Water Resources Data for California

Water Year 1977

Volume 4. Northern Central Valley Basins and The Great Basin from Honey Lake Basin to Oregon State Line

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-77-4

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

CALENDAR FOR WATER YEAR 1977

1976

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UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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For information on the water program in California write to
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Menlo Park, California 94025

1978

PREFACE

This report was prepared by personnel of the California District of the Water Resources Division, U.S. Geological Survey, under the supervision of Lee R. Peterson, succeeded by Richard M. Bloyd, District Chief, and W. H. Robinson, Regional Hydrologist, Western Region. It was done in cooperation with the California Department of Water Resources and other agencies.

This report is one of a series issued by State. General direction for the series is by J. S. Cragwall, Jr., Chief Hydrologist, and G. W. Whetstone, Assistant Chief Hydrologist for Scientific Publications and Data Management.

Data for California are in four volumes as follows:

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

Volume 2. Pacific Slope Basins from Arroyo Grande to Oregon State Line except Central Valley

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

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16. Abstracts

Volume 4 of the water resources data for the 1977 water year for California consists of records of stage, discharge, and water quality of streams; stage, contents, and water quality in lakes and reservoirs; and water levels in wells. This report contains discharge records for 189 gaging stations; stage and contents for 31 lakes and reservoirs; precipitation data for 2 stations; water quality for 74 stations, and water levels for 3 observation wells. Also included are 23 crest-stage partial-record stations, 36 low-flow partial-record stations, and 7 water-quality partial-record stations. Additional water data were collected at various sites, not part of the systematic data collection program, and are published as special investigations and miscellaneous measurements. 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.

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