Groveland.

DRAINAGE AREA.--16.4 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,561.79 ft National Geodetic Vertical Datum of 1929 (levels by Boise-Cascade Corp.).

REMARKS.--Records good except those for no gage height record Oct. 3 to Nov. 15, which are fair. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--15 years, 10.5 ft<sup>3</sup>/s, 7,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,550 ft<sup>3</sup>/s Jan. 5, 1982, gage height, 6.69 ft from rating curve extended above 700 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 6.51 ft; no flow many days in most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1964 reached a stage of 6.4 ft from floodmarks, discharge, 1,390 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 24	1615	738	5.15	Dec. 25	1600	*1,300	6.24
Dec. 3	2145	315	4.11				

Minimum daily, no flow Aug. 10 to Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	11	6.6	27	6.1	11	11	4.8	2.0	.72	.04	
2	1.2	3.0	6.0	23	6.1	9.9	9.4	5.9	2.0	.63	.04	
3	1.0	1.7	95	21	6.0	9.3	7.8	5.1	2.0	.43	.04	
4	.90	1.0	100	18	5.8	9.0	7.3	4.7	3.0	.39	.04	
5	.88	.80	29	17	5.6	8.6	7.3	4.4	3.4	.35	.03	
6	.86	.70	18	15	5.6	8.1	7.1	4.2	3.1	.31	.03	
7	.83	.64	13	14	5.6	7.8	6.5	4.0	2.9	.22	.02	
8	.82	.64	11	13	5.4	7.5	6.6	3.9	2.8	.19	.01	
9	.82	.64	60	12	6.9	7.3	6.6	3.8	2.6	.13	.01	
10	.82	6.0	97	11	14	7.0	6.6	3.7	2.4	.09	0	
11	.80	50	78	11	8.4	6.9	6.6	4.0	2.3	.07	0	
12	.76	6.0	65	10	7.3	6.8	6.1	3.6	2.2	.06	0	
13	.73	25	32	10	14	17	6.0	3.5	2.2	.05	0	
14	.73	13	23	9.5	19	19	5.8	3.4	2.1	.05	0	
15	.73	4.7	18	9.0	32	16	5.4	3.4	2.0	.05	0	
16	.73	3.8	15	14	91	14	5.3	3.5	1.9	.12	0	
17	.74	106	13	11	37	32	5.7	3.4	1.8	.09	0	
18	.70	26	11	9.5	23	18	6.1	3.1	1.6	.06	0	
19	.70	14	10	8.9	18	14	9.2	3.1	1.5	.05	0	
20	.68	183	9.3	8.5	15	12	8.4	3.0	1.5	.04	0	
21	.66	53	8.4	8.4	40	11	6.3	2.9	1.5	.04	0	
22	.66	17	9.7	8.0	29	9.9	5.8	2.7	1.4	.04	0	
23	.66	13	17	7.8	22	9.2	5.5	2.7	1.4	.04	0	
24	.66	251	59	7.6	19	8.6	5.2	2.6	1.3	.04	0	
25	.65	87	658	7.3	17	8.0	5.0	2.6	1.2	.05	0	
26	.64	25	472	7.3	15	8.0	5.0	2.5	1.1	.05	0	
27	.62	15	314	6.8	13	8.0	5.1	2.4	.98	.05	0	
28	.62	11	105	6.8	12	7.3	5.3	2.3	.92	.05	0	
29	.60	8.7	54	6.7	11	7.1	4.9	2.2	.84	.06	0	
30	.68	7.5	47	6.5	---	6.8	4.6	2.1	.80	.05	0	
31	3.0	---	35	6.3	---	8.3	---	2.0	---	.05	0	
TOTAL	26.18	945.82	2489.0	351.9	509.8	333.4	193.5	105.5	56.74	4.62	0.26	0
MEAN	.84	31.5	80.3	11.4	17.6	10.8	6.45	3.40	1.89	.15	.008	0
MAX	3.0	251	658	27	91	32	11	5.9	3.4	.72	.04	0
MIN	.60	.64	6.0	6.3	5.4	6.8	4.6	2.0	.80	.04	0	0
AC-FT	52	1880	4940	698	1010	661	384	209	113	9.2	.5	0
CAL YR 1983	TOTAL	14519.15	MEAN	39.8	MAX	687	MIN	.12	AC-FT	28800		
WTR YR 1984	TOTAL	5016.72	MEAN	13.7	MAX	658	MIN	0	AC-FT	9950		

## SAN JOAQUIN RIVER BASIN

11284700 NORTH FORK TUOLUMNE RIVER NEAR LONG BARN, CA

LOCATION.--Lat 38°05'56", long 120°05'55", in NW 1/4 SW 1/4 sec.22, T.3 N., R.17 E., Tuolumne County, Hydrologic Unit 18040009, Stanislaus National Forest, on right bank 0.6 mi upstream from small tributary, 1.5 mi east of Long Barn, and 3.8 mi upstream from Wrights Creek.

DRAINAGE AREA.--23.1 mi<sup>2</sup>.

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

REVISED RECORDS.--WRD CA-81-3: 1963, 1980 (M).

GAGE.--Water-stage recorder. Altitude of gage is 4,650 ft, from topographic map.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--22 years, 32.2 ft<sup>3</sup>/s, 23,330 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,190 ft<sup>3</sup>/s Jan. 13, 1980, gage height, 8.80 ft from floodmarks, from rating curve extended above 1,000 ft<sup>3</sup>/s; minimum daily, 0.07 ft<sup>3</sup>/s July 29, 1976, and many days during 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 9.52 ft from floodmarks, discharge, 2,560 ft<sup>3</sup>/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1415	378	4.91	Dec. 25	0815	*1,070	6.55
Nov. 24	1345	669	5.65	Mar. 13	0600	186	4.22
Dec. 9	2145	175	4.17				

Minimum daily, 0.92 ft<sup>3</sup>/s Aug. 21-25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	15	51	139	30	43	38	34	15	6.0	1.4	1.2
2	8.7	10	57	120	29	43	38	42	14	5.8	1.4	1.2
3	6.7	7.8	76	107	29	43	38	37	14	5.6	1.3	1.2
4	5.7	6.8	66	99	29	42	38	37	14	5.4	1.3	1.1
5	5.2	6.3	56	96	29	41	38	36	15	5.2	1.3	1.1
6	4.8	5.8	52	90	29	41	38	34	15	5.0	1.2	1.1
7	4.5	6.3	49	85	28	40	38	33	15	4.8	1.2	1.0
8	4.5	6.3	54	80	27	40	42	32	15	4.3	1.1	1.0
9	4.7	6.4	97	75	28	40	40	32	14	4.1	1.1	1.0
10	4.7	13	137	70	29	39	46	32	13	3.8	1.0	.99
11	4.4	84	135	66	27	38	41	32	13	3.8	1.1	1.1
12	4.2	30	105	63	28	40	39	31	12	3.6	1.0	1.1
13	4.1	35	93	59	42	122	38	31	12	3.3	1.1	1.1
14	3.9	24	90	56	48	91	38	30	12	3.1	1.3	1.1
15	3.9	21	86	53	57	89	39	29	11	3.1	1.3	1.0
16	3.9	29	81	55	96	90	41	28	11	3.1	1.2	1.0
17	3.9	208	87	51	69	89	46	26	11	2.9	1.2	1.1
18	3.9	90	78	48	61	85	49	25	10	2.6	.98	1.9
19	4.0	91	72	45	56	84	52	24	9.8	2.5	.99	1.4
20	4.2	144	68	43	53	81	48	21	9.4	2.5	.96	1.3
21	4.2	79	62	42	67	75	45	19	9.1	2.2	.92	1.3
22	4.2	58	58	40	64	68	43	19	8.7	2.0	.92	1.2
23	4.2	61	62	39	50	61	42	19	8.6	2.0	.92	1.2
24	4.2	316	187	37	50	55	40	19	8.4	2.0	.92	1.2
25	4.2	173	803	36	47	47	40	19	7.8	2.0	.92	1.2
26	4.2	105	625	35	44	41	39	18	7.4	1.9	1.1	1.2
27	4.1	85	419	33	44	38	38	18	7.1	1.8	1.1	1.2
28	4.4	73	249	32	43	38	36	17	7.1	1.8	1.1	1.1
29	5.0	63	192	31	43	38	33	17	6.7	1.6	1.1	1.2
30	5.9	56	191	31	---	38	31	16	6.4	1.4	1.1	1.4
31	12	---	167	30	---	38	---	16	---	1.4	1.2	---
TOTAL	155.1	1908.7	4605	1886	1276	1758	1212	823	332.5	100.6	34.73	35.19
MEAN	5.00	63.6	149	60.8	44.0	56.7	40.4	26.5	11.1	3.25	1.12	1.17
MAX	12	316	803	139	96	122	52	42	15	6.0	1.4	1.9
MIN	3.9	5.8	49	30	27	38	31	16	6.4	1.4	.92	.99
AC-FT	308	3790	9130	3740	2530	3490	2400	1630	660	200	69	70
CAL YR 1983	TOTAL	34915.5	MEAN	95.4	MAX	803	MIN	2.7	AC-FT	69250		
WTR YR 1984	TOTAL	14126.82	MEAN	38.6	MAX	803	MIN	.92	AC-FT	28020		

## 11287500 DON PEDRO RESERVOIR NEAR LA GRANGE, CA

LOCATION.--Lat 37°42'06", long 120°25'16", in NE 1/4 SW 1/4 sec.3, T.3 S., R.14 E., Tuolumne County, Hydrologic Unit 18040009, on left end of New Don Pedro Dam on Tuolumne River, 500 ft downstream from Mexican Gulch, and 3.4 mi northeast of La Grange.

DRAINAGE AREA.--1,533 mi<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 upstream at same datum. Feb. 2, 1941, to Nov. 3, 1970, water-stage recorder at site 1.5 mi 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 at elevation 830.0 ft top of uncontrolled spillway, of which 309,000 acre-ft below elevation 600.0 ft, 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 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. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Tuolumne River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,025,000 acre-ft Aug. 4-6, 13, 1983, elevation, 829.6 ft; minimum, 29,200 acre-ft Sept. 13, 5, 1934; minimum elevation, 475.0 ft Sept. 1, 2, 1934. Minimum since reservoir first filled, 302,600 acre-ft Oct. 14, 15, 1977, elevation, 598.2 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,772,000 acre-ft Dec. 28, elevation, 809.0 ft; minimum, 1,407,000 acre-ft April 14, elevation, 775.0 ft.

## Capacity table (elevation, in feet NGVD, and contents, in acrefeet)

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1698000	1520000	1687000	1760000	1616000	1523000	1431000	1425000	1628000	1744000	1643000	1543000
2	1693000	1518000	1686000	1753000	1613000	1518000	1428000	1427000	1637000	1743000	1637000	1544000
3	1688000	1516000	1688000	1745000	1609000	1516000	1425000	1428000	1640000	1742000	1631000	1546000
4	1682000	1513000	1691000	1738000	1605000	1511000	1422000	1430000	1646000	1743000	1626000	1542000
5	1678000	1513000	1693000	1730000	1600000	1508000	1419000	1433000	1656000	1742000	1625000	1539000
6	1672000	1515000	1690000	1721000	1596000	1505000	1416000	1438000	1665000	1739000	1619000	1536000
7	1667000	1516000	1688000	1715000	1591000	1502000	1414000	1439000	1671000	1736000	1615000	1534000
8	1660000	1516000	1686000	1705000	1587000	1500000	1415000	1441000	1676000	1735000	1612000	1531000
9	1655000	1516000	1686000	1696000	1584000	1494000	1413000	1442000	1678000	1732000	1607000	1532000
10	1649000	1516000	1689000	1687000	1579000	1491000	1412000	1444000	1685000	1730000	1603000	1529000
11	1642000	1525000	1693000	1680000	1575000	1485000	1410000	1447000	1688000	1727000	1600000	1528000
12	1637000	1527000	1694000	1678000	1571000	1481000	1409000	1452000	1691000	1723000	1599000	1527000
13	1630000	1533000	1694000	1676000	1568000	1479000	1408000	1461000	1695000	1719000	1596000	1525000
14	1623000	1537000	1693000	1673000	1566000	1479000	1407000	1468000	1698000	1713000	1592000	1524000
15	1616000	1539000	1691000	1670000	1563000	1478000	1410000	1473000	1703000	1707000	1589000	1521000
16	1611000	1541000	1689000	1668000	1565000	1475000	1409000	1480000	1705000	1702000	1586000	1521000
17	1604000	1562000	1688000	1666000	1565000	1474000	1409000	1489000	1712000	1696000	1583000	1519000
18	1597000	1572000	1685000	1663000	1561000	1471000	1408000	1496000	1716000	1691000	1579000	1516000
19	1591000	1579000	1682000	1660000	1558000	1469000	1408000	1502000	1720000	1687000	1578000	1514000
20	1586000	1601000	1679000	1657000	1555000	1467000	1409000	1512000	1722000	1684000	1574000	1513000
21	1581000	1610000	1676000	1655000	1553000	1464000	1411000	1518000	1724000	1678000	1571000	1513000
22	1574000	1613000	1673000	1652000	1552000	1461000	1415000	1525000	1725000	1677000	1569000	1509000
23	1568000	1617000	1671000	1649000	1549000	1459000	1416000	1532000	1727000	1672000	1566000	1509000
24	1562000	1647000	1675000	1645000	1546000	1456000	1416000	1540000	1730000	1670000	1562000	1509000
25	1556000	1662000	1711000	1642000	1542000	1452000	1417000	1550000	1731000	1669000	1559000	1510000
26	1550000	1670000	1746000	1639000	1538000	1449000	1418000	1561000	1732000	1668000	1557000	1511000
27	1544000	1679000	1768000	1636000	1534000	1446000	1419000	1572000	1732000	1666000	1554000	1511000
28	1538000	1682000	1772000	1632000	1531000	1443000	1420000	1583000	1735000	1663000	1550000	1510000
29	1532000	1686000	1769000	1628000	1526000	1440000	1424000	1592000	1738000	1660000	1548000	1510000
30	1526000	1688000	1768000	1624000	---	1436000	1425000	1604000	1740000	1655000	1548000	1510000
31	1521000	---	1766000	1619000	---	1434000	---	1616000	---	1649000	1547000	---
MAX	1698000	1688000	1772000	1760000	1616000	1523000	1431000	1616000	1740000	1744000	1643000	1546000
MIN	1521000	1513000	1671000	1619000	1526000	1434000	1407000	1425000	1628000	1649000	1547000	1509000
a	786.3	801.7	808.5	795.5	786.7	777.7	776.7	795.2	806.3	798.2	788.7	785.2
b	-181000	+167000	+78000	-147000	-93000	-92000	-9000	+191000	+124000	-91000	-102000	-37000
CAL YR 1983	b	+84000										
WTR YR 1984	b	-192000										

a Elevation, in feet NGVD, at end of month.  
b 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 SE 1/4 SW 1/4 sec.17, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi northeast of La Grange, and 1.4 mi 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 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.--81 years, 414 ft<sup>3</sup>/s, 299,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,820 ft<sup>3</sup>/s July 1, 1935; no flow at times most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	811	.32	891	.06		0	259	887	934	156	1080	1020
2	805	.27	878	.06		0	1040	773	1030	1040	1080	34
3	628	.26	306	.06		0	1070	846	839	1060	1080	27
4	338	13	40	.06		0	1080	767	944	149	1060	1040
5	114	301	641	.06		0	1100	523	932	1070	148	1050
6	114	23	46	.05		0	1070	225	822	1120	1080	1030
7	249	594	45	.05		17	1080	963	1070	1530	1090	1070
8	499	676	43	.05		423	240	983	866	955	1080	1050
9	501	735	42	.05		666	1080	1030	618	1050	1080	144
10	243	755	42	.05		620	1070	892	148	1110	1090	1040
11	114	27	42	.04		44	1100	975	905	1430	1070	929
12	115	284	220	.04		672	1030	889	917	1430	157	597
13	115	24	687	.04		1230	1140	165	942	1460	1020	687
14	115	677	686	.03		1360	818	1010	853	1420	1100	788
15	68	638	724	.03		774	665	1120	982	1110	1090	974
16	37	692	798	.03		104	1070	1150	964	1460	1100	144
17	37	718	798	.03		105	998	1110	884	1400	1090	1020
18	36	646	800	.03		105	1160	1160	1190	1090	1080	1080
19	36	320	798	.03		401	1020	1160	958	1050	147	1030
20	36	27	585	.02		574	815	165	987	1060	1090	659
21	36	739	26	.02		574	673	983	1010	1050	1090	495
22	36	948	.52	.02		706	679	1030	1040	150	1090	1080
23	36	884	.16	.02		851	1130	1050	1010	1080	1080	147
24	36	34	.09	.02		886	962	924	150	1050	1080	347
25	36	857	.09	.02		889	953	981	1060	1050	1000	210
26	21	300	.09	.01		951	788	756	1100	1050	156	414
27	.37	26	.08	.01		1050	742	452	1120	1050	1090	642
28	.33	880	.08	.01		1050	481	147	1030	984	1090	815
29	.32	886	.08	.01		1050	130	1050	1030	151	1100	274
30	.31	921	.07	0		972	773	963	976	1090	1060	142
31	.30	---	.07	0		933	---	863	---	1090	1070	---
TOTAL	5213.63	13625.85	9139.33	1.01	0	17007	26216	25992	27311	31945	29718	19979
MEAN	168	454	295	.033	0	549	874	838	910	1030	959	666
MAX	811	948	891	.06	0	1360	1160	1160	1190	1530	1100	1080
MIN	.30	.26	.07	0	0	0	130	147	148	149	147	27
AC-FT	10340	27030	18130	2.0	0	33730	52000	51560	54170	63360	58950	39630
CAL YR 1983	TOTAL	176426.79	MEAN	483	MAX	1250	MIN	0	AC-FT	349900		
WTR YR 1984	TOTAL	206147.82	MEAN	563	MAX	1530	MIN	0	AC-FT	408900		



## 11289500 TURLOCK CANAL NEAR LA GRANGE, CA

LOCATION.--Lat 37°39'49", long 120°26'23", in NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on right bank 3,460 ft downstream from intake at La Grange Dam, and 1.2 mi 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.--Electromagnetic flow meter and concrete control. Datum of gage is 274.98 ft National Geodetic Vertical Datum of 1929 (levels by Turlock Irrigation District). See WSP 1930 for history of changes prior to Apr. 17, 1924. Prior to May 17, 1984, water-stage recorder at site 0.2 mi upstream at datum 2.72 ft higher.

REMARKS.--Records poor, variable backwater from low head power generator 1.5 mi downstream of gage. Canal diverts from left bank of Tuolumne River at La Grange Dam for irrigation in Turlock Irrigation District and to supply town of La Grange. Capacity of canal increased in March 1980, and in March 1984. During fall and winter, some unmeasured flow is diverted from canal at tunnel 0.3 mi upstream from gage, passed through La Grange powerplant and returned to river. See schematic diagram of Tuolumne River basin.

AVERAGE DISCHARGE.--86 years, 640 ft<sup>3</sup>/s, 463,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,400 ft<sup>3</sup>/s several days in May 1984; no diversion for irrigation during some periods in some years. Prior to 1939, unmeasured small discharge during winter called zero. No flow Jan. 27, 1984 to Mar. 14, 1984, when canal was drained for construction and installation of electromagnetic flow meter.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	73	2690	800		0	1800	1860	2410	1190	2760	1190
2	40	57	2700	800		0	1800	1860	2030	1970	2760	21
3	54	57	2290	800		0	1670	1860	2000	1960	2700	21
4	394	56	1800	800		0	1600	1750	1940	1240	2330	1460
5	412	457	1280	800		0	1600	1380	2430	1740	1280	1460
6	412	56	56	800		0	1970	60	1900	1750	1960	1350
7	278	504	56	800		0	1540	1840	1100	1700	1830	1320
8	54	677	92	800		0	318	1860	1160	1350	1890	1400
9	54	822	637	800		0	1830	1870	2000	1700	1780	21
10	292	790	1100	800		0	2130	1740	896	1770	1650	1370
11	400	56	1100	800		0	2060	1930	1240	1850	1430	1180
12	796	183	1010	800		0	1970	1700	1350	2170	1240	966
13	987	56	800	800		0	2000	60	1210	2260	1500	1120
14	1050	525	800	800		0	1760	920	1650	2320	1570	1260
15	462	564	800	800		1030	60	60	1350	2240	1440	910
16	500	456	800	382		3120	1930	60	1150	2210	1490	20
17	979	573	800	38		2300	1940	60	24	2220	1620	1330
18	960	444	800	16		1800	1960	60	1910	2320	1510	1510
19	500	368	800	16		1800	1830	21	2490	2300	1300	1160
20	500	56	1070	16		1800	1590	283	2450	2300	1440	816
21	258	517	1600	16		1800	1560	2500	2340	2360	1490	589
22	100	596	1600	16		1800	60	3280	2450	1280	1440	1800
23	100	655	1600	16		1800	1920	3200	2370	2380	1400	10
24	100	56	1600	14		1800	1860	3400	2090	1320	1380	311
25	100	316	1600	13		1800	1820	3360	2590	559	1350	420
26	100	214	1600	4.0		1750	1950	3400	2740	969	1260	592
27	100	56	1600	0		1800	1800	3150	2360	1040	1530	745
28	102	530	1600	0		1800	1760	3400	1670	1350	1600	696
29	103	572	1450	0		1800	60	3040	1520	1950	1270	424
30	103	1340	988	0		1800	1820	3330	1510	2760	1130	14
31	102	---	800	0		1800	---	3400	---	2770	1100	---
TOTAL	10432	11682	37519	12547.0	0	31600	47968	56694	54330	57298	50430	25486
MEAN	337	389	1210	405	0	1019	1599	1829	1811	1848	1627	850
MAX	1050	1340	2700	800	0	3120	2130	3400	2740	2770	2760	1800
MIN	40	56	56	0	0	0	60	21	24	559	1100	10
AC-FT	20690	23170	74420	24890	0	62680	95140	112500	107800	113700	100000	50550
CAL YR 1983	TOTAL	321457	MEAN	881	MAX	2830	MIN	15	AC-FT	637600		
WTR YR 1984	TOTAL	395986.0	MEAN	1082	MAX	3400	MIN	0	AC-FT	785400		

## 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 NW 1/4 NW 1/4 sec.21, T.3 S., R.14 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 0.5 mi downstream from La Grange Dam, and 1.1 mi east of La Grange.

DRAINAGE AREA.--1,538 mi<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 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 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 299 ft<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).--14 years, 1,135 ft<sup>3</sup>/s, 822,300 acre-ft/yr.  
(Combined river and canals).--14 years, 2,468 ft<sup>3</sup>/s, 1,788,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 10,400 ft<sup>3</sup>/s Apr. 24, 1983, gage height, 15.09 ft; no flow for several days during September and October 1977.  
Combined flow, maximum daily discharge, 13,800 ft<sup>3</sup>/s May 26, 1983; minimum daily, 0.45 ft<sup>3</sup>/s Nov. 2, 1970.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 8,060 ft<sup>3</sup>/s Jan. 4, gage height, 13.30 ft; minimum daily, 13 ft<sup>3</sup>/s for many days during July to September.  
Combined flow, maximum daily discharge, 8,810 ft<sup>3</sup>/s Dec. 29, Jan. 6; minimum daily, 62 ft<sup>3</sup>/s Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3570	3120	622	7740	4720	4870	1370	160	113	17	13	14
2	3590	3130	623	7980	4720	4830	1400	105	16	206	13	14
3	3770	3120	976	8000	4730	4030	1440	100	16	180	15	14
4	3950	3010	1270	8000	4730	4880	1350	100	16	18	14	193
5	3950	437	2210	8000	4750	4650	1370	100	16	117	14	116
6	3960	413	4590	8010	4760	4430	952	100	16	132	105	15
7	3960	418	4590	7920	4760	4410	627	243	20	18	210	15
8	3960	421	4530	7950	4760	4150	626	252	16	20	164	111
9	3960	417	4050	7960	4780	4240	683	93	16	20	122	15
10	3970	417	3600	7040	4800	3840	137	23	16	85	14	146
11	3990	490	3600	4990	4800	4870	193	22	15	103	14	15
12	4030	612	3480	3770	4800	4020	127	22	15	94	14	15
13	4030	615	3110	3770	4810	3220	127	22	15	159	14	16
14	4030	619	3110	3750	4810	3110	126	524	17	15	14	62
15	4000	620	3070	3770	4840	2770	126	1100	15	15	13	16
16	4020	619	3000	4170	4830	1510	125	1240	14	85	13	16
17	4040	618	3000	4560	4820	2410	126	1250	14	126	13	153
18	4090	620	3000	4610	4800	2340	148	1450	15	121	13	191
19	4110	617	2990	4610	4820	2470	130	1270	15	15	13	15
20	4110	615	3010	4610	4810	2040	128	22	15	16	15	14
21	4380	620	3030	4610	4880	2040	127	68	15	19	15	14
22	4550	622	3060	4560	4860	1930	126	186	15	19	16	14
23	4520	620	3060	4630	4850	1800	248	204	17	19	16	13
24	4600	620	3120	4630	4850	1430	145	16	14	15	15	13
25	4610	600	3150	4640	4850	2200	400	51	14	14	15	13
26	4630	625	3050	4670	4850	2010	312	16	14	15	15	13
27	4660	621	4370	4670	4850	1620	429	15	14	15	15	13
28	4670	623	6860	4690	4850	1620	132	15	135	14	15	13
29	4690	621	7360	4710	4870	1640	131	307	17	13	15	14
30	4710	624	7270	4710	---	1710	415	83	16	13	14	24
31	4690	---	7190	4710	---	1390	---	16	---	13	14	---
TOTAL	129800	27144	109951	172440	139360	92480	13776	9175	682	1731	985	1310
MEAN	4187	905	3547	5563	4806	2983	459	296	22.7	55.8	31.8	43.7
MAX	4710	3130	7360	8010	4880	4880	1440	1450	135	206	210	193
MIN	3570	413	622	3750	4720	1390	125	15	14	13	13	13
AC-FT	257500	53840	218100	342000	276400	183400	27320	18200	1350	3430	1950	2600
CAL YR 1983	TOTAL	1758900	MEAN	4819	MAX	10400	MIN	413	AC-FT	3489000		
WTR YR 1984	TOTAL	698834	MEAN	1909	MAX	8010	MIN	13	AC-FT	1386000		

## 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 1983 TO SEPTEMBER 1984

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4420	3190	4200	8540	4720	4870	3430	2910	3450	1370	3850	2220
2	4440	3190	4200	8780	4720	4830	4240	2740	3080	3220	3850	69
3	4450	3180	3580	8800	4730	4030	4180	2810	2860	3200	3800	62
4	4680	3080	3110	8800	4730	4880	4030	2620	2900	1410	3400	2690
5	4470	1200	4130	8800	4750	4650	4070	2000	3380	2930	1440	2630
6	4480	492	4700	8810	4760	4430	3990	385	2740	3000	3150	2400
7	4490	1520	4700	8720	4760	4430	3250	3040	2190	3250	3130	2410
8	4510	1780	4660	8750	4760	4570	1180	3090	2050	2330	3130	2560
9	4510	1980	4730	8760	4780	4910	3590	2990	2640	2770	2980	180
10	4500	1970	4740	7840	4800	4460	3340	2650	1060	2970	2750	2560
11	4500	573	4740	5790	4800	4910	3350	2930	2170	3380	2510	2130
12	4950	1080	4710	4570	4800	4690	3130	2610	2290	3690	1410	1580
13	5140	695	4600	4570	4810	4450	3270	247	2170	3880	2530	1830
14	5200	1820	4600	4550	4810	4470	2710	2450	2520	3760	2680	2110
15	4530	1820	4590	4570	4840	4570	851	2280	2350	3370	2540	1900
16	4560	1770	4600	4550	4830	4730	3130	2450	2120	3760	2600	180
17	5060	1910	4600	4600	4820	4820	3070	2420	922	3750	2720	2500
18	5090	1710	4600	4630	4800	4250	3270	2670	3120	3530	2600	2780
19	4650	1310	4590	4630	4820	4670	2980	2450	3470	3370	1460	2210
20	4650	698	4670	4630	4810	4410	2540	470	3460	3380	2550	1490
21	4680	1880	4660	4630	4880	4410	2360	3550	3370	3430	2600	1100
22	4690	2170	4660	4580	4860	4440	865	4500	3510	1450	2550	2890
23	4660	2160	4660	4650	4850	4450	3300	4450	3400	3480	2500	170
24	4740	710	4720	4640	4850	4120	2970	4340	2250	2390	2480	671
25	4750	1770	4750	4650	4850	4890	3170	4390	3660	1620	2370	643
26	4750	1140	4650	4670	4850	4710	3050	4180	3850	2030	1440	1020
27	4760	703	5970	4670	4850	4470	2970	3620	3490	2110	2640	1400
28	4770	2030	8460	4690	4850	4470	2370	3570	2840	2340	2710	1520
29	4790	2080	8810	4710	4870	4490	321	4400	2570	2110	2390	712
30	4810	2880	8260	4710	---	4480	3010	4370	2510	3860	2200	180
31	4790	---	7990	4710	---	4120	---	4280	---	3870	2180	---
TOTAL	145470	52491	156640	185000	139360	141080	87987	91862	82392	91010	81140	46797
MEAN	4693	1750	5053	5968	4806	4551	2933	2963	2746	2936	2617	1560
MAX	5200	3190	8810	8810	4880	4910	4240	4500	3850	3880	3850	2890
MIN	4420	492	3110	4550	4720	4030	321	247	922	1370	1410	62
AC-FT	288500	104100	310700	366900	276400	279800	174500	182200	163400	180500	160900	92820
CAL YR 1983	TOTAL	2257051	MEAN	6184	MAX	13800	MIN	492	AC-FT	4477000		
WTR YR 1984	TOTAL	1301229	MEAN	3555	MAX	8810	MIN	62	AC-FT	2581000		

## 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. 68, 10, 1971.

## EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 20.5°C on several days in July and August;  
minimum recorded, 9.0°C Nov. 1, 2.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11289650 TUOLUMNE RIVER BELOW LA GRANGE DAM, NEAR LA GRANGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## SAN JOAQUIN RIVER BASIN

11290000 TUOLUMNE RIVER AT MODESTO, CA

LOCATION.--Lat 37°37'38", long 120°59'11", in SE 1/4 SW 1/4 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 downstream from Dry Creek.

DRAINAGE AREA.--1,884 mi<sup>2</sup>.

PERIOD OF RECORD.--1878-84, 1891-94, 1897 (gage heights only), January 1895 to December 1896, April 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Modesto Irrigation District). Prior to July 11, 1947, at site 1,700 ft downstream at same datum, July 11, 1947, to Nov. 16, 1953, at site 1,000 ft downstream at same datum.

REMARKS.--Records good. Flow regulated by reservoirs and powerplants above station. In addition to diversions into Modesto and Turlock Canals (stations 11289000, 11289500), there are diversions for irrigation of about 1,300 acres 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.

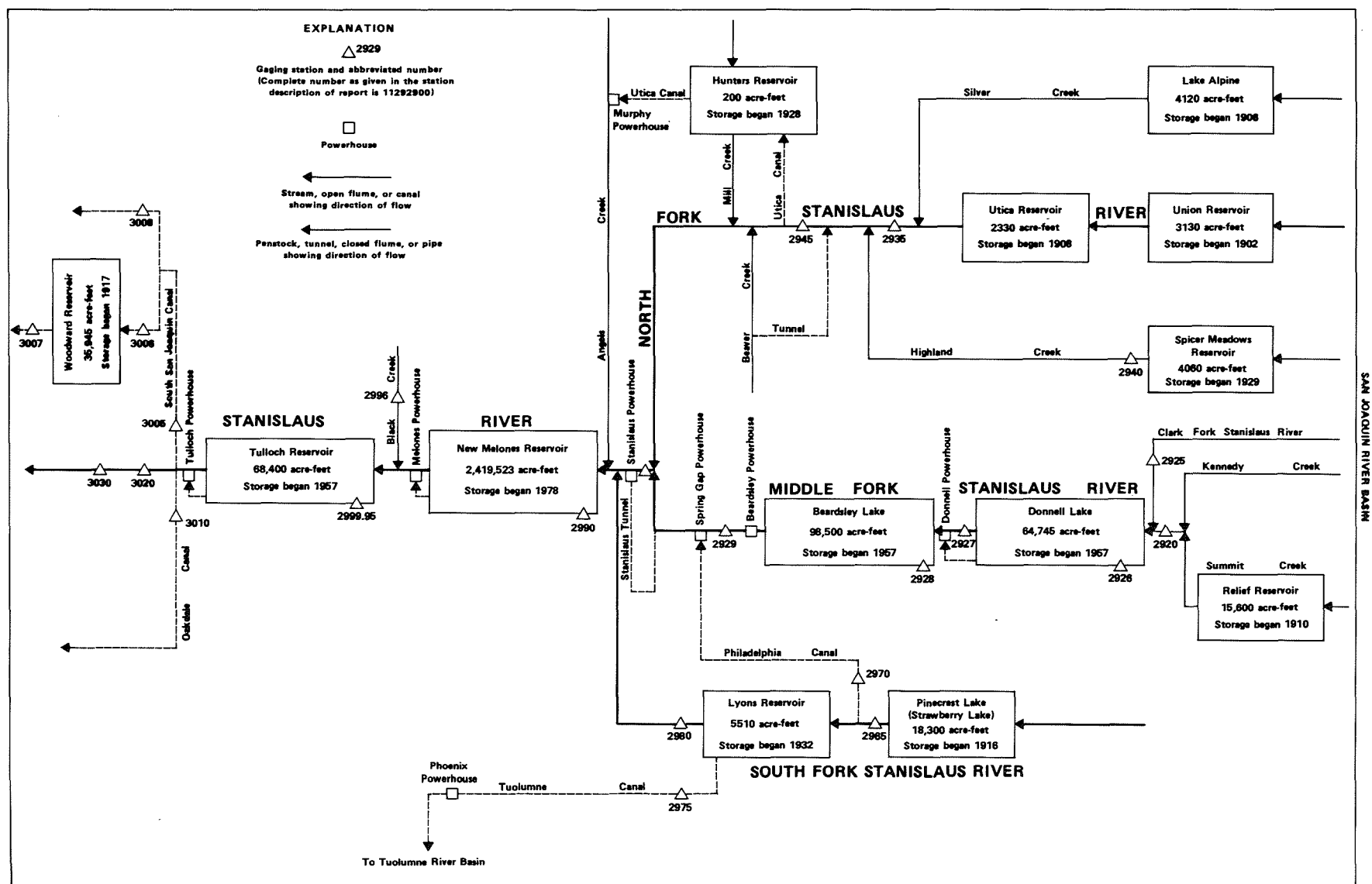
AVERAGE DISCHARGE.--45 years (water years 1896, 1941-84), 1,481 ft<sup>3</sup>/s, 1,073,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD (water years 1895-96, 1941-84).--Maximum discharge observed, 57,000 ft<sup>3</sup>/s Dec. 9, 1950, elevation, 69.19 ft; minimum daily, 56 ft<sup>3</sup>/s Aug. 6, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,530 ft<sup>3</sup>/s Jan. 6, elevation, 54.19 ft; minimum daily, 237 ft<sup>3</sup>/s July 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4220	5010	1590	7700	4560	4570	1660	668	344	306	289	289
2	4420	4010	1700	8050	4560	4570	1640	569	326	269	277	279
3	4430	3850	1780	8360	4560	4430	1640	485	372	290	285	272
4	4580	3810	2250	8430	4560	4050	1660	478	337	398	280	277
5	4740	3510	2580	8470	4550	4460	1640	501	339	352	283	296
6	4840	1870	3400	8500	4550	4300	1630	491	318	292	283	371
7	4890	1520	5010	8500	4550	4170	1310	481	374	348	275	362
8	4910	1440	5240	8420	4550	4130	1120	515	327	351	377	313
9	4910	1350	5250	8400	4560	3970	1100	591	340	284	416	343
10	4910	1330	4960	8400	4580	3970	1090	510	332	255	426	442
11	4900	1540	4840	7560	4570	3770	802	437	314	246	395	386
12	4820	1380	4810	5750	4580	4370	707	367	286	248	324	393
13	4860	1530	4540	4780	4600	3700	598	373	292	287	339	334
14	4780	1310	3960	4650	4630	3240	553	361	283	342	291	280
15	4670	1220	3870	4600	4700	3130	572	577	299	372	288	278
16	4540	1390	3790	4620	4840	2770	548	1170	316	292	293	324
17	4490	1550	3580	4660	4980	1990	524	1360	322	289	298	335
18	4500	1960	3460	4880	4740	2590	550	1440	338	339	300	374
19	4560	1760	3440	4860	4630	2520	717	1620	318	360	305	478
20	4570	1560	3450	4840	4590	2420	753	1520	317	363	305	448
21	4550	2350	3430	4820	4680	2220	730	712	309	299	301	585
22	4650	1870	3490	4740	5320	2190	805	475	296	301	269	633
23	4750	1600	3510	4560	4880	2070	811	495	282	290	270	503
24	4740	1670	3760	4530	4680	1950	789	540	273	256	282	479
25	4750	3620	6150	4520	4620	1790	729	457	285	252	279	459
26	4930	2240	6320	4520	4590	2290	788	392	277	237	356	457
27	5060	1770	4830	4530	4570	2060	787	396	282	249	348	420
28	5120	1640	5560	4530	4590	1800	836	362	256	263	303	406
29	5140	1520	6920	4540	4610	1800	637	327	257	272	286	410
30	5170	1500	7540	4560	---	1800	609	361	340	294	273	406
31	5170	---	7730	4570	---	1840	---	418	---	305	272	---
TOTAL	147570	62680	132740	184850	134980	94930	28335	19449	9351	9301	9568	11632
MEAN	4760	2089	4282	5963	4654	3062	944	627	312	300	309	388
MAX	5170	5010	7730	8500	5320	4570	1660	1620	374	398	426	633
MIN	4220	1220	1590	4520	4550	1790	524	327	256	237	269	272
AC-FT	292700	124300	263300	366600	267700	188300	56200	38580	18550	18450	18980	23070
CAL YR 1983	TOTAL	2011810	MEAN	5512	MAX	10900	MIN	1140	AC-FT	3990000		
WTR YR 1984	TOTAL	845386	MEAN	2310	MAX	8500	MIN	237	AC-FT	1677000		



## SAN JOAQUIN RIVER BASIN

11292500 CLARK FORK STANISLAUS RIVER NEAR DARDANELLE, CA

LOCATION.--Lat 38°21'50", long 119°52'13", in NE 1/4 NE 1/4 sec.22, T.6 N., R.19 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi upstream from mouth, and 2.6 mi northwest of Dardanelle.

DRAINAGE AREA.--67.5 mi<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 National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Stanislaus River Basin.

AVERAGE DISCHARGE.--34 years, 159 ft<sup>3</sup>/s, 115,200 acre-ft/yr. .

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,350 ft<sup>3</sup>/s Nov. 20, 1950, gage height, 11.88 ft, from rating curve extended above 1,300 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; minimum daily, 9.8 ft<sup>3</sup>/s Sept. 11-15, 26-30, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,330 ft<sup>3</sup>/s, gage height, 7.08 ft May 29, no other peak above base of 600 ft<sup>3</sup>/s; minimum daily, 30 ft<sup>3</sup>/s Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	95	92	122	196	103	90	175	287	917	409	85	41
2	103	77	119	182	101	94	167	285	833	404	81	39
3	88	75	116	173	101	95	177	384	763	385	78	38
4	81	75	113	173	102	96	193	415	916	361	76	37
5	77	70	113	177	104	95	179	382	841	365	74	37
6	75	68	105	176	104	102	177	394	731	357	71	37
7	76	119	103	172	104	108	201	452	600	321	68	36
8	76	80	104	166	102	115	224	574	562	277	67	35
9	73	75	107	160	104	123	190	664	570	235	64	34
10	71	80	106	155	101	131	195	733	564	212	63	34
11	68	256	109	146	98	130	183	855	544	195	63	34
12	67	154	101	139	99	120	196	920	549	180	62	34
13	66	123	106	134	104	141	237	1010	547	176	63	34
14	65	110	113	127	99	138	310	1020	560	166	63	34
15	64	103	109	124	102	128	386	798	542	154	60	33
16	64	130	106	123	100	121	439	653	590	149	59	32
17	63	272	106	116	96	120	434	644	647	165	56	33
18	62	167	102	115	96	116	366	683	644	161	54	35
19	61	221	100	111	94	125	319	811	635	139	53	36
20	60	296	99	107	93	156	286	950	589	129	51	36
21	59	181	96	106	95	176	270	975	536	122	52	33
22	58	146	95	103	92	163	284	974	528	114	51	33
23	62	139	97	101	90	171	338	1050	547	112	50	32
24	64	302	143	103	89	196	383	1070	560	108	48	32
25	58	225	331	102	88	201	359	1010	550	102	47	32
26	57	177	334	100	87	261	308	967	522	97	46	32
27	56	159	281	99	88	225	282	955	516	95	44	31
28	55	146	215	99	88	218	263	1010	539	92	44	31
29	55	135	202	101	86	216	262	1090	515	88	43	30
30	65	127	242	102	---	195	276	1100	437	89	43	32
31	81	---	224	103	---	192	---	1050	---	87	44	---
TOTAL	2125	4380	4419	4091	2810	4558	8059	24165	18394	6046	1823	1027
MEAN	68.5	146	143	132	96.9	147	269	780	613	195	58.8	34.2
MAX	103	302	334	196	104	261	439	1100	917	409	85	41
MIN	55	68	95	99	86	90	167	285	437	87	43	30
AC-FT	4210	8690	8770	8110	5570	9040	15990	47930	36480	11990	3620	2040
CAL YR 1983	TOTAL	122927	MEAN	337	MAX	1680	MIN	55	AC-FT	243800		
WTR YR 1984	TOTAL	81897	MEAN	224	MAX	1100	MIN	30	AC-FT	162400		



## 11292700 MIDDLE FORK STANISLAUS RIVER AT HELLS HALF ACRE BRIDGE, NEAR PINECREST, CA

LOCATION.--Lat 38°14'50", long 120°02'01", in NW 1/4 NE 1/4 sec.31, T.5 N., R.18 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 200 ft upstream from Donnell powerplant, 800 ft downstream from Hells Half Acre bridge, 1.1 mi upstream from Cow Creek, and 4.7 mi northwest of Pinecrest.

DRAINAGE AREA.--287 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1956 to current year. Prior to October 1965, published as Middle Fork Stanislaus River at Hells Half Acre bridge.

GAGE.--Water-stage recorder. Datum of gage is 3,418.31 ft National Geodetic Vertical Datum of 1929 (river-profile survey). Prior to Aug. 9, 1961, at site 1,600 ft upstream at different datum.

REMARKS.--Records good. Flow regulated by Relief Reservoir since 1909, capacity, 15,600 acre-ft, by Donnell Lake (station 11292600), and by diversion around station through Donnell powerplant. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--28 years, 280 ft<sup>3</sup>/s, 202,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 13.64 ft in gage well, 14.2 ft outside, from floodmarks, from rating curve extended above 5,200 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 12.20 ft; minimum daily, 3.3 ft<sup>3</sup>/s Nov. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, 23 ft Dec. 23, 1955, from floodmarks, at present site, discharge, 26,600 ft<sup>3</sup>/s by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,480 ft<sup>3</sup>/s Nov. 24, gage height, 9.42 ft; minimum daily, 18 ft<sup>3</sup>/s Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	69	202	508	148	133	184	227	1920	352	67	35
2	72	43	211	437	141	141	177	311	1480	394	64	35
3	70	28	221	400	133	142	177	303	1350	528	18	34
4	68	24	211	403	133	140	179	296	1590	522	39	34
5	67	22	187	404	133	135	179	275	1740	263	41	33
6	64	21	177	377	133	139	179	262	1260	327	41	33
7	63	26	172	353	130	144	181	266	880	189	39	33
8	69	27	178	330	127	148	200	290	733	179	39	33
9	66	23	221	306	127	152	178	303	698	141	38	33
10	65	28	301	289	131	155	199	308	686	100	38	32
11	62	321	333	269	124	153	192	314	494	95	38	32
12	60	168	277	252	124	146	189	316	688	89	38	32
13	59	159	254	239	150	261	201	328	423	84	38	32
14	59	105	267	224	203	356	227	313	840	78	38	32
15	58	92	256	214	179	269	249	270	707	75	38	32
16	59	187	239	212	268	236	270	232	732	74	38	32
17	59	1540	270	199	199	238	318	227	995	74	37	32
18	59	429	241	187	177	215	294	226	1120	73	37	32
19	58	607	221	179	169	224	272	234	995	72	36	32
20	59	737	210	172	166	244	248	242	938	72	36	32
21	59	340	196	167	171	248	245	236	639	72	36	31
22	59	252	186	161	162	227	257	552	584	71	36	31
23	60	247	191	155	154	218	276	1720	648	71	36	31
24	61	1540	508	153	148	227	279	2760	746	71	36	30
25	59	645	2430	159	144	228	260	2410	647	71	36	30
26	59	400	1960	154	132	262	233	2110	693	70	36	30
27	58	322	1470	146	131	250	218	2170	586	70	36	30
28	58	280	845	146	132	226	206	2070	690	69	36	29
29	57	244	643	149	131	223	200	2480	781	69	36	29
30	62	219	757	148	---	200	204	2480	557	68	35	29
31	73	---	663	149	---	200	---	2360	---	68	35	---
TOTAL	1935	9145	14498	7641	4400	6280	6671	26891	26840	4551	1192	955
MEAN	62.4	305	468	246	152	203	222	867	895	147	38.5	31.8
MAX	74	1540	2430	508	268	356	318	2760	1920	528	67	35
MIN	57	21	172	146	124	133	177	226	423	68	18	29
AC-FT	3840	18140	28760	15160	8730	12460	13230	53340	53240	9030	2360	1890
CAL YR 1983	TOTAL	321258	MEAN	880	MAX	6950	MIN	21	AC-FT	637200		
WTR YR 1984	TOTAL	110999	MEAN	303	MAX	2760	MIN	18	AC-FT	220200		

## SAN JOAQUIN RIVER BASIN

11292800 BEARDSLEY LAKE NEAR STRAWBERRY, CA

LOCATION.--Lat 38°12'17", long 120°04'31", in SE 1/4 NW 1/4 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 upstream from Spring Gap powerhouse, 3.9 mi west of Strawberry, and 4.7 mi west of Pinecrest.

DRAINAGE AREA.--309 mi<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 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 between gage heights 3,145.0 ft, tunnel invert and 3,398.0 ft, top of spillway gates. No dead storage. Reservoir is used for power and conservation storage. Water passes through Beardsley powerplant and down Middle Fork Stanislaus River to Melones Reservoir (station 11299000). Records, including extremes, represent contents at 2400 hours. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 98,700 acre-ft June 27, 1957, gage height, 3,398.2 ft; minimum since reservoir first filled, 3 acre-ft Sept. 23, 1976, gage height, 3,154.4 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 97,800 acre-ft on June 4, July 14-16, gage height, 3,397.0 ft; minimum, 75,300 acre-ft Feb. 17, gage height, 3,364.1 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97600	86000	78800	78500	78100	78200	78200	95700	97400	97500	97200	91300
2	97600	85900	78300	78400	78100	78200	78600	95900	97200	97700	97200	91200
3	97600	85500	78300	78400	78100	78200	79200	96200	97500	97600	97200	91100
4	97500	85100	78200	78400	78100	78100	79800	96200	97800	97600	97100	91000
5	97300	83800	78200	78400	78100	78000	80400	96200	97200	97500	97000	90800
6	97200	82600	78100	78400	78100	78000	81000	96300	97200	97700	97000	90400
7	97200	82200	78100	78400	78100	78100	81600	96400	97300	97600	96800	90200
8	97000	81900	78200	78300	78100	78200	82300	96500	97600	97700	96900	89800
9	96900	81500	78200	78700	78100	78200	82800	96700	97700	97700	96800	89500
10	96700	81300	78300	78800	78100	77900	83400	96800	97600	97700	96800	89300
11	96400	82000	78400	78800	78100	77900	84200	96900	97500	97700	96800	89200
12	96400	81300	78300	78400	78100	77800	84800	97000	97700	97700	96800	89000
13	96200	80500	78200	78200	77600	78100	85400	97000	97700	97700	96700	88900
14	95900	80300	78200	78200	76800	78300	86200	97000	97700	97800	96400	88800
15	94800	80100	78200	78200	76100	78300	86800	97000	97600	97800	96200	88600
16	93700	80200	78200	78200	75500	78300	87600	96900	97600	97800	96100	88400
17	93500	83000	78200	78200	75300	78300	88500	97000	97600	97700	96100	88300
18	93200	83600	78200	78200	75900	78300	89300	96900	97600	97700	96000	88300
19	93000	83600	78200	78100	76400	78300	90200	97000	97600	97700	95900	88200
20	92700	84200	78200	78100	76900	78300	90800	97000	97600	97700	95900	88100
21	92500	84600	78200	78100	77400	78300	91600	96900	97500	97700	95700	88100
22	91300	84500	78200	78100	77900	78300	92300	97400	97700	97700	95700	87900
23	90200	83400	78200	78100	78100	78300	93100	97400	97600	97400	95400	87900
24	89900	84700	78600	78100	78100	78300	93900	97200	97500	97400	94800	87800
25	89700	84000	79700	78100	78100	78300	94600	97200	97700	97300	93800	87700
26	89400	83000	79300	78100	78100	78400	95300	97200	97400	97200	92700	87700
27	89100	82000	79200	78100	78100	78300	95400	97200	97400	97200	91700	87600
28	88800	81200	78800	78100	78100	78300	95400	97100	97500	97200	91400	87500
29	87700	80300	78600	78100	78100	78300	95400	97100	97500	97200	91300	87300
30	86300	79700	78800	78100	---	78200	95500	97300	97500	97100	91400	87300
31	86200	---	78600	78100	---	78200	---	97700	---	97200	91400	---
MAX	97600	86000	79700	78800	78100	78400	95500	97700	97800	97800	97200	91300
MIN	86200	79700	78100	78100	75300	77800	78200	95700	97200	97100	91300	87300
a	3380.4	3370.8	3369.2	3368.4	3368.4	3368.6	3393.8	3396.8	3396.6	3396.1	3388.0	3382.1
b	-10800	-6500	-1100	-500	0	+100	+17300	+2200	-200	-300	-5800	-4100

CAL YR 1983 b +600

WTR YR 1984 b -9700

a Gage height, in feet, at end of month.

b Change in contents, in acre-feet.

## 11292900 MIDDLE FORK STANISLAUS RIVER BELOW BEARDSLEY DAM, CA

LOCATION.--Lat 38°11'36", long 120°05'53", in NW 1/4 NW 1/4 sec.22, T.4 N., R.17 E., Tuolumne County, Hydrologic Unit 18040010, Stanislaus National Forest, on right bank 0.5 mi downstream from Beardsley afterbay dam, 1.5 mi downstream from Beardsley Dam, and 5.7 mi west of Pinecrest.

DRAINAGE AREA.--316 mi<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 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, 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.--27 years (water years 1958-84), 678 ft<sup>3</sup>/s, 491,200 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,080 ft<sup>3</sup>/s May 30, 1983, gage height, 12.30 ft; minimum daily, 3.0 ft<sup>3</sup>/s Oct. 10, 11, 1958.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,030 ft<sup>3</sup>/s Dec. 25, gage height, 9.49 ft; minimum daily, 528 ft<sup>3</sup>/s Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	627	686	1440	1450	904	938	1020	958	2670	1010	601	568
2	627	685	1260	1330	897	943	830	964	2140	996	606	568
3	627	685	1070	1260	893	953	678	1020	1840	1210	610	568
4	627	682	1040	1240	887	955	681	1050	2070	1060	611	568
5	627	684	972	1240	886	843	681	1050	2680	992	612	587
6	623	681	921	1180	884	827	683	1040	1940	918	610	647
7	623	681	909	1210	887	897	685	992	1460	885	610	649
8	627	681	926	1160	886	951	686	996	1260	789	610	649
9	640	677	967	893	893	966	686	1000	1300	797	610	664
10	636	679	1110	1030	916	901	689	998	1420	712	610	590
11	636	612	1150	1060	895	695	621	998	1230	766	610	556
12	640	534	1130	1170	889	716	694	1040	1290	742	610	545
13	644	677	1060	1130	808	730	694	1100	1100	691	610	578
14	643	680	1050	1010	683	939	694	1070	1430	718	599	557
15	640	677	1040	987	687	1070	695	992	1450	737	614	556
16	650	679	1030	988	697	1060	699	984	1400	726	614	556
17	649	724	1040	967	683	1100	698	918	1600	613	614	554
18	655	700	1040	951	681	1080	698	971	1740	593	618	556
19	657	708	1010	942	681	1070	704	947	1640	593	618	556
20	658	718	984	930	681	1090	681	971	1580	594	621	556
21	658	704	972	922	686	1100	676	926	1350	601	625	556
22	659	1090	955	913	700	1080	663	984	1210	602	562	556
23	671	1610	972	906	850	1060	660	2690	1350	605	627	556
24	671	1810	1090	908	924	1060	658	3460	1400	599	624	556
25	671	1800	2780	909	935	1070	658	3020	1260	605	605	556
26	672	1690	3370	910	929	1080	667	2640	1460	606	528	554
27	685	1610	2760	893	928	1100	1000	2790	1270	610	531	550
28	685	1500	2020	893	936	1070	967	2690	1310	610	531	545
29	685	1390	1650	898	944	1060	978	3060	1450	612	529	550
30	687	1270	1620	898	---	1040	966	2970	1250	611	545	552
31	687	---	1640	902	---	1030	---	2760	---	601	574	---
TOTAL	20187	28004	40978	32080	24150	30474	22090	48049	46550	22804	18499	17159
MEAN	651	933	1322	1035	833	983	736	1550	1552	736	597	572
MAX	687	1810	3370	1450	944	1100	1020	3460	2680	1210	627	664
MIN	623	534	909	893	681	695	621	918	1100	593	528	545
AC-FT	40040	55550	81280	63630	47900	60450	43820	95310	92330	45230	36690	34030
CAL YR 1983	TOTAL	562686	MEAN	1542	MAX	8630	MIN	286	AC-FT	1116000		
WTR YR 1984	TOTAL	351024	MEAN	959	MAX	3460	MIN	528	AC-FT	696300		

## SAN JOAQUIN RIVER BASIN

11295400 STANISLAUS RIVER NEAR HATHAWAY PINES, CA

LOCATION.--Lat 38°08'29", long 120°22'19", in NW 1/4 SW 1/4 sec.6, T.3 N., R.15 E., Calaveras County, Hydrologic Unit 18040010, on right bank 1,000 ft upstream from Stanislaus powerplant, and 3.6 mi south of Hathaway Pines.

DRAINAGE AREA.--629 mi<sup>2</sup>.

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

REVISED RECORDS.--WDR CA-80-3: 1979.

GAGE.--Water-stage recorder. Datum of gage is 1,077.21 ft National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to Oct. 1, 1982, published at datum 47.21 ft higher.

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 upstream from station in SE 1/4 sec.24, T.4 N., R.16 E., to Stanislaus powerplant 1,000 ft 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: 17 years, 976 ft<sup>3</sup>/s, 707,100 acre-ft/yr.  
Combined river and powerplant: 17 years, 1,446 ft<sup>3</sup>/s, 1,048,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 37,000 ft<sup>3</sup>/s Feb. 16, 1982, gage height, 22.5 ft from outside highwater mark, from rating curve extended above 10,000 ft<sup>3</sup>/s on basis of computation of peak flow over a weir; minimum daily, 9.4 ft<sup>3</sup>/s Aug. 7, 1977.  
Combined flow, maximum discharge, 37,500 ft<sup>3</sup>/s Feb. 16, 1982; minimum daily, 27 ft<sup>3</sup>/s July 20, 1977.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 17,800 ft<sup>3</sup>/s Nov. 24, gage height, 17.88 ft; minimum daily, 32 ft<sup>3</sup>/s Aug. 28, 30, Sept. 28.  
Combined flow, maximum discharge, 18,300 ft<sup>3</sup>/s Nov. 24; minimum daily, 561 ft<sup>3</sup>/s Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	456	1300	1670	2990	960	990	1430	1520	3110	771	161	59
2	420	1030	1720	2530	915	1050	1290	2000	2510	580	158	63
3	320	861	1630	2280	886	1050	1060	2010	2190	864	157	69
4	390	827	1810	2210	878	1070	1180	2330	2230	707	157	66
5	338	810	1390	2230	881	975	1140	2030	3580	657	157	53
6	233	794	1230	2090	901	940	1100	1920	2450	544	160	86
7	181	798	1140	2060	881	1020	1170	1910	1970	518	162	118
8	188	814	1140	1910	867	1160	1470	2190	1480	390	163	118
9	222	796	1300	1570	873	1220	1210	2430	1430	387	163	124
10	214	613	2370	1580	978	1220	1200	2480	1520	341	161	124
11	200	2720	2250	1500	896	988	1190	2570	1320	300	161	49
12	191	1240	2290	1500	878	921	1100	2720	1300	371	161	45
13	185	1540	1820	1500	1090	1340	1230	2810	1100	271	161	42
14	179	970	1820	1320	1130	2360	1530	2930	1370	280	150	47
15	178	838	1830	1230	1060	1970	1860	2290	1590	314	160	38
16	179	1280	1670	1270	1630	1690	2080	1710	1430	314	162	36
17	185	7910	1720	1160	2040	1760	2210	1590	1640	243	163	37
18	202	2530	1640	1090	1340	1610	1840	1780	1790	178	163	36
19	200	2300	1480	1070	1250	1600	1630	1930	1660	181	163	35
20	195	4530	1360	1000	1190	1780	1350	2220	1540	188	148	43
21	195	1990	1290	990	1280	1990	1230	2320	1310	177	114	39
22	195	1550	1200	950	1160	1750	1290	2090	1050	172	98	36
23	212	1990	1230	920	1020	1620	1480	3120	1150	172	73	35
24	219	7440	1460	914	1080	1700	1680	4300	1210	169	100	35
25	220	4820	8180	949	1050	1740	1610	3820	1150	167	99	34
26	218	3030	12500	945	1000	1970	1250	3340	1210	169	71	33
27	222	2500	9070	893	1020	2080	1370	3370	1050	171	36	33
28	225	2220	5940	892	1010	1760	1310	3320	1020	173	32	32
29	228	1980	3900	940	997	1740	1310	3620	1200	175	33	33
30	248	1710	3580	947	---	1520	1400	3690	975	175	32	34
31	722	---	3830	978	---	1510	---	3290	---	166	44	---
TOTAL	7760	63731	85460	44408	31141	46094	42200	79650	48535	10285	3923	1632
MEAN	250	2124	2757	1433	1074	1487	1407	2569	1618	332	127	54.4
MAX	722	7910	12500	2990	2040	2360	2210	4300	3580	864	163	124
MIN	178	613	1140	892	867	921	1060	1520	975	166	32	32
AC-FT	15390	126400	169500	88080	61770	91430	83700	158000	96270	20400	7780	3240
CAL YR 1983	TOTAL	981297	MEAN	2688	MAX	13500	MIN	172	AC-FT	1946000		
WTR YR 1984	TOTAL	464819	MEAN	1270	MAX	12500	MIN	32	AC-FT	922000		

## 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 1983 TO SEPTEMBER 1984

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	986	1300	2200	3510	1480	1510	1960	2050	3640	1300	692	591
2	950	1030	2250	3050	1440	1570	1820	2530	3040	1110	690	595
3	849	861	2160	2800	1410	1570	1580	2540	2720	1390	688	599
4	919	827	2340	2730	1400	1590	1700	2860	2760	1240	688	594
5	867	810	1910	2750	1400	1500	1660	2560	4110	1190	689	581
6	762	794	1760	2610	1420	1460	1620	2450	2980	1080	692	619
7	710	799	1670	2580	1400	1540	1690	2440	2500	1050	693	652
8	717	814	1670	2430	1390	1680	1990	2720	2010	922	694	651
9	751	796	1830	2090	1400	1740	1730	2960	1960	918	694	657
10	743	879	2900	2100	1500	1740	1720	3010	2050	872	692	656
11	729	3150	2780	2020	1420	1510	1710	3100	1850	831	692	580
12	720	1780	2820	2020	1400	1560	1450	3250	1830	902	692	574
13	714	2070	2350	2030	1610	1860	1770	3340	1630	803	692	571
14	708	1500	2350	1850	1650	2880	2060	3460	1900	812	681	578
15	707	1370	2350	1760	1580	2490	2390	2820	2120	846	690	569
16	708	1810	2200	1800	2160	2220	2610	2240	1960	846	693	567
17	714	8440	2240	1690	1620	2290	2740	2120	2170	774	694	567
18	732	3060	2160	1620	1620	2140	2370	2310	2320	709	694	566
19	730	2830	2000	1600	1620	2130	2160	2460	2190	712	694	564
20	725	5060	1880	1530	1620	2310	1880	2750	2070	719	679	573
21	725	2520	1810	1520	1600	2510	1760	2850	1840	708	645	569
22	725	2080	1720	1470	1600	2280	1820	2620	1580	703	628	566
23	742	2520	1760	1440	1600	2140	2010	3650	1680	703	599	565
24	749	7970	1990	1440	1600	2230	2210	4830	1740	700	640	565
25	750	5350	8710	1470	1570	2270	2140	4350	1680	698	637	564
26	748	3560	13000	1470	1520	2500	1780	3870	1740	700	608	563
27	751	3020	9600	1420	1540	2610	1900	3900	1580	702	571	563
28	754	2740	6470	1420	1530	2290	1840	3850	1550	705	566	561
29	758	2510	4420	1460	997	2270	1840	4150	1730	706	566	562
30	777	2230	4110	1470	---	2050	1930	4220	1510	707	564	563
31	974	---	4360	1500	---	2040	---	3820	---	698	576	---
TOTAL	23894	74480	101770	60650	44097	62370	57950	96080	64440	26756	20413	17545
MEAN	771	2483	3283	1956	1521	2012	1932	3099	2148	863	658	585
MAX	986	8440	13000	3510	2160	2880	2740	4830	4110	1390	694	657
MIN	707	794	1670	1420	997	1450	1560	2050	1510	698	564	561
AC-FT	47390	147700	201900	120300	87470	123700	114900	190600	127800	53070	40490	34800
CAL YR 1983	TOTAL	1168550	MEAN	3202	MAX	14000	MIN	702	AC-FT	2318000		
WTR YR 1984	TOTAL	650445	MEAN	1777	MAX	13000	MIN	561	AC-FT	1290000		

## SAN JOAQUIN RIVER BASIN

11299000 NEW MELONES RESERVOIR NEAR SONORA, CA

LOCATION.--Lat 37°57'02", long 120°30'49", in NW 1/4 SE 1/4 sec.11, T.1 N., R.13 E., Tuolumne County, Hydrologic Unit 18040010, at right abutment of New Melones Dam on Stanislaus River, 0.1 mi downstream from the old Melones Dam, and 7.6 mi southwest of Sonora.

DRAINAGE AREA.--904 mi<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 2,420,000 acre-ft between elevations 543.0 ft invert entrance to outlet tunnel, and 1,088.0 ft gross pool elevation. No dead storage. When elevation is above 808.0 ft water is released through a powerplant at Tulloch Reservoir where it is used for irrigation. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Stanislaus River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,400,000 acre-ft July 8-10, 1983, elevation, 1,086.42 ft; minimum since reservoir first filled in July 1983, 1,841,000 acre-ft Sept. 30, 1984, elevation, 1,037.56 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,064,000 acre-ft June 19-22, elevation, 1,058.01 ft; minimum, 1,841,000 acre-ft Sept. 30, elevation 1,037.56 ft.

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

700	53,900	760	160,500	880	611,500	1,000	1,471,000
710	66,950	780	212,300	900	723,000	1,020	1,662,000
720	81,800	800	272,800	920	846,500	1,040	1,867,000
730	98,530	820	342,400	940	982,600	1,060	2,087,000
740	117,200	840	421,800	960	1,132,000	1,088	2,420,000
750	137,800	860	511,200	980	1,295,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2022000	1974000	2031000	2051000	1910000	1904000	1942000	1934000	2036000	2058000	1983000	1908000
2	2020000	1975000	2026000	2049000	1909000	1905000	1943000	1936000	2039000	2056000	1981000	1906000
3	2018000	1975000	2022000	2045000	1907000	1905000	1943000	1937000	2042000	2053000	1978000	1904000
4	2015000	1975000	2018000	2042000	1906000	1906000	1942000	1939000	2044000	2052000	1975000	1902000
5	2013000	1975000	2013000	2038000	1905000	1906000	1943000	1940000	2051000	2050000	1972000	1899000
6	2011000	1975000	2008000	2034000	1903000	1905000	1943000	1941000	2055000	2048000	1970000	1897000
7	2007000	1975000	2002000	2030000	1902000	1906000	1944000	1941000	2057000	2046000	1967000	1894000
8	2004000	1975000	1996000	2025000	1901000	1906000	1945000	1942000	2057000	2044000	1964000	1892000
9	2004000	1974000	1993000	2021000	1900000	1906000	1944000	1943000	2058000	2042000	1962000	1891000
10	2001000	1976000	1991000	2016000	1899000	1906000	1944000	1946000	2058000	2040000	1960000	1889000
11	1998000	1982000	1990000	2011000	1898000	1906000	1943000	1949000	2059000	2037000	1957000	1887000
12	1995000	1984000	1988000	2004000	1898000	1906000	1941000	1953000	2059000	2035000	1956000	1884000
13	1993000	1988000	1984000	1998000	1897000	1908000	1939000	1957000	2058000	2032000	1952000	1882000
14	1990000	1989000	1980000	1993000	1898000	1911000	1938000	1961000	2059000	2030000	1950000	1879000
15	1988000	1990000	1975000	1987000	1900000	1911000	1937000	1963000	2060000	2028000	1948000	1877000
16	1986000	1994000	1971000	1982000	1900000	1913000	1937000	1964000	2060000	2025000	1945000	1875000
17	1983000	2013000	1969000	1975000	1900000	1915000	1938000	1964000	2062000	2022000	1943000	1873000
18	1982000	2017000	1967000	1969000	1900000	1918000	1939000	1966000	2063000	2020000	1940000	1870000
19	1980000	2019000	1964000	1962000	1900000	1919000	1940000	1968000	2064000	2017000	1938000	1868000
20	1977000	2030000	1962000	1955000	1900000	1916000	1939000	1972000	2064000	2015000	1936000	1866000
21	1976000	2032000	1959000	1948000	1901000	1919000	1938000	1975000	2064000	2012000	1933000	1864000
22	1974000	2029000	1958000	1942000	1901000	1921000	1938000	1977000	2064000	2010000	1932000	1861000
23	1972000	2027000	1957000	1936000	1901000	1929000	1937000	1982000	2063000	2007000	1928000	1858000
24	1972000	2048000	1965000	1931000	1901000	1931000	1937000	1989000	2063000	2005000	1926000	1855000
25	1971000	2054000	1994000	1928000	1902000	1932000	1937000	1996000	2062000	2002000	1923000	1853000
26	1971000	2052000	2024000	1926000	1903000	1934000	1936000	2002000	2062000	2000000	1921000	1850000
27	1971000	2050000	2042000	1922000	1904000	1937000	1936000	2007000	2061000	1997000	1919000	1848000
28	1971000	2046000	2048000	1920000	1904000	1939000	1935000	2012000	2060000	1994000	1917000	1845000
29	1970000	2042000	2050000	1916000	1904000	1940000	1934000	2018000	2060000	1992000	1914000	1843000
30	1971000	2036000	2051000	1913000	---	1941000	1934000	2025000	2059000	1989000	1912000	1841000
31	1971000	---	2052000	1911000	---	1942000	---	2031000	---	1986000	1910000	---
MAX	2022000	2054000	2052000	2051000	1910000	1942000	1945000	2031000	2064000	2058000	1983000	1908000
MIN	1970000	1974000	1957000	1911000	1897000	1904000	1934000	1934000	2036000	1986000	1910000	1841000
a	1049.66	1055.51	1056.96	1044.12	1043.50	1046.93	1046.23	1055.03	1057.57	1051.00	1044.01	1037.56
b	-53000	+65000	+16000	-141000	-7000	+38000	-8000	+97000	+28000	-73000	-76000	-69000
c	4160	1420	940	920	1500	3150	3950	7960	8890	10400	8910	7190

CAL YR 1983 b +510000  
WTR YR 1984 b -183000

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

## 11299200 MELONES POWERPLANT BELOW MELONES DAM, NEAR SONORA, CA

LOCATION.--Lat 37°56'47", long 120°31'38", Tuolumne County, Hydrologic Unit 18040010, at powerplant 0.3 mi downstream from Melones Dam, and 8.3 mi southwest of Sonora.

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

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Stanislaus River at NW 1/4 SE 1/4 sec.11, T.1 N., R.13 E., through a tunnel to powerplant and then into Tulloch Reservoir (station 11299995). See schematic diagram of Stanislaus River basin.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--5 years, 1,750 ft<sup>3</sup>/s, 1,268,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 6,060 ft<sup>3</sup>/s Apr. 19, 1983; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1970	725	5260	5060	2350	1720	1920	1940	1860	2230	1950	1460
2	2120	671	5280	5260	2230	1720	2260	2020	1810	2280	1950	1580
3	2180	907	5250	5330	2520	1720	2040	2100	1760	2080	1920	1650
4	2120	779	5260	5240	2230	1720	2040	2180	1650	2080	2020	1630
5	1840	834	5260	5080	2170	1740	1870	2370	1720	1920	1950	1710
6	1840	945	4890	5560	2390	1940	1640	2440	1750	1900	1910	1660
7	2920	960	5060	5330	2350	1740	1640	2600	1840	1880	1990	1720
8	2000	935	5160	5530	2340	1900	1680	2770	1850	1910	1970	1660
9	965	932	5080	5580	2350	1900	2460	2780	1760	1940	1680	1390
10	2270	940	4740	5390	2200	1750	2420	2500	1880	2000	1730	1140
11	2140	943	5070	4870	2190	1710	2250	2270	1900	1940	1820	1600
12	1880	881	5050	5940	2040	1920	2960	2260	1910	2050	1230	1830
13	1740	846	4940	5490	2300	2210	2960	2140	2050	2050	2290	1860
14	1800	806	5000	5410	2340	1950	2780	2330	1900	1950	1730	1430
15	1800	863	5380	5200	2190	2370	2660	2340	1910	1960	1790	1620
16	1650	808	5120	5200	2190	2230	2500	2340	2010	1910	1940	1510
17	1730	904	3700	5380	2190	1790	2370	2140	1920	2090	1780	1610
18	1690	2090	3810	5390	2120	1780	2130	1440	1920	1770	1800	1640
19	1750	2990	3850	5530	2110	2320	2180	2000	2000	1860	1760	1310
20	1960	1900	3180	5500	1910	1410	2220	1740	1990	1870	1690	1530
21	1560	2310	3650	5420	2160	1340	2400	1820	1990	1800	1920	1530
22	1720	4240	3080	5460	2120	1500	2360	1980	1990	1840	1430	1780
23	1360	4360	2990	4930	2150	1460	2290	1950	1990	1760	1970	1910
24	1230	1880	1530	4110	2150	1760	2370	2150	2010	1850	1820	1800
25	915	4400	1260	3110	1430	2040	2380	2190	2000	1850	1720	1730
26	963	3920	2960	3000	1570	1760	2360	1970	2000	2010	1660	1690
27	912	3920	3160	3380	1560	1660	2420	2080	1960	2260	1610	1720
28	859	4900	4710	3250	1710	1790	2370	2090	1960	2070	1530	1540
29	857	5550	5100	4040	1770	2470	2190	1950	1980	2010	1530	1420
30	822	5250	5010	2480	---	1900	2160	1920	1980	2000	1510	1410
31	712	---	5190	2730	---	1920	---	1930	---	1950	1460	---
TOTAL	50275	62389	134980	149180	61330	57140	68280	66730	57250	61070	55060	48070
MEAN	1622	2080	4354	4812	2115	1843	2276	2153	1908	1970	1776	1602
MAX	2920	5550	5380	5940	2520	2470	2960	2780	2050	2280	2290	1910
MIN	712	671	1260	2480	1430	1340	1640	1440	1650	1760	1230	1140
AC-FT	99720	123700	267700	295900	121600	113300	135400	132400	113600	121100	109200	95350
CAL YR 1983	TOTAL	1171573	MEAN	3210	MAX	6060	MIN	0	AC-FT	2324000		
WTR YR 1984	TOTAL	871754	MEAN	2382	MAX	5940	MIN	671	AC-FT	1729000		

## SAN JOAQUIN RIVER BASIN

11299600 BLACK CREEK NEAR COPPEROPOLIS, CA

LOCATION.--Lat 37°57'40", long 120°36'51", in SE 1/4 SE 1/4, sec.2, T.1 N., R.12 E., Calaveras County, Hydrologic Unit 18040010, on left bank 100 ft upstream from O'Byrnes Ferry Road bridge, 1,300 ft upstream from Copper Creek, and 2.1 mi southeast of Copperopolis.

DRAINAGE AREA.--14.4 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 746.13 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,290 ft<sup>3</sup>/s Nov. 24, 1983, gage height, 6.34 ft, from rating curve extended above 240 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; no flow at times each year.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1145	1,450	5.17	Feb. 15	2115	132	3.26
Nov. 24	1330	*2,290	6.34	Feb. 21	0645	333	3.67
Dec. 9	1845	260	3.54	Mar. 14	0015	75	3.02
Dec. 24	1130	1,350	5.04	Mar. 23	1315	75	3.02

Minimum, no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	1.2	10	30	6.5	11	7.3	2.3	.14			
2	.42	.80	9.4	25	6.2	11	6.9	2.4	.13			
3	.26	.68	17	22	6.1	10	6.6	2.3	.13			
4	.26	.58	14	20	5.9	9.3	6.3	2.1	.30			
5	.22	.49	11	18	5.6	8.8	5.9	1.9	.49			
6	.16	.42	10	16	5.4	8.4	5.6	2.0	.35			
7	.16	.35	9.6	15	5.4	8.1	5.3	1.8	.35			
8	.13	.32	9.2	14	5.3	7.8	5.0	1.7	.28			
9	.16	.37	65	13	7.2	7.4	4.8	1.5	.22			
10	.13	2.8	56	12	7.6	7.1	6.6	1.3	.18			
11	.13	23	54	11	6.0	7.0	4.4	1.3	.14			
12	.13	4.8	37	11	6.2	6.9	4.0	1.2	.14			
13	.13	25	27	11	13	9.5	3.9	1.0	.14			
14	.13	10	21	10	14	20	3.7	.97	.14			
15	.13	4.7	18	9.7	43	9.6	3.5	1.0	.13			
16	.13	9.7	16	15	65	11	3.4	1.0	.11			
17	.13	354	15	11	31	11	3.3	.93	.09			
18	.13	48	13	10	21	11	3.8	.85	.08			
19	.16	123	12	9.6	17	12	4.9	.75	.06			
20	.13	221	11	9.2	15	12	3.7	.67	.07			
21	.13	48	10	8.9	120	13	3.3	.62	.07			
22	.11	23	16	8.6	43	11	3.1	.53	.06			
23	.13	29	29	8.5	30	27	3.0	.45	.05			
24	.13	479	367	8.2	24	17	2.7	.39	.04			
25	.13	83	430	7.8	19	13	2.5	.39	.03			
26	.11	35	139	7.6	17	12	2.5	.35	.02			
27	.13	22	204	7.2	15	10	2.5	.32	.01			
28	.13	17	75	7.1	13	9.3	2.5	.28	0			
29	.11	14	48	6.9	12	8.7	2.3	.21	0			
30	.22	12	50	6.7	---	8.2	2.2	.17	0			
31	.68	---	37	6.5	---	7.8	---	.15	---			
TOTAL	5.66	1593.21	1840.2	376.5	585.4	335.9	125.5	32.83	3.95	0	0	0
MEAN	.18	53.1	59.4	12.1	20.2	10.8	4.18	1.06	.13	0	0	0
MAX	.68	479	430	30	120	27	7.3	2.4	.49	0	0	0
MIN	.11	.32	9.2	6.5	5.3	6.9	2.2	.15	0	0	0	0
AC-FT	11	3160	3650	747	1160	666	249	65	7.8	0	0	0

WTR YR 1984 TOTAL 4899.15 MEAN 13.4 MAX 479 MIN 0 AC-FT 9720



## 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 upstream from Goodwin Dam, and 5.3 mi northeast of Knights Ferry.

DRAINAGE AREA.--980 mi<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 between elevations 431.0 ft normal minimum water surface, and 511.0 ft top of radial gates. Dead storage, 11,560 acre-ft. 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 Jan. 7, 1965, elevation, 512.0 ft; minimum, 4,580 acre-ft Oct. 3, 1960, elevation, 404.0 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 66,500 acre-ft Oct. 3, 4, elevation, 509.6 ft; minimum, 57,500 acre-ft Nov. 21, elevation, 502.0 ft.

## 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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66300	61500	59800	58800	59000	58600	60200	63500	65600	64900	65400	64900
2	66100	60900	59800	58600	58700	58600	60700	63000	65500	65400	65400	64900
3	66500	60700	59900	59200	59100	58500	60900	62700	65500	66100	65400	64900
4	66500	60300	59900	59400	59000	58400	61000	62400	65000	66300	65600	65000
5	65800	60000	60300	59100	58500	58400	60900	62400	64500	66200	65700	65100
6	64700	60000	59800	59500	58600	58600	60400	62600	64200	66000	65800	65100
7	66200	60000	59400	59600	58800	58600	59900	63200	64100	65700	66100	65400
8	65700	59900	59200	59900	59100	58700	59400	64100	64000	65500	66300	65500
9	63200	59900	59400	60000	59300	59000	60100	65000	64100	65200	66000	65600
10	63300	60100	58800	60000	59200	58800	60600	65500	64100	65100	65700	65200
11	63300	60400	59300	59200	59100	58600	60400	65500	64100	65200	65700	65100
12	63000	60600	59200	60200	58700	58600	61700	65400	64100	65600	64600	65600
13	62700	60800	58800	60400	58800	59300	62800	65000	64400	65800	65500	66100
14	62400	60800	58700	60300	59100	59400	63600	65400	64400	65700	65200	65800
15	62900	60200	59100	59800	59300	60200	64100	65400	64400	65600	65200	65700
16	63000	59300	59500	59600	59800	60800	64400	65700	64200	65600	65600	65400
17	62900	59500	59200	59600	59800	60800	64500	65100	64200	66000	65600	65400
18	62400	58200	59100	59600	59600	60700	64100	65500	64100	65700	65600	65500
19	62100	59000	59100	60000	59400	62100	64000	65500	64200	65600	65600	64700
20	62300	58600	58500	60100	59100	62300	64100	64900	64400	65600	65400	64600
21	62100	57500	59100	60100	59900	62100	64200	64500	64500	65400	65700	64400
22	62600	59100	59000	60200	59800	61600	64200	64200	64700	65100	65000	64500
23	62800	59500	58800	60100	59600	60800	64200	64200	64700	64700	65600	65100
24	63000	58500	58600	60600	60000	60400	64200	64500	65000	64500	66000	65400
25	63000	59000	58200	60100	59400	60700	64100	65000	65200	64200	66100	65500
26	62900	59500	59000	59500	59100	60300	64100	64900	65200	64400	66100	65600
27	62800	59800	59600	59400	58800	59900	64100	65000	65100	65000	66100	66000
28	62600	59800	59200	59300	58700	59600	64200	65200	65000	65200	66000	66100
29	62300	59800	59200	59500	58700	60300	64200	65400	64900	65200	65700	65700
30	62200	59800	59200	59500	---	60100	64100	65400	64400	65500	65500	65500
31	62000	---	59300	59300	---	60200	---	65500	---	65400	65200	---
MAX	66500	61500	60300	60600	60000	62300	64500	65700	65600	66300	66300	66100
MIN	62000	57500	58200	58600	58500	58400	59400	62400	64000	64200	64600	64400
a	505.9	504.0	503.6	503.6	503.1	504.4	507.7	508.8	507.9	508.7	508.6	508.8
b	-4300	-2200	-500	0	-600	+1500	+3900	+1400	-1100	+1000	-200	+300

CAL YR 1983 b 0

WTR YR 1984 b -800

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

b Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

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 northeast of Knights Ferry.

DRAINAGE AREA.--980 mi<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, 12.5°C Aug. 31 to Sept. 30; minimum recorded, 9.0°C on many days January through March.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11299997 STANISLAUS RIVER BELOW TULLOCH POWERPLANT, NEAR KNIGHTS FERRY, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## SAN JOAQUIN RIVER BASIN

11300500 SOUTH SAN JOAQUIN CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'16", long 120°38'14", in Rancheria Del Rio Estanislao Grant, Calaveras County, Hydrologic Unit 18040010, on left bank 0.8 mi downstream from headgate at Goodwin Dam, and 3.0 mi 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 National Geodetic Vertical Datum of 1929 (levels by Oakdale Irrigation District). Prior to Mar. 12, 1915, nonrecording gage 100 ft downstream. Mar. 12, 1915, to July 1, 1921, nonrecording gage at present site and datum.

REMARKS.--Records good. Canal diverts from right bank of Stanislaus River at Goodwin Dam for irrigation in Oakdale and South San Joaquin Irrigation Districts. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--70 years, 439 ft<sup>3</sup>/s, 318,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,320 ft<sup>3</sup>/s Aug. 10-17, 1978; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	430	447	0		0	357	1110	1020	1040	1190	1220	838
2	432	510	0		0	360	1120	1050	1040	1200	1210	839
3	433	516	.05		0	430	1140	1090	1040	1200	1210	839
4	433	515	0		0	504	1140	1120	1100	1200	1200	840
5	448	506	0		0	314	1140	1120	1130	1200	1200	840
6	493	488	0		0	217	1150	1120	1130	1200	1190	840
7	477	487	0		0	559	1160	1120	1130	1200	1190	840
8	465	463	0		0	617	1160	1120	1130	1200	1190	840
9	465	443	.04		0	620	1170	1120	1130	1200	1190	632
10	465	443	.18		0	624	1170	1110	1120	1200	1190	602
11	464	416	.18		0	626	1180	1120	1120	1200	1190	843
12	465	396	.16		0	629	1180	1110	1130	1200	1190	843
13	467	395	.04		710	630	1180	1110	1150	1200	1190	844
14	459	395	0		830	628	1180	1070	1180	1200	1180	856
15	275	395	0		830	578	1170	1020	1190	1200	1070	848
16	273	173	0		830	527	1170	1020	1210	1200	1010	848
17	299	8.3	0		830	528	1160	1020	1210	1200	1010	850
18	386	4.6	0		829	529	1160	1020	1210	1200	1010	849
19	424	2.3	0		834	758	1160	1020	1200	1200	1010	849
20	447	2.9	0		838	868	1170	1020	1210	1200	946	849
21	487	2.7	0		839	861	1190	1020	1210	1200	886	850
22	524	2.2	0		838	844	1190	1100	1200	1200	854	850
23	525	1.1	0		838	797	1220	1200	1200	1200	835	851
24	523	1.7	1.6		598	595	1220	1200	1200	1200	835	851
25	521	2.6	3.0		354	596	1220	1170	1210	1210	835	851
26	518	.42	2.9		354	596	1210	1170	1210	1210	835	820
27	515	.10	2.6		354	648	1210	1170	1210	1210	835	792
28	514	.03	1.7		354	872	1110	1170	1200	1210	836	792
29	510	0	.93		356	1060	1030	1170	1200	1210	837	792
30	451	0	.22		---	1130	1020	1170	1200	1210	837	784
31	418	---	.05		---	1130	---	1100	---	1220	838	---
TOTAL	14006	7016.95	13.65	0	11416	20032	34790	34160	34840	37270	32059	24662
MEAN	452	234	.44	0	394	646	1160	1102	1161	1202	1034	822
MAX	525	516	3.0	0	839	1130	1220	1200	1210	1220	1220	856
MIN	273	0	0	0	0	217	1020	1020	1040	1190	835	602
AC-FT	27780	13920	27	0	22640	39730	69010	67760	69110	73930	63590	48920
CAL YR 1983	TOTAL	226842.68	MEAN	621	MAX	1250	MIN	0	AC-FT	449900		
WTR YR 1984	TOTAL	250265.60	MEAN	684	MAX	1220	MIN	0	AC-FT	496400		

11300600 SOUTH SAN JOAQUIN CANAL BELOW DIVISION POINT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°49'54", long 120°40'24", in Rancheria del Rio Estanislao Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank 600 ft downstream from division point and 0.85 mi north of Knights Ferry.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 325 ft, from topographic map.

REMARKS.--Records good. Canal diverts 600 ft upstream from South San Joaquin Canal (station 11300500) for irrigation in South San Joaquin Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 890 ft<sup>3</sup>/s Apr. 19, 1983; no flow for many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	459	0	0	0	357	818	623	660	807	819	487
2	253	510	0	0	0	358	814	655	661	806	819	487
3	253	510	0	0	0	420	815	697	661	805	828	487
4	253	510	0	0	0	493	815	724	721	805	836	488
5	254	508	0	0	0	314	811	725	749	805	836	489
6	253	507	0	0	0	184	807	726	748	805	838	489
7	227	508	0	0	0	536	803	727	747	804	826	489
8	205	485	0	0	0	592	799	727	746	803	825	489
9	201	467	.13	0	.05	590	802	728	745	803	825	273
10	198	469	0	0	0	589	804	728	745	803	826	225
11	197	450	0	0	0	588	801	730	744	804	826	489
12	197	421	0	0	0	586	803	730	744	806	826	489
13	201	422	0	0	678	587	801	731	764	803	827	488
14	207	422	0	0	829	585	798	682	795	803	827	488
15	248	424	0	0	830	539	809	638	808	804	716	491
16	248	194	0	.07	831	488	814	637	819	805	648	491
17	275	17	0	0	829	489	810	638	819	805	649	491
18	387	7.2	0	0	828	490	809	637	821	804	649	491
19	423	0	0	0	834	714	807	638	823	805	649	491
20	446	12	0	0	841	839	810	638	822	805	590	491
21	481	0	0	0	848	842	814	639	819	806	542	491
22	517	0	0	0	842	834	814	721	816	807	520	491
23	516	1.4	0	0	838	797	806	821	816	806	498	491
24	513	20	7.8	0	609	586	805	829	815	807	498	492
25	512	6.8	5.7	0	360	591	805	807	816	814	499	491
26	512	4.6	0	0	358	594	803	805	816	815	499	460
27	512	3.9	0	0	358	591	802	802	820	818	499	429
28	512	1.2	0	0	358	654	704	800	814	817	499	429
29	512	0	0	0	358	815	621	799	809	818	500	430
30	460	0	0	0	---	814	622	798	808	818	500	425
31	430	---	0	0	---	814	---	731	---	819	493	---
TOTAL	10656	7340.1	13.63	0.07	11429.05	18270	23746	22311	23291	25035	21032	13932
MEAN	344	245	.44	.002	394	589	792	720	776	808	678	464
MAX	517	510	7.8	.07	848	842	818	829	823	819	838	492
MIN	197	0	0	0	0	184	621	623	660	803	493	225
AC-FT	21140	14560	27	.1	22670	36240	47100	44250	46200	49660	41720	27630
CAL YR 1983	TOTAL	167555.11	MEAN	459	MAX	890	MIN	0	AC-FT	332300		
WTR YR 1984	TOTAL	177055.85	MEAN	484	MAX	848	MIN	0	AC-FT	351200		

## SAN JOAQUIN RIVER BASIN

11300700 SOUTH SAN JOAQUIN CANAL BELOW WOODWARD RESERVOIR, NEAR OAKDALE, CA

LOCATION.--Lat 37°51'38", long 120°52'45", in Eight Square Leagues On Stanislaus River Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank 500 ft downstream from Woodward Reservoir, and 7.0 mi north of Oakdale.

PERIOD OF RECORD.--July 1982 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 175 ft, from topographic map.

REMARKS.--Records good. Canal diverts from right bank of Stanislaus River 500 ft downstream from Woodward Reservoir for irrigation in South San Joaquin Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 934 ft<sup>3</sup>/s July 15, 1984; no flow at times each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	309	412	396	3.3	0	195	644	632	655	705	729	569
2	309	412	392	2.0	0	365	685	664	763	724	804	568
3	344	415	390	1.4	0	364	798	683	728	818	833	602
4	361	416	382	.97	0	334	811	722	660	850	907	602
5	385	416	378	.05	0	312	729	667	656	879	893	594
6	451	416	396	.13	0	331	630	601	616	915	776	584
7	459	416	418	0	0	422	585	600	610	907	780	548
8	458	415	412	0	0	442	574	600	613	864	778	544
9	457	416	406	.16	0	448	538	601	614	866	754	505
10	458	418	399	0	0	444	519	646	617	841	574	501
11	456	417	391	0	0	447	517	655	621	766	645	516
12	456	416	381	0	0	450	516	641	739	804	723	517
13	404	417	411	0	0	458	559	539	799	817	766	517
14	360	179	435	0	0	448	620	573	789	864	770	516
15	335	1.9	429	0	0	449	553	578	790	934	767	516
16	311	1.5	421	0	0	491	516	616	797	930	719	518
17	363	85	428	0	0	570	523	556	696	911	643	521
18	414	173	420	0	0	612	525	593	739	702	544	492
19	416	182	360	0	0	611	528	616	760	635	545	516
20	416	183	157	0	0	634	493	616	759	698	546	515
21	416	263	21	0	129	697	430	702	656	753	500	515
22	416	383	28	0	191	762	489	732	689	786	505	518
23	417	353	66	0	109	738	524	749	778	793	604	520
24	418	353	157	0	110	703	566	757	795	815	547	522
25	418	350	217	0	111	695	575	756	788	824	544	500
26	418	347	116	0	111	727	361	744	796	820	537	479
27	418	345	82	0	111	647	397	684	794	818	492	466
28	418	371	38	0	111	695	551	671	792	744	557	462
29	394	403	17	0	114	718	576	681	767	691	580	462
30	313	400	28	0	---	649	620	594	738	644	587	467
31	343	---	19	0	---	628	---	588	---	644	549	---
TOTAL	12311	9775.4	8591	8.01	1097	16486	16952	20057	21614	24762	20498	15672
MEAN	397	326	277	.26	37.8	532	565	647	720	799	661	522
MAX	459	418	435	3.3	191	762	811	757	799	934	907	602
MIN	309	1.5	17	0	0	195	361	539	610	635	492	462
AC-FT	24420	19390	17040	16	2180	32700	33620	39780	42870	49120	40660	31090
CAL YR 1983	TOTAL	153341.64	MEAN	420	MAX	845	MIN	0	AC-FT	304200		
WTR YR 1984	TOTAL	167823.41	MEAN	459	MAX	934	MIN	0	AC-FT	332900		

## 11300800 NORTH MAIN CANAL BELOW DIVISION POINT, NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°50'01", long 120°40'21", in Rancheria del Rio Estanislao Grant, Stanislaus County, Hydrologic Unit 18040002, on left bank at Parshall flume, 600 ft downstream from division point and 1.0 mi north of Knights Ferry.

PERIOD OF RECORD.--October 1982 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 310 ft, from topographic map.

REMARKS.--Records good. Canal diverts 600 ft upstream from South San Joaquin Canal (station 11300500) for irrigation in Oakdale Irrigation District. See schematic diagram of Stanislaus River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 410 ft<sup>3</sup>/s June 18, 19, 1984; no flow for many days from October through April 1983.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	.12	.15	1.1	.38	1.5	300	395	404	398	390	360
2	174	.15	.14	.96	.33	1.2	319	397	402	397	388	360
3	173	.13	1.1	.62	.29	.86	334	403	402	397	384	360
4	173	.15	.29	.95	.30	.04	334	404	405	396	381	360
5	187	1.2	.15	1.0	.17	7.0	334	404	406	396	379	360
6	234	1.8	.11	1.0	.13	14	346	405	403	398	363	363
7	245	1.7	.09	1.0	.15	.02	359	405	402	399	358	363
8	258	1.3	.09	.88	.17	.02	358	405	402	399	358	364
9	257	1.0	1.9	.62	.23	.02	359	404	402	399	356	360
10	252	.84	1.9	.62	.13	.02	359	404	403	399	356	360
11	250	.62	2.7	.62	.05	.02	360	405	405	399	358	361
12	253	.49	1.5	.78	.03	.02	359	405	405	397	363	360
13	257	.39	.76	.79	.45	.04	359	406	404	400	364	363
14	249	.39	.47	.75	.03	.02	361	405	402	401	364	369
15	.09	.39	.39	.65	.05	.02	346	403	404	401	364	363
16	.06	.29	.30	1.1	.03	.03	334	404	406	401	363	363
17	.05	5.4	.24	.65	.03	.02	334	405	406	403	363	366
18	.09	.01	.24	.43	.03	.02	334	404	410	403	366	366
19	.09	.02	.21	.39	.03	.08	334	404	410	403	366	358
20	.09	.50	.15	.27	.03	.22	342	404	409	403	360	347
21	.09	.01	.15	.24	.43	.41	355	404	405	402	350	350
22	.09	1.8	.97	.24	.03	.13	355	403	400	400	340	350
23	.09	1.2	1.9	.24	.04	.11	393	402	400	400	344	350
24	.09	1.2	9.4	.24	.04	.04	399	401	401	399	344	347
25	.09	.06	11	.24	.02	.05	399	398	403	398	348	347
26	.14	.03	3.9	.24	.03	.05	398	397	403	396	348	345
27	.10	.02	3.0	.24	.03	49	398	399	403	395	348	342
28	.09	.62	1.7	.24	.03	210	398	399	402	394	348	340
29	.13	.20	1.2	.24	.03	255	397	402	401	394	350	340
30	.15	.17	2.1	.24	---	320	394	402	401	391	350	338
31	.15	---	1.4	.31	---	324	---	401	---	392	355	---
TOTAL	3136.68	22.20	49.60	17.89	3.72	1183.96	10751	12479	12111	12350	11169	10675
MEAN	101	.74	1.60	.58	.13	38.2	358	403	404	398	360	356
MAX	258	5.4	11	1.1	.45	324	399	406	410	403	390	369
MIN	.05	.01	.09	.24	.02	.02	300	395	400	391	340	338
AC-FT	6220	44	98	35	7.4	2350	21320	24750	24020	24500	22150	21170
CAL YR 1983	TOTAL	58827.90	MEAN	161	MAX	400	MIN	0	AC-FT	116700		
WTR YR 1984	TOTAL	73949.05	MEAN	202	MAX	410	MIN	.01	AC-FT	146700		

## SAN JOAQUIN RIVER BASIN

11301000 OAKDALE CANAL NEAR KNIGHTS FERRY, CA

LOCATION.--Lat 37°51'32", long 120°37'56", in SW 1/4 SE 1/4 sec.10, T.1 S., R.12 E., Tuolumne County, Hydrologic Unit 18040010, on left bank 0.3 mi downstream from headgate at Goodwin Dam, and 3.4 mi 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, from topographic map. Prior to Apr. 29, 1916, non-recording gage at site 1,000 ft 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 higher.

REMARKS.--Records good. Canal diverts water from left bank of Stanislaus River at Goodwin Dam 0.3 mi upstream for irrigation in Oakdale Irrigation District. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--70 years, 169 ft<sup>3</sup>/s, 122,400 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 556 ft<sup>3</sup>/s July 8-11, 1967; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	148	4.2	0		0	0	460	496	517	521	521	466
2	148	4.2	0		0	0	461	501	520	521	521	467
3	148	4.2	.02		0	0	460	501	521	521	520	467
4	147	4.2	0		0	0	460	501	519	521	520	467
5	173	4.2	0		0	0	461	502	519	521	520	467
6	251	4.2	0		0	0	461	502	506	521	520	467
7	251	4.2	0		0	0	462	493	505	521	520	467
8	251	4.2	0		0	0	463	502	512	522	520	467
9	251	4.2	.07		0	0	454	509	512	522	520	467
10	251	4.3	.23		0	0	443	509	514	522	520	467
11	251	4.4	.30		0	0	440	509	519	522	520	467
12	251	4.2	.16		0	0	449	509	519	522	520	467
13	251	4.3	.08		0	.01	454	517	520	522	520	467
14	242	1.9	.04		0	0	463	519	520	522	520	504
15	.01	0	0		.10	0	469	519	520	522	521	519
16	0	.01	0		.39	0	476	518	520	522	522	519
17	0	.45	0		.39	0	481	502	520	521	522	519
18	3.9	.05	0		.28	0	468	499	520	521	508	519
19	9.0	.04	0		.23	0	447	504	520	521	500	519
20	9.0	.50	0		.17	0	446	495	519	521	502	519
21	9.0	.11	0		.39	0	446	475	519	521	503	519
22	9.0	0	0		.15	0	448	470	519	521	503	519
23	9.0	0	0		.11	0	469	472	519	521	491	507
24	6.3	.48	.40		.05	0	487	498	519	520	485	499
25	4.6	.19	.53		0	0	487	500	519	521	485	499
26	4.6	.04	.24		0	0	487	500	519	520	485	499
27	4.6	0	.16		0	38	487	500	521	521	475	499
28	4.6	0	.06		0	209	487	500	522	521	466	499
29	4.4	0	0		0	294	487	499	521	521	466	499
30	4.2	0	.08		---	369	487	499	521	521	466	499
31	4.2	---	.06		---	441	---	499	---	521	466	---
TOTAL	3100.41	58.77	2.43	0	2.26	1351.01	13950	15519	15541	16158	15648	14726
MEAN	100	1.96	.078	0	.078	43.6	465	501	518	521	505	491
MAX	251	4.4	.53	0	.39	441	487	519	522	522	522	519
MIN	0	0	0	0	0	0	440	470	505	520	466	466
AC-FT	6150	117	4.8	0	4.5	2680	27670	30780	30830	32050	31040	29210
CAL YR 1983	TOTAL	72200.10	MEAN	198	MAX	529	MIN	0	AC-FT	143200		
WTR YR 1984	TOTAL	96056.88	MEAN	262	MAX	522	MIN	0	AC-FT	190500		



## 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 upstream from Owl Creek, 0.9 mi downstream from Goodwin Dam, and 2.9 mi northeast of Knights Ferry.

DRAINAGE AREA.--986 mi<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 National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated by New Melones Reservoir (station 11299000) since 1978 and Tulloch Reservoir (station 11299955). South San Joaquin Canal (station 11300500) and Oakdale Canal (station 11301000) divert at Goodwin Dam 1.0 mi upstream. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--27 years, 813 ft<sup>3</sup>/s, 589,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 28.85 ft in gage well, 31.2 ft outside, from floodmarks; minimum daily, 0.12 ft<sup>3</sup>/s Feb. 8, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 37.7 ft, from floodmarks, discharge, 62,900 ft<sup>3</sup>/s, by computation of flow over Goodwin Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,550 ft<sup>3</sup>/s Jan. 14, gage height, 14.03 ft; minimum daily, 127 ft<sup>3</sup>/s Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1580	483	5290	5280	2440	1330	184	666	215	244	205	332
2	1580	489	5290	5300	2300	1330	221	675	204	247	209	331
3	1560	488	5320	5330	2300	1270	156	674	197	255	186	350
4	1550	487	5340	5160	2300	1190	156	678	245	259	171	341
5	1610	485	5050	5300	2290	1380	158	672	199	260	171	342
6	1700	483	5180	5290	2240	1500	147	674	185	258	155	343
7	1610	485	5260	5310	2140	1140	129	688	191	256	157	344
8	1550	482	5240	5320	2140	1080	127	694	184	253	159	345
9	1530	497	5250	5350	2150	1080	130	651	183	252	159	351
10	1510	510	5240	5350	2150	1080	440	611	182	248	157	347
11	1520	495	5240	5310	2150	1080	648	626	175	248	156	336
12	1520	468	5250	5350	2140	1080	676	638	176	251	154	335
13	1520	470	5230	5380	1420	1090	719	626	205	254	149	339
14	1520	470	5190	5350	1290	1090	726	619	191	255	153	349
15	1580	701	5190	5340	1300	1140	734	620	183	254	197	355
16	1580	1180	4880	5260	1300	1210	684	613	189	253	231	353
17	1570	2060	3890	5320	1300	1210	650	562	187	223	232	353
18	1550	3090	3810	5290	1300	1210	686	471	167	199	245	353
19	1560	3200	3810	5330	1290	687	649	472	150	198	255	353
20	1440	3400	3460	5340	1280	457	654	465	136	199	320	336
21	1220	3290	3270	5340	1300	498	677	465	128	199	389	327
22	968	3700	3160	5350	1300	777	670	433	131	197	420	325
23	766	4350	3170	4980	1300	924	648	332	135	196	390	342
24	580	4450	3200	3990	1320	1130	648	302	136	194	345	352
25	492	4680	3200	3350	1340	1130	665	271	138	205	346	353
26	482	5280	3160	3320	1330	1140	623	264	138	188	347	350
27	481	5300	3690	3300	1330	1070	654	264	232	208	344	340
28	481	5310	4760	3330	1330	684	656	265	264	212	337	342
29	482	5300	5340	3310	1330	413	642	258	253	210	336	341
30	484	5300	5320	3240	---	317	642	212	247	208	335	340
31	479	---	5330	2820	---	188	---	196	---	205	335	---
TOTAL	38055	67383	142010	148590	49100	30905	15199	15657	5546	7088	7745	10300
MEAN	1228	2246	4581	4793	1693	997	507	505	185	229	250	343
MAX	1700	5310	5340	5380	2440	1500	734	694	264	260	420	355
MIN	479	468	3160	2820	1280	188	127	196	128	188	149	325
AC-FT	75480	133700	281700	294700	97390	61300	30150	31060	11000	14060	15360	20430
CAL YR 1983	TOTAL	991307	MEAN	2716	MAX	5340	MIN	123	AC-FT	1966000		
WTR YR 1984	TOTAL	537578	MEAN	1469	MAX	5380	MIN	127	AC-FT	1066000		

## SAN JOAQUIN RIVER BASIN

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 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, 14.0°C on many days during July and August; minimum recorded, 9.5°C on many days during January and February.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

11302000 STANISLAUS RIVER BELOW GOODWIN DAM, NEAR KNIGHTS FERRY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.5	10.5	10.5	12.5	11.5	13.0	12.0	14.0	13.0	13.5	13.0
2	11.5	10.5	11.0	10.5	12.5	11.5	13.0	12.0	13.5	12.5	13.5	13.0
3	11.5	10.5	11.5	10.5	12.5	11.5	13.0	12.0	14.0	13.0	13.5	13.0
4	11.0	10.5	11.5	10.5	12.0	11.5	13.0	12.0	14.0	13.0	13.5	13.0
5	11.0	10.5	11.5	10.5	13.0	11.5	13.0	12.0	14.0	13.0	13.5	13.0
6	11.5	10.5	11.5	10.5	12.0	11.5	13.0	12.0	14.0	13.0	13.5	13.0
7	11.5	10.5	11.5	10.5	12.5	11.5	12.5	12.0	14.0	13.0	13.5	13.0
8	11.0	10.5	11.5	10.5	12.5	11.5	13.0	12.0	14.0	13.0	13.5	13.0
9	11.0	10.0	12.5	10.5	12.5	11.5	13.0	12.0	14.0	13.0	13.5	13.0
10	12.5	10.5	11.5	10.5	13.0	11.5	13.0	12.0	14.0	13.0	13.5	13.0
11	12.5	11.0	11.5	10.5	13.0	11.5	13.0	12.0	14.0	13.0	13.5	13.0
12	12.0	11.0	11.5	10.5	13.0	11.5	13.0	12.0	13.5	13.0	13.5	13.0
13	12.0	11.0	11.5	10.5	13.0	11.5	13.0	12.0	13.5	13.0	13.5	13.0
14	12.0	11.0	11.5	10.5	13.0	12.0	13.0	12.5	14.0	12.5	13.5	13.0
15	11.5	11.0	11.5	10.5	13.0	12.0	13.0	12.5	13.5	13.0	13.5	13.0
16	12.0	11.0	11.5	10.5	13.0	12.0	13.0	12.5	13.5	12.5	13.5	13.0
17	11.5	10.5	11.5	10.5	13.0	12.0	13.5	12.5	13.5	13.0	14.0	13.0
18	11.0	10.5	11.5	10.5	13.0	12.0	13.5	12.5	13.5	12.5	13.5	13.0
19	11.0	10.5	11.5	11.0	13.0	12.0	13.5	12.5	13.5	12.5	14.0	13.0
20	11.5	10.5	11.5	10.5	13.0	11.5	13.5	12.5	13.5	12.5	13.5	13.0
21	11.5	10.5	12.0	11.0	13.0	11.5	13.5	12.5	13.5	12.5	13.5	13.0
22	11.5	10.5	12.0	11.0	13.0	11.5	13.0	12.5	13.5	12.5	13.5	13.0
23	11.5	10.5	12.0	11.0	13.0	12.0	13.5	12.5	13.5	12.5	13.5	13.0
24	11.5	10.5	12.0	11.0	13.0	11.5	13.5	12.5	13.5	12.5	13.5	13.0
25	12.0	10.5	12.5	11.0	13.0	11.5	13.5	12.5	13.0	12.5	13.5	13.0
26	11.5	10.5	12.5	11.5	13.0	11.5	14.0	12.5	13.5	12.5	13.5	13.0
27	11.0	10.5	12.5	11.5	13.0	12.0	13.5	12.5	13.5	12.0	13.5	13.0
28	11.5	10.5	12.5	11.5	13.0	12.0	13.5	12.5	13.5	13.0	13.5	13.0
29	11.0	10.0	12.5	11.5	12.5	11.5	14.0	12.5	13.5	13.0	13.5	13.0
30	11.0	10.0	12.5	11.5	13.0	11.5	14.0	13.0	13.5	12.5	13.5	13.0
31	---	---	12.5	11.5	---	---	14.0	13.0	13.5	12.5	---	---
MONTH	12.5	10.0	12.5	10.5	13.0	11.5	14.0	12.0	14.0	12.5	14.0	13.0

## SAN JOAQUIN RIVER BASIN

## 11303000 STANISLAUS RIVER AT RIPON, CA

LOCATION.--Lat 37°43'47", long 121°06'34", in NW 1/4 SE 1/4 sec.29, T.2 S., R.8 E., Stanislaus County, Hydrologic Unit 18040002, on left bank 15 ft downstream from railroad bridge, 1.1 mi southeast of Ripon, and 15 mi upstream from mouth.

DRAINAGE AREA.--1,075 mi<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 National Geodetic Vertical Datum of 1929. October 1940 to Nov. 17, 1953, at site 100 ft upstream at same datum.

REMARKS.--Records good except those for Jan. 10 to Feb. 29, which are fair. 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 upstream. Diversions for irrigation of 57,250 acres in vicinity of Oakdale. See schematic diagram of Stanislaus River basin.

AVERAGE DISCHARGE.--44 years, 1,050 ft<sup>3</sup>/s, 760,700 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,500 ft<sup>3</sup>/s Dec. 24, 1955, gage height, 63.25 ft; minimum daily, 0.11 ft<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 from floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,700 ft<sup>3</sup>/s Dec. 10, 11, 13, gage height, 54.25 ft; minimum daily, 355 ft<sup>3</sup>/s Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2090	1050	5620	5100	2500	1550	710	935	470	491	442	722
2	1990	1080	5630	5060	2250	1650	672	928	468	472	420	730
3	1940	1080	5640	5040	2180	1680	594	969	540	419	398	743
4	1980	1080	5610	5060	2180	1630	567	936	561	426	413	735
5	1960	1070	5630	4990	2150	1510	591	991	547	441	451	693
6	2020	1070	5510	5010	2110	1570	626	1020	586	441	509	685
7	2180	1060	5450	5050	2080	1660	647	1020	530	491	463	723
8	2150	1060	5540	5060	2010	1450	648	986	518	482	392	692
9	2090	1050	5600	5060	2010	1380	647	983	501	496	447	727
10	2050	1060	5660	5080	2020	1370	663	922	513	525	402	704
11	1940	1130	5680	5100	2020	1380	768	922	532	457	355	678
12	1940	1100	5650	5080	2020	1370	954	953	406	476	370	705
13	1980	1060	5680	5060	1460	1340	977	1030	431	487	418	705
14	1960	1060	5680	5060	1470	1380	1010	986	467	489	457	702
15	2030	901	5680	5060	1480	1440	1110	933	531	486	447	724
16	1980	833	5650	5060	1490	1490	1110	907	499	477	448	798
17	1930	1190	5510	5060	1490	1590	1060	904	539	465	531	822
18	1990	2020	4790	5060	1500	1600	988	925	540	457	552	785
19	2000	2830	4370	5060	1500	1600	1070	829	477	385	512	765
20	2010	3010	4210	5060	1500	1190	1130	842	440	390	517	838
21	1940	3460	3890	5060	1500	976	1090	816	414	404	547	821
22	1800	3470	3450	5060	1500	979	1090	759	358	429	654	769
23	1620	3580	3360	5060	1500	1140	1090	705	367	435	675	734
24	1450	4080	3400	4000	1500	1260	984	664	412	438	683	749
25	1310	4740	3950	3500	1500	1370	966	636	416	444	662	815
26	1190	5020	4250	3200	1500	1390	985	656	429	469	706	842
27	1150	5220	3790	3160	1500	1340	869	656	415	472	737	796
28	1130	5400	3700	3140	1520	1260	926	628	454	418	656	818
29	1120	5510	4220	3120	1570	1060	954	578	544	455	698	842
30	1070	5580	4760	3080	---	905	969	510	502	508	701	836
31	1020	---	5060	2820	---	801	---	463	---	471	704	---
TOTAL	55010	71854	152620	142370	51010	42311	26465	25992	14407	14196	16367	22698
MEAN	1775	2395	4923	4593	1759	1365	882	838	480	458	528	757
MAX	2180	5580	5680	5100	2500	1680	1130	1030	586	525	737	842
MIN	1020	833	3360	2820	1460	801	567	463	358	385	355	678
AC-FT	109100	142500	302700	282400	101200	83920	52490	51560	28580	28160	32460	45020
CAL YR 1983	TOTAL	1088263	MEAN	2804	MAX	5680	MIN	100	AC-FT	2159000		
WTR YR 1984	TOTAL	635300	MEAN	1736	MAX	5680	MIN	355	AC-FT	1260000		

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 downstream from Durham Ferry highway bridge, 2.6 mi downstream from Stanislaus River, and 3.2 mi northeast of Vernalis.

DRAINAGE AREA.--13,536 mi<sup>2</sup>, includes about 2,100 mi<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 fair. 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.--56 years (water years 1924, 1930-84), 4,788 ft<sup>3</sup>/s, 3,469,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 79,000 ft<sup>3</sup>/s Dec. 9, 1950, elevation, 32.81 ft present datum, including flow through breaks in levee; maximum elevation, 34.55 ft Jan. 27, 1969; minimum discharge, 19 ft<sup>3</sup>/s Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,000 ft<sup>3</sup>/s Jan. 6, elevation, 27.78 ft; minimum daily, 1,710 ft<sup>3</sup>/s July 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12100	12700	14800	28900	14100	9540	5230	3610	2250	2080	1950	2590
2	12100	12300	15400	31400	13500	9450	5050	3620	2170	2210	1930	2660
3	12100	11100	16000	32400	13100	9490	4950	3520	2290	2040	1910	2670
4	12300	10400	16500	32800	12700	9220	4850	3450	2480	1930	1910	2660
5	12600	10100	17200	32800	12200	8950	4820	3470	2470	1960	1930	2680
6	13100	9330	17900	32800	11800	8850	4790	3540	2530	1970	2030	2710
7	13500	8460	18900	32600	11300	8710	4790	3530	2520	1970	1950	2780
8	14000	8060	20200	32200	11100	8470	4550	3400	2520	1980	1830	2750
9	14300	8010	21300	31900	10900	8270	4510	3370	2430	1930	1830	2680
10	14400	8080	21900	31800	10800	8180	4400	3270	2470	1930	1850	2800
11	14500	8260	22100	31200	10700	8110	4280	3110	2650	1820	1880	2810
12	14500	8420	22100	30100	10600	8100	4170	3120	2570	1770	1970	2830
13	14500	8560	22200	28100	10600	8290	4050	3120	2400	1770	2110	2890
14	14400	8780	22100	26600	10400	7790	3960	3250	2340	1770	2100	2870
15	14400	8650	21800	25700	10100	7610	3990	3190	2380	1940	2010	2820
16	14200	8600	21700	25100	10100	7590	4020	3350	2400	1990	2010	2910
17	13800	8940	21500	24500	10200	7200	4000	3760	2380	1830	2090	3040
18	13500	9510	21100	24100	10200	7160	3870	3950	2480	1800	2210	3030
19	13300	10700	20100	24000	10100	7570	4080	4010	2360	1790	2230	2940
20	13100	11100	18800	23800	9920	7280	4270	4010	2180	1710	2300	2970
21	12900	11400	17300	23400	9850	6750	4320	3860	2110	1710	2240	3040
22	12800	12100	15600	22900	10100	6440	4290	3170	2060	1770	2360	3090
23	12900	12200	14500	22200	10500	6380	4390	2890	2040	1870	2440	3180
24	12900	12400	14100	21400	10200	6270	4200	2770	2040	1870	2490	3220
25	12900	13100	15000	20500	10100	6140	3980	2710	2220	1840	2470	3200
26	12900	14400	17700	19300	9970	6170	3900	2620	2130	1860	2490	3190
27	13000	13600	17500	18100	9770	6300	3780	2680	2050	1850	2750	3140
28	13100	13300	18600	17100	9640	5980	3670	2700	1980	1940	2630	3100
29	13000	13600	20500	16400	9610	5610	3720	2590	1990	2040	2520	3090
30	12900	14100	22800	15600	---	5420	3670	2440	2010	2060	2570	3180
31	12800	---	25700	14900	---	5260	---	2350	---	2020	2570	---
TOTAL	412800	320260	592900	794600	314160	232550	128550	100430	68900	59020	67560	87520
MEAN	13320	10680	19130	25630	10830	7502	4285	3240	2297	1904	2179	2917
MAX	14500	14400	25700	32800	14100	9540	5230	4010	2650	2210	2750	3220
MIN	12100	8010	14100	14900	9610	5260	3670	2350	1980	1710	1830	2590
AC-FT	818800	635200	1176000	1576000	623100	461300	255000	199200	136700	117100	134000	173600
CAL YR 1983	TOTAL	8119290	MEAN	22240	MAX	44700	MIN	8010	AC-FT	16100000		
WTR YR 1984	TOTAL	3179250	MEAN	8686	MAX	32800	MIN	1710	AC-FT	6306000		

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER-QUALITY DATA

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL ANALYSES: Water years 1951 to current year.

BIOLOGICAL DATA: Water years 1974-81.

SPECIFIC CONDUCTANCE: Water years 1951-63, 1973-81.

WATER TEMPERATURES: Water years 1951 to current year.

SEDIMENT RECORDS: Water years 1957 to current year.

TURBIDITY: Water years 1972 to current year.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: March 1951 to May 1963.

SPECIFIC CONDUCTANCE: March 1951 to May 1963, January 1973 to October 1981.

WATER TEMPERATURES: March 1951 to current year.

SEDIMENT RECORDS: November 1956 to current year.

INSTRUMENTATION.--Conductivity recorder January 1973 to October 1981. Temperature recorder October 1961 to September 1963, and since December 1972.

REMARKS.--Mean daily specific conductance records January 1973 to October 1981, furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,350 micromhos Aug. 11, 1961; minimum daily, 60 micromhos June 21, 1953.

WATER TEMPERATURES: Maximum recorded, 30.0°C July 7, 1970, July 30, 1977; minimum recorded, 3.0°C Jan. 24, 1962.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,590 mg/L Dec. 25, 1964; minimum daily mean, 9 mg/L Jan. 4, 1960, Nov. 18, 1961.

SEDIMENT DISCHARGE: Maximum daily, 54,100 tons Dec. 25, 1964; minimum daily, 2 tons Aug. 10, 1961.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.0°C June 25-28; minimum recorded, 8.5°C Jan. 14, 15.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 158 mg/L Aug. 22, 23; minimum daily mean, 30 mg/L Jan. 16, 25.

SEDIMENT DISCHARGE: Maximum daily, 6,210 tons Dec. 26; minimum daily, 425 tons July 22.

## WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DEC , 1983											
01...	1030	14800	220	7.6*	13.0	760	22	9.3	83	280	560
JAN , 1984											
26...	1400	19300	240	7.7	10.8	770	16	10.4	98	97	390
MAR											
15...	1300	7620	400	7.3	13.5	765	12	9.7	93	450	480
JUN											
04...	1400	2500	626	8.3	21.0	760	32	8.1	91	>600	610
JUL											
24...	1130	1920	700	7.4	23.0	765	50	6.6	77	960	1200
SEP											
21...	1045	3040	380	7.4	19.3	755	20	7.5	85	>670	K1400

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)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY FIELD (MG/L CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DEC , 1983											
01...	56	5	13	5.6	20	43	1	2.0	51*	24	18
JAN , 1984											
26...	57	10	13	6.0	25	48	1	1.5	47	34	22
MAR											
15...	1	33	20	10	42	49	2	1.8	59	53	49
JUN											
04...	150	40	31	17	69	50	3	3.1	108	73	78
JUL											
24...	170	36	37	18	75	49	3	3.2	108	86	96
SEP											
21...	100	15	22	11	41	46	2	2.8	86	34	45

See footnotes at end of table.

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## WATER QUALITY DATA

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
DEC , 1983											
01...	<.1	13	125	130	.17	.72	.27	1.0	.15	.07	.06
JAN , 1984											
26...	<.1	12	159	140	.22	<.10	.02	<.20	<.01	<.01	<.01
MAR											
15...	<.1	13	239	220	.33	.98	.12	.60	.18	.07	.05
JUN											
04...	.1	19	354	360	.48	1.4	.13	1.2	.33	.19	.21
JUL											
24...	.2	20	416	410	.57	1.7	.31	1.4	.37	.22	.19
SEP											
21...	.1	18	238	230	.32	1.2	.09	.90	.25	.15	.13

		ALUM- INIUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DATE	TIME									
DEC , 1983										
01...	1030	40	1	30	.5	1	<1	<3	3	49
MAR , 1984										
15...	1300	30	<1	39	<.5	<1	1	<3	<1	52
JUN										
04...	1400	20	3	59	<1	<1	<1	<3	3	33
SEP										
21...	1045	20	2	42	<1	1	<1	<3	2	35

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1983											
01...	1	13	18	.1	<10	1	<1	<1	160	<6	10
MAR , 1984											
15...	<1	8	40	<.1	<10	1	<1	<1	270	<6	8
JUN											
04...	<1	17	16	<.1	<10	<1	<1	<1	—	<6	26
SEP											
21...	1	8	16	<.1	<10	1	<1	<1	260	<6	11

\* Laboratory value.

&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).

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

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	18.5	17.5	17.0	11.0	10.0	11.5	11.5	11.0	11.0	12.5	12.0
2	18.5	18.0	17.0	17.0	11.0	10.5	11.5	11.0	11.0	11.0	13.0	12.5
3	18.5	18.0	17.5	17.0	11.5	11.0	11.0	11.0	11.0	11.0	13.0	12.5
4	19.0	18.5	17.0	17.0	11.0	11.0	11.0	10.5	11.0	11.0	13.0	12.5
5	19.0	18.5	17.0	16.5	11.0	10.5	10.5	10.5	11.5	11.0	13.0	12.5
6	19.5	19.0	17.0	16.5	11.0	10.5	10.5	10.0	11.5	11.5	13.0	12.5
7	19.5	19.0	17.0	16.5	10.5	10.0	10.0	10.0	11.5	11.5	13.0	12.5
8	19.5	19.0	16.5	15.5	11.0	10.5	10.0	10.0	11.5	11.5	13.0	12.5
9	17.5	19.0	15.5	15.0	11.5	11.0	10.0	10.0	12.0	11.5	13.5	12.5
10	19.5	19.0	15.0	14.5	11.5	11.5	10.0	10.0	12.0	11.5	14.0	13.5
11	19.5	19.0	15.0	14.5	11.5	11.5	10.0	9.5	11.5	11.0	14.0	13.5
12	19.5	19.0	15.0	15.0	11.5	11.0	10.0	9.5	11.0	11.0	14.0	13.5
13	19.0	18.5	15.0	14.5	11.5	11.0	9.5	9.0	11.5	11.0	13.5	13.5
14	18.5	18.0	14.5	14.0	12.0	11.5	9.0	8.5	11.5	11.0	13.5	13.5
15	18.5	18.0	14.0	13.5	12.0	12.0	9.0	8.5	11.5	11.0	14.0	13.5
16	18.0	17.5	14.0	13.5	12.0	12.0	9.5	9.0	11.5	11.5	14.0	13.5
17	17.5	17.0	14.5	14.0	12.5	12.0	9.5	9.0	11.5	11.0	14.0	13.0
18	17.5	17.0	14.0	14.0	12.0	12.0	9.0	9.0	11.5	11.0	14.5	13.5
19	17.5	17.0	14.0	13.5	12.0	12.0	9.5	9.0	11.5	11.0	14.5	13.5
20	17.0	17.0	13.5	13.0	12.0	11.5	9.5	9.0	12.0	11.5	15.5	14.5
21	17.0	17.0	13.0	12.0	11.5	10.5	10.0	9.5	12.0	12.0	15.5	15.0
22	17.0	16.5	12.0	11.5	10.5	10.5	10.0	9.5	12.0	11.5	15.0	14.5
23	17.5	17.0	11.5	11.5	10.5	10.0	10.5	10.0	11.5	11.0	15.5	14.5
24	17.5	17.0	11.5	11.5	10.5	10.5	10.5	10.0	11.5	11.5	16.0	15.0
25	17.5	17.0	11.5	11.0	11.5	10.5	11.0	10.5	11.5	11.0	16.0	15.0
26	17.5	17.0	11.0	11.0	12.0	11.5	11.0	10.5	11.5	11.0	16.0	15.0
27	17.0	17.0	11.0	10.5	12.5	12.0	10.5	10.0	12.0	11.0	15.5	14.5
28	17.5	17.0	10.5	10.5	12.0	11.5	10.5	10.0	12.0	11.5	15.5	14.5
29	17.0	17.0	10.5	10.0	12.0	11.5	10.5	10.0	12.0	12.0	15.0	14.5
30	17.0	17.0	10.5	10.0	11.5	11.5	11.0	10.5	---	---	15.0	14.0
31	17.5	17.0	---	---	12.0	11.5	11.0	10.5	---	---	15.0	14.0
MONTH	19.5	16.5	17.5	10.0	12.5	10.0	11.5	8.5	12.0	11.0	16.0	12.0

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



11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

## SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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	12100	44	1440	12700	41	1410	14800	85	3400
2	12100	45	1470	12300	44	1460	15400	77	3200
3	12100	42	1370	11100	52	1560	16000	84	3630
4	12300	45	1490	10400	60	1680	16500	84	3740
5	12600	47	1600	10100	57	1550	17200	80	3720
6	13100	48	1700	9330	57	1440	17900	75	3620
7	13500	49	1790	8460	67	1530	18900	71	3620
8	14000	55	2080	8060	65	1410	20200	68	3710
9	14300	55	2120	8010	63	1360	21300	66	3800
10	14400	50	1940	8080	62	1350	21900	60	3550
11	14500	44	1720	8260	60	1340	22100	49	2920
12	14500	43	1680	8420	79	1800	22100	47	2800
13	14500	41	1610	8560	70	1620	22200	50	3000
14	14400	41	1590	8780	65	1540	22100	48	2860
15	14400	39	1520	8650	69	1610	21800	50	2940
16	14200	37	1420	8600	64	1490	21700	49	2870
17	13800	38	1420	8940	73	1760	21500	43	2500
18	13500	46	1680	9510	87	2230	21100	49	2790
19	13300	47	1690	10700	105	3030	20100	52	2820
20	13100	45	1590	11100	76	2280	18800	52	2640
21	12900	46	1600	11400	70	2150	17300	54	2520
22	12800	45	1560	12100	68	2220	15600	62	2610
23	12900	42	1460	12200	76	2500	14500	58	2270
24	12900	44	1530	12400	78	2610	14100	56	2130
25	12900	45	1570	13100	76	2690	15000	78	3160
26	12900	44	1530	14400	112	4350	17700	130	6210
27	13000	42	1470	13600	80	2340	17500	96	4340
28	13100	45	1590	13300	77	2770	18600	79	3970
29	13000	39	1370	13600	71	2610	20500	70	3870
30	12900	40	1390	14100	73	2780	22800	66	4060
31	12800	45	1560	---	---	---	25700	58	4020
TOTAL	412800	---	49550	320260	---	60470	592900	---	103290
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	28900	61	4760	14100	46	1750	9540	46	1180
2	31400	64	5430	13500	44	1600	9450	46	1170
3	32400	46	4020	13100	47	1660	9490	44	1130
4	32800	44	3900	12700	45	1540	9220	46	1150
5	32800	40	3540	12200	41	1350	8950	48	1160
6	32800	39	3450	11800	45	1430	8850	41	980
7	32600	34	2990	11300	42	1280	8710	44	1030
8	32200	37	3220	11100	41	1230	8470	38	869
9	31900	38	3270	10900	41	1210	8270	38	849
10	31800	35	3010	10800	42	1220	8180	44	972
11	31200	35	2950	10700	43	1240	8110	40	876
12	30100	31	2520	10600	37	1060	8100	35	765
13	28100	32	2430	10600	36	1030	8290	40	895
14	26600	38	2730	10400	40	1120	7790	42	883
15	25700	31	2150	10100	43	1170	7610	42	863
16	25100	30	2030	10100	42	1150	7590	41	840
17	24500	33	2180	10200	41	1130	7200	44	855
18	24100	36	2340	10200	39	1070	7160	55	1060
19	24000	32	2070	10100	40	1090	7570	52	1060
20	23800	32	2060	9920	43	1150	7280	53	1040
21	23400	34	2150	9850	43	1140	6750	47	857
22	22900	35	2160	10100	43	1170	6440	48	835
23	22200	33	1980	10500	54	1530	6380	50	861
24	21400	33	1910	10200	45	1240	6270	54	914
25	20500	30	1660	10100	43	1170	6140	51	845
26	19300	38	1980	9970	40	1080	6170	50	833
27	18100	41	2000	9770	36	950	6300	50	851
28	17100	41	1890	9640	34	885	5980	47	759
29	16400	39	1730	9610	40	1040	5610	57	863
30	15600	42	1770	---	---	---	5420	50	732
31	14900	41	1650	---	---	---	5260	45	639
TOTAL	794600	---	81930	314160	---	35685	232550	---	28616

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

APRIL				MAY				JUNE	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	5230	42	593	3610	65	634	2250	82	498
2	5050	43	586	3620	55	538	2170	85	498
3	4950	50	668	3520	60	570	2290	87	538
4	4850	47	615	3450	57	531	2480	90	603
5	4820	49	638	3470	56	525	2470	100	667
6	4720	51	660	3540	61	583	2530	107	731
7	4790	55	711	3530	58	553	2520	98	667
8	4550	57	700	3400	55	505	2520	109	742
9	4510	56	682	3370	61	555	2430	118	774
10	4400	56	665	3270	63	556	2470	129	860
11	4280	59	682	3110	60	504	2650	124	887
12	4170	65	732	3120	62	522	2570	124	860
13	4050	60	656	3120	64	539	2400	125	810
14	3960	56	599	3250	68	597	2340	128	809
15	3990	62	668	3190	68	586	2380	130	835
16	4020	60	651	3350	83	751	2400	128	829
17	4000	57	616	3760	94	954	2380	126	810
18	3870	57	596	3950	91	971	2480	126	844
19	4080	54	595	4010	95	1030	2360	118	752
20	4270	54	623	4010	84	909	2180	112	659
21	4320	60	700	3860	84	875	2110	115	655
22	4290	62	718	3170	79	676	2060	118	656
23	4390	62	735	2890	80	624	2040	101	556
24	4200	67	760	2770	84	628	2040	99	545
25	3980	67	720	2710	86	629	2220	106	635
26	3900	63	663	2620	82	580	2130	109	627
27	3780	61	623	2680	87	630	2050	103	570
28	3670	63	624	2700	81	590	1980	119	636
29	3720	67	673	2590	75	524	1990	112	602
30	3670	64	634	2440	82	540	2010	109	592
31	---	---	---	2350	84	533	---	---	---
TOTAL	128550	---	19786	100430	---	19742	68900	---	20747
JULY				AUGUST				SEPTEMBER	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2080	108	607	1950	142	748	2590	121	846
2	2210	112	668	1930	121	631	2660	124	891
3	2040	116	639	1910	137	707	2670	124	894
4	1930	111	578	1910	142	732	2660	123	883
5	1960	103	545	1930	134	698	2680	124	897
6	1970	84	447	2030	135	740	2710	123	900
7	1970	83	441	1950	134	706	2780	113	848
8	1980	107	572	1830	144	712	2750	124	921
9	1930	109	568	1830	145	716	2680	127	919
10	1930	95	495	1850	140	699	2800	118	892
11	1820	103	506	1880	142	721	2810	106	804
12	1770	103	492	1970	146	777	2830	103	787
13	1770	103	492	2110	147	837	2890	116	905
14	1770	100	478	2100	129	731	2870	123	953
15	1940	98	513	2010	127	689	2820	117	891
16	1990	99	532	2010	129	700	2910	120	943
17	1830	94	464	2090	146	824	3040	93	763
18	1800	91	442	2210	140	835	3030	96	785
19	1790	103	498	2230	143	861	2940	99	786
20	1710	108	499	2300	146	907	2970	90	722
21	1710	95	439	2240	151	913	3040	85	698
22	1770	89	425	2360	158	1010	3090	103	859
23	1870	91	459	2440	158	1040	3180	113	970
24	1870	88	444	2490	150	1010	3220	93	809
25	1840	92	457	2470	140	934	3200	80	691
26	1860	104	522	2490	148	995	3190	79	680
27	1850	99	495	2750	150	1110	3140	84	712
28	1940	123	644	2630	134	952	3100	79	661
29	2040	127	700	2520	126	857	3090	82	684
30	2060	119	662	2570	131	909	3180	92	790
31	2020	126	687	2570	126	874	---	---	---
TOTAL	59020	---	16410	67560	---	25575	87520	---	24784
YEAR	3179250		486585						

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT  
WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	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
DEC 01...	1030	14800	10.0	86	3440	58
JAN 26...	1400	19400	11.0	41	2150	91
MAR 15...	1300	7620	13.5	40	823	82
JUN 04...	1400	2500	22.0	88	594	98
JUL 24...	1130	1940	23.0	89	466	98
AUG 10...	1200	1860	25.5	115	578	97

DATE	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
DEC 01...	66	78	98	100
JAN 26...	96	99	100	--
MAR 15...	91	98	100	--
JUN 04...	98	100	--	--
JUL 24...	98	99	100	--
AUG 10...	98	100	--	--

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	TUR- BID- ITY (NTU)
OCT					
01...	0930	12200	18.5	47	12
02...	1040	12100	18.0	48	10
03...	1625	12100	18.5	43	9
04...	1635	12300	19.0	49	11
05...	1605	12700	19.0	51	11
06...	0720	13000	19.0	51	12
07...	0720	13400	19.0	49	11
08...	1035	14000	19.5	58	12
09...	0955	14300	19.0	59	11
10...	1615	14500	19.5	51	11
11...	1710	14500	19.5	45	9
12...	1630	14500	19.5	46	9
13...	1800	14500	19.0	43	11
14...	1625	14500	18.5	44	12
15...	0830	14400	18.0	42	9
16...	0815	14200	17.5	39	10
17...	1645	13800	17.5	42	9
18...	1635	13500	17.5	51	11
19...	1700	13200	17.5	48	13
20...	0720	13100	17.0	48	11
21...	1425	12900	17.0	49	10
22...	1035	12800	16.5	48	11
23...	1210	12800	17.0	44	11
24...	1125	12900	17.0	47	11
25...	0720	12900	17.0	48	12
26...	1710	12900	17.0	47	10
27...	1630	13000	17.0	44	10
28...	1540	13100	17.0	50	11
29...	1000	13000	17.0	41	10
30...	1030	12900	17.0	42	10
31...	0710	12800	17.0	45	10
NOV					
01...	0715	12700	17.0	44	11
02...	0705	12500	17.0	46	10
03...	0715	11300	17.0	53	12
04...	0725	10500	17.0	62	13
05...	1030	10100	16.5	61	13
06...	1000	9560	16.5	59	15
07...	0710	8490	16.5	69	17
08...	0710	8090	15.5	69	16
09...	0710	8040	15.0	67	17
10...	0710	8060	14.5	66	17
11...	1005	8260	14.5	63	15
12...	0940	8440	15.0	83	17
13...	1250	8610	14.5	68	10
14...	0715	8840	14.0	67	18
15...	1650	8630	13.5	72	19
16...	0710	8550	13.5	67	18
18...	0720	9370	14.0	70	17
19...	1050	10800	13.5	110	24
20...	0930	11100	13.5	74	18
21...	0715	11300	12.5	68	15
22...	0725	12200	11.5	74	15
23...	0715	12200	11.5	69	17
24...	0930	12400	11.5	71	15
25...	1205	13000	11.0	64	15
26...	0805	14500	11.0	103	29
27...	1405	13400	11.0	64	13
28...	0705	13300	10.5	65	12
29...	0725	13500	10.5	60	12
30...	0720	14100	10.5	58	14
DEC					
01...	0715	14800	10.5	65	15
02...	0710	15300	11.0	60	13
03...	1040	15900	11.0	68	13
04...	1000	16400	11.0	67	16
05...	1545	17400	10.5	64	15
06...	0715	17700	10.5	60	13
06...	1045	17900	10.5	62	14
07...	0720	18500	10.5	58	13
08...	0730	19900	10.5	54	10
09...	0740	21000	11.5	53	11
10...	0920	21800	11.5	49	11
11...	1125	22100	11.5	39	11
12...	1550	22100	11.5	38	11
13...	1555	22300	11.5	41	10
14...	0720	22200	11.5	38	10
15...	1610	21800	12.0	41	10
16...	1420	21600	12.0	39	10
17...	0810	21600	12.0	34	10
18...	0820	21200	12.0	38	10
19...	1520	19900	12.0	42	12
20...	1450	18700	12.0	41	12
21...	1630	17000	11.0	44	11

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
DEC					
22...	1540	15400	10.5	51	11
23...	1030	14600	10.5	45	10
24...	1205	14100	10.5	46	11
25...	1010	14500	11.0	54	12
26...	0950	17000	11.5	111	34
27...	1005	18100	12.0	77	21
28...	1250	17400	12.0	64	22
29...	1515	18700	12.0	55	17
30...	1230	20400	11.5	53	12
31...	1110	22600	12.0	45	15
JAN					
01...	1035	25200	11.5	47	16
02...	1100	28500	11.0	53	16
03...	0725	31000	11.0	36	16
04...	0720	32500	11.0	36	14
05...	0720	32900	10.5	32	14
06...	1600	32900	10.0	32	13
07...	0815	32900	10.0	28	12
08...	0830	32800	10.0	31	10
09...	0715	32500	10.0	31	12
09...	1430	33000	10.0	33	11
10...	0740	32100	10.0	26	12
10...	0850	32000	10.0	29	12
11...	0715	31600	10.0	29	11
12...	0715	30700	9.5	26	10
13...	0740	28500	9.0	27	10
14...	1000	26700	8.5	34	10
15...	1000	25900	8.5	27	10
16...	1140	25200	9.0	27	9
17...	0725	24700	9.0	29	10
18...	0730	24200	9.0	34	11
19...	0730	24100	9.0	30	11
20...	1620	23900	9.5	30	10
23...	1100	22300	10.0	32	10
23...	1600	22200	10.5	32	10
24...	1605	21500	10.5	32	11
25...	0715	20900	10.5	28	9
26...	1350	19400	11.0	39	10
26...	1445	19400	11.0	40	11
26...	1645	19300	11.0	39	12
27...	1550	18000	10.5	41	12
28...	1145	17200	10.0	40	12
29...	1140	16500	10.0	38	12
30...	1555	15700	11.0	43	11
31...	1735	14800	11.0	39	10
FEB					
01...	0720	14400	11.0	45	12
02...	1705	13500	11.0	42	10
03...	1645	13200	11.0	49	9
04...	1510	12700	11.0	43	9
05...	0955	12300	11.0	41	10
06...	0725	11900	11.5	45	10
07...	0720	11500	11.5	44	9
07...	1315	11400	11.5	42	10
07...	1515	11400	11.5	37	10
08...	0720	11200	11.5	41	10
09...	0740	11000	11.5	40	10
10...	0715	10800	11.5	42	10
11...	0840	10800	11.0	44	10
12...	1030	10700	11.0	36	9
13...	0900	10600	11.0	36	8
14...	1105	10500	11.0	35	9
14...	1550	10400	11.5	44	9
15...	1635	10100	11.0	42	10
16...	0715	10100	11.5	45	9
17...	1545	10200	11.5	40	8
18...	1520	10200	11.0	39	9
19...	0825	10100	11.0	38	8
20...	1440	9880	11.5	45	8
21...	0725	9830	12.0	43	9
22...	0730	9870	11.5	38	7
23...	0720	10500	11.0	55	10
24...	0745	10200	11.5	45	9
25...	1015	10100	11.0	43	10
26...	1100	9940	11.0	41	9
27...	1555	9730	11.5	35	8
28...	1600	9600	12.0	36	8
29...	0740	9580	12.0	36	8
MAR					
01...	0735	9540	12.0	46	8
02...	1545	9440	13.0	45	8
03...	0850	9470	12.5	44	7
04...	1000	9240	12.5	46	8
05...	1555	8960	12.5	49	6

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
MAR					
06...	1017	8860	12.5	41	8
06...	1550	8820	13.0	39	6
07...	1610	8700	12.5	44	10
08...	0740	8490	12.5	38	9
09...	0735	8300	12.5	35	7
10...	1010	8180	13.5	44	8
11...	1000	8170	13.5	41	7
12...	0720	8020	13.5	35	7
13...	1600	8280	13.5	41	8
14...	0650	7840	13.5	41	9
15...	0700	7640	13.5	43	9
15...	1230	7620	13.5	41	8
15...	1315	7620	13.5	41	7
16...	0735	7600	13.5	41	8
17...	0800	7280	13.0	40	9
18...	0820	7100	13.5	56	12
19...	1605	7630	14.5	51	10
20...	1555	7290	15.5	54	11
21...	0730	6810	15.0	45	11
22...	0735	6460	14.5	48	12
23...	1555	6360	15.5	51	15
24...	0750	6340	15.0	54	13
25...	1515	6100	15.5	50	14
26...	1545	6250	16.0	51	13
27...	0705	6370	15.0	51	12
28...	0715	6050	14.5	45	12
29...	1630	5570	15.0	59	13
30...	0735	5420	14.0	49	13
31...	1410	5260	14.5	45	10
APR					
01...	1025	5300	14.0	42	13
02...	0735	5090	14.0	41	11
03...	0730	5000	14.5	51	13
04...	0740	4870	15.5	46	11
05...	0740	4820	15.5	49	14
06...	0905	4800	15.5	51	14
07...	0930	4850	15.5	54	14
08...	0955	4540	16.0	57	16
09...	0710	4560	15.5	56	16
10...	1545	4450	16.5	56	16
11...	0735	4340	15.0	57	16
12...	0740	4220	15.5	65	17
13...	0735	4120	16.0	61	17
14...	1615	3990	19.0	57	14
15...	0805	4010	18.0	62	17
16...	0900	4030	18.5	60	16
17...	0855	4070	17.5	57	14
18...	1600	3890	17.0	57	16
19...	1010	4080	15.5	55	16
20...	0855	4230	15.0	53	16
21...	0730	4400	15.5	59	17
22...	0805	4270	16.5	62	14
23...	0645	4420	18.0	61	17
24...	0700	4260	18.0	66	18
25...	0740	3940	16.5	67	20
26...	0705	3910	14.5	64	20
27...	0740	3810	14.5	61	19
28...	1505	3670	17.0	63	19
29...	0950	3770	16.0	68	19
30...	0715	3680	16.0	64	20
MAY					
01...	1605	3600	17.5	65	16
02...	0745	3660	17.0	56	16
03...	0740	3560	18.0	60	17
04...	0745	3470	18.0	58	17
05...	1840	3500	19.0	57	17
06...	1005	3550	17.5	61	17
07...	1605	3550	19.5	58	15
08...	0720	3430	18.5	54	16
09...	0720	3360	19.5	60	18
10...	0735	3310	19.5	64	18
11...	0740	3140	19.5	59	16
12...	1400	3150	22.0	61	18
13...	1045	3140	21.5	64	20
14...	0705	3320	21.0	68	19
15...	0715	3190	19.5	65	21
16...	0655	3280	19.0	79	21
17...	0655	3740	19.5	96	22
18...	0700	3960	19.0	88	22
19...	0845	4050	19.5	102	24
20...	1020	4040	20.0	84	22
21...	0720	4080	19.5	87	21
22...	0715	3240	20.0	81	24
23...	0715	2920	21.0	82	24

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
MAY					
24...	0720	2780	21.0	87	23
25...	0725	2750	20.5	91	26
26...	0820	2640	21.0	87	30
27...	0820	2650	21.5	93	29
28...	0815	2730	22.5	89	29
29...	0715	2620	24.0	80	29
30...	0705	2510	24.5	89	31
31...	0655	2350	24.0	93	32
JUN					
01...	0825	2280	22.5	92	33
02...	1320	2150	23.0	96	32
03...	1000	2250	22.0	99	34
04...	0900	2520	21.5	93	29
04...	1035	2520	21.0	101	29
04...	1415	2500	21.0	102	31
05...	0925	2440	20.0	116	32
06...	0930	2570	21.0	125	28
07...	0930	2520	20.0	114	28
08...	1250	2560	21.5	130	26
09...	0955	2450	21.0	140	32
10...	0910	2430	20.0	154	35
11...	1605	2680	22.0	149	28
12...	0800	2610	21.0	147	32
13...	1000	2430	22.0	153	33
14...	0940	2360	22.5	159	33
15...	0900	2400	23.0	160	38
16...	0845	2450	23.5	161	36
17...	0925	2400	24.5	158	33
18...	0740	2520	24.5	196	37
19...	0815	2410	24.0	151	36
20...	0810	2210	23.5	145	33
21...	1100	2130	23.0	146	38
22...	0910	2060	22.5	157	42
23...	0945	2070	23.5	134	30
24...	0955	2060	24.0	129	36
25...	0955	2280	24.5	140	36
26...	0750	2170	24.5	148	40
27...	0720	2100	24.5	139	40
28...	1420	2000	26.0	175	45
29...	1055	2000	24.0	155	45
30...	0920	2000	23.5	149	40
JUL					
01...	1310	2090	25.5	149	45
02...	0845	2250	25.5	157	45
03...	1025	2070	26.5	165	40
04...	1025	1950	27.0	160	40
05...	1030	2000	27.0	149	37
06...	1040	1990	28.0	119	28
07...	1005	1880	26.5	117	22
08...	1000	1970	26.0	161	31
09...	1300	1990	25.5	160	38
09...	1415	1970	26.5	145	38
10...	0850	1910	25.0	141	40
11...	0945	1830	25.5	153	37
12...	1055	1780	25.5	154	40
13...	0935	1770	26.0	153	40
14...	1130	1780	27.5	150	39
15...	0850	1900	26.0	128	36
16...	1025	2040	26.5	149	38
17...	0905	1830	26.5	141	36
18...	0905	1780	26.5	137	38
19...	0930	1820	26.5	152	40
20...	0855	1740	26.0	165	40
21...	0820	1730	25.5	143	40
22...	1005	1800	25.0	134	35
23...	1000	1940	24.0	142	30
24...	0945	1940	24.0	133	32
24...	1050	1940	24.0	128	32
24...	1120	1940	23.0	132	30
25...	0915	1880	23.0	131	23
26...	0905	1920	23.0	152	32
27...	0700	1860	23.5	134	29
28...	1025	1970	24.5	169	45
29...	0820	2070	24.0	169	40
30...	0940	2120	24.5	156	45
31...	0930	2050	25.0	158	45
AUG					
01...	0825	1970	24.5	180	50
02...	1030	1970	24.0	158	50
03...	0935	1970	23.5	166	50
04...	0910	1940	23.5	170	50
05...	1000	1950	24.5	153	45
06...	0850	2080	23.5	152	40
07...	0955	2000	24.5	144	33

## SAN JOAQUIN RIVER BASIN

11303500 SAN JOAQUIN RIVER NEAR VERNALIS, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT  
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (FT <sup>3</sup> /S)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	TUR- BID- ITY (NTU)
AUG					
08...	1210	1880	26.0	156	45
09...	0940	1840	26.0	155	45
10...	0845	1870	26.0	148	45
10...	0950	1850	25.5	160	37
10...	1210	1860	25.5	146	45
11...	1020	1910	25.5	146	37
12...	0955	2000	25.0	151	35
13...	0955	2170	24.5	152	40
14...	0900	2140	23.5	133	38
15...	0940	2030	23.5	128	32
16...	1320	2050	24.0	130	38
17...	0930	2110	23.5	147	38
18...	0755	2260	24.0	140	40
19...	1000	2270	24.5	141	34
20...	0940	2390	24.0	146	35
21...	1010	2260	24.0	145	39
22...	0800	2370	23.5	153	36
23...	0700	2440	23.0	158	32
24...	0705	2510	22.5	147	29
25...	0730	2480	22.0	134	31
26...	0945	2510	22.0	132	28
27...	0645	2760	22.5	145	26
28...	0715	2680	23.0	132	26
29...	0630	2530	24.0	118	21
30...	0645	2580	23.5	125	28
31...	0655	2570	22.5	119	25
SEP					
01...	1015	2610	22.0	112	21
02...	0930	2700	22.0	114	21
03...	0920	2700	23.0	112	17
04...	0655	2700	23.0	115	18
05...	0700	2700	23.5	111	22
06...	0650	2680	23.0	113	19
07...	0645	2780	23.0	103	20
08...	0930	2760	23.0	113	17
09...	0940	2700	24.0	114	21
11...	0650	2810	24.0	97	20
12...	0715	2810	23.0	90	19
13...	0650	2900	22.5	98	22
14...	0720	2890	22.5	109	16
15...	0930	2840	22.5	101	20
16...	0930	2900	22.0	105	18
17...	0655	3060	22.5	79	15
18...	0935	2990	24.0	83	15
19...	0915	2990	24.0	85	17
20...	0920	3020	23.0	83	17
21...	0700	3020	23.0	70	19
21...	1038	3040	22.0	72	16
22...	0825	3100	21.0	79	20
23...	0955	3220	20.5	102	17
24...	0705	3250	19.5	83	17
25...	0705	3250	18.5	69	15
26...	0700	3260	18.0	68	15
27...	0700	3210	19.0	74	15
28...	0730	3140	19.5	68	17
29...	1020	3160	20.0	69	17
30...	0945	3280	20.0	86	15



11308600 CALAVERAS RIVER ABOVE NEW HOGAN LAKE, NEAR SAN ANDREAS, CA

LOCATION.--Lat 38°11'48", long 120°43'18", in NW 1/4 SW 1/4 sec. 13, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, on right bank 600 ft below confluence of the North and South Forks of the Calaveras River, and 2.3 mi west of San Andreas.

DRAINAGE AREA.--307 mi<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 Lake, Oct. 1 to June 30.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 8, 9, 1978; minimum recorded, 2.0°C Jan. 7, 1973, Jan. 4, 1976.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1							---	---	26.0	21.5	26.5	20.0
2							---	---	25.5	20.5	27.0	18.5
3							---	---	25.5	20.5	26.5	19.0
4							---	---	26.0	20.5	26.5	18.0
5							---	---	25.5	21.0	26.5	18.0
6							---	---	26.0	20.5	26.0	14.5
7							---	---	27.0	21.0	27.0	15.0
8							---	---	27.0	21.5	28.5	19.5
9							---	---	26.5	21.5	28.5	20.5
10							---	---	26.0	22.0	27.0	20.0
11							---	---	26.5	21.5	26.0	17.5
12							26.5	21.5	25.5	21.5	24.5	14.0
13							27.0	22.0	25.0	22.0	24.0	17.0
14							26.0	23.0	26.0	20.5	27.0	19.0
15							25.0	23.0	23.0	21.0	28.0	19.0
16							27.0	22.0	25.5	20.0	27.0	20.0
17							27.5	24.0	27.0	21.0	27.5	21.0
18							28.0	24.0	27.0	21.5	27.5	22.5
19							27.5	23.0	26.5	20.5	27.0	22.5
20							27.0	22.5	26.0	20.0	26.5	21.5
21							25.5	22.0	26.5	20.5	25.0	20.5
22							24.5	21.0	26.5	20.5	24.0	19.5
23							25.0	20.5	26.0	20.0	22.5	18.5
24							25.5	21.0	25.5	19.0	21.0	16.5
25							25.0	20.5	24.0	19.0	21.0	16.0
26							25.5	20.0	26.0	19.5	22.0	16.0
27							26.0	20.5	27.0	20.5	22.5	17.0
28							25.5	21.0	28.5	21.5	22.5	17.0
29							26.0	21.0	28.0	22.5	22.0	17.0
30							26.0	21.5	24.0	21.0	19.5	18.0
31							26.0	22.0	26.0	20.0	---	---
MONTH							---	---	28.5	19.0	28.5	14.0

## SAN JOAQUIN RIVER BASIN

11308700 NEW HOGAN LAKE NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°09'01", long 120°48'45", in SW 1/4 SW 1/4 sec.31, T.4 N., R.11 E., Calaveras County, Hydrologic Unit 18040011, in control house at New Hogan Dam on the Calaveras River, 3.0 mi south of Valley Springs.

DRAINAGE AREA.--362 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1963 to current year. Prior to October 1971, published as "New Hogan Reservoir."

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

REMARKS.--Reservoir is formed by an earthfill dam and four earthfill dikes. Storage began Dec. 20, 1963. Total capacity, 317,055 acre-ft between elevations 534.5 ft, invert of outlet valve, and 713.0 ft, top of spillway gates. Elevation of spillway crest is 679.5 ft. 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 at Bellota. Records, including extremes, show contents at 2400 hours.

COOPERATION.--Records furnished by Corps of Engineers, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 278,798 acre-ft May 15, 16, 1982, elevation, 703.75 ft; minimum since initial season of normal operation, 9,360 acre-ft Oct. 27, 1964, elevation, 576.81 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 217,616 acre-ft Oct. 1, elevation, 687.16 ft; minimum, 127,828 acre-ft Sept. 30, elevation, 657.13 ft.

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

545	588	600	26,851
550	1,117	610	38,252
555	1,892	630	68,795
560	2,960	650	110,300
570	6,149	670	163,134
580	11,013	700	264,177
590	17,835	713	317,123

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217616	211631	169105	152302	158314	180872	200200	200396	190577	176718	158660	140713
2	217513	211665	167498	146914	158574	181305	200428	200265	190131	176199	158055	140146
3	217445	211530	166963	145041	158833	181709	200691	200167	189623	175650	157480	139635
4	217342	211294	167408	145893	159035	182112	200822	200069	189241	175223	156935	139098
5	217239	211092	166637	146693	159237	182455	201019	199840	188925	174737	156392	138616
6	217171	210890	165013	147467	159440	182797	201182	199643	188671	174160	155905	138134
7	217069	210654	161965	148216	159613	183108	201347	199415	188354	173554	155335	137627
8	216966	210351	157739	148856	159844	183389	201511	199121	187975	172949	154737	137121
9	216863	210150	154595	149469	160221	183670	201577	198795	187500	172345	154112	136616
10	216760	209444	153092	150056	160627	183982	201675	198437	186996	171773	153460	136085
11	216658	209378	152077	150616	160946	184233	201708	198176	186650	171172	152838	135609
12	216589	208138	151851	151120	161295	184514	201741	197883	186240	170601	152246	135160
13	216418	207203	151458	151598	161761	185454	201774	197526	185894	170002	151710	134737
14	216282	206304	151458	152020	162490	186901	201774	197136	185486	169374	151177	134264
15	216180	204876	151514	152443	163544	187943	201774	196780	185016	168717	150588	133791
16	216009	203718	151598	153036	165662	189337	201741	196455	184577	168062	150028	133318
17	215907	202478	151908	153574	166844	191886	201675	196164	184076	167556	149469	132874
18	215804	206437	152161	153999	167675	193327	201708	195873	183514	166904	148911	132403
19	215702	202234	152331	154396	168300	194389	201938	195582	182921	166193	148299	131934
20	215599	202069	152556	154794	168986	195227	201971	195259	182330	165514	147717	131491
21	215361	198372	152867	155107	173040	195905	202036	194936	181771	164836	147135	131050
22	214884	192878	153432	155477	175011	196488	202004	194678	181274	164219	146527	130661
23	214408	187185	154595	155820	176260	197072	201906	194324	180841	163632	145921	130221
24	214000	189591	160366	156134	177239	197493	201807	193873	180408	163046	145316	129807
25	213560	186964	171202	156477	178066	197916	201609	193456	179975	162520	144739	129472
26	213119	181926	173978	156735	178804	198274	201478	193070	179543	161994	144191	129111
27	212679	176321	174585	157050	179420	198665	201281	192750	178988	161441	143672	128777
28	212239	173403	171472	157337	179944	198958	201052	192365	178373	160860	143099	128469
29	211834	172074	166667	157566	180438	199252	200789	191886	177790	160337	142501	128135
30	211631	170571	162140	157854	---	199545	200494	191470	177239	159844	141904	127828
31	211598	---	157423	158084	---	199905	---	190991	---	159266	141307	---
MAX	217616	211665	174585	158084	180438	199905	202036	200069	190577	176718	158660	140713
MIN	211598	170571	151458	145041	158314	180872	200200	190991	177239	159266	141307	127828
a	685.39	672.51	668.03	668.26	675.75	681.87	682.05	679.11	674.71	668.67	662.25	657.13
b	-6087	-41027	-13148	+661	+22354	+19467	+589	-9503	-13752	-17973	-17959	-13479
c	1342	360	225	211	332	786	1027	1770	1998	2453	2070	1823

CAL YR 1983 b -1381  
WTR YR 1984 b -89857

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

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°08'53", long 120°49'26", in NW 1/4 NE 1/4 sec.1, T.3 N., R.10 E., Calaveras County, Hydrologic Unit 18040011, on right bank at county road bridge, 0.5 mi upstream from Cosgrove Creek, 0.8 mi downstream from New Hogan Dam, and 3.0 mi south of Valley Springs.

DRAINAGE AREA.--363 mi<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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Auxiliary nonrecording gage 300 ft 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. Small diversions above station for irrigation.

AVERAGE DISCHARGE.--(adjusted for change in contents in and evaporation from New Hogan Lake).--23 years, 258 ft<sup>3</sup>/s, 186,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft<sup>3</sup>/s Jan. 22, 1980, gage height, 10.52 ft; no flow many days in 1961-65, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,990 ft<sup>3</sup>/s Dec. 26, gage height, 6.01 ft; minimum daily, 25 ft<sup>3</sup>/s Feb. 12-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	80	52	1040	3440	40	42	76	202	223	265	258	265
2	71	54	1040	3440	40	42	76	182	214	255	269	255
3	71	120	1030	1610	40	42	82	179	246	265	256	241
4	71	154	1020	91	40	42	94	178	227	232	247	236
5	71	154	1020	91	40	42	94	182	198	265	246	214
6	61	154	1310	54	40	42	94	194	157	265	246	206
7	56	154	1920	36	40	42	94	210	179	270	252	219
8	56	154	2420	36	40	42	98	236	227	280	271	241
9	56	154	2490	36	40	43	134	246	250	285	287	241
10	56	563	2500	36	40	40	147	236	255	285	287	223
11	56	991	1880	36	31	39	150	236	241	280	286	202
12	56	1000	1370	36	25	39	150	236	206	281	263	190
13	61	1000	1010	36	25	42	147	241	214	290	249	190
14	65	991	632	36	25	40	150	246	232	317	249	206
15	65	1010	485	36	33	39	150	236	246	311	254	219
16	65	1020	401	36	40	40	150	210	260	285	262	214
17	65	1740	232	36	33	40	150	198	275	290	263	210
18	60	3000	232	36	39	39	138	202	290	306	261	210
19	54	2970	236	36	40	39	131	202	295	307	263	206
20	54	2970	182	36	40	39	131	202	295	307	262	190
21	138	3270	87	36	52	54	154	202	290	290	268	182
22	260	3490	91	36	43	61	171	190	265	270	275	179
23	250	3510	94	36	42	60	168	198	243	258	275	171
24	250	3540	790	36	42	60	161	227	220	246	268	161
25	250	3520	2560	36	42	60	168	241	209	246	257	154
26	250	3480	3460	36	42	60	179	227	223	246	263	154
27	250	3480	3930	36	42	60	206	214	270	247	270	144
28	250	1970	3910	36	42	60	219	219	300	247	270	131
29	250	1050	3880	36	42	60	232	236	290	240	270	131
30	250	1050	3620	36	---	60	236	232	270	232	280	131
31	138	---	3460	36	---	71	---	232	---	238	278	---
TOTAL	3786	46765	48332	9626	1120	1481	4330	6672	7310	8401	8205	5916
MEAN	122	1559	1559	311	38.6	47.8	144	215	244	271	265	197
MAX	260	3540	3930	3440	52	71	236	246	300	317	287	265
MIN	54	52	87	36	25	39	76	178	157	232	246	131
AC-FT	7510	92760	95870	19090	2220	2940	8590	13230	14500	16660	16270	11730

CAL YR 1983 TOTAL 296396 MEAN 812 MAX 7390 MIN 32 AC-FT 587900 MEAN a 829 AC-FT a 601800  
WTR YR 1984 TOTAL 151944 MEAN 415 MAX 3930 MIN 25 AC-FT 301400 MEAN a 312 AC-FT a 225900

a Adjusted for change in contents in 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, 16.0°C July 4; minimum recorded, 9.5°C many days during January through March.

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	12.5	13.0	12.5	12.5	12.5	11.5	11.5	10.0	9.5	11.0	9.5
2	13.0	12.0	13.0	12.0	12.5	12.5	11.5	11.5	10.5	9.5	11.0	9.5
3	13.0	12.0	12.5	12.0	12.5	12.5	11.5	11.0	---	---	11.0	9.5
4	13.0	12.0	12.5	12.5	12.5	12.5	11.0	11.0	10.0	9.5	11.0	9.5
5	13.0	12.0	13.0	12.5	12.5	12.0	11.0	11.0	10.5	9.5	11.0	9.5
6	13.0	12.0	12.5	12.5	12.0	12.0	11.0	11.0	10.5	9.5	11.0	9.5
7	13.0	12.0	12.5	12.0	12.0	12.0	11.0	10.5	10.0	9.5	11.0	9.5
8	13.0	12.0	12.5	12.0	12.0	12.0	10.5	10.5	10.0	9.5	11.0	9.5
9	13.0	12.0	12.5	12.5	12.0	12.0	11.0	10.5	10.0	9.5	11.5	9.5
10	13.0	12.0	14.5	12.5	12.0	12.0	10.5	10.5	10.5	9.5	11.5	9.5
11	13.0	12.0	15.5	14.5	12.0	12.0	11.0	10.0	10.5	9.5	11.0	9.5
12	13.0	12.0	15.5	15.5	12.0	12.0	10.5	10.0	---	---	11.5	9.5
13	13.0	12.0	15.5	15.5	12.0	12.0	10.5	10.0	10.0	9.5	11.5	10.0
14	13.0	12.0	15.5	15.5	12.0	11.5	10.5	10.0	11.0	9.5	11.0	10.0
15	13.0	12.0	15.5	15.0	11.5	11.5	10.5	10.0	10.0	9.5	11.0	9.5
16	13.0	12.0	15.0	15.0	11.5	11.5	10.5	10.0	10.5	9.5	11.0	9.5
17	13.0	12.0	15.5	15.0	11.5	11.5	10.5	10.0	11.0	9.5	11.5	9.5
18	13.0	12.0	15.5	15.5	11.5	11.5	10.5	9.5	11.0	9.5	11.5	9.5
19	13.0	12.0	15.5	15.0	11.5	11.5	10.5	9.5	11.0	9.5	12.0	9.5
20	13.0	12.0	15.0	15.0	11.5	11.0	10.0	9.5	11.0	9.5	12.0	10.0
21	13.0	12.0	15.0	14.5	11.0	11.0	10.0	9.5	10.5	9.5	11.0	9.5
22	13.0	12.5	14.5	14.5	11.0	11.0	10.0	9.5	10.5	9.5	11.5	9.5
23	13.0	12.5	14.5	14.0	11.0	11.0	10.0	9.5	11.0	9.5	11.5	10.0
24	13.0	12.5	14.0	14.0	11.5	11.0	10.5	9.5	10.0	9.5	11.5	10.0
25	13.0	12.5	14.0	13.5	11.5	11.5	10.5	9.5	11.0	9.5	11.5	10.0
26	13.0	12.5	13.5	13.5	11.5	11.5	10.5	9.5	11.0	9.5	10.5	10.0
27	13.0	13.0	13.5	13.0	11.5	11.5	10.5	9.5	11.0	9.5	11.5	10.0
28	13.0	13.0	13.0	13.0	11.5	11.0	10.5	9.5	11.0	9.5	11.5	10.0
29	13.0	13.0	13.0	13.0	11.0	11.0	10.5	9.5	10.5	9.5	11.5	10.0
30	13.0	13.0	13.0	12.5	11.0	11.0	10.5	9.5	---	---	11.5	10.0
31	13.0	12.5	---	---	11.5	11.5	10.5	9.5	---	---	11.0	10.0
MONTH	13.0	12.0	15.5	12.0	12.5	11.0	11.5	9.5			12.0	9.5

11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM, NEAR VALLEY SPRINGS, CA--Continued

## TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	10.0	11.5	11.0	12.5	11.5	13.0	12.0	13.0	11.5	14.0	13.0
2	11.5	10.0	11.5	10.0	12.5	11.5	13.0	12.0	13.5	12.0	14.0	12.5
3	11.5	10.0	11.5	10.5	12.5	12.0	13.0	11.5	13.5	12.5	14.5	13.0
4	11.0	10.0	11.5	10.5	12.0	12.0	16.0	12.0	13.5	12.5	14.0	11.5
5	11.0	10.0	11.5	11.0	12.5	12.0	13.0	12.0	13.5	10.5	13.5	11.5
6	11.5	10.0	11.5	11.0	12.5	12.0	13.0	11.0	14.0	11.5	14.0	12.5
7	11.5	10.0	12.0	10.5	12.5	11.5	13.0	10.5	13.5	11.5	13.5	12.5
8	11.0	10.0	12.0	11.0	12.5	12.0	13.0	11.5	13.5	11.5	14.5	13.0
9	11.0	10.0	12.0	11.0	12.5	12.0	13.5	12.0	13.5	11.0	14.0	13.0
10	11.0	10.5	12.0	10.5	13.0	12.0	13.5	12.0	13.5	12.0	14.0	12.0
11	11.5	10.5	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.0	13.5	12.0
12	11.5	10.5	12.0	10.5	13.0	11.5	13.5	10.5	14.0	12.5	13.5	11.5
13	11.5	10.5	12.0	11.0	12.5	12.0	13.5	11.0	13.5	11.0	13.5	12.0
14	11.5	10.5	12.0	11.0	13.0	12.0	13.5	11.5	13.5	11.5	14.5	12.5
15	11.5	10.5	12.0	11.0	13.0	12.0	13.0	13.0	13.0	12.5	14.5	13.0
16	11.5	10.5	12.0	11.5	13.0	11.5	13.5	12.5	13.5	12.5	14.0	12.5
17	11.5	10.5	12.0	11.0	13.5	11.5	14.5	12.5	13.5	12.0	14.0	13.0
18	11.0	10.5	12.0	10.5	13.0	12.0	13.5	13.0	13.5	12.5	14.5	12.0
19	11.5	10.5	12.0	11.5	13.0	12.0	13.5	12.5	13.5	12.5	14.0	12.5
20	11.5	10.5	12.0	11.5	13.0	12.0	13.5	12.5	13.5	12.0	14.0	12.5
21	11.5	10.5	12.0	11.5	13.0	11.5	13.5	12.0	13.5	12.5	14.0	13.0
22	11.5	10.5	12.0	11.5	13.0	12.5	13.5	12.0	14.0	13.0	14.0	12.5
23	12.0	10.0	12.5	11.5	13.0	12.0	13.5	11.5	13.5	13.0	14.0	11.0
24	11.5	10.5	12.0	11.5	13.0	11.5	13.0	12.5	13.5	13.0	14.5	13.0
25	11.5	10.5	12.5	11.5	13.0	12.0	13.0	12.5	13.5	12.5	14.5	13.0
26	11.5	10.5	12.5	11.5	13.0	12.0	13.5	12.5	13.5	11.5	14.0	13.0
27	11.5	10.0	12.5	11.5	13.0	12.0	13.0	12.5	13.5	12.5	14.0	13.0
28	11.5	10.5	12.5	11.5	13.0	12.0	13.5	12.0	14.0	12.5	14.0	13.0
29	11.5	10.0	12.5	11.5	14.0	12.0	13.0	11.0	14.0	11.0	14.0	13.0
30	11.5	11.0	12.5	11.0	13.0	12.5	13.5	12.0	13.5	12.5	13.5	11.5
31	---	---	12.5	11.5	---	---	13.0	11.0	13.5	13.0	---	---
MONTH	12.0	10.0	12.5	10.0	14.0	11.5	16.0	10.5	14.0	10.5	14.5	11.0

## SAN JOAQUIN RIVER BASIN

11312000 BEAR CREEK NEAR LOCKEFORD, CA

LOCATION.--Lat 38°09'10", long 121°08'17", in NW 1/4 SE 1/4 sec.31, T.4 N., R.8 E., San Joaquin County, Hydrologic Unit 18040005, on right bank 15 ft downstream from county road bridge, and 0.8 mi southeast of Lockeford.

DRAINAGE AREA.--47.4 mi<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 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 National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair. No storage or diversion above station. Occasionally water is released from East Bay Municipal Utility District aqueduct into Bear Creek above station. Summer discharge influenced by return flows from irrigated areas.

AVERAGE DISCHARGE.--54 years, 13.1 ft<sup>3</sup>/s, 9,490 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,930 ft<sup>3</sup>/s Apr. 3, 1958, gage height, 15.13 ft; no flow for several months in most years.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1915	603	9.66	Dec. 24	1830	*1,190	12.90
Nov. 24	2045	617	9.77				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	0	9.7	51	3.4	7.0	.82	1.0	.40	0	.62	.23
2	0	.51	7.7	38	3.4	6.4	.85	.15	.60	0	.54	.06
3	0	.97	50	31	2.8	5.2	.88	.42	.90	0	.58	.14
4	0	.83	65	27	3.0	5.2	.80	.97	.64	0	.55	.11
5	0	.60	29	24	2.8	3.2	.69	.99	.91	.07	0	.27
6	0	.37	18	21	2.5	3.6	.60	.96	1.1	.26	0	.34
7	0	.35	12	18	2.3	3.0	.53	.60	1.2	.13	0	.54
8	0	.31	10	16	2.2	2.7	.70	.28	.98	.22	0	.47
9	0	.26	25	14	2.7	2.3	.68	.99	.58	.04	0	.09
10	0	.88	92	13	3.9	1.9	.76	1.1	.51	.02	0	0
11	0	32	83	12	5.2	2.0	.69	.39	1.0	.14	0	0
12	0	26	75	11	4.1	1.9	.41	1.1	1.1	.28	.08	0
13	0	17	39	9.4	5.7	3.2	.22	1.2	.48	.29	.05	0
14	0	86	29	8.9	12	35	.31	.63	.90	.20	.67	.40
15	0	34	21	8.2	20	20	.28	.95	.94	.04	.53	.44
16	0	35	17	18	64	14	.29	.74	.44	.12	.38	.09
17	0	327	16	30	32	28	.78	.95	.96	.28	.37	0
18	0	186	18	19	17	24	1.0	.72	1.0	.11	.28	0
19	.01	46	13	14	11	14	.83	.40	1.1	.28	.73	0
20	0	52	11	11	8.6	9.3	.88	.34	.54	.31	.67	0
21	0	70	8.6	9.7	179	6.7	1.1	.58	.26	0	.15	0
22	0	36	8.1	9.7	107	4.9	.99	.64	.55	.15	.21	0
23	0	21	96	8.6	44	3.9	.35	.30	.85	.16	.36	0
24	0	230	552	7.4	28	2.8	.47	.45	.92	.65	.35	0
25	0	266	1010	6.1	20	2.3	.48	.50	.18	.10	.67	0
26	0	60	569	5.7	14	1.7	.33	.36	.64	0	.76	0
27	0	35	291	5.2	11	1.3	.42	.90	.42	0	.20	0
28	0	24	104	4.6	8.9	1.3	.32	.80	.09	0	.08	0
29	0	16	64	4.1	7.8	1.3	.15	.38	.03	0	.05	0
30	.03	12	58	3.9	---	1.0	.70	.68	.01	0	.10	0
31	.03	---	78	3.6	---	1.3	---	.74	---	0	.26	---
TOTAL	0.08	1616.08	3479.1	463.1	628.3	220.4	18.31	21.21	20.23	3.85	9.24	3.18
MEAN	.003	53.9	112	14.9	21.7	7.11	.61	.68	.67	.12	.30	.11
MAX	.03	327	1010	51	179	35	1.1	1.2	1.2	.65	.76	.54
MIN	0	0	7.7	3.6	2.2	1.0	.15	.15	.01	0	0	0
AC-FT	.2	3210	6900	919	1250	437	36	42	40	7.6	18	6.3
CAL YR 1983	TOTAL	21153.26	MEAN	58.0	MAX	1040	MIN	0	AC-FT	41960		
WTR YR 1984	TOTAL	6483.08	MEAN	17.7	MAX	1010	MIN	0	AC-FT	12860		

## 11313000 DELTA-MENDOTA CANAL AT TRACY PUMPING PLANT, NEAR TRACY, CA

LOCATION.--Lat 37°47'49", long 121°35'03", in SW 1/4 SW 1/4 sec.31, T.1 S., R.4 E., Alameda County, Hydrologic Unit 18040003, at Tracy pumping plant at intake to canal, 6 mi southeast of Byron, and 10 mi northwest of Tracy.

PERIOD OF RECORD.--June 1951 to current year. Prior to October 1959, published as "near Tracy".

GAGE.--Water-stage recorder on forebay, pressure gages on pump discharge lines, and operating time of pumps. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Discharge computed from records of operation of pumps. Water is diverted from Sacramento-San Joaquin Delta by way of Old River and a dredged channel to the Tracy pumping plant where it is lifted 200 ft into canal. Water, less intermediate diversions, flows into Mendota Pool on San Joaquin River to replace water diverted at Friant Dam. The canal is a part of the Central Valley Project.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--33 years, 2,304 ft<sup>3</sup>/s, 1,669,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,935 ft<sup>3</sup>/s Aug. 11, 1969; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2790	1580	1680	1650	2870	4340	4420	4710	3090	4780	4650	4000
2	2740	1580	1680	1640	3060	4320	4300	4530	3280	4730	4680	4010
3	2740	1060	748	1650	3040	4300	3550	4750	3250	4730	4640	3520
4	2750	840	983	1620	3020	4320	3390	4740	3280	4680	4650	3340
5	2770	410	1680	1040	3400	4300	4090	4740	3290	4610	4630	3730
6	2780	191	1670	1280	3790	4310	4230	4240	3310	4650	4650	3980
7	2770	186	1660	1280	3040	4300	4080	3060	3270	4760	4660	3940
8	2760	153	1660	1260	3140	4300	4000	2720	3280	4700	4650	3510
9	2760	128	1670	1260	3840	4300	3980	2640	3300	4690	4450	3140
10	2680	119	1650	1270	3840	4370	3670	2640	3280	4670	4680	3170
11	2450	122	1670	1350	3840	4370	2740	2640	2820	4650	4680	3170
12	2440	123	1680	1330	4130	4340	3460	2630	2620	4480	4660	3140
13	1900	124	1880	1320	4270	4330	4220	2640	2630	4490	4640	3150
14	1770	124	1880	1270	4290	4350	4210	2630	2620	4460	4650	3150
15	1760	95	1880	1270	4260	4430	4240	2630	2630	4500	4640	3140
16	1760	903	1890	1260	4270	4430	4140	2640	2620	4680	4620	3110
17	1720	1500	1880	1270	4200	4430	3960	2640	2620	4650	4570	3090
18	1680	699	1890	1280	4250	4420	3950	2610	2620	4760	4610	2650
19	1680	94	1940	1210	4250	4450	3250	2600	2930	4740	3970	2340
20	1680	99	1940	1180	4080	4410	2980	2570	2610	4770	4240	2340
21	1680	98	1960	1170	3400	4430	4030	2570	2610	4740	4510	2320
22	1680	902	1980	1150	3170	4380	4020	2560	2600	4760	4460	2360
23	1680	2980	1870	1190	3230	4380	4070	2550	2610	4740	4450	2340
24	1680	2700	1730	1200	4250	4380	4030	2550	2600	4720	4440	2340
25	1680	2460	945	1120	4310	4390	4070	2550	3120	4710	4420	2820
26	1230	2450	0	1470	4290	4400	4030	2560	3310	4690	4390	3150
27	2050	1890	1060	1440	4360	4400	4060	2550	3310	4680	4120	3150
28	1640	1670	1610	1600	4310	3700	4460	2540	3330	4670	3380	3150
29	1580	1670	1650	1590	4310	3260	4680	2470	3190	4690	3030	3150
30	1580	1680	1660	1600	---	3800	4690	2390	3550	4680	3220	3150
31	1600	---	1650	2340	---	4130	---	2410	---	4690	3690	---
TOTAL	64460	28630	49726	42560	110510	132770	119000	92700	89580	144950	135730	93550
MEAN	2079	954	1604	1373	3811	4283	3967	2990	2986	4676	4378	3118
MAX	2790	2980	1980	2340	4360	4450	4690	4750	3550	4780	4680	4010
MIN	1230	94	0	1040	2870	3260	2740	2390	2600	4460	3030	2320
AC-FT	127900	56790	98630	84420	219200	263300	236000	183900	177700	287500	269200	185600
CAL YR 1983	TOTAL	1140813	MEAN	3126	MAX	4750	MIN	0	AC-FT	2263000		
WTR YR 1984	TOTAL	1104166	MEAN	3017	MAX	4780	MIN	0	AC-FT	2190000		

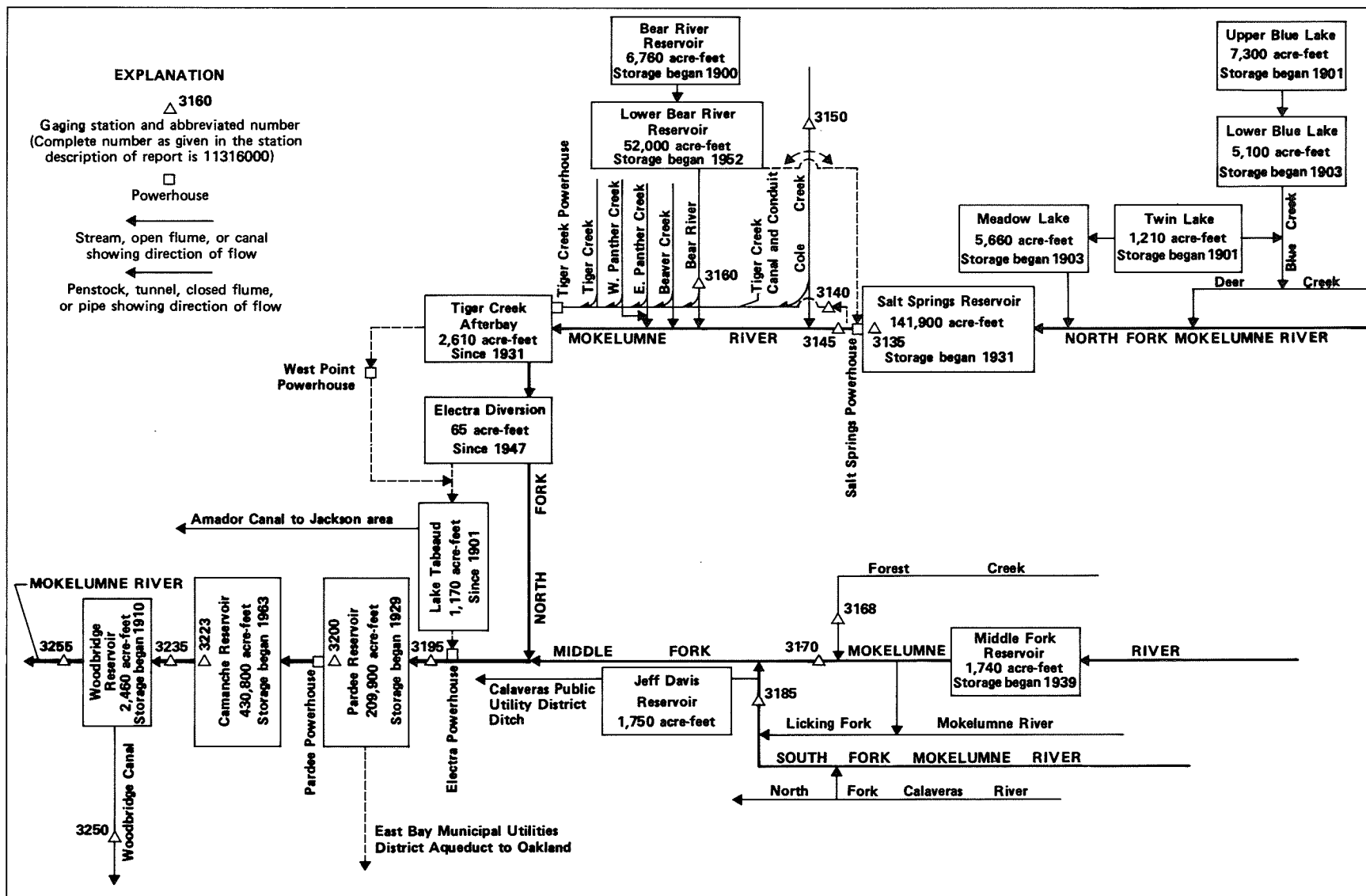


FIGURE 12. — Schematic diagram showing diversions and storage in Mokelumne River basin.



## 11313500 SALT SPRINGS RESERVOIR NEAR WEST POINT, CA

LOCATION (REVISED).--Lat 38°29'55", long 120°12'52", in NW 1/4 SE 1/4 sec.33, T.8 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Eldorado National Forest, near center of Salt Springs Dam on North Fork Mokelumne River, 1.8 mi upstream from Cole Creek, and 18 mi northeast of West Point.

DRAINAGE AREA.--169 mi<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, 141,857 acre-ft between elevations 3,667.75 ft, outlet drain, and 3,958.0 ft, top of radial gates. Storage of 1,860 acre-ft 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, including extremes, represent total contents at about 1400 hours. 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. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents observed, 141,857 acre-ft several days during June or July of most years, elevation, 3,958.0 ft; no contents at times in 1932-33, 1945, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 141,761 acre-ft June 10, 23, elevation, 3,957.9 ft; minimum observed, 69,948 acre-ft Apr. 13, elevation, 3,872.4 ft.

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

3,667.75	45	3,740.0	7,324
3,700.0	1,251	3,750.0	9,799
3,705.0	1,679	3,760.0	12,689
3,710.0	2,199	3,780.0	19,632
3,715.0	2,812	3,800.0	28,017
3,720.0	3,519	3,850.0	54,852
3,725.0	4,324	3,900.0	90,786
3,730.0	5,229	3,958.0	141,857
3,735.0	6,230		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 1400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103991	85678	112589	118773	100137	80315	72249	80466	139842	140608	114870	86222
2	103485	85768	112327	118862	99308	79560	71960	81072	140512	140033	113991	85833
3	102811	86144	112240	118684	98482	78959	71671	81756	140897	139460	112851	85213
4	102475	85678	111804	118238	97659	78209	71454	83977	141088	138887	111629	84748
5	101889	85756	111368	118060	96839	77463	71310	85213	141088	138220	110500	84362
6	101554	85290	110934	117971	95696	76794	71023	86846	141184	137650	109461	84131
7	101136	84980	110329	117615	95045	76275	70879	88413	141376	136985	108426	83592
8	100719	84671	109893	117348	94154	75758	71023	90548	141280	136228	107224	82902
9	99888	84208	109461	116904	93428	75389	70951	93267	141472	135095	106199	82366
10	99142	83900	109547	116461	92945	74580	70807	96920	141761	133873	105092	81909
11	98482	87628	109634	116018	92383	74580	70664	101554	141665	132842	104160	81376
12	97659	89044	109547	115488	91743	74141	70377	105602	141568	131815	102980	80845
13	97248	90946	109375	114870	91105	73629	69948	110326	141568	130699	101805	80390
14	96593	91823	109202	114166	90627	74068	70520	117255	141568	129586	100800	79937
15	95777	92063	109202	113464	89993	73995	71382	121373	141568	128570	99722	79109
16	94964	92383	108857	112851	89993	73629	73265	123179	141568	127558	98647	79109
17	93993	96511	108771	112152	89359	73120	75021	124541	141568	126915	97494	78809
18	93187	99060	108426	111281	88886	72539	76053	126640	141568	126366	96348	78434
19	92223	99474	107911	110500	88020	72466	76942	130049	141568	125817	95127	78060
20	91264	104753	107310	109807	87237	72249	77240	133967	141568	124814	93912	77687
21	90151	105687	106882	109029	86846	72394	77204	136606	141568	124541	92785	77165
22	89676	105687	106199	108168	86067	72249	77389	136796	141472	123361	91983	76720
23	89755	106028	105602	107310	85523	72167	77836	137080	141761	122275	91105	76201
24	89202	109029	105262	106455	84903	72104	78809	139269	141665	121373	90389	75758
25	88413	112065	109547	105687	84131	72032	79711	139364	141472	120474	89993	75315
26	87472	112939	113815	105007	83362	72176	79937	139938	141472	119578	89439	74874
27	86768	113377	115753	103907	82596	72539	80239	140033	141472	118684	88886	74434
28	85911	113464	116549	103316	81832	72756	80239	140033	141472	117793	88413	73995
29	84980	113378	116549	102559	81072	72829	80239	139938	141376	116993	88020	72974
30	84362	113026	117526	101721	---	72684	80239	139938	141088	116283	87393	72104
31	83669	---	118416	100969	---	72539	---	139842	---	115753	86846	---
MAX	103991	113464	118416	118862	100137	80315	80239	140033	141761	140608	114870	86222
MIN	83669	83900	105262	100969	81072	72032	69948	80466	139842	115753	86846	72104
a	3890.9	3926.6	3932.7	3912.5	3887.5	3876.0	3886.4	3955.9	3957.2	3929.7	3895.0	3875.4
b	-20661	+29357	+5390	-17447	-19897	-8533	+7700	+59603	+1246	-25335	-28907	-14742

CAL YR 1983: b +29214

WTR YR 1984: b -32226

a Elevation, in feet, at end of month.

b Change in contents, in acre-feet.

## SAN JOAQUIN RIVER BASIN

## 11314000 TIGER CREEK POWERHOUSE CONDUIT BELOW SALT SPRINGS DAM, CA

LOCATION (REVISED).--Lat 38°29'45", long 120°13'11", in SE 1/4 SW 1/4 sec.33, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 1,000 ft downstream from Salt Springs Dam and powerhouse, and 18 mi northeast of West Point.

PERIOD OF RECORD.--June 1931 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 3,700 ft, 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 and Cole Creek diversion to Salt Springs powerhouse. This diversion averaged 219 ft<sup>3</sup>/s during current year. 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.--53 years, 363 ft<sup>3</sup>/s, 263,000 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 577 ft<sup>3</sup>/s June 22, 1945; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	549	531	550	547	542	547	539	548	548	546	555	550
2	550	531	549	547	542	545	539	549	547	546	556	548
3	549	530	549	547	542	543	538	549	545	546	557	549
4	549	530	549	547	542	544	539	548	547	552	557	548
5	549	320	549	547	541	545	538	28	547	558	557	547
6	549	550	549	546	541	547	539	1.9	547	555	556	547
7	549	550	549	546	541	546	538	.01	548	555	556	547
8	548	550	549	546	541	546	535	0	548	555	555	546
9	541	550	549	546	540	545	536	0	547	556	556	544
10	536	550	501	546	545	545	535	0	546	556	553	544
11	535	550	501	547	549	546	536	0	546	555	554	543
12	537	550	548	546	548	545	535	0	546	555	553	543
13	535	550	524	546	548	544	537	0	545	556	553	541
14	529	550	539	546	548	544	532	0	547	556	552	536
15	526	550	547	546	529	544	536	0	548	556	553	544
16	522	550	547	546	546	543	536	0	548	556	552	542
17	518	501	547	546	546	543	536	0	548	556	551	540
18	518	550	547	545	547	542	535	0	547	556	550	541
19	515	550	547	545	547	541	534	287	547	552	549	542
20	511	501	547	545	546	542	534	547	546	556	549	542
21	507	550	549	544	546	543	120	549	547	555	549	541
22	104	550	547	544	547	538	123	548	547	555	549	541
23	15	550	547	544	541	515	549	548	547	555	549	543
24	533	501	547	544	547	543	549	548	547	556	548	544
25	551	501	547	544	547	543	549	547	547	555	548	541
26	550	550	547	543	548	542	549	547	546	554	544	550
27	546	550	501	542	547	541	549	547	546	555	544	557
28	539	550	501	542	547	541	549	547	546	419	544	564
29	538	550	501	542	547	541	549	547	546	554	545	565
30	538	550	501	542	---	532	548	547	546	554	544	566
31	538	---	547	542	---	538	---	546	---	555	550	---
TOTAL	15674	15996	16672	16896	15788	16804	15361	9078.91	16403	17046	17088	16396
MEAN	506	533	538	545	544	542	512	293	547	550	551	547
MAX	551	550	550	547	549	547	549	549	548	558	557	566
MIN	15	320	501	542	529	515	120	0	545	419	544	536
AC-FT	31090	31730	33070	33510	31320	33330	30470	18010	32540	33810	33890	32520
CAL YR 1983	TOTAL	182951.30	MEAN	501	MAX	553	MIN	0	AC-FT	362900		
WTR YR 1984	TOTAL	189202.91	MEAN	517	MAX	566	MIN	0	AC-FT	375300		

## 11314500 NORTH FORK MOKELUMNE RIVER BELOW SALT SPRINGS DAM, CA

LOCATION (REVISED).--Lat 38°29'37", long 120°13'08", in NE 1/4 NW 1/4 sec.4, T.7 N., R.16 E., Calaveras County, Hydrologic Unit 18040012, Stanislaus National Forest, on left bank 0.5 mi downstream from Salt Springs Dam, 1.3 mi upstream from Cole Creek, and 18 mi northeast of West Point.

DRAINAGE AREA.--170 mi<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, from topographic map. Prior to Sept. 12, 1928, at site 100 ft upstream and Sept. 12, 1928, to Sept. 23, 1940, at present site at datum 2.0 ft higher.

REMARKS.--Flow regulated since 1931 by Salt Springs Reservoir (station 11313500) 0.5 mi upstream. Water is imported from Bear River and Cole Creek to Salt Springs powerhouse above the station since December 1952. Then most of the water is diverted 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).--58 years, 486 ft<sup>3</sup>/s, 352,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft<sup>3</sup>/s, Nov. 21, 1950, gage height, 17.20 ft, from rating curve extended above 3,900 ft<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 Mar. 31, Apr. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,580 ft<sup>3</sup>/s June 4, gage height, 10.33 ft; minimum daily, 11 ft<sup>3</sup>/s Aug. 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	103	319	333	303	255	246	216	1680	366	270	16
2	263	177	319	332	302	255	244	253	1170	366	270	16
3	176	333	322	331	299	255	244	255	1370	366	283	16
4	133	349	322	331	298	254	243	259	2510	355	295	15
5	130	251	319	330	296	251	243	814	1570	327	288	16
6	130	260	316	329	296	249	242	527	1520	352	279	16
7	129	260	316	178	294	248	242	836	1110	351	281	17
8	240	246	316	323	293	247	244	839	731	350	279	18
9	308	234	318	327	292	246	243	847	807	348	279	18
10	274	227	353	327	285	246	243	855	1000	346	275	17
11	251	99	372	326	280	244	242	864	702	345	280	17
12	264	80	339	324	279	244	233	875	800	343	279	18
13	288	95	334	324	279	244	241	885	786	341	279	21
14	288	73	337	322	278	246	221	724	933	338	278	17
15	293	206	320	321	236	246	244	904	844	335	278	17
16	316	278	316	321	281	245	248	908	1030	275	278	18
17	318	338	316	310	278	245	254	910	1140	249	279	18
18	316	314	316	319	276	244	259	760	1190	299	279	17
19	319	315	315	318	273	243	263	527	975	245	284	17
20	321	361	314	316	272	242	264	823	847	262	288	16
21	308	326	335	316	272	242	708	2120	612	261	287	17
22	240	308	476	314	271	243	675	2460	504	257	278	18
23	225	309	308	313	244	267	246	2230	509	259	109	18
24	263	357	313	312	267	242	247	2400	651	249	14	18
25	269	356	329	311	264	242	249	2040	595	245	14	17
26	247	322	335	311	263	243	249	2280	414	251	14	17
27	229	321	367	309	261	244	250	2150	399	266	12	17
28	256	321	382	307	259	245	250	2330	372	173	11	17
29	266	321	381	306	257	246	250	2960	367	199	11	18
30	272	320	383	305	---	246	240	2920	367	94	11	16
31	232	---	351	303	---	246	---	2480	---	109	14	---
TOTAL	7828	7860	10459	9749	8048	7655	8267	40251	27505	8922	6376	514
MEAN	253	262	337	314	278	247	276	1298	917	288	206	17.1
MAX	321	361	476	333	303	267	708	2960	2510	366	295	21
MIN	129	73	308	178	236	242	221	216	367	94	11	15
AC-FT	15530	15590	20750	19340	15960	15180	16400	79840	54560	17700	12650	1020
CAL YR 1983	TOTAL	264416	MEAN 724	MAX 5230	MIN 73	AC-FT 524500						
WTR YR 1984	TOTAL	143434	MEAN 392	MAX 2960	MIN 11	AC-FT 284500						

## SAN JOAQUIN RIVER BASIN

11315000 COLE CREEK NEAR SALT SPRINGS DAM, CA

LOCATION (REVISED).--Lat 38°31'09", long 120°12'42", in SW 1/4 NE 1/4 sec.28, T.8 N., R.16 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on left bank 200 ft downstream from bridge, 0.3 mi upstream from diversion dam, 1.4 mi north of Salt Springs Dam, 3.2 mi upstream from mouth, and 6.5 mi southwest of Mokelumne Peak.

DRAINAGE AREA.--21.0 mi<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 5,920 ft (revised), from topographic map. Prior to Oct. 30, 1974, at site 0.4 mi 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.--56 years, 66.3 ft<sup>3</sup>/s, 48,030 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,140 ft<sup>3</sup>/s Dec. 23, 1964, gage height, 10.21 ft site and datum then in use, from rating curve extended above 900 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 9.69 ft site and datum then in use; no flow many days in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,790 ft<sup>3</sup>/s Nov. 19, gage height 4.83 ft; minimum daily, 0.10 ft<sup>3</sup>/s Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	279	57	126	42	36	64	127	208	23	.81	.22
2	36	84	57	100	42	36	58	153	195	21	.78	.22
3	25	43	51	92	42	36	63	243	169	18	.72	.21
4	16	32	61	120	42	40	79	213	431	16	.70	.18
5	12	26	68	128	42	45	68	177	237	13	.65	.21
6	9.7	22	47	113	42	56	66	175	256	11	.58	.19
7	8.6	57	44	105	42	65	94	221	161	9.5	.54	.16
8	11	33	47	90	42	70	116	300	135	8.0	.49	.17
9	10	31	58	80	42	76	76	325	142	6.5	.45	.17
10	9.1	65	50	73	41	78	72	339	130	5.5	.43	.14
11	7.4	561	65	64	41	70	66	382	120	4.7	.48	.13
12	6.0	197	65	57	39	56	80	376	124	4.1	.43	.15
13	5.2	122	63	57	51	91	109	448	125	3.7	.40	.15
14	4.7	79	105	51	54	92	169	343	137	3.3	.41	.11
15	4.5	71	106	48	48	62	223	203	130	3.2	.38	.15
16	4.2	221	81	48	45	53	237	132	142	3.0	.37	.15
17	4.0	713	83	47	41	54	216	186	134	3.8	.34	.10
18	3.7	150	68	46	39	49	148	247	118	3.5	.33	.25
19	3.5	542	61	45	37	73	107	331	104	2.9	.32	.63
20	3.3	356	56	44	36	111	87	372	85	2.4	.31	.38
21	3.0	135	51	44	34	116	87	320	72	2.2	.30	.29
22	2.7	100	48	39	33	89	118	342	65	2.0	.30	.26
23	3.0	88	50	41	33	92	166	389	65	1.9	.31	.24
24	4.0	714	143	41	33	114	178	302	60	1.9	.25	.20
25	3.7	223	800	41	33	111	142	306	53	1.7	.25	.20
26	2.8	120	617	41	33	160	94	288	46	1.5	.25	.17
27	2.5	93	348	41	33	127	77	320	39	1.3	.22	.16
28	2.3	81	170	41	33	110	67	348	35	1.2	.24	.17
29	2.3	74	137	42	33	111	72	376	33	1.1	.22	.17
30	15	62	206	42	---	81	95	318	27	.98	.22	.23
31	169	---	217	42	---	79	---	265	---	.89	.21	---
TOTAL	435.2	5374	4080	1989	1148	2439	3294	8867	3778	182.77	12.69	6.16
MEAN	14.0	179	132	64.2	39.6	78.7	110	286	126	5.90	.41	.21
MAX	169	714	800	128	54	160	237	448	431	23	.81	.63
MIN	2.3	22	44	39	33	36	58	127	27	.89	.21	.10
AC-FT	863	10660	8090	3950	2280	4840	6530	17590	7490	363	25	12

CAL YR 1983 TOTAL 53005.10 MEAN 145 MAX 958 MIN 1.3 AC-FT 105100  
WTR YR 1984 TOTAL 31605.82 MEAN 86.4 MAX 800 MIN .10 AC-FT 62690

## 11316000 BEAR RIVER NEAR SALT SPRINGS DAM, CA

LOCATION.--Lat 38°29'36" (revised), long 120°17'18", in NE 1/4 NW 1/4 sec.2, T.7 N., R.15 E., Amador County, Hydrologic Unit 18040012, Eldorado National Forest, on right bank 200 ft upstream from diversion to Tiger Creek powerhouse conduit and highway bridge, 1.5 mi upstream from mouth, and 4 mi west of Salt Springs Dam.

DRAINAGE AREA.--48.0 mi<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, from photogrammetric map.

REMARKS.--Flow regulated since 1900 by Bear River Reservoir, capacity, 6,760 acre-ft, and since December 1952 by Lower Bear River Reservoir 4 mi upstream, capacity, 49,100 acre-ft. 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.--33 years, 57.0 ft<sup>3</sup>/s, 41,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 10.11 ft in gage well, 11.8 ft from flood profile, from rating curve extended above 560 ft<sup>3</sup>/s on basis of slope-area measurement of maximum flow; minimum daily, 0.53 ft<sup>3</sup>/s Sept. 7, 13, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1950 reached a stage of 11.2 ft, from floodmarks, discharge, 10,000 ft<sup>3</sup>/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft<sup>3</sup>/s June 4, gage height, 3.61 ft; minimum daily, 4.0 ft<sup>3</sup>/s Nov. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	15	45	382	22	29	30	34	257	12	5.5	4.8
2	7.3	5.9	57	311	21	29	29	46	217	11	5.5	4.7
3	6.6	5.1	64	266	20	29	28	36	217	8.7	5.5	4.6
4	6.6	4.5	52	245	19	29	27	30	511	7.8	5.5	4.6
5	6.6	4.0	43	240	19	29	26	28	151	7.7	5.4	5.0
6	6.5	4.5	40	229	18	29	25	26	351	7.5	5.4	4.9
7	6.5	5.2	38	222	18	29	24	24	362	7.4	5.3	4.8
8	7.1	5.4	42	217	17	29	29	23	119	7.3	5.3	4.8
9	6.7	5.7	68	187	20	29	25	23	24	7.2	5.2	4.8
10	6.5	9.2	96	159	21	28	31	26	80	7.1	5.1	4.7
11	6.5	58	97	125	18	27	28	137	98	7.0	5.4	5.1
12	6.5	21	75	92	22	26	26	616	53	6.9	5.4	5.1
13	6.5	19	73	69	40	68	25	620	52	6.9	5.5	5.0
14	6.5	16	74	54	34	62	24	631	151	7.3	5.4	5.0
15	6.4	14	69	45	57	60	24	634	201	7.3	5.4	5.4
16	6.4	59	66	44	56	55	23	541	134	7.5	5.4	6.3
17	6.3	277	77	37	30	54	24	461	73	7.8	5.3	5.5
18	6.3	94	65	33	30	51	27	222	28	7.6	5.2	4.9
19	6.3	149	59	31	28	53	30	70	33	7.4	5.1	5.1
20	6.3	156	55	30	29	55	28	156	25	7.3	5.1	4.9
21	6.4	86	50	29	29	53	27	641	20	5.7	5.1	4.8
22	6.5	61	45	27	28	47	28	655	19	5.7	5.1	4.8
23	6.8	72	47	26	28	44	27	606	19	5.7	5.0	4.7
24	6.5	283	102	25	27	41	25	545	18	5.6	5.0	4.8
25	6.5	149	337	25	27	39	24	360	17	5.6	5.0	4.9
26	6.5	101	397	24	26	42	23	157	16	5.5	5.0	4.9
27	6.5	81	524	23	27	37	22	377	16	5.5	4.9	4.9
28	6.4	67	458	23	27	34	21	514	15	5.7	4.9	4.8
29	8.5	56	397	23	27	32	20	497	14	5.7	4.9	4.8
30	8.3	50	409	22	---	30	20	487	13	5.6	4.8	5.4
31	19	---	426	22	---	32	---	386	---	5.5	4.9	---
TOTAL	220.2	1933.5	4447	3287	785	1231	770	9609	3304	218.5	161.5	148.8
MEAN	7.10	64.5	143	106	27.1	39.7	25.7	310	110	7.05	5.21	4.96
MAX	19	283	524	382	57	68	31	655	511	12	5.5	6.3
MIN	6.3	4.0	38	22	17	26	20	23	13	5.5	4.8	4.6
AC-FT	437	3840	8820	6520	1560	2440	1530	19060	6550	433	320	295
CAL YR 1983	TOTAL	51176.3	MEAN	140	MAX	878	MIN	4.0	AC-FT	101500		
WTR YR 1984	TOTAL	26115.5	MEAN	71.4	MAX	655	MIN	4.0	AC-FT	51800		

## SAN JOAQUIN RIVER BASIN

11316800 FOREST CREEK NEAR WILSEYVILLE, CA

LOCATION.--Lat 38°24'12", long 120°26'45", in SW 1/4 NW 1/4 sec.4, T.6 N., R.14 E., Calaveras County, Hydrologic Unit 18040012, on left bank 1.0 mi downstream from Lion Creek, 1.8 mi upstream from mouth, and 4 mi northeast of Wilseyville.

DRAINAGE AREA.--20.8 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Altitude of gage is 2,950 ft, from topographic map.

REMARKS.--Records fair. No regulation. Minor diversions above station for irrigation and domestic use. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--24 years, 25.8 ft<sup>3</sup>/s, 18,690 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft<sup>3</sup>/s Dec. 24, 1964, gage height, 7.68 ft, from rating curve extended above 500 ft<sup>3</sup>/s on basis of slope-area measurement at gage height 7.41 ft; minimum daily discharge, 0.11 ft<sup>3</sup>/s Aug. 14, 1977.

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

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 11	0615	133	3.99	Dec. 9	2330	172	4.16
Nov. 17	1430	434	5.03	Dec. 25	1600	529	5.28
Nov. 24	1500	*657	5.59	Feb. 16	0115	125	3.95
Dec. 3	1900	199	4.27	Mar. 13	1930	121	3.93

Minimum daily, 3.0 ft<sup>3</sup>/s Aug. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	14	43	132	28	38	40	28	14	9.6	5.9	4.1
2	9.5	15	45	114	28	38	39	35	14	9.0	5.7	4.1
3	9.5	11	97	100	28	38	38	30	14	8.2	5.5	4.0
4	9.1	9.9	86	93	28	37	37	29	17	8.0	5.5	4.1
5	8.5	9.3	60	86	27	36	36	28	20	7.9	5.4	3.9
6	8.3	8.8	53	79	26	35	35	27	17	7.9	5.2	4.1
7	8.2	8.8	48	73	26	34	33	25	16	7.8	5.1	3.8
8	8.0	8.5	47	68	25	34	37	24	15	7.9	5.1	3.9
9	8.0	8.5	74	63	29	33	34	24	14	7.8	5.0	3.9
10	8.0	10	125	60	30	33	35	23	14	8.1	4.5	3.8
11	7.8	65	132	56	28	32	34	22	14	7.8	4.5	3.7
12	7.7	27	107	53	29	31	32	22	13	7.8	4.8	4.0
13	7.4	40	86	51	43	56	31	21	13	7.7	5.0	3.9
14	7.4	28	78	49	47	75	30	21	12	7.4	5.0	4.0
15	7.3	20	71	47	59	76	29	21	12	7.6	4.7	4.0
16	7.2	33	66	49	90	69	29	20	12	7.8	5.0	3.9
17	7.2	233	73	45	59	73	29	20	12	6.9	4.3	3.8
18	7.2	82	64	43	51	66	31	19	12	6.7	3.9	3.6
19	6.9	89	60	41	47	61	41	19	11	6.3	3.8	3.8
20	6.9	155	57	40	45	60	39	18	11	6.3	3.8	4.1
21	6.9	74	53	39	56	57	36	18	10	6.2	4.1	3.9
22	6.9	54	51	37	50	54	33	17	10	6.5	3.8	3.9
23	6.9	53	58	36	47	51	31	15	11	6.7	3.7	4.0
24	7.1	254	129	35	46	49	30	15	11	6.8	3.5	3.9
25	6.9	155	398	34	45	47	29	15	11	6.6	3.0	4.0
26	6.9	92	409	33	42	46	29	15	11	6.6	3.2	3.9
27	6.7	71	362	32	41	44	28	15	10	5.9	3.4	4.0
28	6.7	59	241	30	40	42	28	15	10	5.6	3.5	4.0
29	6.6	52	189	30	39	40	27	15	9.8	5.6	3.7	4.0
30	7.3	46	188	30	---	39	26	14	9.7	5.6	3.8	4.3
31	8.8	---	158	29	---	41	---	14	---	6.0	3.9	---
TOTAL	236.6	1785.8	3708	1707	1179	1465	986	644	380.5	222.6	137.3	118.4
MEAN	7.63	59.5	120	55.1	40.7	47.3	32.9	20.8	12.7	7.18	4.43	3.95
MAX	9.5	254	409	132	90	76	41	35	20	9.6	5.9	4.3
MIN	6.6	8.5	43	29	25	31	26	14	9.7	5.6	3.0	3.6
AC-FT	469	3540	7350	3390	2340	2910	1960	1280	755	442	272	235
CAL YR 1983	TOTAL	27216.6	MEAN	74.6	MAX	541	MIN	6.6	AC-FT	53980		
WTR YR 1984	TOTAL	12570.2	MEAN	34.3	MAX	409	MIN	3.0	AC-FT	24930		

## 11317000 MIDDLE FORK MOKELUMNE RIVER AT WEST POINT, CA

LOCATION.--Lat 38°23'23", long 120°31'32", in SE 1/4 NE 1/4 sec.10, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 200 ft downstream from highway bridge, 0.6 mi south of West Point, and 4.5 mi upstream from South Fork Mokelumne River.

DRAINAGE AREA.--68.4 mi<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, from topographic map. Prior to Oct. 6, 1926, nonrecording gage at site 1,200 ft upstream at different datum. Oct. 6, 1926, to Aug. 18, 1928, nonrecording gage at present site and datum.

REMARKS.--Records good prior to July, poor thereafter. Stage-discharge relation affected by swimmer dams during summer months. Flow slightly regulated by Middle Fork Reservoir, capacity, 1,740 acre-ft, 6 mi above station, since January 1940. Several small diversions above station. At times water diverted 4 mi above station to South Fork Mokelumne River via Middle Fork ditch, capacity, 10 ft<sup>3</sup>/s and Licking Fork Mokelumne River. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE.--73 years, 64.9 ft<sup>3</sup>/s, 47,020 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,510 ft<sup>3</sup>/s Feb. 16, 1982, gage height, 8.67 ft; maximum gage-height, 8.98 ft Dec. 23, 1955; no flow many days in 1931, and Sept. 9, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1400	1,480	5.58	Dec. 11	1800	527	3.60
Nov. 24	1530	*1,800	6.09	Dec. 25	1330	1,790	6.08
Dec. 3	1945	693	4.04				

Minimum daily, 11 ft<sup>3</sup>/s Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	71	116	401	88	116	119	84	41	25	16	14
2	35	53	119	349	86	114	115	108	41	24	16	14
3	32	36	312	310	83	112	111	93	38	23	16	14
4	29	32	289	287	81	110	107	86	51	23	15	14
5	28	30	175	268	79	105	108	84	58	22	15	14
6	27	30	148	245	78	103	104	81	49	21	15	14
7	27	30	131	227	76	101	99	78	48	20	13	14
8	27	29	125	211	75	99	109	75	44	19	14	14
9	28	30	199	196	87	98	103	71	42	19	13	13
10	28	41	396	184	100	96	107	69	40	19	13	13
11	27	227	399	175	85	94	103	69	39	19	15	13
12	26	93	331	165	89	92	97	69	38	21	14	14
13	26	130	244	158	124	163	93	65	37	20	14	14
14	26	101	217	151	161	273	90	64	37	20	15	14
15	26	65	193	144	174	249	88	62	38	22	14	14
16	26	101	178	152	303	221	88	61	36	22	15	14
17	25	847	193	141	188	253	88	57	35	20	14	14
18	25	303	172	132	160	209	96	56	34	20	14	14
19	25	261	160	127	146	192	138	54	33	19	14	14
20	25	529	153	122	137	184	124	52	33	18	13	16
21	25	248	142	119	210	173	111	51	32	18	14	16
22	24	171	138	115	168	162	101	48	32	19	14	15
23	25	158	158	112	152	152	98	46	32	20	14	15
24	26	804	414	108	148	146	93	45	32	19	14	15
25	25	509	1410	106	142	140	88	45	31	18	14	15
26	24	268	1420	102	133	137	86	44	30	17	12	14
27	24	197	1200	98	128	134	85	44	28	16	12	13
28	23	164	779	96	123	126	84	44	28	16	11	14
29	24	143	574	94	118	122	79	48	28	16	12	14
30	31	127	559	92	---	117	78	47	27	16	12	14
31	41	---	482	89	---	122	---	45	---	16	13	---
TOTAL	843	5828	11526	5276	3722	4515	2990	1945	1112	607	430	424
MEAN	27.2	194	372	170	128	146	99.7	62.7	37.1	19.6	13.9	14.1
MAX	41	847	1420	401	303	273	138	108	58	25	16	16
MIN	23	29	116	89	75	92	78	44	27	16	11	13
AC-FT	1670	11560	22860	10460	7380	8960	5930	3860	2210	1200	853	841
CAL YR 1983	TOTAL	87417	MEAN	239	MAX	1630	MIN	23	AC-FT	173400		
WTR YR 1984	TOTAL	39218	MEAN	107	MAX	1420	MIN	11	AC-FT	77790		

## SAN JOAQUIN RIVER BASIN

11318500 SOUTH FORK MOKELUMNE RIVER NEAR WEST POINT, CA

LOCATION.--Lat 38°22'06", long 120°32'40", in SE 1/4 SE 1/4 sec.16, T.6 N., R.13 E., Calaveras County, Hydrologic Unit 18040012, on right bank 500 ft upstream from highway bridge, 2.4 mi southwest of West Point, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--75.1 mi<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, from topographic map. October 1933 to Sept. 19, 1957, at site 1,100 ft downstream at different datum.

REMARKS.--Records good except those for May 7 to June 21, which are fair. Several small diversions above station for domestic use and for irrigation of about 100 acres. 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.--51 years, 87.8 ft<sup>3</sup>/s, 63,610 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,920 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 14.8 ft from floodmarks, site and datum then in use, from rating curve extended above 2,700 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1330	1,570	6.93	Dec. 3	2015	690	5.32
Nov. 20	0145	678	5.29	Dec. 10	0015	624	5.16
Nov. 24	1515	2,120	7.65	Dec. 25	1600	*2,180	7.72

Minimum daily, 4.9 ft<sup>3</sup>/s Sept. 11

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	72	114	418	82	122	117	87	43	26	13	6.9
2	29	51	113	360	81	120	114	101	42	25	13	6.0
3	28	39	320	316	79	118	111	89	40	23	12	6.6
4	28	35	321	295	77	115	108	85	50	23	12	5.9
5	28	32	194	271	75	110	107	82	62	23	12	6.4
6	27	33	156	244	74	103	103	80	55	22	12	6.2
7	27	33	135	224	73	102	98	77	50	21	12	5.9
8	27	33	127	207	72	100	109	75	47	20	12	6.0
9	27	34	223	191	73	98	101	73	45	20	12	6.6
10	28	41	502	177	99	95	107	72	42	19	10	5.9
11	26	221	497	167	80	93	102	70	41	19	10	4.9
12	26	86	423	157	79	92	98	68	40	19	11	5.4
13	26	136	318	150	82	172	96	66	38	18	12	5.4
14	26	101	271	143	165	278	93	65	38	18	12	5.9
15	25	66	238	136	116	262	91	63	40	19	11	6.0
16	25	103	215	144	293	244	89	60	39	19	12	5.7
17	25	834	221	133	232	305	90	58	37	18	10	5.3
18	25	277	195	125	182	242	103	57	36	19	9.2	5.1
19	25	231	178	119	162	222	127	55	34	18	9.1	5.2
20	25	533	166	115	148	207	112	54	34	19	8.8	7.3
21	24	253	153	111	202	190	104	52	33	18	9.6	6.9
22	24	166	148	108	222	175	100	50	32	18	8.9	6.3
23	24	146	176	104	181	163	96	48	31	19	8.6	7.0
24	25	868	463	100	164	155	92	46	30	22	8.5	7.1
25	25	542	1670	98	160	147	88	45	29	22	6.9	7.1
26	23	296	1610	96	147	143	87	45	30	17	7.6	5.7
27	22	213	1380	92	139	136	86	44	28	15	7.8	5.8
28	24	173	866	90	132	127	84	44	27	15	7.7	5.7
29	27	145	635	88	127	122	81	49	26	15	7.6	5.4
30	34	127	586	86	---	116	80	48	26	15	7.0	6.3
31	42	---	499	84	---	123	---	47	---	14	7.0	---
TOTAL	826	5920	13113	5149	3798	4797	2974	1955	1145	598	312.3	181.9
MEAN	26.6	197	423	166	131	155	99.1	63.1	38.2	19.3	10.1	6.06
MAX	42	868	1670	418	293	305	127	101	62	26	13	7.3
MIN	22	32	113	84	72	92	80	44	26	14	6.9	4.9
AC-FT	1640	11740	26010	10210	7530	9510	5900	3880	2270	1190	619	361
CAL YR 1983	TOTAL	103221	MEAN	283	MAX	2280	MIN	22	AC-FT	204700		
WTR YR 1984	TOTAL	40769.2	MEAN	111	MAX	1670	MIN	4.9	AC-FT	80870		

NOTE.--No gage-height record May 7 to June 21.



## 11319500 MOKELUMNE RIVER NEAR MOKELUMNE HILL, CA

LOCATION.--Lat 38°18'46", long 120°43'09", in SW 1/4 SW 1/4 sec.1, T.5 N., R.11 E., Calaveras County, Hydrologic Unit 18040012, on downstream side of bridge 1.2 mi northwest of Mokelumne Hill, and 8 mi downstream from confluence of North and South Forks of Mokelumne River.

DRAINAGE AREA.--544 mi<sup>2</sup>.

PERIOD OF RECORD.--January to June 1901, May 1903 to December 1904, October 1927 to current year. Yearly estimate only for water year 1928 (incomplete), published in WSP 1315-A. Published as "at Electra" 1901, 1903-4.

REVISED RECORDS.--WSP 1445: 1903-4, 1928(M), 1936(M), 1938(M), 1940(M), 1943(M), 1945(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 584.88 ft 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 upstream at different datum. Nov. 10, 1927, to Aug. 26, 1952, water stage recorder at site 40 ft upstream at datum 5.00 ft higher. Aug. 27, 1952, to Oct. 14, 1977, at present site at datum 5.00 ft 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.--58 years (water years 1904, 1928-84), 1,018 ft<sup>3</sup>/s, 737,500 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft<sup>3</sup>/s Dec. 3, 1950, gage height, 23.5 ft, present datum; minimum observed, 5 ft<sup>3</sup>/s Aug. 13-15, 17, 18, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,500 ft<sup>3</sup>/s Nov. 24, gage height, 16.68 ft; minimum daily, 328 ft<sup>3</sup>/s Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	1220	1590	3120	1370	1540	1410	1140	3090	1070	744	542
2	1060	1070	1600	2950	1370	1450	1390	1490	2250	1020	846	530
3	771	894	2220	2660	1270	1400	1390	1360	2280	1040	917	606
4	840	978	2290	2550	1340	1430	1360	1370	3200	1020	879	663
5	698	791	1940	2460	1290	1390	1400	1280	3780	1020	896	507
6	918	787	1740	2380	1300	1400	1340	1240	2610	983	912	650
7	804	997	1610	2210	1310	1370	1330	1180	2440	996	717	561
8	909	977	1710	2070	1300	1340	1290	1290	2010	998	876	505
9	974	965	1770	2160	1330	1300	1380	1360	1410	1000	854	534
10	980	994	2770	1960	1420	1360	1380	1380	1880	931	884	581
11	952	2100	2740	1980	1330	1290	1320	1440	1610	1060	868	567
12	944	1240	2650	1840	1350	1310	1340	2150	1590	1040	892	575
13	926	1220	2260	1780	1410	1450	1250	2220	1620	933	945	634
14	941	1300	2150	1670	1760	2200	1280	2210	1640	979	880	556
15	951	1050	2060	1700	1610	1920	1260	2080	2020	970	817	534
16	960	1080	1940	1710	2230	1920	1300	2020	1780	970	869	548
17	952	5620	1960	1660	1800	2040	1170	1840	2000	921	861	616
18	945	2680	1900	1660	1740	1880	1270	1770	1900	924	876	581
19	965	2050	1830	1490	1580	1780	1730	1120	1810	925	877	549
20	943	4320	1790	1560	1570	1750	1440	1430	1650	869	878	560
21	926	2500	1690	1550	1960	1690	1310	3330	1470	861	870	539
22	708	1860	1730	1490	1770	1700	1380	4080	1340	900	856	563
23	328	1920	1720	1520	1700	1590	1360	3960	1120	903	716	603
24	747	5540	2650	1460	1590	1540	1330	3840	1340	889	567	485
25	945	3940	7990	1480	1580	1520	1310	3560	1450	900	569	611
26	933	2590	9390	1380	1530	1490	1290	3230	1130	905	683	624
27	938	2170	7870	1450	1510	1540	1330	3210	1120	872	562	540
28	959	2000	5150	1410	1520	1450	1280	3600	1060	771	541	553
29	934	1760	3980	1410	1390	1450	1240	4300	1060	675	565	614
30	926	1640	3840	1340	---	1430	1230	4380	1040	862	616	675
31	1020	---	3670	1400	---	1420	---	3990	---	691	613	---
TOTAL	27847	58253	90200	57460	44230	48340	40090	72850	54700	28898	24446	17206
MEAN	898	1942	2910	1854	1525	1559	1336	2350	1823	932	789	574
MAX	1060	5620	9390	3120	2230	2200	1730	4380	3780	1070	945	675
MIN	328	787	1590	1340	1270	1290	1170	1120	1040	675	541	485
AC-FT	55230	115500	178900	114000	87730	95880	79520	144500	108500	57320	48490	34130
CAL YR 1983	TOTAL	966029	MEAN	2647	MAX	9810	MIN	328	AC-FT	1916000		
WTR YR 1984	TOTAL	564520	MEAN	1542	MAX	9390	MIN	328	AC-FT	1120000		

## SAN JOAQUIN RIVER BASIN

11320000 PARDEE RESERVOIR NEAR VALLEY SPRINGS, CA

LOCATION.--Lat 38°15'25", long 120°50'59", in NW 1/4 SW 1/4 sec.26, T.5 N., R.10 E., Amador County, Hydrologic Unit 18040012, at Pardee Dam on the Mokelumne River, 4.5 mi north of Valley Springs.

DRAINAGE AREA.--578 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1961 to current year. March 1929 to September 1930 (Lake elevation only), October 1930 to September 1933, published in reports of the Geological Survey. October 1933 to September 1961 in files of East Bay Municipal Utility District.

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District).

REMARKS.--Reservoir is formed by a curved concrete gravity dam, completed in 1929. Storage began Mar. 9, 1929. Usable capacity, 194,100 acre-ft between elevations 393.50 ft diversion tunnel invert, and 567.65 ft spillway crest. Dead storage, 15,800 acre-ft. Water is released from reservoir for municipal use in the area on the east side of San Francisco Bay. Small intermittent diversions are made to Jackson Valley Irrigation District. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Mokelumne River basin.

COOPERATION.--Records furnished by East Bay Municipal Utility District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 219,300 acre-ft Dec. 23, 1955, elevation, 571.72 ft; minimum, 47,000 acre-ft Mar. 25, 1977, elevation, 454.98 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 213,600 acre-ft Dec. 26, elevation, 569.27 ft; minimum, 182,000 acre-ft Aug. 31, elevation, 554.64 ft.

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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	187800	185200	199200	210100	195100	202400	202100	203100	211600	204600	187600	182400
2	188800	185100	199400	210100	195400	202600	202400	203100	211200	203900	187500	182700
3	188600	184700	199700	210200	195300	202800	202900	202700	211200	203400	187400	183200
4	188600	184400	199000	208200	195400	203000	203300	202300	212600	203700	187600	183200
5	188200	185200	199500	206000	195300	203700	203700	201800	211600	203500	188200	183100
6	188400	185900	199400	205300	195300	204100	203300	201100	211500	203100	188200	183100
7	188300	186100	199000	204500	195300	204300	202800	200400	211300	202500	188100	182900
8	188400	186200	199400	201400	195200	204400	202200	199900	210900	202700	188000	182800
9	189400	186400	199700	199100	195600	204500	202400	199500	210300	202100	187900	182900
10	189700	186800	198800	199300	196100	204200	202900	199100	210600	201400	187800	183100
11	189900	189500	199600	198800	196400	203700	203200	198800	210400	201000	188100	183400
12	190100	190300	199300	199400	196800	203300	203400	199900	210300	200700	187900	183300
13	190300	191300	198700	199200	197400	203500	203300	201200	210300	200000	187900	183400
14	190400	192100	199200	199100	198700	204200	203500	202500	210300	199500	187700	183200
15	190700	192000	199500	199000	199700	204100	203700	203400	210700	199600	187700	183600
16	191600	192200	199100	199300	201900	204000	204000	203800	210600	199100	187100	184000
17	191600	201600	199300	198600	203200	203600	203300	202700	210800	198400	186100	184000
18	191200	204900	198900	196200	204400	202900	202700	202100	210800	197800	185900	184000
19	190900	207000	198900	193700	205000	201900	203100	201200	210600	197100	186200	183800
20	190600	210400	199000	194100	205300	202300	203700	200900	210500	196300	186900	183600
21	190100	208100	199000	193500	205600	202500	204000	204400	210100	195600	186800	183500
22	189400	204900	199100	194000	204900	202700	204400	209400	209700	195500	186200	183800
23	188100	202200	198900	193600	204600	202700	204800	212100	208800	194700	185600	184300
24	187200	206400	199500	194000	204200	202700	205100	212300	208300	194100	185900	184100
25	186800	207100	208800	193700	203700	202600	205400	211900	208100	193300	185900	184000
26	186400	205000	213600	194100	203100	202400	205600	212000	207400	192500	185900	184000
27	186000	202000	213000	193700	202700	202300	205500	212000	206700	191800	185500	183800
28	185700	199800	212200	194000	202200	202600	205000	212100	205800	191000	184500	183600
29	185300	198700	211700	193300	202000	203000	204500	212300	205000	190500	183300	184000
30	185000	199000	211700	194000	---	202700	203800	212400	204200	189700	182100	184700
31	185100	---	211200	194700	---	202400	---	212100	---	188600	182000	---
MAX	191600	210400	213600	210200	205600	204500	205600	212400	212600	204600	188200	184700
MIN	185000	184400	198700	193300	195100	201900	202100	198800	204200	188600	182000	182400
a	556.15	562.69	568.20	560.73	564.08	564.27	564.90	568.60	565.10	557.86	554.64	555.96
b	-2300	+13900	+12200	-16500	+7300	+400	+1400	+8300	-7900	-15600	-6700	+2700
c	478	416	152	93	153	484	653	1259	1446	1661	1243	903
d	16522	12986	12366	12075	17208	17271	18235	19478	19913	20382	18830	17881

CAL YR 1983 b +23600

WTR YR 1984 b - 2700

a Elevation, in feet NGVD, at end of month.  
b Change in contents, in acre-feet.  
c Evaporation, in acre-feet.  
d Diversion, in acre-feet, from Pardee Reservoir to East Bay Municipal Utility District and to Jackson Valley Irrigation District.

## 11322300 CAMANCHE RESERVOIR NEAR CLEMENTS, CA

LOCATION.--Lat 38°13'31", long 121°01'17", in NE 1/4 SE 1/4 sec.6, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, at Camanche Dam on the Mokelumne River, 4.3 mi northeast of Clements.

DRAINAGE AREA.--621 mi<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 between elevations 104.00 ft invert of emergency valve release, and 235.50 ft spillway crest. Dead storage, 534 acre-ft. Camanche Reservoir provides holdover storage to meet downstream water requirements and flood control on the Mokelumne River. Records, including extremes, represent total contents at 0800 hours. Prior to July 1, 1984 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 June 6, 1979, elevation, 235.42 ft; minimum since reservoir first filled, 234,700 acre-ft Jan 16, 1984, elevation, 205.78 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 407,700 acre-ft June 29, elevation, 232.42 ft; minimum, 234,700 acre-ft Jan 15, elevation, 205.78 ft.

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

120	4,970	120	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 1983 TO SEPTEMBER 1984  
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	351700	303100	267900	259100	235800	249300	267200	288500	370600	407100	405200	386100
2	349400	301800	266000	256300	235700	249400	267400	289600	371800	407100	404700	386100
3	347500	300500	265000	255200	235800	249600	267900	290800	375600	406800	403700	384600
4	346000	299300	262100	253900	236100	249200	268300	291900	382200	406900	403000	383000
5	344300	296600	259100	251100	236400	249100	269500	293000	385300	406700	402100	382100
6	342500	294100	256400	248000	237000	249300	270700	294200	388000	406600	401500	380900
7	340700	292300	253100	246900	237800	249400	272100	295400	389900	406300	401100	379800
8	338800	290500	250300	245500	238400	249400	272700	296600	390800	406200	400600	378800
9	336400	289100	250500	241700	239000	250000	273300	297700	391500	406300	400000	377600
10	334500	288700	249200	239800	239600	250500	273600	298900	392500	406400	399400	376400
11	332800	288900	248600	237200	239800	250900	274100	300100	393300	406500	398800	375100
12	331000	288100	247400	236400	240200	251900	275000	301300	394000	406600	398200	373600
13	329300	286800	245100	235700	240300	252900	275400	302400	394900	406300	397700	372400
14	327300	284900	243000	235500	240300	254300	275800	303600	396000	406100	397200	371400
15	325400	283700	241900	234700	240200	256000	276100	305200	397100	406000	396700	370000
16	322800	281500	240500	234800	239900	257800	277200	308100	398500	406000	396900	368400
17	321200	277400	239700	236800	239700	259700	278400	310300	399800	406100	396800	367200
18	319900	274300	238400	238800	239400	261600	279700	311700	400900	406100	396300	366300
19	318600	274200	237100	238000	239900	262300	280000	313000	401800	406100	395400	365100
20	317600	275400	236200	238400	242400	262700	280500	314100	402600	405900	394100	364200
21	316500	275900	235900	237700	244300	263300	280900	315400	403300	405600	393900	363000
22	315200	276200	235900	237800	245600	263800	281300	318500	404000	405300	393900	361800
23	313800	277500	239400	237400	246600	264200	281500	324000	404800	405400	393700	360800
24	312700	278500	243600	237700	247400	264800	281800	329600	405300	405400	392000	358600
25	311400	279300	250900	237200	248100	265300	282200	334000	405800	405500	390800	357400
26	310100	280400	259000	237500	248700	265800	282900	338600	406300	405900	389700	356200
27	308800	280400	262200	237400	249300	265700	284000	343800	406800	405800	389100	354600
28	307500	278400	262600	238100	249300	265500	285000	350200	407200	405500	389100	354300
29	306300	275300	262500	237400	249300	266000	286200	357000	407700	405000	388800	353400
30	305200	271700	262200	236800	---	266600	287300	363200	407200	405200	387600	351700
31	304300	---	261400	236100	---	267000	---	367800	---	405600	387600	---
MAX	351700	303100	267900	259100	249300	267000	287300	367800	407700	407100	405200	386100
MIN	304300	271700	235900	234700	235700	249100	267200	288500	370600	405000	387600	351700
a	217.44	212.77	210.59	206.16	208.37	211.32	214.55	226.24	232.42	232.08	229.83	224.58
b	-48900	-29000	-13100	-25400	+12500	+17300	+19600	+77000	+44500	-2500	-17600	-35900
c	2380	1069	507	383	825	1841	2585	5018	5987	7147	5653	5430

CAL YR 1983 b -2400  
WTR YR 1984 b -1500

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

NOTE.--As of July 1, 1984, Camanche Reservoir instantaneous observations are at 0800.

## SAN JOAQUIN RIVER BASIN

## 11323500 MOKELUMNE RIVER BELOW CAMANCHE DAM, CA

LOCATION.--Lat 38°13'14", long 121°02'19", in NW 1/4 NW 1/4 sec.7, T.4 N., R.9 E., San Joaquin County, Hydrologic Unit 18040005, on left bank 0.7 mi downstream from Murphy Creek, 1.0 mi downstream from Camanche Dam, and 3.4 mi northeast of Clements.

DRAINAGE AREA.--627 mi<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 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 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 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, 804,300 acre-ft/yr; 56 years (water years 1929-84), 847 ft<sup>3</sup>/s, 613,700 acre-ft/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 Nov. 21, 1950, gage height, 24.40 ft site and datum then in use; no flow on several days in 1924.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,160 ft<sup>3</sup>/s Dec. 27, gage height, 9.06 ft; minimum daily, 499 ft<sup>3</sup>/s Feb. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	1450	1550	3060	4130	1220	1140	1040	624	600	823	828	823		
2	1450	1550	3080	4100	1170	1050	864	616	632	823	824	823		
3	1460	1550	3100	4120	1050	1010	659	611	631	819	825	823		
4	1460	1550	3090	4110	983	1010	601	611	629	821	824	823		
5	1470	1550	3080	4110	869	987	612	608	627	823	828	823		
6	1480	1550	3070	4110	815	963	607	608	627	824	830	824		
7	1480	1550	3060	4100	720	992	589	612	736	823	830	823		
8	1510	1550	3070	4090	667	1020	612	614	824	823	832	823		
9	1520	1390	3080	3890	577	1010	620	614	823	823	835	823		
10	1520	1150	3080	3570	499	1000	629	620	823	825	834	823		
11	1510	1060	3090	3180	571	1030	631	609	819	820	832	824		
12	1520	1150	3050	2660	728	1030	630	607	817	822	832	824		
13	1530	1430	3070	2140	727	1040	627	622	818	823	832	824		
14	1520	1620	2990	1840	859	1040	626	579	817	823	832	823		
15	1550	1910	2750	1850	945	1040	629	559	811	823	833	823		
16	1550	2100	2550	1850	987	1040	629	552	810	824	842	823		
17	1560	2140	2450	1720	1010	1030	627	552	812	825	834	823		
18	1560	2330	2340	1610	1010	1020	618	556	818	830	839	823		
19	1510	2560	2330	1630	1020	1000	615	558	824	832	840	823		
20	1450	2730	2130	1580	1000	997	614	562	824	833	840	824		
21	1450	2970	1940	1450	1070	1000	616	560	824	832	840	824		
22	1510	3100	1860	1430	1030	1010	615	554	824	832	839	823		
23	1450	3100	1870	1390	883	1030	616	558	823	837	825	829		
24	1470	3190	2060	1340	1010	1040	616	557	823	830	823	831		
25	1520	3120	2290	1330	1150	1030	617	560	823	827	823	832		
26	1550	3100	3160	1350	1150	1040	616	553	825	832	823	832		
27	1550	3030	3890	1290	1140	1030	600	552	823	827	823	832		
28	1550	3030	4120	1220	1130	1030	609	552	827	825	823	833		
29	1550	3040	4120	1220	1130	1010	630	555	820	831	823	834		
30	1550	3050	4120	1220	---	1020	652	559	823	831	823	828		
31	1550	---	4130	1210	---	1040	---	558	---	831	823	---		
TOTAL	46760	64700	91080	74840	27120	31729	19266	18012	23357	25617	25734	24763		
MEAN	1508	2157	2938	2414	935	1024	642	581	779	826	830	825		
MAX	1560	3190	4130	4130	1220	1140	1040	624	827	837	842	834		
MIN	1450	1060	1860	1210	499	963	589	552	600	819	823	823		
AC-FT	92750	128300	180700	148400	53790	62930	38210	35730	46330	50810	51040	49120		
CAL YR 1983	TOTAL	915041	MEAN	2507	MAX	4500	MIN	285	AC-FT	1815000	MEAN a	2550	AC-FT a	1846000
WTR YR 1984	TOTAL	472978	MEAN	1292	MAX	4130	MIN	499	AC-FT	938200	MEAN a	1344	AC-FT a	975400

a Adjusted for change in contents and evaporation from Camanche Reservoir.

## 11325000 WOODBRIDGE CANAL AT WOODBRIDGE, CA

LOCATION.--Lat 38°09'07", long 121°18'00", in NE 1/4 SE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, at point of diversion from Woodbridge Reservoir.

PERIOD OF RECORD.--April 1926 to current year.

GAGE.--Water-stage recorder. Datum of gage is 32.18 ft 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 downstream at different datum.

REMARKS.--Records fair. 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.--58 years, 131 ft<sup>3</sup>/s, 94,910 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 482 ft<sup>3</sup>/s July 8, 1953; no flow at times in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88					0	112	205	243	316	313	228
2	94					0	117	196	245	314	320	214
3	90					0	145	193	232	313	303	203
4	88					0	145	174	228	304	290	189
5	88					0	152	155	232	307	284	193
6	90					0	165	150	241	320	276	195
7	90					0	164	154	235	317	279	194
8	90					0	158	196	241	309	300	193
9	89					0	160	220	243	298	330	192
10	89					0	159	217	243	308	332	192
11	85					0	161	222	248	316	320	192
12	85					0	167	224	282	308	309	193
13	81					0	171	201	298	304	303	193
14	84					0	175	183	301	314	296	201
15	91					0	178	190	280	311	283	201
16	89					0	189	200	272	310	258	187
17	87					0	212	187	255	316	257	183
18	85					0	190	168	265	330	261	173
19	81					51	139	162	289	331	257	159
20	81					75	130	142	288	316	261	147
21	79					74	122	135	258	296	279	147
22	76					77	121	131	250	287	292	138
23	76					75	137	162	248	300	296	135
24	78					72	168	159	250	320	293	126
25	78					73	177	163	263	319	277	123
26	78					74	197	167	301	315	262	121
27	28					77	196	161	316	312	237	134
28	0					84	194	156	331	307	234	144
29	0					79	197	182	324	305	250	147
30	0					88	198	205	319	297	246	141
31	0					99	---	235	---	298	232	---
TOTAL	2238	0	0	0	0	998	4896	5595	8021	9618	8730	5178
MEAN	72.2	0	0	0	0	32.2	163	180	267	310	282	173
MAX	94	0	0	0	0	99	212	235	331	331	332	228
MIN	0	0	0	0	0	0	112	131	228	287	232	121
AC-FT	4440	0	0	0	0	1980	9710	11100	15910	19080	17320	10270
CAL YR 1983	TOTAL	29722	MEAN	81.4	MAX	314	MIN	0	AC-FT	58950		
WTR YR 1984	TOTAL	45274	MEAN	124	MAX	332	MIN	0	AC-FT	89800		

## SAN JOAQUIN RIVER BASIN

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA  
(National stream-quality accounting network station)

LOCATION.--Lat 38°09'31", long 121°18'09", in NW 1/4 NE 1/4 sec.34, T.4 N., R.6 E., San Joaquin County, Hydrologic Unit 18040005, on right bank at Woodbridge, 0.4 mi downstream from county highway bridge, and 0.5 mi downstream from dam and canal intake of Woodbridge Irrigation District.

DRAINAGE AREA.--661 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1924 to current year (low-water records only 1924-25).

REVISED RECORDS.--WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 14.9 ft National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). See WSP 2130 for history of changes prior to July 26, 1968.

REMARKS.--Records 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 upstream. See schematic diagram of Mokelumne River basin.

AVERAGE DISCHARGE (since start of diversion through East Bay Municipal Utility District aqueduct).--55 years (water years 1929-84), 635 ft<sup>3</sup>/s, 460,100 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,000 ft<sup>3</sup>/s Nov. 22, 1950, gage height, 29.58 ft, from rating curve extended above 6,200 ft<sup>3</sup>/s on basis of contracted-opening measurement of maximum flow; minimum daily, 0.23 ft<sup>3</sup>/s Nov. 15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 3,920 ft<sup>3</sup>/s Jan. 5-7; minimum daily, 201 ft<sup>3</sup>/s May 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	1420	2920	3900	1210	1060	860	254	212	326	310	512
2	1210	1420	2930	3900	1210	1040	760	270	249	323	318	514
3	1210	1420	2980	3900	1140	950	546	279	282	316	353	524
4	1210	1420	3010	3910	1030	938	439	332	300	319	395	527
5	1210	1420	3010	3920	964	937	429	360	259	361	376	488
6	1220	1420	2990	3920	885	893	402	380	266	342	399	518
7	1230	1420	2980	3920	825	907	398	338	265	322	382	516
8	1230	1420	2970	3910	728	920	414	280	426	355	345	523
9	1240	1410	2990	3900	714	929	416	266	405	377	323	542
10	1250	1250	3010	3790	603	908	424	279	426	319	335	543
11	1250	1130	3010	3530	569	927	414	254	410	320	361	542
12	1250	1020	3010	3150	676	931	410	253	364	350	377	537
13	1260	1200	2990	2620	726	950	413	302	365	318	404	533
14	1280	1400	2950	2080	740	733	404	314	372	306	390	506
15	1260	1550	2880	1930	889	878	393	246	405	332	456	511
16	1280	1810	2690	1910	911	763	370	227	404	338	461	539
17	1280	1970	2470	1860	943	930	323	225	404	309	437	559
18	1280	2000	2370	1710	950	903	409	258	384	302	449	568
19	1270	2240	2290	1650	953	896	401	260	384	324	455	575
20	1250	2380	2190	1650	951	834	400	295	388	348	436	585
21	1200	2570	1990	1540	987	810	406	295	424	367	435	584
22	1250	2750	1860	1480	987	826	372	273	432	359	412	587
23	1250	2840	1870	1440	923	829	328	241	394	367	416	593
24	1230	2900	1960	1390	846	842	293	260	394	350	423	607
25	1260	2970	2200	1350	1020	842	276	233	379	344	476	608
26	1280	2940	2450	1340	1070	860	264	259	331	343	470	617
27	1730	2930	3070	1310	1070	870	265	262	314	350	485	588
28	1490	2920	3840	1280	1060	880	268	289	313	357	477	578
29	1420	2920	3900	1240	1050	870	262	206	334	356	429	576
30	1420	2920	3900	1220	---	880	258	218	302	394	477	585
31	1420	---	3900	1210	---	890	---	201	---	335	519	---
TOTAL	39830	59380	87580	75860	26630	27626	12017	8409	10587	10529	12781	16585
MEAN	1285	1979	2825	2447	918	891	401	271	353	340	412	553
MAX	1730	2970	3900	3920	1210	1060	860	380	432	394	519	617
MIN	1200	1020	1860	1210	569	733	258	201	212	302	310	488
AC-FT	79000	117800	173700	150500	52820	54800	23840	16680	21000	20880	25350	32900
CAL YR 1983	TOTAL	832255	MEAN	2280	MAX	4090	MIN	741	AC-FT	1651000		
WTR YR 1984	TOTAL	387814	MEAN	1060	MAX	3920	MIN	201	AC-FT	769200		

NOTE.--No gage-height record Dec. 28 to Jan. 3.

## 11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

## WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.  
 CHEMICAL ANALYSES: Water years 1951 to current year.  
 BIOLOGICAL DATA: Water years 1975-81.  
 SPECIFIC CONDUCTANCE: Water Years 1952-58, 1975-77.  
 WATER TEMPERATURES: Water years 1951-58, 1961 to current year.  
 SEDIMENT RECORDS: Water years 1975-83.

PERIOD OF DAILY RECORD.--  
 CHEMICAL ANALYSES: March 1951 to September 1958.  
 SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1974 to September 1977.  
 WATER TEMPERATURES: March 1951 to September 1958, November 1960 to current year.

INSTRUMENTATION.--Temperature recorder since November 1960.

REMARKS.--Unpublished records of specific conductance of daily samples available in files of district office.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
 WATER TEMPERATURES: Maximum recorded, 28.5°C July 17, 1951; minimum recorded, 1.5°C Jan. 29, 30, 1954.

EXTREMES FOR CURRENT YEAR.--  
 WATER TEMPERATURES: Maximum recorded, 18.5°C Sept. 20, 21; minimum recorded, 9.0°C several days during February.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
DATE	TIME										
DEC , 1983											
08...	0945	2960	35	6.0	12.5	770	1.7	10.3	96	88	240
MAR , 1984											
07...	0955	907	44	7.5	10.0	770	2.6	11.2	98	K15	K11
JUN											
12...	1030	363	48	7.3	15.5	760	1.1	9.8	99	--	42
SEP											
12...	1115	530	43	7.1	18.0	760	1.6	8.6	91	69	89

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (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)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
DEC , 1983											
08...	13	0	3.6	1.0	1.8	22	.2	.8	16	2.6	.7
MAR , 1984											
07...	17	0	4.3	1.4	2.1	21	.2	.7	18	3.2	1.4
JUN											
12...	17	0	4.4	1.5	2.2	21	.2	.8	20	2.9	1.2
SEP											
12...	18	0	4.7	1.4	2.1	20	.2	.9	19	2.3	1.2

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
DEC , 1983											
08...	<.1	9.1	28	29	.04	<.10	.06	.60	<.01	<.01	.01
MAR , 1984											
07...	<.1	11	32	35	.04	<.10	.01	.20	.01	.01	.01
JUN											
12...	<.1	11	32	36	.04	<.10	.03	.20	.03	.03	.01
SEP											
12...	<.1	11	35	35	.05	<.10	.02	.10	.01	<.01	<.01

See footnotes at end of table.

11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

		ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DATE	TIME									
DEC , 1983										
08...	0945	20	<1	19	<.5	<1	<1	<3	2	26
MAR , 1984										
07...	0955	40	<1	18	<.5	<1	<1	<3	1	47
JUN										
12...	1030	10	<1	21	<.5	<1	<1	<3	3	20
SEP										
12...	1115	20	<1	21	<1	<1	<1	<3	2	14

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC , 1983											
08...	2	12	4	.1	<10	<1	<1	<1	38	<6	10
MAR , 1984											
07...	<1	<4	3	.2	<10	<1	<1	<1	46	<6	14
JUN											
12...	1	6	2	<.1	<10	<1	<1	<1	48	<6	13
SEP											
12...	<1	<4	7	<.1	<10	1	<1	<1	45	<6	16

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

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	16.5	16.0	15.5	13.0	13.0	11.5	11.5	11.0	10.5	10.0	9.5
2	17.0	16.5	16.0	15.5	13.0	12.5	11.5	11.5	10.5	10.5	10.0	10.0
3	16.5	16.0	15.5	15.5	13.0	12.5	11.5	11.5	10.5	10.5	10.0	10.0
4	16.5	16.0	15.5	15.5	13.0	12.5	11.5	11.5	10.5	10.5	10.0	9.5
5	16.5	16.5	15.5	15.0	12.5	12.5	11.5	11.5	10.5	10.5	10.0	9.5
6	16.5	16.5	15.5	15.0	12.5	12.5	11.5	11.5	10.5	10.5	10.0	9.5
7	16.5	16.5	15.5	15.0	12.5	12.5	11.5	11.5	10.5	10.5	10.0	10.0
8	16.5	16.0	15.0	14.0	12.5	12.0	11.5	11.5	10.5	10.5	10.0	9.5
9	16.5	16.0	15.0	14.5	12.5	12.0	11.5	11.5	10.5	10.5	10.5	10.0
10	16.5	16.0	15.0	14.5	12.5	12.0	11.5	11.5	11.0	10.5	10.5	10.0
11	16.5	16.0	15.5	14.5	12.5	12.0	11.5	11.0	10.5	10.0	10.5	10.0
12	16.5	16.0	15.5	15.0	12.0	12.0	11.5	11.0	10.5	10.0	10.5	10.0
13	16.5	16.0	15.0	14.5	12.0	12.0	11.5	11.0	10.0	10.0	10.5	10.0
14	16.0	15.5	15.0	14.5	12.0	12.0	11.5	11.5	10.0	9.5	10.5	10.0
15	16.0	15.5	15.0	14.5	12.0	12.0	11.5	11.5	9.5	9.5	10.5	10.0
16	16.0	15.5	15.0	15.0	12.0	11.5	11.5	11.5	9.5	9.0	10.5	10.0
17	16.0	15.5	15.5	15.0	11.5	11.5	11.5	11.5	9.5	9.0	10.5	10.0
18	16.0	15.5	15.0	14.5	11.5	11.5	11.5	11.5	9.5	9.0	11.0	10.0
19	16.0	15.5	15.0	14.5	11.5	11.5	12.0	11.5	9.5	9.5	11.0	10.5
20	16.0	15.5	14.5	14.5	11.5	11.5	12.0	11.5	9.5	9.5	11.5	11.0
21	16.0	15.5	14.5	14.0	11.5	11.0	12.0	11.5	10.0	9.5	11.5	11.0
22	16.0	15.5	14.5	14.0	11.5	11.0	12.0	11.5	9.5	9.0	11.0	10.5
23	16.0	16.0	14.5	14.0	11.5	11.0	12.0	11.5	9.5	9.0	11.5	10.5
24	16.0	15.5	14.0	14.0	11.5	11.0	11.5	11.5	9.5	9.5	11.5	11.0
25	16.0	15.5	14.0	13.5	11.5	11.5	11.5	11.5	9.5	9.0	11.5	11.0
26	16.0	15.5	14.0	13.5	11.5	11.5	11.5	11.0	9.5	9.0	11.5	10.5
27	16.0	15.5	13.5	13.5	11.5	11.5	11.0	11.0	9.5	9.5	11.5	10.5
28	16.0	15.5	13.5	13.0	11.5	11.5	11.0	10.5	10.0	9.5	11.5	11.0
29	16.0	15.5	13.5	13.0	11.5	11.5	11.0	10.5	9.5	9.5	11.5	11.0
30	16.0	15.5	13.0	13.0	11.5	11.5	11.0	10.5	---	---	11.5	10.5
31	16.0	15.5	---	---	11.5	11.5	11.0	10.5	---	---	11.5	11.0
MONTH	17.0	15.5	16.0	13.0	13.0	11.0	12.0	10.5	11.0	9.0	11.5	9.5



## 11325500 MOKELUMNE RIVER AT WOODBRIDGE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

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

## SAN JOAQUIN RIVER BASIN

11329500 DRY CREEK NEAR GALT, CA

LOCATION.--Lat 38°14'53", long 121°13'33", in NE 1/4 NE 1/4 sec.32, T.5 N., R.7 E., San Joaquin County, Hydrologic Unit 18040005, on left bank of main channel 35 ft downstream from county road bridge, 2 mi downstream from Coyote Creek, and 4 mi east of Galt.

DRAINAGE AREA.--324 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1926 to September 1933, October 1944 to current year. Monthly figures only for some periods, published in WSP 1315-A.

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

GAGE.--Water-stage recorder. Datum of gage is 42.83 ft National Geodetic Vertical Datum of 1929 (levels by East Bay Municipal Utility District). Dec. 4, 1926, to Sept. 30, 1933, at site 4 mi downstream at different datum. Oct. 1, 1944, to Sept. 30, 1945, on left bank at datum 13.00 ft higher. Oct. 1, 1945, to June 14, 1966, on right bank and June 15, 1966, to Dec. 4, 1978, on left bank both at datum 10.00 ft higher.

REMARKS.--Records poor prior to Dec. 25, fair thereafter. Many small diversions above station for irrigation. Total storage of many small reservoirs, 1,000 acre-ft.

AVERAGE DISCHARGE.--47 years, 135 ft<sup>3</sup>/s 97,810 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,000 ft<sup>3</sup>/s Apr. 3, 1958, gage height, 25.28 ft site then in use, present datum; maximum gage height, 25.74 ft Apr. 1, 1982; no flow for many days in each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	2230	4,510	23.38	Dec. 26	0400	*9,800	24.85
Nov. 25	0300	6,810	24.42	Feb. 21	1715	3,550	21.20

Minimum, no flow Sept. 27-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	43	199	875	177	266	162	95	18	7.9	9.5	9.4
2	33	38	162	710	174	256	162	100	12	7.6	12	9.2
3	34	31	466	625	152	243	150	88	11	4.7	14	6.1
4	26	23	1230	570	141	229	116	60	12	4.0	14	5.9
5	22	21	566	511	139	214	118	58	17	3.5	8.3	4.0
6	23	19	389	469	134	204	114	68	26	3.1	7.0	2.6
7	23	17	327	466	128	197	101	68	27	2.9	6.0	1.8
8	21	17	298	446	125	192	100	55	25	2.9	6.1	3.1
9	17	17	390	417	131	181	96	45	21	2.9	3.3	4.8
10	13	18	879	401	208	172	94	34	16	4.5	4.7	2.3
11	9.5	671	914	387	187	166	106	31	14	3.8	.31	2.3
12	6.7	331	1010	366	171	159	83	33	18	3.1	.12	4.8
13	14	224	637	317	187	184	76	26	20	2.6	5.5	7.5
14	21	388	409	283	360	622	73	37	20	2.3	6.9	4.7
15	13	177	352	263	353	380	66	37	16	2.2	4.5	5.2
16	6.7	230	294	310	738	409	63	37	11	2.2	2.2	3.1
17	6.2	2020	285	322	570	797	57	34	15	2.2	1.1	4.1
18	6.5	1480	264	276	437	555	54	32	14	2.3	.95	5.4
19	7.0	549	232	258	355	428	62	35	14	2.5	2.7	5.2
20	8.0	1170	218	241	310	365	101	33	15	2.7	3.7	5.7
21	9.8	1350	195	227	1760	308	88	31	14	5.4	5.7	3.8
22	16	740	179	221	1220	272	72	34	10	4.0	7.0	4.5
23	17	573	512	209	669	247	64	29	8.6	3.1	5.9	5.2
24	17	1800	2730	198	485	224	60	25	5.6	2.8	1.5	4.1
25	21	2750	7140	196	425	208	33	29	6.5	2.7	.23	2.0
26	22	860	7920	196	376	194	50	27	6.7	2.6	4.3	.40
27	20	503	3720	194	334	187	48	22	9.2	2.6	5.2	0
28	19	356	2150	194	312	180	86	20	9.4	2.7	2.8	0
29	16	281	1400	191	290	175	95	17	5.5	3.6	3.3	0
30	15	215	1240	187	---	167	93	13	5.4	5.2	3.3	0
31	23	---	1140	183	---	161	---	14	---	7.8	2.8	---
TOTAL	542.4	16912	37847	10709	11048	8542	2643	1267	422.9	112.4	154.91	117.20
MEAN	17.5	564	1221	345	381	276	88.1	40.9	14.1	3.63	5.00	3.91
MAX	36	2750	7920	875	1760	797	162	100	27	7.9	14	9.4
MIN	6.2	17	162	183	125	159	33	13	5.4	2.2	.12	0
AC-FT	1080	33540	75070	21240	21910	16940	5240	2510	839	223	307	232
CAL YR 1983	TOTAL	247907		MEAN	679	MAX	8510	MIN	6.2	AC-FT	491700	
WTR YR 1984	TOTAL	90317.81		MEAN	247	MAX	7920	MIN	0	AC-FT	179100	

11333000 CAMP CREEK NEAR SOMERSET, CA

LOCATION.--Lat 38°39'26", long 120°39'46", in SW 1/4 SW 1/4 sec.4, T.9 N., R.12 E., El Dorado County, Hydrologic Unit 18040013, on right bank 0.2 mi upstream from mouth, 1.3 mi northeast of Somerset, and 5.6 mi south of Camino.

DRAINAGE AREA.--62.6 mi<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, from topographic map. Feb. 1 to May 31, 1924, nonrecording gage at site 0.2 mi upstream at different datum.

REMARKS.--Records excellent. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. 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).--30 years (water years 1955-84), 89.6 ft<sup>3</sup>/s, 64,920 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,680 ft<sup>3</sup>/s Feb. 16, 1982, gage height, 14.50 ft; no flow Aug. 7-18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,380 ft<sup>3</sup>/s Dec. 25, gage height, 8.97 ft; minimum daily, 6.7 ft<sup>3</sup>/s Oct. 28,29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	22	34	510	64	131	122	77	16	14	14	12
2	11	13	52	418	63	127	112	108	16	21	14	12
3	8.4	9.7	89	356	60	124	105	104	16	21	14	12
4	7.8	8.9	232	316	58	121	101	101	20	20	14	11
5	7.5	8.7	264	283	56	114	104	97	20	20	14	11
6	7.3	8.5	233	254	54	109	101	91	19	19	14	11
7	7.2	9.4	192	231	52	108	96	83	19	19	14	11
8	7.2	8.6	176	215	51	106	112	75	17	19	14	11
9	7.2	9.1	220	203	71	104	108	72	17	19	13	11
10	7.2	13	480	186	100	102	116	73	16	18	13	11
11	7.2	67	560	163	73	99	115	71	16	18	13	11
12	7.2	23	500	133	74	96	104	70	16	18	13	11
13	7.0	36	395	141	106	141	98	68	16	18	13	11
14	6.9	31	342	137	178	310	94	64	16	17	13	11
15	6.9	16	301	129	178	299	92	60	16	17	13	11
16	6.9	23	267	139	287	273	87	53	16	18	13	10
17	6.9	430	305	127	237	281	89	48	15	18	13	10
18	6.9	93	263	116	204	247	98	45	15	17	12	10
19	6.9	63	240	101	183	231	142	37	14	17	12	10
20	6.9	236	227	81	166	222	132	32	14	17	12	11
21	6.9	64	200	91	244	215	111	30	14	16	12	11
22	6.9	36	187	92	217	204	105	29	14	16	12	11
23	6.9	31	204	89	197	191	102	24	14	16	12	11
24	6.9	374	328	85	187	178	99	20	14	16	12	11
25	6.9	271	1420	82	184	169	95	19	14	16	12	11
26	6.9	94	2050	79	167	161	91	18	14	16	12	11
27	6.9	44	1660	75	153	157	82	18	14	16	12	11
28	6.7	38	1080	71	143	145	70	17	14	15	12	11
29	6.7	31	727	69	136	135	64	17	14	15	12	11
30	9.8	28	684	67	---	121	64	17	14	15	11	11
31	32	---	627	66	---	131	---	16	---	14	12	---
TOTAL	252.2	2139.9	14539	5105	3943	5152	3011	1654	470	536	396	329
MEAN	8.14	71.3	469	165	136	166	100	53.4	15.7	17.3	12.8	11.0
MAX	32	430	2050	510	287	310	142	108	20	21	14	12
MIN	6.7	8.5	34	66	51	96	64	16	14	14	11	10
AC-FT	500	4240	28840	10130	7820	10220	5970	3280	932	1060	785	653
a	-1787	+10735	+1333	-156	+110	-32	-71	-375	-2138	-5018	-4693	-3823
b	2370	1028	748	777	878	998	1174	2410	3500	4807	4385	3499
c	79	25	34	32	22	106	115	226	233	297	252	188

CAL YR 1983 TOTAL 88598.1 MEAN 243 MAX 2400 MIN 6.3 AC-FT 175700 MEAN d 279 AC-FT d 201800  
WTR YR 1984 TOTAL 37527.1 MEAN 103 MAX 2050 MIN 6.7 AC-FT 74440 MEAN d 133 AC-FT d 96708

a Change in contents, in acre-feet, in Jenkinson Lake, furnished by Bureau of Reclamation.

b Diversion, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

c Evaporation, in acre-feet, from Jenkinson Lake, furnished by Bureau of Reclamation.

d Adjusted for change in contents, evaporation, and diversion from Jenkinson Lake.

## SAN JOAQUIN RIVER BASIN

11333500 NORTH FORK COSUMNES RIVER NEAR EL DORADO, CA

LOCATION.--Lat 38°35'20", long 120°50'38", in NE 1/4 SW 1/4 sec.35, T.9 N., R.10 E., El Dorado County, Hydrologic Unit 18040013, on downstream side of left abutment of county road bridge, 0.8 mi north of Nashville, 2.6 mi upstream from mouth, and 6 mi south of El Dorado.

DRAINAGE AREA.--205 mi<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, from topographic map. Prior to October 1933, nonrecording gage at site 1.5 mi upstream at different datum. October 1933 to December 1941, water-stage recorder at site 1,000 ft upstream at different datum.

REMARKS.--Records good. Flow partly regulated since January 1955 by Jenkinson Lake, usable capacity, 40,570 acre-ft. 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.--66 years, 211 ft<sup>3</sup>/s, 152,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,800 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 14.8 ft, from rating curve extended above 7,500 ft<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 and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1400	6,170	10.09	Dec. 3	1945	2,100	7.28
Nov. 24	1915	5,560	9.79	Dec. 26	Unknown	*7,970	10.94

Minimum daily, 18 ft<sup>3</sup>/s Sept. 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	172	274	1220	221	375	356	225	103	46	29	26
2	53	115	292	1110	217	367	342	316	97	49	29	24
3	55	72	828	980	209	360	326	292	92	50	29	23
4	46	59	940	890	203	352	312	291	98	49	29	22
5	41	54	679	800	198	339	310	276	144	50	29	20
6	40	49	591	734	193	327	320	264	116	45	29	20
7	39	53	489	675	189	324	309	251	121	44	28	20
8	39	53	444	621	185	319	338	240	103	43	27	20
9	39	52	570	572	226	314	334	237	94	43	27	20
10	41	62	970	530	341	307	362	238	88	41	27	19
11	40	567	1300	499	248	299	336	238	84	41	26	19
12	37	237	1100	436	256	292	307	238	80	39	26	20
13	36	355	900	431	343	434	290	235	77	39	25	19
14	36	307	800	414	592	1060	280	232	74	37	26	19
15	36	150	705	392	555	873	275	220	74	36	26	19
16	36	187	625	422	931	774	269	200	72	36	26	18
17	36	2850	660	389	688	931	272	184	70	37	27	18
18	35	963	610	360	572	744	282	176	65	37	26	18
19	36	551	520	342	504	674	373	167	64	34	25	19
20	38	1690	465	299	459	643	371	162	62	33	25	21
21	37	813	430	303	908	614	321	162	60	32	25	21
22	37	478	390	299	705	570	301	157	59	32	26	21
23	38	381	540	290	584	526	295	152	57	32	27	20
24	40	2130	1190	279	530	493	288	144	55	32	28	20
25	40	1650	2470	270	512	465	276	135	52	31	28	21
26	39	836	5000	263	462	445	267	129	52	30	27	22
27	38	552	3420	251	431	437	258	125	52	29	28	21
28	37	433	2340	245	408	401	240	121	50	28	28	20
29	38	357	1670	237	388	382	224	117	49	27	25	21
30	50	306	1490	234	---	358	219	114	46	27	23	23
31	107	---	1350	228	---	363	---	110	---	27	26	---
TOTAL	1313	16534	34052	15015	12258	15162	9053	6148	2310	1155	832	614
MEAN	42.4	551	1098	484	423	489	302	198	77.0	37.3	26.8	20.5
MAX	107	2850	5000	1220	931	1060	373	316	144	50	29	26
MIN	35	49	274	228	185	292	219	110	46	27	23	18
AC-FT	2600	32800	67540	29780	24310	30070	17960	12190	4580	2290	1650	1220
CAL YR 1983	TOTAL	258486	MEAN	708	MAX	6570	MIN	30	AC-FT	512700		
WTR YR 1984	TOTAL	114446	MEAN	313	MAX	5000	MIN	18	AC-FT	227000		

NOTE.--No gage-height record Dec. 9 to Jan. 5.

## 11335000 COSUMNES RIVER AT MICHIGAN BAR, CA

LOCATION.--Lat 38°30'01", long 121°02'39", in NW 1/4 SE 1/4 sec.36, T.8 N., R.8 E., Sacramento County, Hydrologic Unit 18040013, on downstream side of midstream pier of highway bridge at Michigan Bar, 5.5 mi southwest of Latrobe, and 12 mi downstream from confluence of North and Middle Forks of Cosumnes River.

DRAINAGE AREA.--536 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 331: 1911-12. WSP 1315-A: 1908-9, 1911(M). WSP 1930: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 168.09 ft 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. 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.--77 years, 507 ft<sup>3</sup>/s, 367,300 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,000 ft<sup>3</sup>/s Dec. 23, 1955, gage height, 14.59 ft; no flow at times in many years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1907 reached a stage of 16.3 ft, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 17	1530	14,500	9.47	Dec. 11	2000	4,670	6.67
Nov. 20	1745	5,400	6.97	Dec. 25	2000	*19,800	10.57
Nov. 24	2030	12,500	9.01	Feb. 21	1300	4,430	6.60
Dec. 3	2230	5,590	7.05				

Minimum daily, 28 ft<sup>3</sup>/s Sept. 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	378	795	3190	543	871	889	551	250	93	50	34
2	104	366	772	2670	531	846	857	597	238	91	49	35
3	106	234	2050	2280	517	833	822	686	221	90	48	37
4	102	157	3010	2010	502	823	794	688	211	90	47	37
5	91	133	1740	1860	489	805	774	675	251	88	47	35
6	84	122	1420	1710	477	777	771	656	294	87	46	32
7	81	115	1160	1570	465	766	746	629	274	85	45	31
8	80	115	1080	1440	457	749	726	603	265	80	44	31
9	79	115	1280	1320	471	737	783	584	238	77	43	30
10	78	132	2900	1230	804	722	771	575	218	75	42	30
11	82	1660	3560	1160	703	705	831	576	202	74	41	30
12	80	912	3340	1060	617	688	789	571	188	72	39	29
13	74	1080	2440	1020	682	951	740	568	177	71	39	29
14	72	1200	2060	980	1440	2650	703	564	172	69	39	29
15	71	587	1810	911	1380	2000	680	556	166	69	39	29
16	71	602	1600	997	2290	1800	669	533	169	67	38	29
17	70	7420	1720	936	1640	2420	664	495	165	66	38	29
18	70	3250	1530	861	1310	1820	668	460	155	66	39	29
19	70	1490	1340	829	1150	1610	781	435	143	64	38	29
20	68	4310	1250	791	1040	1510	897	419	138	62	37	28
21	70	2630	1130	753	3160	1430	831	406	133	59	37	28
22	70	1480	1090	738	1980	1330	773	397	130	57	36	29
23	69	1140	1480	724	1500	1230	735	386	127	57	35	29
24	70	5260	4230	696	1290	1150	710	372	122	58	35	30
25	75	4880	11900	675	1220	1100	682	356	118	60	35	30
26	75	2460	14100	655	1100	1050	664	339	111	59	34	30
27	70	1680	11200	628	1010	1030	645	324	107	58	35	31
28	69	1280	7010	609	960	957	623	309	103	56	36	30
29	70	1030	4670	584	903	908	595	294	100	55	35	30
30	80	895	4450	572	---	881	568	275	97	54	35	31
31	126	---	4080	560	---	886	---	260	---	52	34	---
TOTAL	2468	47113	102197	36019	30631	36035	22181	15139	5283	2161	1235	920
MEAN	79.6	1570	3297	1162	1056	1162	739	488	176	69.7	39.8	30.7
MAX	126	7420	14100	3190	3160	2650	897	688	294	93	50	37
MIN	68	115	772	560	457	688	568	260	97	52	34	28
AC-FT	4900	93450	202700	71440	60760	71480	44000	30030	10480	4290	2450	1820
CAL YR 1983	TOTAL	667562	MEAN	1829	MAX	18400	MIN	62	AC-FT	1324000		
WTR YR 1984	TOTAL	301382	MEAN	823	MAX	14100	MIN	28	AC-FT	597800		

## SAN JOAQUIN RIVER BASIN

11336580 MORRISON CREEK NEAR SACRAMENTO, CA

LOCATION.--Lat 38°29'55", long 121°27'06", in SW 1/4 SE 1/4 sec.32, T.8 N., R.5 E., Sacramento County, Hydrologic Unit 18020109, on right bank 750 ft upstream from Florin Road, 1.6 mi upstream from Elder Creek, and 3.8 mi south of State Capitol Building in Sacramento.

DRAINAGE AREA.--53.4 mi<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 National Geodetic Vertical Datum of 1929. Prior to June 29, 1960, at site 650 ft downstream at datum 1.55 ft higher. June 29, 1960, to Sept. 12, 1965, at site 475 ft upstream at datum 2.71 ft higher.

REMARKS.--Records fair below 100 ft<sup>3</sup>/s and poor above. No regulation or diversion above station. Summer flow is sustained by waste water from domestic and industrial use.

AVERAGE DISCHARGE.--25 years, 20.9 ft<sup>3</sup>/s, 15,140 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,520 ft<sup>3</sup>/s Jan. 5, 1982, gage height, 9.93 ft; no flow at times in 1960, 1962, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft<sup>3</sup>/s and maximum (\*):

Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)	Date	Time	Discharge (ft <sup>3</sup> /s)	Gage height (ft)
Nov. 10	2130	649	4.82	Dec. 25	0545	*1,530	7.41
Nov. 13	1700	644	4.80	Mar. 31	1845	508	4.31
Nov. 17	1115	518	4.35				

Minimum daily, 1.7 ft<sup>3</sup>/s Sept. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	4.8	8.5	27	5.1	5.1	7.9	3.0	4.9	5.9	7.3	2.3
2	5.8	6.0	8.2	15	5.1	5.2	5.6	3.6	5.2	5.9	8.2	1.9
3	5.3	5.2	102	11	5.2	4.2	7.6	6.2	5.1	5.9	7.6	1.9
4	5.0	4.6	82	11	5.6	4.0	7.9	4.8	7.7	6.1	7.9	2.0
5	4.9	3.6	26	9.9	5.5	5.1	8.2	4.1	4.4	6.4	7.3	2.5
6	5.0	3.5	15	9.1	5.4	4.9	7.0	3.6	3.4	6.4	7.6	2.9
7	4.9	4.1	12	8.6	5.3	4.5	4.0	4.6	3.6	6.5	8.2	2.9
8	4.9	4.4	12	8.3	5.3	4.5	4.0	5.3	4.2	6.7	7.9	3.4
9	5.0	11	44	8.1	8.2	4.4	4.5	5.5	4.4	6.7	7.0	3.3
10	5.1	124	71	7.8	3.3	3.6	6.4	5.3	3.9	6.7	5.0	3.4
11	5.0	119	114	7.8	2.9	3.4	5.0	5.1	4.5	6.8	3.4	2.7
12	5.2	32	57	7.4	10	5.2	5.6	4.5	4.3	7.0	3.0	2.9
13	5.2	184	27	7.2	32	47	5.6	4.4	4.6	7.3	3.2	2.8
14	5.1	66	18	7.0	18	15	4.8	4.3	4.8	7.6	3.2	3.1
15	5.4	17	14	6.7	39	11	4.5	4.4	4.9	7.1	2.2	3.9
16	5.3	54	14	12	24	15	4.8	4.8	4.1	6.5	3.4	3.1
17	5.1	205	16	11	13	13	5.9	5.4	4.1	6.7	3.4	4.1
18	5.3	74	13	10	9.5	9.1	9.3	5.1	4.8	7.0	3.0	4.5
19	5.4	21	12	9.4	7.3	7.3	12	4.5	4.9	8.5	2.6	3.8
20	5.6	19	11	9.0	9.4	6.1	4.5	4.2	4.0	11	2.6	3.4
21	5.4	15	10	8.1	16	5.3	4.3	4.8	4.0	5.3	2.5	3.6
22	5.2	11	9.9	7.8	12	5.0	4.5	5.3	4.2	3.4	3.2	2.3
23	5.0	13	29	7.3	9.0	4.5	5.0	5.0	4.3	6.1	2.6	1.7
24	4.9	107	572	6.0	8.1	4.0	5.6	4.4	4.3	7.6	2.4	1.7
25	4.9	93	1190	5.5	5.5	3.6	5.0	2.6	4.3	7.0	2.9	2.0
26	5.2	23	390	5.4	4.6	4.3	5.0	2.4	4.5	7.6	2.9	2.8
27	5.1	12	160	4.9	5.1	4.3	5.6	2.8	4.6	7.6	2.4	4.2
28	5.0	12	80	4.7	5.2	4.8	4.5	3.0	5.2	4.8	3.3	4.4
29	17	11	52	4.6	5.2	5.0	4.8	4.3	5.6	3.6	3.0	4.5
30	9.0	10	61	4.8	---	4.8	5.3	4.9	5.9	4.3	12	8.1
31	9.2	---	54	5.2	---	67	---	4.7	---	5.0	4.7	---
TOTAL	181.0	1269.2	3284.6	267.6	289.8	290.2	174.7	136.9	138.7	201.0	145.9	96.1
MEAN	5.84	42.3	106	8.63	9.99	9.36	5.82	4.42	4.62	6.48	4.71	3.20
MAX	17	205	1190	27	39	67	12	6.2	7.7	11	12	8.1
MIN	4.9	3.5	8.2	4.6	2.9	3.4	4.0	2.4	3.4	3.4	2.2	1.7
AC-FT	359	2520	6520	531	575	576	347	272	275	399	289	191
CAL YR 1983	TOTAL	20938.6	MEAN	57.4	MAX	1380	MIN	1.7	AC-FT	41530		
WTR YR 1984	TOTAL	6475.7	MEAN	17.7	MAX	1190	MIN	1.7	AC-FT	12840		

## 11337000 CONTRA COSTA CANAL NEAR OAKLEY, CA

LOCATION.--Lat 37°59'44", long 121°42'03", in NW 1/4 NE 1/4 sec.25, T.2 N., R.2 E., Contra Costa County, Hydrologic Unit 18040003, at pumping plant No. 1, 0.7 mi east of Oakley, and 2.6 mi 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 downstream at datum 121.72 ft National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Water is diverted from Sacramento-San Joaquin Delta by way of Old River, Rock Slough, and a dredged channel. A series of four pumps lift the water 115 ft into the canal. Water is used for municipal, agricultural, and industrial purposes. The canal is a part of the Central Valley Project.

COOPERATION.--Records of daily discharge furnished by Bureau of Reclamation.

AVERAGE DISCHARGE.--34 years, 102 ft<sup>3</sup>/s, 73,900 acre-ft/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 291 ft<sup>3</sup>/s July 15, 16, 1984; minimum daily, 1.0 ft<sup>3</sup>/s Jan. 19, 26, 1983, Feb. 29, 1984.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	72	57	51	73	30	63	163	205	232	238	216
2	126	71	58	55	83	57	97	156	205	260	247	214
3	97	75	55	57	80	58	113	170	206	256	250	186
4	85	74	54	57	78	57	119	169	215	247	257	194
5	85	77	64	59	80	73	119	169	210	247	257	196
6	85	75	38	57	76	67	118	169	209	241	257	191
7	87	82	21	56	79	66	110	180	205	241	247	190
8	72	83	62	55	83	64	112	191	203	240	254	187
9	69	76	58	31	82	61	107	190	200	245	248	186
10	83	75	60	2.0	77	59	120	192	202	267	243	194
11	83	74	54	2.0	68	60	113	189	209	287	240	185
12	82	69	53	9.0	67	64	118	188	216	287	216	187
13	74	69	56	2.0	71	60	129	191	219	285	257	186
14	72	71	55	3.0	69	57	136	197	215	286	279	179
15	66	72	57	3.0	68	56	138	198	214	291	288	177
16	67	71	48	37	62	54	149	198	209	291	283	178
17	66	68	51	66	63	52	147	196	210	286	269	191
18	73	66	50	75	62	53	174	194	217	269	270	194
19	81	68	54	69	62	59	177	188	220	243	279	194
20	81	62	56	64	73	56	176	193	218	240	257	182
21	82	67	59	58	71	55	178	194	216	239	245	182
22	76	61	65	49	72	61	174	195	222	227	243	177
23	75	61	56	56	73	62	192	191	221	242	248	179
24	82	57	53	58	72	67	188	190	223	256	236	187
25	83	50	53	55	67	67	189	192	224	239	239	178
26	82	55	58	65	64	62	174	195	224	243	224	175
27	78	60	56	51	61	67	168	200	227	242	238	178
28	83	52	56	51	15	66	168	209	227	235	241	174
29	75	55	57	52	1.0	72	168	205	229	230	244	166
30	73	55	57	58	---	68	173	209	231	233	231	165
31	74	---	53	58	---	61	---	207	---	234	220	---
TOTAL	2524	2023	1684	1421.0	1952.0	1871	4307	5868	6451	7861	7745	5568
MEAN	81.4	67.4	54.3	45.8	67.3	60.4	144	189	215	254	250	186
MAX	127	83	65	75	83	73	192	209	231	291	288	216
MIN	66	50	21	2.0	1.0	30	63	156	200	227	216	165
AC-FT	5010	4010	3340	2820	3870	3710	8540	11640	12800	15590	15360	11040
CAL YR 1983	TOTAL	39833	MEAN	109	MAX	253	MIN	1.0	AC-FT	79010		
WTR YR 1984	TOTAL	49275.0	MEAN	135	MAX	291	MIN	1.0	AC-FT	97740		

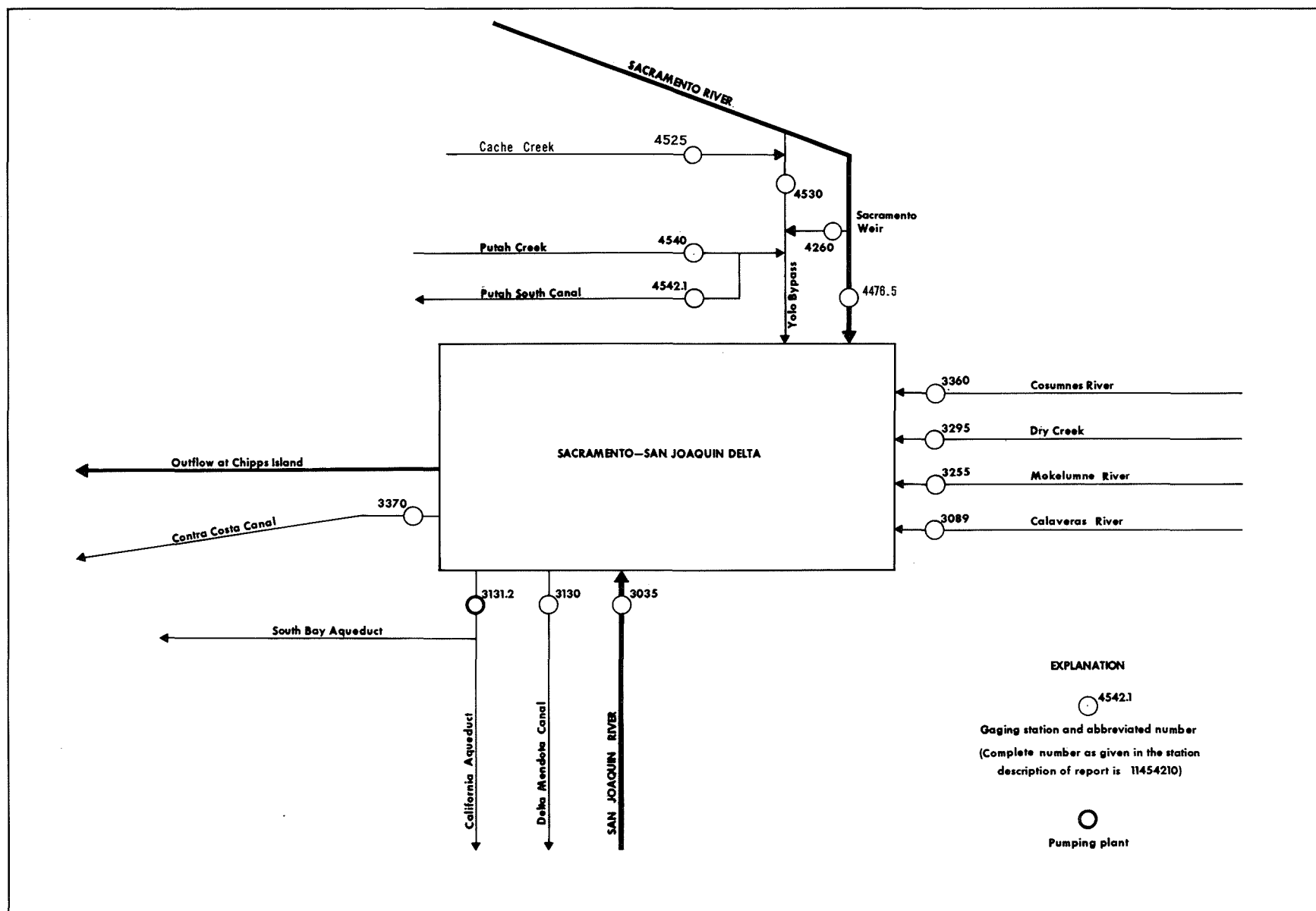


FIGURE 13.--Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.



LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

DRAINAGE AREA.--Total drainage area of inflow streams tabulated below is 39,511 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971, can be obtained from published records for stations tabulated below.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals furnished by Bureau of Reclamation, California Aqueduct by California Department of Water Resources.

REVISIONS.--The figures published for Yolo Bypass near Woodland (station 11453000) for the 1983 water year are revised in the following table, and supersede those figures published in the report for 1983.

## 11453000 YOLO BYPASS NEAR WOODLAND, CA

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Water Year
0	24.30	741.7	1226	3075	6564	885.4	177.9	61.59	0	0	0	12760
TOTAL												
1780	2534	5769	5848	10050	16290	7255	6345	4775	3310	2216	2245	68420

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE  
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## Inflows, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water Year
11303500 SAN JOAQUIN RIVER NEAR VERNALIS												
818.8	635.2	1176	1576	623.1	461.3	255.0	199.2	136.7	117.1	134.0	173.6	6306
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
7.51	92.76	95.87	19.09	2.22	2.94	8.59	13.23	14.50	16.66	16.27	11.73	301.4
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
79.08	117.8	173.7	150.5	52.82	54.80	23.84	16.68	21.00	20.88	25.35	32.90	769.2
11329500 DRY CREEK NEAR GALT												
1.08	33.54	75.07	21.24	21.91	16.94	5.24	2.51	.84	.22	.31	.23	179.1
11335000 COSUMNES RIVER AT MICHIGAN BAR												
4.90	93.45	202.7	71.44	60.76	71.48	44.00	30.03	10.48	4.29	2.45	1.82	597.8
11426000 SACRAMENTO WEIR SPILL												
0	7.12	298.4	98.03	0	0	0	0	0	0	0	0	403.6
11447650 SACRAMENTO RIVER AT FREEPORT												
1300	2905	4582	3493	1862	1932	1067	947.3	892.0	1330	1155	1053	22520
11453000 YOLO BYPASS NEAR WOODLAND <sup>1</sup>												
0	340.9	2810	857.9	29.47	19.58	0	0	0	0	0	0	4058
11454000 PUTAH CREEK NEAR WINTERS												
15.11	14.19	99.93	90.02	33.55	37.05	27.14	40.95	43.24	49.34	41.00	26.91	518.4
TOTAL												
2226	4240	9514	6377	2686	2596	1431	1250	1119	1538	1374	1300	35654

## Divisions, in thousands of acre-feet

Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Month Apr.	May	June	July	Aug.	Sept.	Water Year
11313000 DELTA-MENDOTA CANAL												
127.9	56.8	98.6	84.4	219.2	263.4	235.7	183.8	177.7	287.5	269.2	185.6	2190
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)												
20.75	44.72	25.95	20.37	113.2	157.5	214.7	164.8	178.2	279.4	298.6	131.2	1649
11337000 COSTRA COSTA CANAL												
5.01	4.01	3.34	2.82	3.87	3.71	8.53	11.64	12.80	15.59	15.36	11.04	97.73
11454210 PUTAH SOUTH CANAL												
13.38	11.52	19.04	6.26	3.45	7.81	22.92	35.78	36.71	42.58	35.62	23.80	258.9
TOTAL												
167.0	117.1	146.9	113.9	339.7	432.4	481.9	396.0	405.4	625.1	618.8	351.6	4196

1. Flow not computed below 1,000 ft<sup>3</sup>/s.

NOTE.--Minor inflow streams and diversions are not included.



## Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1984

						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 NE 1/4 SE 1/4 sec.32, T.20 S., R.28 E., Tulare County, Hydrologic Unit 18030012, at culvert on county road No. J28, 5.9 mi east of Strathmore.	3.05	1974-84	11-24-83	5.70	28
11205690	Lewis Creek near Lindsay, CA	Lat 36°11'11", long 118°59'46", in NW 1/4 NE 1/4 sec. 13, T.20 S., R.27 E., Tulare County, Hydrologic Unit 18030012, at culvert on Road 258, 0.2 mi downstream from unnamed tributary, and 7.0 mi southeast of Lindsay.	21.5	1969a, 1974-84	11-24-83	21.69	123

## ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## PYRAMID AND WINNEMUCCA LAKES BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	
390337119553701 - LOGAN HOUSE CREEK #2 (LAT 39 03 37 LONG 119 55 37)													
SEP , 1984	19...	0955	.56	137	7.3	9.0	18	4.6	5.9	1.8	72	.9	.40
390357119560701 - LOGAN HOUSE CREEK #1 (LAT 39 03 57 LONG 119 56 07)													
SEP , 1984	19...	0815	.51	141	7.7	10.0	18	4.8	6.4	1.9	76	.9	.40
385842119534801 - EDGEWOOD CREEK #4 (LAT 38 58 42 LONG 119 53 48)													
SEP , 1984	20...	0910	.18	192	7.3	9.0	22	5.4	10	3.7	91	.2	6.4
385759119530701 - EDGEWOOD CREEK #3 (LAT 38 57 59 LONG 119 53 07)													
SEP , 1984	19...	1400	.70	138	7.4	12.0	16	2.1	8.2	3.4	49	6.7	4.1
385822119541801 - EDGEWOOD CREEK #2 (LAT 38 58 22 LONG 119 54 18)													
SEP , 1984	20...	1140	.26	371	7.4	11.5	30	6.3	32	4.4	78	1.3	65
385758119562001 - EDGEWOOD CREEK #1 (LAT 38 57 58 LONG 119 56 20)													
SEP , 1984	19...	1145	2.1	122	7.4	10.0	14	2.3	8.3	2.7	54	.7	6.9
390234120083001 - GENERAL CREEK #2 (LAT 39 02 34 LONG 120 08 30)													
SEP , 1984	18...	0955	1.0	60	6.9	10.5	7.7	.90	3.6	.89	33	.1	.20
390305120071301 - GENERAL CREEK #1 (LAT 39 03 05 LONG 120 07 13)													
SEP , 1984	18...	0815	1.3	64	6.8	10.5	7.6	1.0	4.1	.84	34	.1	.40
391623119565501 - THIRD CREEK #2 (LAT 39 16 23 LONG 119 56 55)													
SEP , 1984	18...	1640	3.9	55	6.7	10.0	5.9	1.3	3.4	1.4	28	.2	.40
391426119565001 - THIRD CREEK #1 (LAT 39 14 26 LONG 119 56 50)													
SEP , 1984	18...	1520	3.4	69	7.3	14.0	7.3	1.9	4.1	1.7	35	.5	.80

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
 WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
 PYRAMID AND WINNEMUCCA LAKES BASIN--Continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
390337119553701 - LOGAN HOUSE CREEK #2 (LAT 39 03 37 LONG 119 55 37)											
SEP , 1984 19...	.00	<.00	27	--	<.002	<.01	<.005	.003	130	4	2.5
390357119560701 - LOGAN HOUSE CREEK #1 (LAT 39 03 57 LONG 119 56 07)											
SEP , 1984 19...	.00	<.00	26	--	<.002	<.01	<.005	.002	62	2	2.5
385842119534801 - EDGEWOOD CREEK #4 (LAT 38 58 42 LONG 119 53 48)											
SEP , 1984 20...	.10	<.00	27	--	<.002	<.01	.009	.008	260	140	4.0
385759119530701 - EDGEWOOD CREEK #3 (LAT 38 57 59 LONG 119 53 07)											
SEP , 1984 19...	.10	.00	17	.39	.012	.40	.137	.009	200	220	50
385822119541801 - EDGEWOOD CREEK #2 (LAT 38 58 22 LONG 119 54 18)											
SEP , 1984 20...	.10	.00	25	--	<.002	<.01	.011	.003	640	330	2.9
385758119562001 - EDGEWOOD CREEK #1 (LAT 38 57 58 LONG 119 56 20)											
SEP , 1984 19...	.00	<.00	20	--	<.002	.02	<.005	.009	150	7	1.4
390234120083001 - GENERAL CREEK #2 (LAT 39 02 34 LONG 120 08 30)											
SEP , 1984 18...	.00	<.00	20	--	<.002	.01	.007	.003	57	8	1.5
390305120071301 - GENERAL CREEK #1 (LAT 39 03 05 LONG 120 07 13)											
SEP , 1984 18...	.00	<.00	21	--	<.002	<.01	.011	.012	53	8	1.7
391623119565501 - THIRD CREEK #2 (LAT 39 16 23 LONG 119 56 55)											
SEP , 1984 18...	.00	<.00	18	--	<.002	<.01	<.005	.014	22	3	.60
391426119565001 - THIRD CREEK #1 (LAT 39 14 26 LONG 119 56 50)											
SEP , 1984 18...	.00	<.00	19	--	<.002	<.01	.010	.010	280	9	.80

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1984  
PYRAMID AND WINNEMUCCA LAKES BASIN--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	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)	ALKA- LITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	
390415120130801 - BLACKWOOD CREEK #5 (LAT 39 04 15 LONG 120 13 08)													
SEP , 1984	18...	1200	.33	30	6.6	10.0	3.9	.70	1.6	.27	20	.2	.10
390519120123701 - BLACKWOOD CREEK #4 (LAT 39 05 19 LONG 120 12 37)													
SEP , 1984	17...	1640	.73	45	6.5	13.5	5.7	.80	1.9	.43	21	2.2	.10
390618120113901 - BLACKWOOD CREEK #3 (LAT 39 06 18 LONG 120 11 39)													
SEP , 1984	17...	1515	.39	46	6.8	16.0	5.6	1.1	2.1	.62	23	1.0	.10
390634120101701 - BLACKWOOD CREEK #2 (LAT 39 06 34 LONG 120 10 17)													
SEP , 1984	17...	1245	2.4	64	7.1	13.0	7.3	1.8	2.7	1.1	33	1.2	.20
390625120092501 - BLACKWOOD CREEK #1 (LAT 39 06 25 LONG 120 09 25)													
SEP , 1984	17...	1015	2.5	74	6.9	10.5	8.6	2.1	3.3	1.2	38	1.2	.20

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	BROMIDE DIS- SOLVED (MG/L AS BR)	SILICA, DIS- SOLVED (MG/L AS SIO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)
390415120130801 - BLACKHOOD CREEK #5 (LAT 39 04 15 LONG 120 13 08)											
SEP , 1984 18...	.00	<.00	12	--	<.002	<.01	<.005	<.002	11	4	.50
390519120123701 - BLACKHOOD CREEK #4 (LAT 39 05 19 LONG 120 12 37)											
SEP , 1984 17...	.00	<.00	15	--	<.002	<.01	<.005	.008	8	3	.90
390618120113901 - BLACKHOOD CREEK #3 (LAT 39 06 18 LONG 120 11 39)											
SEP , 1984 17...	.00	<.00	21	--	<.002	<.01	.005	<.002	55	6	1.1
390634120101701 - BLACKHOOD CREEK #2 (LAT 39 06 34 LONG 120 10 17)											
SEP , 1984 17...	.00	<.00	26	--	<.002	--	<.005	.008	56	8	.90
390625120092501 - BLACKHOOD CREEK #1 (LAT 39 06 25 LONG 120 09 25)											
SEP , 1984 17...	.00	<.00	27	--	<.002	<.01	<.005	.007	160	8	1.1

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

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
SAN JOAQUIN RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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)	BICAR- BONATE IT-FLD (MG/L AS HCO3)		
361059119475101 - RELIEF DRAIN #4 NR STRATFORD, CA (LAT 36 10 59 LONG 119 47 51)													
JUL , 1984	26...	1441	--	9270	7.4	23.5	--	190	250	1900	7.5 .000		
361108119473401 - EVAPORATION POND #3 CELL #1 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	26...	1856	--	10400	8.7	27.0	--	--	--	--	33		
361108119473402 - EVAPORATION POND #3 CELL #2 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	26...	1937	--	15000	9.1	280	--	--	--	--	65		
361108119473403 - EVAPORATION POND #3 CELL #3 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	27...	0800	--	39900	9.4	24.0	--	--	--	--	--		
361123119503701 - INTERCEPTOR DRAIN #5 NR STRATFORD, CA (LAT 36 11 23 LONG 119 50 37)													
JUL , 1984	26...	1310	--	2490	7.0	23.5	--	150	120	340	7.3 .000		
DATE		CAR- BONATE IT-FLD (MG/L AS CO3)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)
361059119475101 - RELIEF DRAIN #4 NR STRATFORD, CA (LAT 36 10 59 LONG 119 47 51)													
JUL , 1984	26...	523	433	4200	--	1.1	35	9.1	.33	--	--	11	--
361108119473401 - EVAPORATION POND #3 CELL #1 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	26...	376	308	--	--	--	--	--	--	760	11	--	3800
361108119473402 - EVAPORATION POND #3 CELL #2 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	26...	338	281	--	--	--	--	--	--	470	17	--	6200
361108119473403 - EVAPORATION POND #3 CELL #3 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)													
JUL , 1984	27...	290	238	--	--	--	--	--	--	190	21	--	18000
361123119503701 - INTERCEPTOR DRAIN #5 NR STRATFORD, CA (LAT 36 11 23 LONG 119 50 37)													
JUL , 1984	26...	302	246	1100	--	.80	48	7.2	.89	--	--	15	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SAN JOAQUIN RIVER BASIN--Continued

DATE	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI)
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361059119475101 - RELIEF DRAIN #4 NR STRATFORD, CA (LAT 36 10 59 LONG 119 47 51)

JUL , 1984 26...	3200	--	<1	--	<1	--	4	--	70	--	2	--
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361108119473401 - EVAPORATION POND #3 CELL #1 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 26...	--	<1	--	8	--	<10	--	750	--	<1	--	30
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361108119473402 - EVAPORATION POND #3 CELL #2 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 26...	--	<1	--	3	--	5	--	530	--	<1	--	50
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361108119473403 - EVAPORATION POND #3 CELL #3 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 27...	--	<1	--	5	--	10	--	400	--	<1	--	110
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361123119503701 - INTERCEPTOR DRAIN #5 NR STRATFORD, CA (LAT 36 11 23 LONG 119 50 37)

JUL , 1984 26...	1400	--	<1	--	<1	--	3	--	40	--	3	--
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DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
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361059119475101 - RELIEF DRAIN #4 NR STRATFORD, CA (LAT 36 10 59 LONG 119 47 51)

JUL , 1984 26...	20	--	150	--	<.1	--	170	--	--	39	--	20
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361108119473401 - EVAPORATION POND #3 CELL #1 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 26...	--	60	--	<.1	--	--	--	35	<1	--	20	--
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361108119473402 - EVAPORATION POND #3 CELL #2 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 26...	--	30	--	.2	--	400	--	33	<1	--	20	--
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361108119473403 - EVAPORATION POND #3 CELL #3 NR STRATFORD, CA (LAT 36 11 08 LONG 119 47 34)

JUL , 1984 27...	--	60	--	.1	--	--	--	40	<1	--	60	--
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361123119503701 - INTERCEPTOR DRAIN #5 NR STRATFORD, CA (LAT 36 11 23 LONG 119 50 37)

JUL , 1984 26...	50	--	200	--	<.1	--	73	--	--	20	--	20
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See footnote at end of table.



ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

SAN JOAQUIN RIVER BASIN--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	
361214119493601 - RELIEF DRAIN #3 NR STRATFORD, CA (LAT 36 12 14 LONG 119 49 36)												
JUL , 1984	1221	6	--	20400	6.9	23.0	--	450	1400	4900	2.7 .000	
361219119494101 - EVAPORATION POND #2 NR STRATFORD, CA (LAT 36 12 19 LONG 119 49 41)												
JUL , 1984	1745	9	--	28600	9.0	29.0	--	--	--	--	115	
361414119491301 - EVAPORATION POND #1 NR STRATFORD, CA (LAT 36 14 14 LONG 119 49 13)												
JUL , 1984	0800		--	39900	9.4	24.0	--	--	--	--	--	
361419119511801 - EMPIRE WEIR #1 ON KINGS R NR STRATFORD, CA (LAT 36 14 19 LONG 119 51 18)												
JUL , 1984	0930		--	980	8.3	26.0	--	29	21	150	3.5 --	
361428119495801 - RELIEF DRAIN 2 NR STRATFORD, CA (LAT 36 14 28 LONG 119 49 58)												
JUL , 1984	0923		--	10200	7.4	22.0	--	210	170	1800	3.1 .000	
DATE		CAR- BONATE IT-FLD (MG/L AS CO3)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)
361214119493601 - RELIEF DRAIN #3 NR STRATFORD, CA (LAT 36 12 14 LONG 119 49 36)												
JUL , 1984	407	322	14000	--	1.2	52	6.4	.52	--	--	20 --	
361219119494101 - EVAPORATION POND #2 NR STRATFORD, CA (LAT 36 12 19 LONG 119 49 41)												
JUL , 1984	395	328	--	--	--	--	--	--	50	18	-- 21000	
361414119491301 - EVAPORATION POND #1 NR STRATFORD, CA (LAT 36 14 14 LONG 119 49 13)												
JUL , 1984	290	238	--	--	--	--	--	--	190	21	-- 18000	
361419119511801 - EMPIRE WEIR #1 ON KINGS R NR STRATFORD, CA (LAT 36 14 19 LONG 119 51 18)												
JUL , 1984	199	--	300	--	.30	14	.35	.08	--	--	3 --	
361428119495801 - RELIEF DRAIN 2 NR STRATFORD, CA (LAT 36 14 28 LONG 119 49 58)												
JUL , 1984	489	402	4200	--	1.2	54	10	.420	--	--	32 --	

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
SAN JOAQUIN RIVER BASIN--Continued

DATE	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM TOTAL RECOV- ERABLE (UG/L AS LI)
361214119493601 - RELIEF DRAIN #3 NR STRATFORD, CA (LAT 36 12 14 LONG 119 49 36)												
JUL , 1984 26...	13000	--	<1	--	<1	--	4	--	80	--	<1	--
361219119494101 - EVAPORATION POND #2 NR STRATFORD, CA (LAT 36 12 19 LONG 119 49 41)												
JUL , 1984 26...	--	<1	--	--	--	16	--	150	--	<1	--	300
361414119491301 - EVAPORATION POND #1 NR STRATFORD, CA (LAT 36 14 14 LONG 119 49 13)												
JUL , 1984 27...	--	<1	--	5	--	10	--	400	--	<1	--	110
361419119511801 - EMPIRE WEIR #1 ON KINGS R NR STRATFORD, CA (LAT 36 14 19 LONG 119 51 18)												
JUL , 1984 27...	530	--	<1	--	<1	--	2	--	42	--	<1	--
361428119495801 - RELIEF DRAIN 2 NR STRATFORD, CA (LAT 36 14 28 LONG 119 49 58)												
JUL , 1984 26...	5800	--	<1	--	3	--	3	--	50	--	2	--
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L AS MO)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
361214119493601 - RELIEF DRAIN #3 NR STRATFORD, CA (LAT 36 12 14 LONG 119 49 36)												
JUL , 1984 26...	160	--	860	--	.1	--	230	--	--	45	--	30
361219119494101 - EVAPORATION POND #2 NR STRATFORD, CA (LAT 36 12 19 LONG 119 49 41)												
JUL , 1984 26...	--	700	--	.1	--	--	--	49	<1	--	50	--
361414119491301 - EVAPORATION POND #1 NR STRATFORD, CA (LAT 36 14 14 LONG 119 49 13)												
JUL , 1984 27...	--	60	--	.1	--	--	--	40	<1	--	60	--
361419119511801 - EMPIRE WEIR #1 ON KINGS R NR STRATFORD, CA (LAT 36 14 19 LONG 119 51 18)												
JUL , 1984 27...	13	--	<10	--	<.1	--	5	--	--	5	--	8
361428119495801 - RELIEF DRAIN 2 NR STRATFORD, CA (LAT 36 14 28 LONG 119 49 58)												
JUL , 1984 26...	30	--	160	--	<.1	--	240	--	--	92	--	30

See footnote at end of table.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES  
WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984  
SAN JOAQUIN RIVER BASIN--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	CALCIUM DIS- SOLVED (MG/L)	MAGNE- SIUM, DIS- SOLVED (MG/L)	SODIUM, DIS- SOLVED (MG/L)	POTAS- SIUM, DIS- SOLVED (MG/L)	BICAR- BONATE IT-FLD (MG/L)	
361949119492801 - RELIEF DRAIN #1 NR LEMOORE, CA (LAT 36 19 49 LONG 119 49 28)												
JUL , 1984	23...	1730	--	420	6.9	24.0	2.8	32	11	41	2.7	
362243119471001 - ARMY WEIR CLARKS FORK SF KINGS R NR RIVERDALE, CA (LAT 36 22 43 LONG 119 47 10)												
JUL , 1984	23...	1330	4.0	59	7.8	26.0	--	3.8	.80	2.3	1.2	
DATE	TIME	CAR- BONATE IT-FLD (MG/L)	ALKA- LINITY FIELD (MG/L)	SULFATE DIS- SOLVED (MG/L)	CHLO- RIDE, DIS- SOLVED (MG/L)	FLUO- RIDE, DIS- SOLVED (MG/L)	SILICA, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L)	ARSENIC DIS- SOLVED (UG/L)	BORON, TOTAL RECOV- ERABLE (UG/L)
361949119492801 - RELIEF DRAIN #1 NR LEMOORE, CA (LAT 36 19 49 LONG 119 49 28)												
JUL , 1984	23...	154	--	33	--	.30	27	1.4	.10	--	--	<1
362243119471001 - ARMY WEIR CLARKS FORK SF KINGS R NR RIVERDALE, CA (LAT 36 22 43 LONG 119 47 10)												
JUL , 1984	27...	18	16	2.5	.86	.05	6.8	--	<.01	--	--	<1
DATE	TIME	BORON, DIS- SOLVED (UG/L)	CADMIUM TOTAL RECOV- ERABLE (UG/L)	CADMIUM DIS- SOLVED (UG/L)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L)	CHRO- MIUM, DIS- SOLVED (UG/L)	COPPER, TOTAL RECOV- ERABLE (UG/L)	COPPER, DIS- SOLVED (UG/L)	IRON, TOTAL RECOV- ERABLE (UG/L)	IRON, DIS- SOLVED (UG/L)	LEAD, TOTAL RECOV- ERABLE (UG/L)	LITHIUM TOTAL RECOV- ERABLE (UG/L)
361949119492801 - RELIEF DRAIN #1 NR LEMOORE, CA (LAT 36 19 49 LONG 119 49 28)												
JUL , 1984	23...	110	--	1	--	<1	--	2	--	58	--	<1
362243119471001 - ARMY WEIR CLARKS FORK SF KINGS R NR RIVERDALE, CA (LAT 36 22 43 LONG 119 47 10)												
JUL , 1984	27...	<10	--	1	--	4	--	1	--	39	--	<1
DATE	TIME	LITHIUM DIS- SOLVED (UG/L)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L)	MANGA- NESE, DIS- SOLVED (UG/L)	MERCURY TOTAL RECOV- ERABLE (UG/L)	MERCURY DIS- SOLVED (UG/L)	MOLYB- DENUM, TOTAL RECOV- ERABLE (UG/L)	MOLYB- DENUM, DIS- SOLVED (UG/L)	NICKEL, TOTAL RECOV- ERABLE (UG/L)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L)	VANA- DIUM, DIS- SOLVED (UG/L)	ZINC, TOTAL RECOV- ERABLE (UG/L)
361949119492801 - RELIEF DRAIN #1 NR LEMOORE, CA (LAT 36 19 49 LONG 119 49 28)												
JUL , 1984	23...	8	--	320	--	<.1	--	5	--	--	5	13
362243119471001 - ARMY WEIR CLARKS FORK SF KINGS R NR RIVERDALE, CA (LAT 36 22 43 LONG 119 47 10)												
JUL , 1984	27...	<4	--	10	--	<.1	--	<1	--	--	2	6

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

GROUND WATER  
MERCED COUNTY  
San Joaquin Valley (5-22)

WELL 005S012E22P01M

SITE NUMBER 372842120382601

6 MI SOUTHEAST OF MONTPELIER. STOCK WELL. ALTITUDE OF LSD 206 FT. RECORDS AVAILABLE 1978 TO CURRENT YEAR.

HIGHEST WATER LEVEL 118.85 FEET BELOW LAND SURFACE DATUM MAR 15, 1978.

LOWEST WATER LEVEL 128.02 FEET BELOW LAND SURFACE DATUM FEB 01, 1983.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JUN 18, 1984	126.49

WELL 005S013E14P01M

SITE NUMBER 372935120305601

1 MI EAST OF HOPETON. DOMESTIC WELL. ALTITUDE OF LSD 190 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 22.95 FEET BELOW LAND SURFACE DATUM JAN 23, 1984.

LOWEST WATER LEVEL 31.60 FEET BELOW LAND SURFACE DATUM JUN 18, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	22.95	JUN 18, 1984	31.60

WELL 005S014E05D01M

SITE NUMBER 373203120274401

1.6 MI NORTHWEST OF SNELLING. STOCK WELL. ALTITUDE OF LSD 310 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 110.10 FEET BELOW LAND SURFACE DATUM APR 28, 1981.

LOWEST WATER LEVEL 134.00 FEET BELOW LAND SURFACE DATUM JUL 26, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	123.34	JUN 18, 1984	119.90 R

WELL 006S010E02P02M

SITE NUMBER 372602120503201

1.7 MI NORTH OF HILMAR. DOMESTIC WELL. ALTITUDE OF LSD 95 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.61 FEET BELOW LAND SURFACE DATUM JUL 27, 1983.

LOWEST WATER LEVEL 14.80 FEET BELOW LAND SURFACE DATUM MAY 02, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	10.67	JUN 19, 1984	9.77

## GROUND WATER

## MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 006S010E20R02M

SITE NUMBER 372329120532401

2.3 MI SOUTHWEST OF IRWIN. IRRIGATION WELL. ALTITUDE OF LSD 80 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.83 FEET BELOW LAND SURFACE DATUM FEB 01, 1983.

LOWEST WATER LEVEL 40.53 FEET BELOW LAND SURFACE DATUM AUG 19, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	15.62	JUN 19, 1984	24.27 S

WELL 006S011E06M01M

SITE NUMBER 372622120484201

2 MI NORTHWEST OF DELHI. IRRIGATION WELL. ALTITUDE OF LSD 105 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.25 FEET BELOW LAND SURFACE DATUM AUG 21, 1980.

LOWEST WATER LEVEL 9.80 FEET BELOW LAND SURFACE DATUM DEC 31, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	7.18	JUN 19, 1984	6.89 R

WELL 006S011E19J01M

SITE NUMBER 372338120474401

2.8 MI SOUTHWEST OF DELHI. DOMESTIC WELL. ALTITUDE OF LSD 110 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 24.92 FEET BELOW LAND SURFACE DATUM FEB 01, 1983.

LOWEST WATER LEVEL 30.32 FEET BELOW LAND SURFACE DATUM JUN 30, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	25.92 R	JUN 19, 1984	33.90 R

WELL 006S011E34F01M

SITE NUMBER 372209120451201

2.2 MI SOUTHWEST OF LIVINGSTON. IRRIGATION WELL. ALTITUDE OF LSD 117 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.25 FEET BELOW LAND SURFACE DATUM OCT 27, 1980.

LOWEST WATER LEVEL 24.99 FEET BELOW LAND SURFACE DATUM JAN 25, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	21.27	JUN 27, 1984	22.41

## GROUND WATER

MERCED COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 006S012E27B01M

SITE NUMBER 372318120381601

1.4 MI WEST OF WINTON. IRRIGATION WELL. ALTITUDE OF LSD 158 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 39.68 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 55.17 FEET BELOW LAND SURFACE DATUM AUG 21, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	39.68	JUN 28, 1984	44.08

WELL 006S012E34D01M

SITE NUMBER 372217120384501

2.3 MI SOUTHWEST OF WINTON. IRRIGATION WELL. ALTITUDE OF LSD 155 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.29 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 36.55 FEET BELOW LAND SURFACE DATUM FEB 26, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	25.29	JUN 27, 1984	29.40

WELL 006S012E35K01M

SITE NUMBER 372151120370301

1.3 MI NORTH OF ATWATER. DOMESTIC WELL. ALTITUDE OF LSD 155 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 27.30 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 47.22 FEET BELOW LAND SURFACE DATUM AUG 21, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 25, 1984	27.30

WELL 006S013E19B01M

SITE NUMBER 372407120345701

1.8 MI NORTHEAST OF WINTON. IRRIGATION WELL. ALTITUDE OF LSD 199 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.80 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 80.90 FEET BELOW LAND SURFACE DATUM AUG 21, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	60.80	JUN 19, 1984	69.96

## GROUND WATER

MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 006S013E28A01M

SITE NUMBER 372323120323401

3.8 MI WEST OF WINTON. IRRIGATION WELL. ALTITUDE OF LSD 195 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 54.21 FEET BELOW LAND SURFACE DATUM JAN 28, 1982.

LOWEST WATER LEVEL 75.20 FEET BELOW LAND SURFACE DATUM JUN 19, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	62.17	JUN 19, 1984	75.20

WELL 006S013E31N01M

SITE NUMBER 372145120352501

1 MI NORTHWEST OF ATWATER. IRRIGATION WELL. ALTITUDE OF LSD 163 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 33.27 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 44.83 FEET BELOW LAND SURFACE DATUM FEB 03, 1983.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	33.27	JUN 19, 1984	37.30

WELL 006S013E36L01M

SITE NUMBER 372201120295001

4.4 MI NORTHWEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 180 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 31.51 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 61.92 FEET BELOW LAND SURFACE DATUM AUG 19, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	31.51	JUN 19, 1984	54.60

WELL 007S009E012H01M

SITE NUMBER 372032120552301

4.1 MI NORTHWEST OF STEVINSON. IRRIGATION WELL. ALTITUDE OF LSD 71 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.06 FEET BELOW LAND SURFACE DATUM JUL 28, 1983.

LOWEST WATER LEVEL 9.46 FEET BELOW LAND SURFACE DATUM JAN 25, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	4.75	JUN 19, 1984	4.88

## GROUND WATER

MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 007S010E04Q01M

SITE NUMBER 372251120522501

1.9 MI NORTHWEST OF STEVINSON. IRRIGATION WELL. ALTITUDE OF LSD 82 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 8.71 FEET BELOW LAND SURFACE DATUM JAN 23, 1984.

LOWEST WATER LEVEL 14.58 FEET BELOW LAND SURFACE DATUM JAN 25, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	8.71	JUN 19, 1984	11.68 S

WELL 007S010E21A01M

SITE NUMBER 371849120521901

1.7 MI SOUTHWEST OF STEVINSON. DOMESTIC WELL. ALTITUDE OF LSD 75 FT. RECORDS AVAILABLE JAN TO SEPT 1984.

HIGHEST WATER LEVEL 1.70 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 3.94 FEET BELOW LAND SURFACE DATUM JUN 20, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	1.70	JUN 20, 1984	3.94

WELL 007S010E23K03M

SITE NUMBER 371626120501201

1.6 MI SOUTHEAST OF STEVINSON. IRRIGATION WELL. ALTITUDE OF LSD 81 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.43 FEET BELOW LAND SURFACE DATUM FEB 01, 1983.

LOWEST WATER LEVEL 7.25 FEET BELOW LAND SURFACE DATUM JUN 20, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	3.75	JUN 20, 1984	7.25

WELL 007S012E06R01M

SITE NUMBER 372058120411001

3.2 MI WEST OF LIVINGSTON. IRRIGATION WELL. ALTITUDE OF LSD 126 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 19.66 FEET BELOW LAND SURFACE DATUM JAN 23, 1984.

LOWEST WATER LEVEL 27.60 FEET BELOW LAND SURFACE DATUM AUG 19, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 23, 1984	19.66



## GROUND WATER

## MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 007S012R10F02H

SITE NUMBER 372020120383501

0.1 MI SOUTHWEST OF ATHWATER. CABLE TOOL IRRIGATION WELL IN ALLUVIUM. DIAM UNKNOWN, DEPTH 55 FT. ALTITUDE OF LSD 145 FT. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 23.36 FEET BELOW LAND SURFACE DATUM JAN 23, 1984.

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
JAN 23, 1984	23.36	JUN 20, 1984	25.23

WELL 007S012E24J01H

SITE NUMBER 371830120354401

2.7 MI SOUTH OF ATHWATER. IRRIGATION ARTESIAN WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 232 FT. ALTITUDE OF LSD 136 FT. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.21 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 29.00 FEET BELOW LAND SURFACE DATUM MAY 30, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	10.21	JUN 20, 1984	15.30

WELL 007S013E03D01H

SITE NUMBER 372128120322001

3.5 MI WEST OF ATHWATER. IRRIGATION WELL. ALTITUDE OF LSD 171 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 33.74 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 48.42 FEET BELOW LAND SURFACE DATUM APR 28, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	33.74	JUN 19, 1984	41.29

WELL 007S013E12R01H

SITE NUMBER 372033120295801

2.9 MI NORTHWEST OF MERCED. DOMESTIC WELL. ALTITUDE OF LSD 167 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 27.02 FEET BELOW LAND SURFACE DATUM JAN 25, 1984.

LOWEST WATER LEVEL 38.66 FEET BELOW LAND SURFACE DATUM AUG 19, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 25, 1984	27.02	JUN 19, 1984	30.09

GROUND WATER  
MERCED COUNTY--Continued  
 San Joaquin Valley (5-22)

WELL 007S013E16N01M

SITE NUMBER 371914120331901

4.3 MI NORTHWEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 149 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 9.61 FEET BELOW LAND SURFACE DATUM JUL 25, 1983.

LOWEST WATER LEVEL 18.67 FEET BELOW LAND SURFACE DATUM FEB 10, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	10.24

WELL 007S013E18E01M

SITE NUMBER 371927120354201

1.9 MI SOUTH OF ATHATER. IRRIGATION WELL. ALTITUDE OF LSD 145 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.69 FEET BELOW LAND SURFACE DATUM JUL 27, 1983.

LOWEST WATER LEVEL 19.11 FEET BELOW LAND SURFACE DATUM FEB 10, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 23, 1984	14.60	JUN 27, 1984	13.80

WELL 007S013E22R01M

SITE NUMBER 371818120312201

2.3 MI WEST OF MERCED. UNUSED WELL. ALTITUDE OF LSD 156 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 15.76 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 32.10 FEET BELOW LAND SURFACE DATUM DEC 29, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	15.76	JUN 20, 1984	22.57

WELL 007S013E29G01M

SITE NUMBER 371745120340401

4.7 MI WEST OF MERCED. UNUSED WELL. ALTITUDE OF LSD 140 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.56 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 17.26 FEET BELOW LAND SURFACE DATUM JUL 02, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	11.30	JUN 20, 1984	13.70

## GROUND WATER

MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 007S014E09R01M

SITE NUMBER 372002120261001

3.4 MI NORTHEAST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 185 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 19.25 FEET BELOW LAND SURFACE DATUM JUL 26, 1983.

LOWEST WATER LEVEL 30.26 FEET BELOW LAND SURFACE DATUM MAY 20, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	20.43	JUN 29, 1984	25.82

WELL 007S014E22F01M

SITE NUMBER 371839120252401

3.4 MI WEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 191 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.68 FEET BELOW LAND SURFACE DATUM JUL 26, 1983.

LOWEST WATER LEVEL 33.06 FEET BELOW LAND SURFACE DATUM FEB 13, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	19.80	JUN 19, 1984	23.96

WELL 007S014E26H01M

SITE NUMBER 371753120234601

4.8 MI WEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 195 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 9.91 FEET BELOW LAND SURFACE DATUM JUL 26, 1983.

LOWEST WATER LEVEL 27.05 FEET BELOW LAND SURFACE DATUM JAN 28, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	13.26	JUN 19, 1984	10.08

WELL 007S014E27R01M

SITE NUMBER 371729120245301

3.8 MI WEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 186 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 15.52 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 26.62 FEET BELOW LAND SURFACE DATUM JUN 29, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	15.52	JUN 29, 1984	26.62

## GROUND WATER

MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 007S014E31J01M

SITE NUMBER 371649120280901

1.7 MI SOUTH OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 165 FT. RECORDS AVAILABLE 1977 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 11.18 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 50.08 FEET BELOW LAND SURFACE DATUM JUL 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	15.58	JUN 20, 1984	18.86

WELL 007S015E18K01M

SITE NUMBER 371919120215801

6.5 MI WEST OF MERCED. UNUSED WELL. ALTITUDE OF LSD 212 FT. RECORDS AVAILABLE 1982 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 25.8 FEET BELOW LAND SURFACE DATUM JUL 26, 1983.

LOWEST WATER LEVEL 29.47 FEET BELOW LAND SURFACE DATUM JAN 28, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	26.44	JUN 19, 1984	27.30

WELL 008S012E03P01M

SITE NUMBER 371538120383001

9.3 MI SOUTHWEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 109 FT. RECORDS AVAILABLE 1982 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 3.59 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 14.60 FEET BELOW LAND SURFACE DATUM JUN 20, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	7.98	JUN 20, 1984	14.60

WELL 008S012E34L01M

SITE NUMBER 371126120384101

9.3 MI NORTHWEST OF EL NIDO. DOMESTIC WELL. ALTITUDE OF LSD 100 FT. RECORDS AVAILABLE 1982 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 2.62 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 10.94 FEET BELOW LAND SURFACE DATUM FEB 10, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	5.34	JUN 18, 1984	10.01

MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 008S013E19H01M

SITE NUMBER 371320120344301

7.6 MI SOUTHWEST OF MERCED. DOMESTIC WELL. ALTITUDE OF LSD 121 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.91 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 38.74 FEET BELOW LAND SURFACE DATUM JUN 18, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	18.91	JUN 18, 1984	38.74

WELL 008S013E19H02M

SITE NUMBER 371326120344201

7.7 MI SOUTHWEST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 121 FT. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 12.19 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 36.60 FEET BELOW LAND SURFACE DATUM DEC 27, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	14.56

WELL 008S014E11K01M

SITE NUMBER 371503120240901

5.7 MI SOUTHEAST OF MERCED. IRRIGATION WELL. ALTITUDE OF LSD 186 FT. RECORDS AVAILABLE 1978 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.45 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 59.31 FEET BELOW LAND SURFACE DATUM AUG 18, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	25.45

WELL 008S016E21A01M

SITE NUMBER 371342120132901

2 MI EAST OF LEGRAND. IRRIGATION WELL. ALTITUDE OF LSD 265 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 38.20 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 65.85 FEET BELOW LAND SURFACE DATUM JAN 28, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	38.20	JUN 20, 1984	57.98

## GROUND WATER

## MERCED COUNTY--Continued

San Joaquin Valley (5-22)

WELL 009S012E02G01M

SITE NUMBER 371050120373101

8 MI NORTHWEST OF EL NIDO. IRRIGATION WELL. ALTITUDE OF LSD 105 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.26 FEET BELOW LAND SURFACE DATUM FEB 02, 1983.

LOWEST WATER LEVEL 11.11 FEET BELOW LAND SURFACE DATUM FEB 10, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	4.09

WELL 009S014E19D01M

SITE NUMBER 370831120291201

0.6 MI NORTH OF EL NIDO. IRRIGATION WELL. ALTITUDE OF LSD 143 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 52.16 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 183.94 FEET BELOW LAND SURFACE DATUM JUL 03, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM..

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	52.16	JUN 18, 1984	83.50

WELL 009S015E29F01M

SITE NUMBER 370713120212401

5.2 MI WEST OF CHONCHILLA. IRRIGATION WELL. ALTITUDE OF LSD 196 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 57.25 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 146.81 FEET BELOW LAND SURFACE DATUM SEP 03, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	57.25

WELL 009S016E18D01M

SITE NUMBER 370915120162301

2.5 MI NORTH OF CHONCHILLA. DOMESTIC WELL. ALTITUDE OF LSD 239 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 122.82 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 151.09 FEET BELOW LAND SURFACE DATUM DEC 10, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 24, 1984	122.82	JUN 20, 1984	133.44

## GROUND WATER

## MERCED COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 010S013E02F02M

SITE NUMBER 370528120311501

1.5 MI NORTHWEST OF RED TOP. IRRIGATION WELL. ALTITUDE OF LSD 124 FT. RECORDS AVAILABLE 1982 TO CURRENT YEAR.

HIGHEST WATER LEVEL 47.10 FEET BELOW LAND SURFACE DATUM JAN 24, 1984.

LOWEST WATER LEVEL 73.37 FEET BELOW LAND SURFACE DATUM FEB 11, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JAN 24, 1984	47.10

## SAN JOAQUIN COUNTY

## San Joaquin Valley (5-22)

WELL 002N0045E02L01M

SITE NUMBER 380250121301601

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 57 FT, PERFORATED S2-S7 FT. ALTITUDE OF LSD 7.15 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO CURRENT YEAR.

HIGHEST WATER LEVEL 11.57 FEET BELOW LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 15.96 FEET BELOW LAND SURFACE DATUM NOV 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 30, 1983	13.05	JUL 24, 1983	13.75	AUG 17, 1983	13.67	SEP 10, 1983	13.55
JUL 01	13.05	25	13.67	18	13.77	11	13.46
02	13.09	26	13.64	19	13.98	12	13.30
03	13.16	27	13.57	20	14.02	13	13.28
04	13.25	28	13.58	21	13.95	14	13.43
05	13.34	29	13.57	22	13.89	15	13.60
06	13.48	30	13.51	23	13.81	16	13.68
07	13.55	31	13.48	24	13.76	17	13.80
08	13.58	AUG 01	13.44	25	13.69	18	13.85
09	13.56	02	13.55	26	13.69	19	13.89
10	13.49	03	13.72	27	13.65	20	13.95
11	13.28	04	13.91	28	13.57	21	13.86
12	13.12	05	14.11	29	13.48	22	13.56
13	12.98	06	14.17	30	13.42	23	13.53
14	12.88	07	14.01	31	13.45	24	13.61
15	12.90	08	13.74	SEP 01	13.60	25	13.61
16	12.92	09	13.60	02	13.82	26	13.51
17	13.03	10	13.54	03	13.95	27	13.29
18	13.34	11	13.51	04	13.96	28	13.22
19	13.60	12	13.49	05	13.88	29	13.15
20	13.88	13	13.30	06	13.61	30	13.25
21	13.95	14	13.27	07	13.53		
22	13.92	15	13.36	08	13.46		
23	13.87	16	13.54	09	13.52		

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 002N0045E02L01M

SITE NUMBER 380250121301601

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER  
-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 57 FT, PERFORATED 52-57  
FT. ALTITUDE OF LSD 7.15 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 11.57 FEET BELOW LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 15.96 FEET BELOW LAND SURFACE DATUM NOV 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	13.50	NOV 09, 1983	12.97	DEC 18, 1983	12.44	JAN 26, 1984	12.44
02	13.62	10	12.71	19	12.52	27	12.52
03	13.74	11	12.50	20	12.63	28	12.58
04	13.85	12	12.69	21	12.73	29	12.62
05	13.75	13	12.76	22	12.73	30	12.71
06	13.61	14	12.96	23	12.67	31	12.79
07	13.52	15	13.06	24	12.35	FEB 01	12.98
08	13.38	16	12.91	25	11.83	02	13.15
09	13.32	17	12.65	26	11.79	03	13.23
10	13.28	18	12.85	27	11.57	04	13.24
11	13.20	19	12.87	28	11.65	05	13.23
12	13.19	20	12.61	29	11.70	06	13.25
13	13.14	21	12.72	30	11.71	07	13.22
14	13.41	22	12.72	31	11.93	08	13.03
15	13.60	23	12.70	JAN 01, 1984	12.13	09	12.85
16	13.71	24	12.38	02	12.30	10	12.77
17	13.80	25	12.39	03	12.40	11	12.72
18	13.87	26	12.43	04	12.49	12	12.72
19	13.88	27	12.48	05	12.45	13	12.66
20	13.82	28	12.48	06	12.51	14	12.87
21	13.78	29	12.50	07	12.44	15	13.00
22	13.71	30	12.49	08	12.44	16	13.10
23	13.56	DEC 01	12.52	09	12.45	17	13.43
24	13.49	02	12.61	10	12.39	18	13.46
25	13.42	03	12.24	11	12.38	19	13.36
26	13.25	04	12.79	12	12.34	20	13.26
27	13.07	05	12.86	13	12.16	21	12.97
28	13.03	06	12.83	14	12.18	22	12.92
29	13.07	07	12.80	15	12.30	23	12.77
30	13.11	08	12.65	16	12.27	24	12.63
31	13.15	09	12.25	17	12.43	25	12.72
NOV 01	13.19	10	12.32	18	12.73	26	12.91
02	13.31	11	12.01	19	12.92	27	13.10
03	13.39	12	12.31	20	12.96	28	13.16
04	13.39	13	12.40	21	12.90	29	13.27
05	13.37	14	12.41	22	12.78	MAR 01	13.47
06	13.33	15	12.37	23	12.69	02	13.56
07	13.24	16	12.35	24	12.62	03	13.66
08	13.18	17	12.35	25	12.49	04	13.65



## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N0045E02L01M SITE NUMBER 380250121301601

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 05, 1984	13.66	APR 23, 1984	13.48	JUN 11, 1984	14.70	JUL 30, 1984	14.28
06	13.57	24	13.48	12	14.78	31	14.15
07	13.47	25	13.84	13	14.82	AUG 01	14.13
08	13.40	26	13.97	14	14.73	02	14.19
09	13.27	27	14.07	15	14.57	03	14.20
10	13.11	28	14.26	16	14.54	04	14.31
11	12.93	29	14.36	17	14.52	05	14.49
12	12.86	30	14.42	18	14.42	06	14.70
13	12.86	MAY 01	14.41	19	14.45	07	14.90
14	12.97	02	14.35	20	14.47	08	14.87
15	13.12	03	13.99	21	14.50	09	14.73
16	13.55	04	13.75	22	14.43	10	14.58
17	13.69	05	13.71	23	14.58	11	14.44
18	13.77	06	13.66	24	14.70	12	14.50
19	13.64	07	13.59	25	14.81	13	14.48
20	13.44	08	13.49	26	14.82	14	14.44
21	13.29	09	13.50	27	14.82	15	14.41
22	13.29	10	13.71	28	14.63	16	14.45
23	13.20	11	13.93	29	14.47	17	14.44
24	13.02	12	14.20	30	14.42	18	14.29
25	13.00	13	14.23	JUL 01	14.30	19	14.30
26	12.90	14	14.10	02	14.21	20	14.34
27	13.30	15	14.06	03	13.99	21	14.42
28	13.53	16	14.00	04	13.92	22	14.57
29	13.63	17	13.81	05	13.85	23	14.75
30	13.88	18	13.72	06	13.92	24	14.80
31	13.83	19	13.65	07	14.17	25	14.76
APR 01	14.01	20	13.50	08	14.44	26	14.72
02	14.08	21	13.48	09	14.70	27	14.55
03	14.04	22	13.55	10	14.76	28	14.49
04	13.88	23	13.70	11	14.68	29	14.41
05	13.79	24	13.83	12	14.54	30	14.33
06	13.59	25	14.03	13	14.42	31	14.40
07	13.58	26	14.23	14	14.29	SEP 01	14.30
08	13.39	27	14.39	15	14.22	02	14.34
09	13.41	28	14.39	16	14.22	03	14.42
10	13.24	29	14.23	17	14.16	04	14.57
11	13.38	30	14.21	18	14.04	05	14.64
12	13.58	31	14.18	19	14.04	06	14.79
13	13.91	JUN 01	14.15	20	14.01	07	14.92
14	14.14	02	14.01	21	14.09	08	14.94
15	14.17	03	13.94	22	14.26	09	14.84
16	14.09	04	13.79	23	14.57	10	14.61
17	13.93	05	13.89	24	14.66	11	14.49
18	13.89	06	14.00	25	14.71	12	14.62
19	13.64	07	14.03	26	14.71	13	14.68
20	13.68	08	14.16	27	14.64	14	14.59
21	13.76	09	14.32	28	14.49	15	14.48
22	13.61	10	14.53	29	14.42	16	14.56
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 17, 1984	14.40	SEP 21, 1984	14.18	SEP 25, 1984	14.31	SEP 30, 1984	14.14
18	14.22	22	14.22	26	14.37		
19	14.14	23	14.20	27	14.37		
20	14.09	24	14.30	29	14.31		

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 002N004E02L02M

SITE NUMBER 380250121301602

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER  
-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 32 FT, PERFORATED 27-32  
FT. ALTITUDE OF LSD 7.15 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 12.60 FEET BELOW LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 15.77 FEET BELOW LAND SURFACE DATUM MAY 14, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 30, 1983	14.59	JUL 24, 1983	15.13	AUG 17, 1983	15.35	SEP 10, 1983	15.16
JUL 01	14.64	25	15.09	19	15.30	11	15.14
02	14.72	26	15.08	19	15.37	12	15.10
03	14.80	27	15.07	20	15.43	13	15.14
04	14.90	28	15.09	21	15.34	14	15.27
05	14.97	29	15.09	22	15.29	15	15.39
06	15.03	30	15.08	23	15.25	16	15.41
07	15.02	31	15.07	24	15.23	17	15.44
08	14.97	AUG 01	15.11	25	15.21	18	15.40
09	14.92	02	15.24	26	15.23	19	15.40
10	14.87	03	15.35	27	15.24	20	15.42
11	14.77	04	15.46	28	15.19	21	15.35
12	14.67	05	15.51	29	15.15	22	15.23
13	14.56	06	15.48	30	15.18	23	15.24
14	14.53	07	15.36	31	15.23	24	15.24
15	14.56	08	15.18	SEP 01	15.35	25	15.18
16	14.66	09	15.08	02	15.46	26	15.07
17	14.79	10	15.06	03	15.51	27	15.05
18	15.01	11	15.06	04	15.41	28	15.07
19	15.13	12	15.05	05	15.31	29	15.05
20	15.27	13	15.00	06	15.14	30	15.10
21	15.30	14	14.99	07	15.07		
22	15.26	15	15.12	08	15.04		
23	15.21	16	15.27	09	15.11		

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1983	14.93	JAN 06, 1984	13.21	FEB 14, 1984	13.77	MAR 24, 1984	13.86
05	14.81	07	13.18	15	13.87	25	13.90
06	14.80	08	13.20	16	13.88	26	13.85
07	14.79	09	13.26	17	14.04	27	14.14
08	14.72	10	13.29	18	14.02	28	14.31
09	14.67	11	13.30	19	13.96	29	14.37
10	14.77	12	13.30	20	13.89	30	14.52
11	14.89	13	13.18	21	13.70	31	14.44
DEC 06	13.50	14	13.20	22	13.70	APR 01	14.54
07	13.46	15	13.30	23	13.65	02	14.58
08	13.36	16	13.26	24	13.60	03	14.57
09	13.14	17	13.36	25	13.68	04	14.42
10	13.20	18	13.52	26	13.81	05	14.34
11	13.06	19	13.55	27	13.95	06	14.24
12	13.27	20	13.56	28	13.98	07	14.25
13	13.35	21	13.51	29	14.04	08	14.14
14	13.37	22	13.44	30	14.13	09	14.20
15	13.37	23	13.42	MAR 01	14.18	10	14.12
16	13.35	24	13.41	02	14.24	11	14.27
17	13.33	25	13.39	03	14.22	12	14.43
18	13.38	26	13.41	04	14.23	13	14.65
19	13.39	27	13.51	05	14.16	14	14.76
20	13.40	28	13.55	06	14.09	15	14.69
21	13.41	29	13.58	07	14.05	16	14.58
22	13.41	30	13.61	08	13.99	17	14.46
23	13.35	31	13.65	09	13.90	18	14.41
24	13.14	FEB 01	13.74	10	13.83	19	14.28
25	12.82	02	13.80	11	13.81	20	14.29
26	12.80	03	13.84	12	13.81	21	14.37
27	12.60	04	13.84	13	13.83	22	14.31
28	12.73	05	13.84	14	13.89	23	14.29
29	12.79	06	13.86	15	13.99	24	14.32
30	12.81	07	13.85	16	14.22	25	14.57
31	12.93	08	13.77	17	14.25	26	14.73
JAN 01, 1984	13.03	09	13.67	18	14.28	27	14.82
02	13.11	10	13.67	19	14.19	28	14.90
03	13.13	11	13.68	20	14.05	29	14.91
04	13.20	12	13.67	21	13.95	30	14.87
05	13.16	13	13.66	22	13.98	MAY 01	14.78
				23	13.94		

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N004E02L02H

SITE NUMBER 380250121301602

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 02, 1984	14.73	JUN 09, 1984	15.43	JUL 17, 1984	14.92	AUG 24, 1984	15.38
03	14.55	10	15.47	18	14.87	25	15.31
04	14.32	11	15.46	19	14.89	26	15.27
05	14.31	12	15.32	20	14.94	27	15.24
06	14.30	13	15.19	21	15.02	28	15.21
07	14.29	14	15.04	22	15.16	29	15.16
08	14.32	15	14.92	23	15.39	30	15.14
09	14.37	16	14.90	24	15.35	31	15.22
10	14.56	17	14.91	25	15.28	SEP 01	15.24
11	14.68	18	14.88	26	15.22	02	15.33
12	14.82	19	14.94	27	15.15	03	15.40
13	14.75	20	15.02	28	15.06	04	15.52
14	14.61	21	15.19	29	15.02	05	15.52
15	14.57	22	15.31	30	14.95	06	15.52
16	14.54	23	15.42	31	14.88	07	15.54
17	14.39	24	15.46	AUG 01	14.89	08	15.53
18	14.34	25	15.46	02	14.99	09	15.43
19	14.32	26	15.42	03	15.13	10	15.27
20	14.22	27	15.37	04	15.28	11	15.16
21	14.25	28	15.22	05	15.43	12	15.22
22	14.37	29	15.10	06	15.52	13	15.23
23	14.53	30	15.06	07	15.54	14	15.17
24	14.63	JUL 01	14.99	08	15.44	15	15.10
25	14.80	02	14.95	09	15.29	16	15.18
26	14.90	03	14.81	10	15.18	17	15.29
27	14.96	04	14.79	11	15.05	18	15.36
28	14.92	05	14.82	12	15.12	19	15.43
29	14.71	06	14.92	13	15.12	20	15.43
30	14.59	07	15.10	14	15.11	21	15.47
31	14.52	08	15.26	15	15.12	22	15.53
JUN 01	14.44	09	15.33	16	15.17	23	15.46
02	14.31	10	15.34	17	15.20	24	15.47
03	14.28	11	15.24	18	15.22	25	15.45
04	14.21	12	15.13	19	15.28	26	15.40
05	14.34	13	15.05	20	15.33	27	15.37
06	14.65	14	14.98	21	15.36	28	15.33
07	14.89	15	14.95	22	15.41	29	15.23
08	15.21	16	14.96	23	15.43	30	15.16

WELL 002N004E02L03H

SITE NUMBER 380250121301603

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER  
-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 47 FT, PERFORATED 42-47  
FT. ALTITUDE OF LSD -5.71 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 0.04 FEET ABOVE LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 2.98 FEET BELOW LAND SURFACE DATUM OCT 06, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 30, 1983	1.00	JUL 24, 1983	1.62	AUG 17, 1983	1.80	SEP 10, 1983	1.54
JUL 01	1.04	25	1.56	18	1.81	11	1.51
02	1.10	26	1.54	19	1.87	12	1.48
03	1.22	27	1.49	20	1.88	13	1.52
04	1.34	28	1.51	21	1.79	14	1.67
05	1.41	29	1.52	22	1.74	15	1.81
06	1.47	30	1.49	23	1.68	16	1.84
07	1.45	31	1.50	24	1.65	17	1.86
08	1.42	AUG 01	1.55	25	1.61	18	1.81
09	1.38	02	1.69	26	1.63	19	1.81
10	1.32	03	1.84	27	1.61	20	1.92
11	1.17	04	1.95	28	1.56	21	1.84
12	1.04	05	2.01	29	1.52	22	1.69
13	0.95	06	1.97	30	1.56	23	1.67
14	0.87	07	1.81	31	1.62	24	1.66
15	0.94	08	1.61	SEP 01	1.79	25	1.60
16	1.04	09	1.49	02	1.92	26	1.48
17	1.19	10	1.45	03	1.97	27	1.46
18	1.50	11	1.45	04	1.86	28	1.49
19	1.68	12	1.45	05	1.76	29	1.48
20	1.78	13	1.34	06	1.55	30	1.57
21	1.81	14	1.39	07	1.48		
22	1.76	15	1.55	08	1.43		
23	1.70	16	1.73	09	1.50		

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 002N004E02L03M

SITE NUMBER 380250121301603

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER  
-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAH 3 IN, DEPTH 47 FT, PERFORATED 42-47  
FT. ALTITUDE OF LSD -5.71 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 0.04 FEET ABOVE LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 2.98 FEET BELOW LAND SURFACE DATUM OCT 06, 1984.

WATER LEVELS IN FEET ABOVE OR BELOW(-) LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	-1.78	NOV 09, 1983	-1.14	DEC 18, 1983	-0.76	JAN 26, 1984	-0.71
02	-1.85	10	-0.99	19	-0.78	27	-0.83
03	-1.85	11	-0.80	20	-0.77	28	-0.90
04	-1.86	12	-0.99	21	-0.78	29	-0.92
05	-1.76	13	-1.07	22	-0.74	30	-0.97
06	-1.66	14	-1.20	23	-0.68	31	-1.00
07	-1.58	15	-1.28	24	-0.44	FEB 01	-1.06
08	-1.47	16	-1.15	25	-0.07	02	-1.12
09	-1.43	17	-0.95	26	-0.06	03	-1.16
10	-1.40	18	-1.07	27	0.04	04	-1.15
11	-1.40	19	-1.05	28	-0.06	05	-1.13
12	-1.47	20	-0.79	29	-0.14	06	-1.16
13	-1.48	21	-0.82	30	-0.15	07	-1.14
14	-1.72	22	-0.82	31	-0.27	08	-1.04
15	-1.87	23	-0.80	JAN 01, 1984	-0.39	09	-0.92
16	-1.94	24	-0.58	02	-0.44	10	-0.93
17	-1.97	25	-0.59	03	-0.46	11	-0.95
18	-1.97	26	-0.70	04	-0.52	12	-0.99
19	-1.90	27	-0.79	05	-0.48	13	-0.98
20	-1.84	28	-0.81	06	-0.52	14	-1.14
21	-1.82	29	-0.84	07	-0.47	15	-1.24
22	-1.73	30	-0.82	08	-0.49	16	-1.24
23	-1.62	DEC 01	-0.83	09	-0.54	17	-1.38
24	-1.56	02	-0.85	10	-0.56	18	-1.37
25	-1.51	03	-0.58	11	-0.59	19	-1.28
26	-1.42	04	-0.87	12	-0.59	20	-1.21
27	-1.32	05	-0.93	13	-0.48	21	-0.99
28	-1.32	06	-0.85	14	-0.51	22	-0.96
29	-1.39	07	-0.81	15	-0.64	23	-0.91
30	-1.43	08	-0.70	16	-0.61	24	-0.88
31	-1.45	09	-0.44	17	-0.71	25	-0.99
NOV 01	-1.45	10	-0.50	18	-0.87	26	-1.16
02	-1.51	11	-0.40	19	-0.90	27	-1.33
03	-1.51	12	-0.60	20	-0.88	28	-1.37
04	-1.44	13	-0.72	21	-0.82	29	-1.43
05	-1.39	14	-0.74	22	-0.73	MAR 01	-1.48
06	-1.36	15	-0.74	23	-0.70	02	-1.53
07	-1.29	16	-0.73	24	-0.71	03	-1.58
08	-1.26	17	-0.70	25	-0.69	04	-1.56

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

HELL 002N004E02L03H

SITE NUMBER 380250121301603

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 05, 1984	-1.56	APR 23, 1984	-1.62	JUN 11, 1984	-2.76	JUL 30, 1984	-2.24
06	-1.49	24	-1.68	12	-2.57	31	-2.14
07	-1.41	25	-2.00	13	-2.45	AUG 01	-2.14
08	-1.36	26	-2.15	14	-2.31	02	-2.24
09	-1.27	27	-2.23	15	-2.17	03	-2.39
10	-1.17	28	-2.31	16	-2.14	04	-2.54
11	-1.11	29	-2.31	17	-2.15	05	-2.70
12	-1.12	30	-2.25	18	-2.10	06	-2.81
13	-1.17	MAY 01	-2.18	19	-2.14	07	-2.86
14	-1.26	02	-2.10	20	-2.25	08	-2.77
15	-1.36	03	-1.86	21	-2.44	09	-2.62
16	-1.61	04	-1.67	22	-2.60	10	-2.51
17	-1.61	05	-1.64	23	-2.72	11	-2.38
18	-1.65	06	-1.62	24	-2.76	12	-2.45
19	-1.54	07	-1.60	25	-2.78	13	-2.44
20	-1.37	08	-1.63	26	-2.72	14	-2.41
21	-1.26	09	-1.72	27	-2.67	15	-2.40
22	-1.27	10	-1.91	28	-2.51	16	-2.45
23	-1.21	11	-2.05	29	-2.39	17	-2.47
24	-1.15	12	-2.16	30	-2.34	18	-2.47
25	-1.21	13	-2.11	JUL 01	-2.25	19	-2.54
26	-1.19	14	-1.95	02	-2.18	20	-2.60
27	-1.52	15	-1.88	03	-2.02	21	-2.64
28	-1.72	16	-1.85	04	-2.00	22	-2.72
29	-1.77	17	-1.68	05	-2.05	23	-2.76
30	-1.89	18	-1.63	06	-2.19	24	-2.72
31	-1.81	19	-1.60	07	-2.40	25	-2.63
APR 01	-1.89	20	-1.49	08	-2.56	26	-2.59
02	-1.93	21	-1.52	09	-2.65	27	-2.48
03	-1.89	22	-1.67	10	-2.65	28	-2.44
04	-1.77	23	-1.84	11	-2.54	29	-2.39
05	-1.69	24	-1.96	12	-2.44	30	-2.37
06	-1.55	25	-2.13	13	-2.33	31	-2.44
07	-1.55	26	-2.23	14	-2.24	SEP 01	-2.49
08	-1.44	27	-2.27	15	-2.19	02	-2.60
09	-1.50	28	-2.21	16	-2.20	03	-2.70
10	-1.45	29	-2.02	17	-2.14	04	-2.83
11	-1.64	30	-1.89	18	-2.07	05	-2.83
12	-1.82	31	-1.80	19	-2.11	06	-2.83
13	-2.05	JUN 01	-1.73	20	-2.18	07	-2.83
14	-2.13	02	-1.60	21	-2.31	08	-2.80
15	-2.06	03	-1.54	22	-2.47	09	-2.69
16	-1.94	04	-1.42	23	-2.69	10	-2.52
17	-1.80	05	-1.59	24	-2.68	11	-2.41
18	-1.74	06	-1.91	25	-2.64	12	-2.47
19	-1.59	07	-2.14	26	-2.58	13	-2.47
20	-1.61	08	-2.54	27	-2.52	14	-2.41
21	-1.69	09	-2.75	28	-2.41	15	-2.33
22	-1.62	10	-2.76	29	-2.35	16	-2.43
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 17, 1984	-2.55	SEP 21, 1984	-2.79	SEP 25, 1984	-2.71	SEP 29, 1984	-2.45
18	-2.64	22	-2.84	26	-2.64	30	-2.42
19	-2.75	23	-2.74	27	-2.59		
20	-2.75	24	-2.73	28	-2.55		

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 002N004E02L04M

SITE NUMBER 380250121301604

ABOUT 12 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER  
-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 20 FT, PERFORATED 15-20  
FT. ALTITUDE OF LSD -5.71 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO  
CURRENT YEAR.

HIGHEST WATER LEVEL 0.88 FEET BELOW LAND SURFACE DATUM DEC 27, 1983.

LOWEST WATER LEVEL 3.84 FEET BELOW LAND SURFACE DATUM MAY 14, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 30, 1983	1.78	AUG 03, 1983	2.50	AUG 23, 1983	2.39	SEP 12, 1983	2.31
JUL 01	1.82	04	2.56	24	2.38	13	2.33
02	1.88	05	2.59	25	2.36	14	2.41
03	1.96	06	2.57	26	2.37	15	2.51
18	2.19	07	2.47	27	2.38	16	2.52
19	2.32	08	2.32	28	2.36	17	2.52
20	2.38	09	2.24	29	2.33	18	2.49
21	2.42	10	2.23	30	2.36	19	2.50
22	2.38	11	2.24	31	2.38	20	2.54
23	2.35	12	2.25	SEP 01	2.49	21	2.49
24	2.29	13	2.19	02	2.56	22	2.38
25	2.25	14	2.22	03	2.58	23	2.37
26	2.25	15	2.33	04	2.52	24	2.37
27	2.23	16	2.42	05	2.44	25	2.35
28	2.25	17	2.48	06	2.30	26	2.26
29	2.26	18	2.46	07	2.25	27	2.24
30	2.25	19	2.51	08	2.23	28	2.27
31	2.26	20	2.53	09	2.28	29	2.24
AUG 01	2.32	21	2.47	10	2.34	30	2.27
02	2.40	22	2.44	11	2.33		

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	2.40	NOV 09, 1983	1.88	DEC 18, 1983	1.49	JAN 26, 1984	1.54
02	2.45	10	1.76	19	1.50	27	1.62
03	2.44	11	1.57	20	1.50	28	1.67
04	2.45	12	1.73	21	1.51	29	1.67
05	2.40	13	1.77	22	1.50	30	1.70
06	2.31	14	1.88	23	1.44	31	1.72
07	2.26	15	1.92	24	1.27	FEB 01	1.77
08	2.20	16	1.80	25	1.00	02	1.83
09	2.17	17	1.62	26	0.97	03	1.86
10	2.16	18	1.70	27	0.88	04	1.87
11	2.18	19	1.68	28	0.95	05	1.88
12	2.24	20	1.47	29	0.99	06	1.91
13	2.23	21	1.48	30	0.99	07	1.91
14	2.39	22	1.50	31	1.08	08	1.84
15	2.50	23	1.47	JAN 01, 1984	1.17	09	1.77
16	2.53	24	1.34	02	1.22	10	1.76
17	2.55	25	1.34	03	1.24	11	1.78
18	2.53	26	1.46	04	1.28	12	1.80
19	2.48	27	1.56	05	1.26	13	1.76
20	2.44	28	1.57	06	1.31	14	1.86
21	2.41	29	1.60	07	1.29	15	1.91
22	2.35	30	1.57	08	1.31	16	1.93
23	2.26	DEC 01	1.56	09	1.37	17	2.02
24	2.23	02	1.57	10	1.39	18	2.02
25	2.20	03	1.35	11	1.41	19	1.99
26	2.15	04	1.51	12	1.41	20	1.95
27	2.09	05	1.58	13	1.32	21	1.81
28	2.08	06	1.56	14	1.33	22	1.79
29	2.10	07	1.54	15	1.41	23	1.77
30	2.08	08	1.47	16	1.38	24	1.74
31	2.06	09	1.29	17	1.46	25	1.81
NOV 01	2.06	10	1.32	18	1.58	26	1.93
02	2.10	11	1.24	19	1.60	27	2.03
03	2.09	12	1.38	20	1.61	28	2.06
04	2.04	13	1.48	21	1.58	29	2.10
05	2.01	14	1.50	22	1.53	MAR 01	2.14
06	1.99	15	1.49	23	1.52	02	2.18
07	1.93	16	1.47	24	1.55	03	2.23
08	1.93	17	1.44	25	1.54	04	2.22

## GROUND WATER

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## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N004E02L04M

SITE NUMBER 390250121301604

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 05, 1984	2.24	APR 23, 1984	2.41	JUN 18, 1984	3.09	AUG 06, 1984	3.58
06	2.20	24	2.44	19	3.12	07	3.61
07	2.15	25	2.64	20	3.20	08	3.56
08	2.13	26	2.76	21	3.34	09	3.44
09	2.08	27	2.82	22	3.44	10	3.37
10	2.01	28	2.88	23	3.51	11	3.28
11	1.98	29	2.89	24	3.53	12	3.35
12	1.97	30	2.84	25	3.53	13	3.36
13	1.98	MAY 01	2.79	26	3.49	14	3.35
14	2.01	02	2.73	27	3.46	15	3.35
15	2.08	03	2.52	28	3.34	16	3.40
16	2.24	04	2.41	29	3.25	17	3.42
17	2.25	12	2.79	30	3.21	18	3.41
18	2.29	13	2.77	JUL 01	3.16	19	3.44
19	2.23	14	2.37	02	3.12	20	3.46
20	2.13	15	2.60	03	3.02	21	3.47
21	2.03	16	2.58	04	3.02	22	3.52
22	2.07	17	2.49	05	3.05	23	3.54
23	2.04	18	2.45	06	3.12	24	3.53
24	2.00	19	2.43	07	3.25	25	3.49
25	2.05	20	2.36	08	3.36	26	3.47
26	2.02	21	2.37	09	3.41	27	3.41
27	2.24	22	2.50	10	3.42	28	3.40
28	2.39	23	2.62	11	3.35	29	3.37
29	2.42	24	2.69	12	3.27	30	3.36
30	2.51	25	2.82	13	3.20	31	3.42
31	2.46	26	2.88	14	3.14	SEP 01	3.46
APR 01	2.52	27	2.91	15	3.12	02	3.52
02	2.57	28	2.88	16	3.13	03	3.56
03	2.56	29	2.73	17	3.10	04	3.64
04	2.46	30	2.63	18	3.05	05	3.63
05	2.40	31	2.56	19	3.08	06	3.62
06	2.31	JUN 01	2.51	20	3.13	07	3.65
07	2.32	02	2.42	21	3.20	08	3.64
08	2.25	03	2.39	22	3.30	09	3.57
09	2.31	04	2.32	23	3.47	10	3.44
10	2.28	05	2.50	24	3.45	11	3.36
11	2.39	06	2.88	25	3.42	12	3.41
12	2.51	07	3.05	26	3.39	13	3.42
13	2.67	08	3.35	27	3.35	14	3.39
14	2.73	09	3.51	28	3.28	15	3.33
15	2.69	10	3.52	29	3.24	16	3.40
16	2.60	11	3.53	30	3.18	17	3.49
17	2.50	12	3.40	31	3.12	18	3.54
18	2.45	13	3.31	AUG 01	3.13	19	3.59
19	2.35	14	3.21	02	3.21	20	3.57
20	2.37	15	3.11	03	3.31	21	3.59
21	2.44	16	3.10	04	3.40	22	3.63
22	2.40	17	3.11	05	3.51	23	3.59
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 24, 1984	3.60	SEP 26, 1984	3.56	SEP 28, 1984	3.51	SEP 30, 1984	3.40
25	3.60	27	3.54	29	3.43		

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

## San Joaquin Valley (5-22)

WELL 002N005E28F01M

SITE NUMBER 375942121260101

ABOUT 7 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 50 FT, PERFORATED 45-50 FT. ALTITUDE OF LSD 2.66 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.63 FEET BELOW LAND SURFACE DATUM AUG 09, 1983.

LOWEST WATER LEVEL 9.11 FEET BELOW LAND SURFACE DATUM JUL 18, 1983.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 24, 1983	9.00	JUL 19, 1983	9.09	AUG 13, 1983	6.14	SEP 07, 1983	5.94
25	8.77	20	9.06	14	6.16	08	6.07
26	8.70	21	9.07	15	6.23	09	6.19
27	8.78	22	9.04	16	6.25	10	6.33
28	8.61	23	9.02	17	6.20	11	6.42
29	8.56	24	9.00	18	6.02	12	6.43
30	8.58	25	9.00	19	5.96	13	6.40
JUL 01	8.73	26	9.04	20	6.09	14	6.39
02	8.89	27	9.00	21	6.07	15	6.40
03	8.97	28	8.82	22	6.09	16	6.32
04	9.05	29	8.38	23	6.11	17	6.27
05	9.02	30	8.01	24	6.14	18	6.23
06	8.88	31	7.68	25	6.20	19	6.22
07	8.80	AUG 01	7.69	26	6.25	20	6.30
08	8.70	02	6.93	27	6.35	21	6.33
09	8.69	03	6.27	28	6.38	22	6.27
10	8.69	04	6.05	29	6.39	23	6.28
11	8.63	05	5.96	30	6.41	24	6.34
12	8.64	06	5.88	31	6.37	25	6.41
13	8.66	07	5.77	SEP 01	6.32	26	6.37
14	8.70	08	5.64	02	6.32	27	6.34
15	8.79	09	5.63	03	6.27	28	6.40
16	8.96	10	5.75	04	6.19	29	6.35
17	9.03	11	5.89	05	6.14	30	6.26
18	9.11	12	6.08	06	6.01		

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	6.32	NOV 09, 1983	6.50	DEC 18, 1983	6.33	FEB 29, 1984	7.88
02	6.33	10	6.50	19	6.28	MAR 01	7.85
03	6.29	11	6.22	20	6.23	02	7.86
04	6.32	12	6.41	21	6.25	03	7.92
05	6.32	13	6.46	22	6.28	04	7.95
06	6.28	14	6.49	23	6.32	05	7.99
07	6.30	15	6.50	24	6.29	06	8.00
08	6.28	16	6.50	25	6.17	07	7.96
09	6.28	17	6.42	26	5.94	08	7.95
10	6.39	18	6.33	27	5.87	09	7.95
11	6.45	19	6.35	28	5.87	10	7.91
12	6.49	20	6.20	29	5.87	11	7.90
13	6.50	21	6.01	30	5.85	12	7.91
14	6.50	22	6.14	31	5.82	13	7.91
15	6.51	23	6.19	JAN 01, 1984	5.90	14	7.74
16	6.51	24	6.22	02	5.93	15	7.72
17	6.51	25	6.08	03	6.02	16	7.69
18	6.51	26	6.27	04	6.14	17	7.70
19	6.49	27	6.44	05	6.23	18	7.78
20	6.47	28	6.45	06	6.34	19	7.83
21	6.49	29	6.45	07	6.46	20	7.77
22	6.48	30	6.31	FEB 11	7.53	21	7.66
23	6.47	DEC 01	6.19	12	7.57	22	7.75
24	6.46	02	6.08	13	7.52	23	7.80
25	6.50	03	5.93	14	7.42	24	7.81
26	6.50	04	5.66	15	7.62	25	7.84
27	6.50	05	6.02	16	7.59	26	7.82
28	6.50	06	6.16	17	7.56	27	7.83
29	6.50	07	6.19	18	7.62	28	8.02
30	6.49	08	6.18	19	7.68	29	8.00
31	6.47	09	6.11	20	7.74	30	8.01
NOV 01	6.43	10	5.88	21	7.71	31	7.97
02	6.44	11	6.19	22	7.71	APR 01	7.92
03	6.46	12	6.22	23	7.79	02	8.01
04	6.45	13	6.48	24	7.81	03	8.05
05	6.42	14	6.49	25	7.78	04	8.03
06	6.46	15	6.49	26	7.89	05	7.93
07	6.47	16	6.45	27	7.95	06	7.87
08	6.49	17	6.36	28	7.95	07	7.89



## GROUND WATER

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## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N005E28F01H

SITE NUMBER 375942121260101

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 08, 1984	7.95	MAY 22, 1984	7.77	JUL 05, 1984	7.32	AUG 18, 1984	7.62
09	8.04	23	7.93	06	7.34	19	7.54
10	8.14	24	7.95	07	7.34	20	7.42
11	8.13	25	7.96	08	7.30	21	7.27
12	8.17	26	7.93	09	7.26	22	7.20
13	8.18	27	7.91	10	7.25	23	7.18
14	8.17	28	7.86	11	7.17	24	7.14
15	8.09	29	7.66	12	7.09	25	7.13
16	7.96	30	7.50	13	7.03	26	7.17
17	7.86	31	7.40	14	7.02	27	7.19
18	7.82	JUN 01	7.39	15	7.04	28	7.26
19	7.82	02	7.36	16	7.11	29	7.32
20	7.81	03	7.34	17	7.13	30	7.36
21	8.00	04	7.35	18	7.11	31	7.47
22	8.07	05	7.48	19	7.12	SEP 01	7.59
23	8.14	06	7.60	20	7.17	02	7.61
24	8.16	07	7.67	21	7.16	03	7.51
25	8.26	08	7.80	22	7.09	04	7.42
26	8.35	09	7.82	23	7.15	05	7.35
27	8.36	10	7.66	24	7.09	06	7.26
28	8.33	11	7.67	25	6.97	07	7.29
29	8.29	12	7.50	26	6.93	08	7.35
30	8.20	13	7.37	27	6.96	09	7.36
MAY 01	8.10	14	7.23	28	6.96	10	7.29
02	8.05	15	7.08	29	6.99	11	7.13
03	7.99	16	7.05	30	7.04	12	7.21
04	7.86	17	7.11	31	7.04	13	7.32
05	7.79	18	7.23	AUG 01	7.11	14	7.34
06	7.89	19	7.36	02	7.32	15	7.34
07	8.02	20	7.55	03	7.52	16	7.39
08	8.13	21	7.62	04	7.62	17	7.53
09	8.15	22	7.67	05	7.58	18	7.50
10	8.10	23	7.60	06	7.46	19	7.41
11	8.01	24	7.44	07	7.43	20	7.28
12	7.95	25	7.27	08	7.33	21	7.19
13	7.89	26	7.14	09	7.20	22	7.25
14	7.72	27	7.18	10	7.13	23	7.23
15	7.64	28	7.15	11	7.05	24	7.30
16	7.72	29	7.12	12	7.14	25	7.40
17	7.67	30	7.15	13	7.27	26	7.48
18	7.63	JUL 01	7.18	14	7.32	27	7.53
19	7.66	02	7.26	15	7.37	28	7.58
20	7.62	03	7.25	16	7.46	29	7.59
21	7.64	04	7.26	17	7.56	30	7.55

WELL 002N005E28F02H

SITE NUMBER 375942121260102

ABOUT 7 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 20 FT, PERFORATED 15-20 FT. ALTITUDE OF LSD 2.66 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.15 FEET BELOW LAND SURFACE DATUM DEC 09, 1983.

LOWEST WATER LEVEL 12.09 FEET BELOW LAND SURFACE DATUM OCT 17, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 24, 1983	8.53	JUL 19, 1983	8.89	AUG 13, 1983	7.63	SEP 07, 1983	7.98
25	8.32	20	9.01	14	7.67	08	7.91
26	8.28	21	9.04	15	7.86	09	7.96
27	8.18	22	8.96	16	8.07	10	7.99
28	8.03	23	8.88	17	8.23	11	7.92
29	7.96	24	8.78	18	8.33	12	7.85
30	7.98	25	8.71	19	8.40	13	7.91
JUL 01	8.02	26	8.69	20	8.39	14	8.10
02	8.13	27	8.64	21	8.29	15	8.27
03	8.32	28	8.64	22	8.21	16	8.36
04	8.48	29	8.60	23	8.15	17	8.45
05	8.65	30	8.40	24	8.11	18	8.40
06	8.71	31	8.35	25	8.06	19	8.39
07	8.67	AUG 01	8.39	26	8.07	20	8.42
08	8.63	02	8.11	27	8.06	21	8.32
09	8.50	03	8.16	28	7.99	22	8.15
10	8.42	04	8.36	29	7.93	23	8.12
11	8.27	05	8.45	30	7.97	24	8.11
12	8.16	06	8.41	31	8.06	25	8.04
13	8.05	07	8.24	SEP 01	8.23	26	7.89
14	7.97	08	8.00	02	8.43	27	7.87
15	8.07	09	7.89	03	8.54	28	7.89
16	8.18	10	7.83	04	8.45	29	7.90
17	8.35	11	7.81	05	8.33	30	8.04
18	8.62	12	7.79	06	8.07		

## GROUND WATER

SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

WELL 002N005E28F02M

SITE NUMBER 375942121260102

-- CONTINUED

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	8.27	NOV 09, 1983	7.77	DEC 18, 1983	8.01	JAN 26, 1984	8.12
02	8.42	10	7.62	19	8.08	27	8.29
03	8.48	11	7.39	20	8.11	28	8.35
04	8.49	12	7.63	21	8.13	29	8.38
05	8.39	13	7.71	22	8.07	30	8.46
06	8.29	14	7.90	23	7.98	31	8.52
07	8.19	15	8.12	24	7.70	FEB 01	8.60
08	8.08	16	8.01	25	7.34	02	8.65
09	8.05	17	7.82	26	7.35	03	8.66
10	7.99	18	8.04	27	7.23	04	8.64
11	7.94	19	8.07	28	7.36	05	8.61
12	8.01	20	7.77	29	7.45	06	8.62
13	8.04	21	7.80	30	7.52	07	8.59
14	8.33	22	7.82	31	7.69	08	8.44
15	8.49	23	7.80	JAN 01, 1984	7.84	09	8.29
16	8.58	24	7.57	02	7.90	10	8.30
17	8.63	25	7.55	03	7.91	11	8.22
18	8.05	26	7.62	04	7.98	12	8.25
19	8.05	27	7.71	05	7.95	13	8.26
20	8.00	28	7.74	06	8.01	14	8.74
21	7.98	29	7.77	07	7.98	15	9.00
22	7.93	30	7.55	08	7.98	16	9.11
23	7.81	DEC 01	7.34	09	8.04	17	9.25
24	7.79	02	7.43	10	8.05	18	9.24
25	7.76	03	7.21	11	8.06	19	9.11
26	7.64	04	7.58	12	8.06	20	8.98
27	7.56	05	7.62	13	7.95	21	8.69
28	7.62	06	7.57	14	8.00	22	8.82
29	7.77	07	7.57	15	8.10	23	8.79
30	7.86	08	7.44	16	8.06	24	8.82
31	7.91	09	7.15	17	8.25	25	8.99
NOV 01	7.98	10	7.37	18	8.45	26	9.17
02	8.14	11	7.51	19	8.47	27	9.43
03	8.20	12	7.74	20	8.46	28	9.51
04	8.12	13	7.87	21	8.38	29	9.58
05	8.07	14	7.92	22	8.29	MAR 01	9.59
06	8.05	15	7.92	23	8.20	02	9.63
07	7.94	16	7.90	24	8.18	03	9.64
08	7.93	17	7.90	25	8.14	04	9.57

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 05, 1984	9.54	MAY 28, 1984	10.26	JUL 10, 1984	10.04	AUG 22, 1984	10.03
06	9.43	29	10.06	11	9.80	23	10.07
07	9.36	30	9.94	12	9.67	24	10.04
08	9.31	31	9.82	13	9.55	25	9.94
09	9.20	JUN 01	9.71	14	9.45	26	9.86
10	9.16	02	9.58	15	9.39	27	9.72
11	9.07	03	9.53	16	9.39	28	9.67
12	9.07	04	9.41	17	9.22	29	9.61
13	9.14	05	9.41	18	9.10	30	9.56
14	9.29	06	9.43	19	9.06	31	9.59
15	9.50	07	9.62	20	9.06	SEP 01	9.60
16	9.79	08	9.93	21	9.18	02	9.70
17	9.74	09	10.18	22	9.33	03	9.79
18	9.70	10	10.18	23	9.65	04	9.98
19	9.64	11	10.23	24	9.69	05	10.03
20	9.50	12	10.02	25	9.66	06	10.02
21	9.35	13	9.74	26	9.69	07	10.04
22	9.35	14	9.48	27	9.69	08	10.00
23	9.29	15	9.30	28	9.58	09	9.87
MAY 04	9.77	16	9.21	29	9.49	10	9.67
05	9.75	17	9.28	30	9.39	11	9.57
06	9.71	18	9.40	31	9.35	12	9.59
07	9.66	19	9.46	AUG 01	9.44	13	9.58
08	9.63	20	9.40	02	9.48	14	9.51
09	9.70	21	9.45	03	9.59	15	9.42
10	9.91	22	9.54	04	9.75	16	9.49
11	10.13	23	9.68	05	9.93	17	9.60
12	10.30	24	9.70	06	10.13	18	9.68
13	10.24	25	9.65	07	10.21	19	9.80
14	10.08	26	9.80	08	10.12	20	9.87
15	10.03	27	10.01	09	9.95	21	9.99
16	9.97	28	9.86	10	9.83	22	10.04
17	9.79	29	9.73	11	9.70	23	9.92
18	9.72	30	9.70	12	9.75	24	9.89
19	9.65	JUL 01	9.61	13	9.72	25	9.87
20	9.50	02	9.54	14	9.68	26	9.78
21	9.51	03	9.37	15	9.66	27	9.72
22	9.64	04	9.32	16	9.68	28	9.65
23	9.79	05	9.35	17	9.67	29	9.51
24	9.93	06	9.50	18	9.61	30	9.48
25	10.15	07	9.75	19	9.68		
26	10.27	08	10.01	20	9.77		
27	10.34	09	10.13	21	9.87		

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

WELL 002N005E28F03M

SITE NUMBER 375942121260103

ABOUT 7 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS, DIAM 3 IN, DEPTH 35 FT, PERFORATED 30-35 FT. ALTITUDE OF LSD -4.01 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.76 FEET BELOW LAND SURFACE DATUM DEC 09, 1983.

LOWEST WATER LEVEL 3.89 FEET BELOW LAND SURFACE DATUM APR 28, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 25, 1983	1.95	JUL 20, 1983	2.54	AUG 14, 1983	1.32	SEP 08, 1983	1.52
26	1.92	21	2.58	15	1.49	09	1.57
27	1.81	22	2.51	16	1.67	10	1.59
28	1.68	23	2.44	17	1.83	11	1.51
29	1.65	24	2.33	18	1.90	12	1.47
30	1.66	25	2.27	19	1.96	13	1.55
JUL 01	1.68	26	2.25	20	1.95	14	1.70
02	1.81	27	2.21	21	1.85	15	1.85
03	1.97	28	2.20	22	1.79	16	1.94
04	2.16	29	2.17	23	1.73	17	1.99
05	2.29	30	1.95	24	1.70	18	1.95
06	2.35	31	1.90	25	1.65	19	1.93
07	2.33	AUG 01	1.96	26	1.65	20	1.95
08	2.32	02	1.71	27	1.64	21	1.87
09	2.20	03	1.77	28	1.59	22	1.70
10	2.11	04	1.93	29	1.54	23	1.69
11	1.95	05	2.00	30	1.59	24	1.66
12	1.83	06	1.96	31	1.66	25	1.61
13	1.73	07	1.81	SEP 01	1.80	26	1.49
14	1.65	08	1.62	02	2.00	27	1.47
15	1.68	09	1.52	03	2.09	28	1.51
16	1.77	10	1.46	04	1.99	29	1.55
17	1.93	11	1.44	05	1.88	30	1.63
18	2.20	12	1.41	06	1.65		
19	2.45	13	1.27	07	1.59		

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	1.85	NOV 09, 1983	1.38	DEC 18, 1983	1.62	JAN 26, 1984	1.71
02	1.99	10	1.26	19	1.68	27	1.85
03	2.02	11	1.06	20	1.65	28	1.92
04	2.02	12	1.30	21	1.66	29	1.93
05	1.93	13	1.40	22	1.62	30	2.01
06	1.80	14	1.57	23	1.53	31	2.08
07	1.71	15	1.77	24	1.27	FEB 01	2.13
08	1.62	16	1.67	25	0.96	02	2.18
09	1.60	17	1.47	26	0.98	03	2.20
10	1.57	18	1.65	27	0.88	04	2.16
11	1.56	19	1.65	28	1.01	05	2.12
12	1.62	20	1.37	29	1.10	06	2.15
13	1.64	21	1.40	30	1.16	07	2.10
14	1.91	22	1.40	31	1.34	08	1.94
15	2.06	23	1.39	JAN 01, 1984	1.46	09	1.84
16	2.16	24	1.16	02	1.50	10	1.84
17	2.21	25	1.15	03	1.48	11	1.83
18	1.63	26	1.27	04	1.55	12	1.87
19	1.63	27	1.38	05	1.51	13	1.89
20	1.59	28	1.42	06	1.57	14	2.40
21	1.56	29	1.46	07	1.54	15	2.64
22	1.49	30	1.20	08	1.56	16	2.72
23	1.39	DEC 01	1.00	09	1.61	17	2.84
24	1.36	02	1.09	10	1.63	18	2.82
25	1.31	03	0.87	11	1.66	19	2.72
26	1.23	04	1.13	12	1.66	20	2.63
27	1.21	05	1.15	13	1.57	21	2.38
28	1.29	06	1.10	14	1.60	22	2.52
29	1.41	07	1.10	15	1.70	23	2.47
30	1.50	08	0.98	16	1.66	24	2.45
31	1.55	09	0.76	17	1.83	25	2.57
NOV 01	1.60	10	0.95	18	1.97	26	2.74
02	1.75	11	1.12	19	1.97	27	2.92
03	1.76	12	1.37	20	1.94	28	3.01
04	1.68	13	1.50	21	1.88	29	3.18
05	1.62	14	1.54	22	1.80	MAR 01	3.23
06	1.60	15	1.54	23	1.71	02	3.27
07	1.52	16	1.53	24	1.75	03	3.32
08	1.49	17	1.52	25	1.72	04	3.28

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N005E28F03M

SITE NUMBER 375942121260103

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 05, 1984	3.22	APR 23, 1984	3.19	JUN 11, 1984	3.74	JUL 30, 1984	2.91
06	3.15	24	3.24	12	3.54	31	2.88
07	3.06	25	3.49	13	3.26	AUG 01	2.98
08	3.02	26	3.69	14	3.01	02	3.00
09	2.90	27	3.80	15	2.82	03	3.11
10	2.78	28	3.89	16	2.74	04	3.28
11	2.73	29	3.89	17	2.82	05	3.45
12	2.74	30	3.85	18	2.96	06	3.63
13	2.81	MAY 01	3.80	19	3.00	07	3.71
14	2.91	02	3.73	20	2.93	08	3.62
15	3.07	03	3.59	21	2.98	09	3.45
16	3.41	04	3.33	22	3.06	10	3.34
17	3.40	05	3.31	23	3.19	11	3.22
18	3.41	06	3.27	24	3.20	12	3.26
19	3.29	07	3.21	25	3.14	13	3.24
20	3.11	08	3.20	26	3.33	14	3.20
21	2.99	09	3.28	27	3.54	15	3.17
22	2.98	10	3.48	28	3.42	16	3.19
23	2.87	11	3.68	29	3.28	17	3.18
24	2.78	12	3.81	30	3.26	18	3.13
25	2.85	13	3.76	JUL 01	3.17	19	3.20
26	2.81	14	3.61	02	3.09	20	3.31
27	3.14	15	3.56	03	2.94	21	3.41
28	3.37	16	3.49	04	2.87	22	3.53
29	3.40	17	3.35	05	2.92	23	3.57
30	3.57	18	3.27	06	3.05	24	3.54
31	3.47	19	3.21	07	3.30	25	3.43
APR 01	3.58	20	3.06	08	3.53	26	3.36
02	3.62	21	3.06	09	3.65	27	3.23
03	3.57	22	3.20	10	3.55	28	3.17
04	3.42	23	3.36	11	3.34	29	3.12
05	3.36	24	3.50	12	3.21	30	3.06
06	3.19	25	3.69	13	3.09	31	3.08
07	3.19	26	3.79	14	2.99	SEP 01	3.12
08	3.04	27	3.83	15	2.93	02	3.23
09	3.07	28	3.77	16	2.94	03	3.32
10	3.05	29	3.60	17	2.75	04	3.50
11	3.22	30	3.47	18	2.65	05	3.52
12	3.40	31	3.38	19	2.60	06	3.50
13	3.69	JUN 01	3.27	20	2.60	07	3.52
14	3.79	02	3.13	21	2.71	08	3.47
15	3.69	03	3.07	22	2.84	09	3.37
16	3.58	04	2.97	23	3.16	10	3.17
17	3.44	05	2.96	24	3.18	11	3.06
18	3.43	06	2.99	25	3.16	12	3.08
19	3.25	07	3.19	26	3.20	13	3.07
20	3.27	08	3.49	27	3.19	14	3.02
21	3.35	09	3.72	28	3.09	15	2.91
22	3.22	10	3.71	29	3.01	16	3.00

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 17, 1984	3.11	SEP 21, 1984	3.46	SEP 25, 1984	3.35	SEP 29, 1984	3.02
18	3.20	22	3.50	26	3.26	30	2.99
19	3.31	23	3.40	27	3.21		
20	3.39	24	3.38	28	3.14		

SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

WELL 002N005E28F04M

SITE NUMBER 375942121260104

ABOUT 7 MI NORTHWEST OF STOCKTON, ALONG THE STOCKTON DEEP WATER SHIP CHANNEL. DRILLED WATER-TABLE OBSERVATION WELL IN FLOOD-BASIN DEPOSITS. DIAM 3 IN, DEPTH 15 FT, PERFORATED 10-15 FT. ALTITUDE OF LSD -4.01 FT. MEASURED BY U.S. GEOLOGICAL SURVEY. RECORDS AVAILABLE 1983 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.63 FEET BELOW LAND SURFACE DATUM DEC 09, 1983.

LOWEST WATER LEVEL 3.84 FEET BELOW LAND SURFACE DATUM APR 29, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 25, 1983	1.87	JUL 20, 1983	2.43	AUG 14, 1983	1.15	SEP 08, 1983	1.34
26	1.83	21	2.46	15	1.33	09	1.39
27	1.75	22	2.38	16	1.53	10	1.43
28	1.63	23	2.30	17	1.64	11	1.35
29	1.59	24	2.21	18	1.77	12	1.30
30	1.61	25	2.14	19	1.82	13	1.38
JUL 01	1.65	26	2.12	20	1.80	14	1.55
02	1.75	27	2.08	21	1.70	15	1.69
03	1.89	28	2.08	22	1.64	16	1.77
04	2.06	29	2.04	23	1.59	17	1.83
05	2.21	30	1.84	24	1.56	18	1.79
06	2.30	31	1.80	25	1.53	19	1.77
07	2.28	AUG 01	1.83	26	1.53	20	1.78
08	2.24	02	1.57	27	1.52	21	1.69
09	2.09	03	1.60	28	1.48	22	1.56
10	2.00	04	1.77	29	1.43	23	1.54
11	1.86	05	1.87	30	1.47	24	1.53
12	1.73	06	1.85	31	1.54	25	1.48
13	1.65	07	1.71	SEP 01	1.68	26	1.33
14	1.58	08	1.51	02	1.85	27	1.32
15	1.57	09	1.40	03	1.94	28	1.34
16	1.65	10	1.33	04	1.84	29	1.36
17	1.79	11	1.31	05	1.73	30	1.49
18	2.06	12	1.29	06	1.50		
19	2.31	13	1.15	07	1.42		

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1983	1.71	NOV 09, 1983	1.23	DEC 18, 1983	1.58	APR 12, 1984	3.31
02	1.81	10	1.12	19	1.57	13	3.59
03	1.85	11	0.89	20	1.53	14	3.70
04	1.85	12	1.14	21	1.55	15	3.59
05	1.76	13	1.23	22	1.51	16	3.47
06	1.63	14	1.42	23	1.41	17	3.32
07	1.56	15	1.61	FEB 11, 1984	1.73	18	3.30
08	1.48	16	1.53	12	1.75	19	3.14
09	1.45	17	1.28	13	1.76	20	3.17
10	1.43	18	1.48	14	2.24	21	3.24
11	1.39	19	1.50	15	2.48	22	3.11
12	1.47	20	1.20	16	2.57	23	3.10
13	1.50	21	1.21	17	2.75	24	3.14
14	1.75	22	1.22	18	2.72	25	3.40
15	1.90	23	1.21	19	2.63	26	3.59
16	2.00	24	0.98	20	2.55	27	3.72
17	2.04	25	0.96	21	2.28	28	3.82
18	1.51	26	1.08	22	2.42	29	3.84
19	1.50	27	1.20	HAR 22	2.86	30	3.78
20	1.47	28	1.24	23	2.77	HAY 01	3.72
21	1.42	29	1.29	24	2.67	02	3.63
22	1.35	30	1.04	25	2.74	03	3.47
23	1.24	DEC 01	0.87	26	2.71	04	3.18
24	1.21	02	0.93	27	3.04	05	3.16
25	1.18	03	0.74	28	3.26	06	3.13
26	1.09	04	0.97	29	3.30	07	3.07
27	1.05	05	1.00	30	3.47	08	3.07
28	1.14	06	0.95	31	3.38	09	3.15
29	1.26	07	0.98	APR 01	3.48	10	3.35
30	1.36	08	0.89	02	3.51	11	3.55
31	1.41	09	0.63	03	3.46	12	3.70
NOV 01	1.47	10	0.83	04	3.31	13	3.62
02	1.59	11	0.98	05	3.24	14	3.46
03	1.63	12	1.23	06	3.08	15	3.41
04	1.57	13	1.39	07	3.08	16	3.35
05	1.52	14	1.45	08	2.92	17	3.19
06	1.48	15	1.46	09	2.96	18	3.13
07	1.39	16	1.45	10	2.93	19	3.05
08	1.36	17	1.45	11	3.12	20	2.90

## GROUND WATER

## SAN JOAQUIN COUNTY--Continued

San Joaquin Valley (5-22)

-- CONTINUED

WELL 002N005E28F04M

SITE NUMBER 375942121260104

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAY 21, 1984	2.92	JUN 24, 1984	3.12	JUL 28, 1984	2.92	AUG 31, 1984	2.97
22	3.07	25	3.06	29	2.85	SEP 01	3.01
23	3.22	26	3.19	30	2.76	02	3.14
24	3.36	27	3.40	31	2.70	03	3.22
25	3.56	28	3.26	AUG 01	2.81	04	3.40
26	3.67	29	3.14	02	2.86	05	3.42
27	3.71	30	3.11	03	3.00	06	3.40
28	3.64	JUL 01	3.03	04	3.23	07	3.41
29	3.41	02	2.95	05	3.42	08	3.36
30	3.28	03	2.81	06	3.56	09	3.24
31	3.18	04	2.76	07	3.58	10	3.05
JUN 01	3.07	05	2.80	08	3.44	11	2.91
02	2.94	06	2.93	09	3.26	12	2.93
03	2.88	07	3.20	10	3.14	13	2.92
04	2.79	08	3.42	11	3.05	14	2.87
05	2.80	09	3.53	12	3.10	15	2.80
06	2.86	10	3.44	13	3.08	16	2.89
07	3.09	11	3.21	14	3.04	17	3.04
08	3.40	12	3.07	15	3.01	18	3.14
09	3.61	13	2.94	16	3.04	19	3.25
10	3.55	14	2.86	17	3.02	20	3.32
11	3.56	15	2.81	18	3.03	21	3.37
12	3.35	16	2.82	19	3.13	22	3.40
13	3.09	17	2.64	20	3.24	23	3.25
14	2.83	18	2.55	21	3.28	24	3.22
15	2.64	19	2.51	22	3.42	25	3.20
16	2.57	20	2.52	23	3.46	26	3.13
17	2.62	21	2.62	24	3.41	27	3.07
18	2.77	22	2.76	25	3.30	28	2.99
19	2.83	23	3.07	26	3.23	29	2.91
20	2.81	24	3.08	27	3.10	30	2.89
21	2.86	25	3.05	28	3.05		
22	2.96	26	3.07	29	2.99		
23	3.11	27	3.07	30	2.94		

## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## MERCED COUNTY

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	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)
005S012E19M01M	372904120415501	84-06-18	210	7.9	23.5	16	3.3	23	2.2
005S012E22P01M	372842120383601	84-06-18	244	6.9	21.0	22	5.6	23	1.6
005S013E14P01M	372935120305601	84-06-18	94	7.6	22.0	7.8	2.7	7.1	1.1
005S014E11A01M	373113120234401	84-06-18	167	6.3	23.0	13	6.0	9.8	2.8
006S010E11G01M	372543120501001	84-06-19	470	7.0	19.5	48	16	18	4.5
006S010E20R02M	372329120532401	84-06-19	--	7.4	22.0	300	48	960	8.6
006S011E06L01M	372627120482301	84-06-19	686	7.5	21.0	65	23	37	2.2
006S011E19J01M	372338120474401	84-06-19	352	7.6	22.0	21	5.7	43	2.0
006S011E34F01M	372209120451201	84-06-28	352	7.5	20.0	25	7.4	32	4.6
006S012E27B01M	372318120381601	84-06-28	298	7.4	20.5	21	7.2	22	3.3
006S012E34D01M	372217120384501	84-06-28	730	6.9	18.5	62	22	34	3.3
006S012E35K01M	372151120370301	84-06-19	365	7.3	21.0	26	9.0	24	2.5
006S012E36H01M	372216120354101	84-06-28	393	7.3	20.0	32	11	30	2.3
006S013E32N02M	372147120341701	84-06-19	285	7.6	22.0	23	5.6	22	7.2
006S014E32A02M	372226120270001	84-06-19	297	7.6	20.0	18	7.2	21	2.5
007S009E12H01M	372032120552301	84-06-19	880	7.3	23.0	69	24	79	4.3
007S010E06H01M	372114120542001	84-06-19	1470	7.7	20.5	47	7.4	240	2.2
007S010E21A01M	371849120521901	84-06-20	1410	8.0	19.0	32	4.2	290	3.0
007S010E23K03M	371626120501201	84-06-20	1710	7.7	19.0	51	9.4	320	5.2
007S012E03F01M	372111120383401	84-06-28	337	7.2	20.0	28	8.9	21	2.1
007S012E06R01M	372058120411001	84-06-28	662	7.3	20.0	50	17	47	4.8
007S012E23C01M	371859120373401	84-06-28	558	7.1	19.5	51	17	27	3.8
007S013E03D01M	372128120322001	84-06-19	378	7.4	21.0	26	9.1	24	5.0
007S013E10N01M	372001120322201	84-06-28	476	7.4	19.5	48	15	22	2.7
007S013E16N01M	371914120331901	84-06-29	579	7.2	19.0	62	23	22	3.2
007S013E18E01M	371927120354201	84-06-28	237	7.0	19.5	30	6.8	11	1.3
007S014E09R01M	372002120261001	84-06-29	299	7.4	19.0	27	13	27	2.4
007S014E27R01M	371729120245301	84-06-29	594	7.5	19.0	56	32	39	1.1
007S014E28R01M	371730120255801	84-06-30	911	7.2	19.0	80	41	38	2.5
007S014E33H01M	371704120260501	84-06-29	--	7.6	20.5	39	11	34	9.2
007S015E31B01M	371711120221001	84-06-29	286	7.7	23.5	21	8.4	27	7.3
008S012E03P01M	371538120383001	84-06-20	435	7.6	19.0	50	16	18	3.3
008S012E34L01M	371126120384101	84-06-18	434	7.9	20.0	34	20	28	.90
008S013E19H02M	371326120344201	84-06-18	679	7.5	20.0	57	28	48	1.1
008S014E09J01M	371502120260001	84-06-20	354	8.0	21.5	26	6.8	28	4.7
008S015E16J01M	371411120194001	84-06-20	360	7.6	21.0	28	12	20	6.0
009S012E02G01M	371050120373101	84-06-18	1010	7.4	18.5	72	46	79	1.0
009S014E01J01M	371034120225601	84-06-18	281	8.2	25.0	18	4.1	31	5.8
009S016E18D01M	370915120162301	84-06-20	239	7.7	19.5	14	4.6	16	2.4
010S013E02F02M	370528120311501	84-06-18	337	8.3	22.5	16	2.3	52	1.7
LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	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, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
005S012E19M01M	372904120415501	84-06-18	4.7	8.7	.20	33	130	4.5	.02
005S012E22P01M	372842120383601	84-06-18	4.9	12	.20	29	150	3.2	.03
005S013E14P01M	372935120305601	84-06-18	2.3	2.7	.10	30	66	1.1	.03
005S014E11A01M	373113120234401	84-06-18	4.1	7.2	.10	84	160	1.7	.05
006S010E11G01M	372543120501001	84-06-19	32	19	.20	57	250	21	.03
006S010E20R02M	372329120532401	84-06-19	130	2100	.20	16	3600	.11	.01
006S011E06L01M	372627120482301	84-06-19	62	32	.40	67	370	28	.11
006S011E19J01M	372338120474401	84-06-19	9.0	27	.20	62	230	8.2	.01
006S011E34F01M	372209120451201	84-06-28	25	7.7	.20	32	190	6.8	.05
006S012E27B01M	372318120381601	84-06-28	22	5.1	.20	59	180	6.9	.03
006S012E34D01M	372217120384501	84-06-28	68	17	.10	69	340	29	.03
006S012E35K01M	372151120370301	84-06-19	23	6.4	.20	66	220	6.5	.10
006S012E36H01M	372216120354101	84-06-28	31	4.8	.10	59	230	11	.04
006S013E32N02M	372147120341701	84-06-19	8.5	14	.20	56	190	5.4	.02
006S014E32A02M	372226120270001	84-06-19	2.8	3.4	.10	42	170	1.4	.13
007S009E12H01M	372032120552301	84-06-19	60	69	.20	25	500	1.0	.03
007S010E06H01M	372114120542001	84-06-19	42	350	.20	41	821	<.10	.06
007S010E21A01M	371849120521901	84-06-20	45	170	.70	21	840	.19	.16
007S010E23K03M	371626120501201	84-06-20	150	240	.60	25	1000	15	.20
007S012E03F01M	372111120383401	84-06-28	21	5.8	.20	70	200	11	.07
007S012E06R01M	372058120411001	84-06-28	49	23	.20	69	340	6.4	.06
007S012E23C01M	371859120373401	84-06-28	24	12	.10	71	290	18	.11
007S013E03D01M	372128120322001	84-06-19	8.4	19	.20	64	220	6.2	.01
007S013E10N01M	372001120322201	84-06-28	22	8.9	.10	64	260	12	.02
007S013E16N01M	371914120331901	84-06-29	17	14	.10	65	350	4.5	.03

See footnote at end of table.

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## MERCED COUNTY--Continued

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	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, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
007S013E18E01M	371927120354201	84-06-28	7.4	3.7	.20	61	180	3.8	.10
007S014E09R01M	372002120261001	84-06-29	8.7	12	.10	61	230	2.6	.08
007S014E27R01M	371729120245301	84-06-29	24	12	.10	62	390	6.4	.03
007S014E28R01M	371730120255801	84-06-30	22	42	.10	65	490	11	.03
007S014E33H01M	371704120260501	84-06-29	13	16	.10	68	280	3.7	.02
007S015E31B01M	371711120221001	84-06-29	15	10	.10	66	220	1.7	.03
008S012E03P01M	371538120383001	84-06-20	16	10	.20	61	300	--	.02
008S012E34L01M	371126120384101	84-06-18	18	12	.30	54	280	1.3	.03
008S013E19H02M	371326120344201	84-06-18	25	20	.20	56	410	1.5	.02
008S014E09J01M	371502120260001	84-06-20	11	8.7	.20	27	190	.85	.02
008S015E16J01M	371411120194001	84-06-20	11	12	.20	70	240	3.2	.05
009S012E02G01M	371050120373101	84-06-18	91	58	.20	53	610	.57	.03
009S014E01J01M	371034120225601	84-06-18	16	12	.20	57	200	.80	.02
009S016E18D01M	370915120162301	84-06-20	2.8	17	.10	63	160	.93	.05
010S013E02F02M	370528120311501	84-06-18	5.3	23	.30	38	210	.20	.03

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	ARSENIC DIS- SOLVED (UG/L AS AS)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	PCB, TOTAL (UG/L)	NAPH- THA- LENES, POLY- CHLOR. TOTAL (UG/L)
005S012E19M01M	372904120415501	84-06-18	3	<3	<1	--	--
005S012E22P01M	372842120383601	84-06-18	<1	<3	<1	<.1	<.10
005S013E14P01M	372935120305601	84-06-18	<1	5	<1	--	--
005S014E11A01M	373113120234401	84-06-18	<1	3	2	<.1	<.10
006S010E11G01M	372543120501001	84-06-19	2	<3	8	--	--
006S010E20R02M	372329120532401	84-06-19	<1	600	260	--	--
006S011E06L01M	372627120482301	84-06-19	1	12	2	<.1	<.10
006S011E19J01M	372338120474401	84-06-19	6	<3	3	--	--
006S011E34F01M	372209120451201	84-06-28	2	9	5	--	--
006S012E27B01M	372318120381601	84-06-28	2	<3	1	<.1	<.10
006S012E34D01M	372217120384501	84-06-28	<1	7	2	--	--
006S012E35K01M	372151120370301	84-06-19	<1	11	<1	<.1	<.10
006S012E36H01M	372216120354101	84-06-28	<1	10	1	--	--
006S013E32N02M	372147120341701	84-06-19	2	5	2	--	--
006S014E32A02M	372226120270001	84-06-19	<1	7	1	--	--
007S009E12H01M	372032120552301	84-06-19	1	540	450	<.1	<.10
007S010E06H01M	372114120542001	84-06-19	<1	200	180	<.1	<.10
007S010E21A01M	371849120521901	84-06-20	2	12	63	<.1	<.10
007S010E23K03M	371626120501201	84-06-20	8	9	160	<.1	<.10
007S012E03F01M	372111120383401	84-06-28	2	7	3	--	--
007S012E06R01M	372058120411001	84-06-28	2	3	1	<.1	<.10
007S012E23C01M	371859120373401	84-06-28	2	<3	<1	<.1	<.10
007S013E03D01M	372128120322001	84-06-19	1	4	1	--	--
007S013E10N01M	372001120322201	84-06-28	2	<3	2	--	--
007S013E16N01M	371914120331901	84-06-29	1	19	4	--	--
007S013E18E01M	371927120354201	84-06-28	1	6	2	<.1	<.10
007S014E09R01M	372002120261001	84-06-29	2	11	6	<.1	<.10
007S014E27R01M	371729120245301	84-06-29	4	<3	<1	--	--
007S014E28R01M	371730120255801	84-06-30	2	<3	<1	<.1	<.10
007S014E33H01M	371704120260501	84-06-29	4	<3	1	--	--
007S015E31B01M	371711120221001	84-06-29	4	<3	1	--	--
008S012E03P01M	371538120383001	84-06-20	2	6	1	<.1	<.10
008S012E34L01M	371126120384101	84-06-18	3	<3	140	--	--
008S013E19H02M	371326120344201	84-06-18	3	7	1	--	--
008S014E09J01M	371502120260001	84-06-20	6	<3	6	--	--
008S015E16J01M	371411120194001	84-06-20	3	4	<1	--	--
009S012E02G01M	371050120373101	84-06-18	1	12	80	<.1	<.10
009S014E01J01M	371034120225601	84-06-18	7	11	2	--	--
009S016E18D01M	370915120162301	84-06-20	2	150	18	--	--
010S013E02F02M	370528120311501	84-06-18	30	4	1	<.1	<.10

See footnote at end of table.



## WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

## MERCED COUNTY--Continued

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)
005S012E19M01M	372904120415501	84-06-18	--	--	--	--	--	--	--
005S012E22P01M	372842120383601	84-06-18	<.010	<.010	<.010	<.01	--	<.01	<.01
005S013E14P01M	372935120305601	84-06-18	--	--	--	--	--	--	--
005S014E11A01M	373113120234401	84-06-18	<.010	<.010	<.010	<.01	--	<.01	<.01
006S010E11G01M	372543120501001	84-06-19	--	--	--	--	--	--	--
006S010E20R02M	372329120532401	84-06-19	--	--	--	--	--	--	--
006S011E06L01M	372627120482301	84-06-19	<.010	<.010	<.010	<.01	--	<.01	<.01
006S011E19J01M	372338120474401	84-06-19	--	--	--	--	--	--	--
006S011E34F01M	372209120451201	84-06-28	--	--	--	--	--	--	--
006S012E27B01M	372318120381601	84-06-28	<.010	<.010	<.010	<.01	<.01	<.01	<.01
006S012E34D01M	372217120384501	84-06-28	--	--	--	--	--	--	--
006S012E35K01M	372151120370301	84-06-19	<.010	<.010	<.010	<.01	--	<.01	<.01
006S012E36H01M	372216120354101	84-06-28	--	--	--	--	--	--	--
006S013E32N02M	372147120341701	84-06-19	--	--	--	--	--	--	--
006S014E32A02M	372226120270001	84-06-19	--	--	--	--	--	--	--
007S009E12H01M	372032120552301	84-06-19	<.010	<.010	<.010	<.01	--	<.01	<.01
007S010E06H01M	372114120542001	84-06-19	<.010	<.010	<.010	<.01	--	<.01	<.01
007S010E21A01M	371849120521901	84-06-20	<.010	<.010	<.010	<.01	--	<.01	<.01
007S010E23K03M	371626120501201	84-06-20	<.010	<.010	<.010	<.01	--	<.01	<.01
007S012E03F01M	372111120383401	84-06-28	--	--	--	--	--	--	--
007S012E06R01M	372058120411001	84-06-28	<.010	<.010	<.010	<.01	<.01	<.01	<.01
007S012E23C01M	371859120373401	84-06-28	<.010	<.010	<.010	<.01	<.01	<.01	<.01
007S013E03D01M	372128120322001	84-06-19	--	--	--	--	--	--	--
007S013E10N01M	372001120322201	84-06-28	--	--	--	--	--	--	--
007S013E16N01M	371914120331901	84-06-29	--	--	--	--	--	--	--
007S013E18E01M	371927120354201	84-06-28	<.010	<.010	<.010	<.01	<.01	<.01	<.01
007S014E09R01M	372002120261001	84-06-29	<.010	<.010	<.010	<.01	<.01	<.01	<.01
007S014E27R01M	371729120245301	84-06-29	--	--	--	--	--	--	--
007S014E28R01M	371730120255801	84-06-30	<.010	<.010	<.010	<.01	<.01	<.01	<.01
007S014E33H01M	371704120260501	84-06-29	--	--	--	--	--	--	--
007S015E31B01M	371711120221001	84-06-29	--	--	--	--	--	--	--
008S012E03P01M	371538120383001	84-06-20	<.010	<.010	<.010	<.01	--	<.01	<.01
008S012E34L01M	371126120384101	84-06-18	--	--	--	--	--	--	--
008S013E19H02M	371326120344201	84-06-18	--	--	--	--	--	--	--
008S014E09J01M	371502120260001	84-06-20	--	--	--	--	--	--	--
008S015E16J01M	371411120194001	84-06-20	--	--	--	--	--	--	--
009S012E02G01M	371050120373101	84-06-18	<.010	<.010	<.010	<.01	--	<.01	<.01
009S014E01J01M	371034120225601	84-06-18	--	--	--	--	--	--	--
009S016E18D01M	370915120162301	84-06-20	--	--	--	--	--	--	--
010S013E02F02M	370528120311501	84-06-18	<.010	<.010	<.010	<.01	--	<.01	<.01

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)
005S012E19M01M	372904120415501	84-06-18	--	--	--	--	--
005S012E22P01M	372842120383601	84-06-18	<.01	<.01	<.1	<.1	<.01
005S013E14P01M	372935120305601	84-06-18	--	--	--	--	--
005S014E11A01M	373113120234401	84-06-18	<.01	<.01	<.1	<.1	<.01
006S010E11G01M	372543120501001	84-06-19	--	--	--	--	--
006S010E20R02M	372329120532401	84-06-19	--	--	--	--	--
006S011E06L01M	372627120482301	84-06-19	<.01	<.01	<.1	<.1	<.01
006S011E19J01M	372338120474401	84-06-19	--	--	--	--	--
006S011E34F01M	372209120451201	84-06-28	--	--	--	--	--
006S012E27B01M	372318120381601	84-06-28	<.01	<.01	<.1	<.1	<.01
006S012E34D01M	372217120384501	84-06-28	--	--	--	--	--
006S012E35K01M	372151120370301	84-06-19	<.01	<.01	<.1	<.1	<.01
006S012E36H01M	372216120354101	84-06-28	--	--	--	--	--
006S013E32N02M	372147120341701	84-06-19	--	--	--	--	--
006S014E32A02M	372226120270001	84-06-19	--	--	--	--	--
007S009E12H01M	372032120552301	84-06-19	<.01	<.01	<.1	<.1	<.01
007S010E06H01M	372114120542001	84-06-19	<.01	<.01	<.1	<.1	<.01
007S010E21A01M	371849120521901	84-06-20	<.01	<.01	<.1	<.1	<.01
007S010E23K03M	371626120501201	84-06-20	<.01	<.01	<.1	<.1	<.01
007S012E03F01M	372111120383401	84-06-28	--	--	--	--	--
007S012E06R01M	372058120411001	84-06-28	<.01	<.01	<.1	<.1	<.01
007S012E23C01M	371859120373401	84-06-28	<.01	<.01	<.1	<.1	<.01
007S013E03D01M	372128120322001	84-06-19	--	--	--	--	--
007S013E10N01M	372001120322201	84-06-28	--	--	--	--	--
007S013E16N01M	371914120331901	84-06-29	--	--	--	--	--

See footnote at end of table.

## QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

MERCED COUNTY--Continued

LOCAL IDENT- I- FIER	STATION NUMBER	DATE OF SAMPLE	MIREX, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	PER- THANE, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)
007S013E18E01M	371927120354201	84-06-28	<.01	<.01	<.1	<1	<.01
007S014E09R01M	372002120261001	84-06-29	<.01	<.01	<.1	<1	<.01
007S014E27R01M	371729120245301	84-06-29	--	--	--	--	--
007S014E28R01M	371730120255801	84-06-30	<.01	<.01	<.1	<1	<.01
007S014E33H01M	371704120260501	84-06-29	--	--	--	--	--
007S015E31B01M	371711120221001	84-06-29	--	--	--	--	--
008S012E03P01M	371538120383001	84-06-20	<.01	<.01	<.1	<1	<.01
008S012E34L01M	371126120384101	84-06-18	--	--	--	--	--
008S013E19H02M	371326120344201	84-06-18	--	--	--	--	--
008S014E09J01M	371502120260001	84-06-20	--	--	--	--	--
008S015E16J01M	371411120194001	84-06-20	--	--	--	--	--
009S012E02G01M	371050120373101	84-06-18	<.01	<.01	<.1	<1	<.01
009S014E01J01M	371034120225601	84-06-18	--	--	--	--	--
009S016E18D01M	370915120162301	84-06-20	--	--	--	--	--
010S013E02F02M	370528120311501	84-06-18	<.01	<.01	<.1	<1	<.01

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

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October 1, 1978

## FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	$2.54 \times 10^1$	millimeters (mm)
	$2.54 \times 10^{-2}$	meters (m)
feet (ft)	$3.048 \times 10^{-1}$	meters (m)
miles (mi)	$1.609 \times 10^0$	kilometers (km)
<i>Area</i>		
acres	$4.047 \times 10^3$	square meters (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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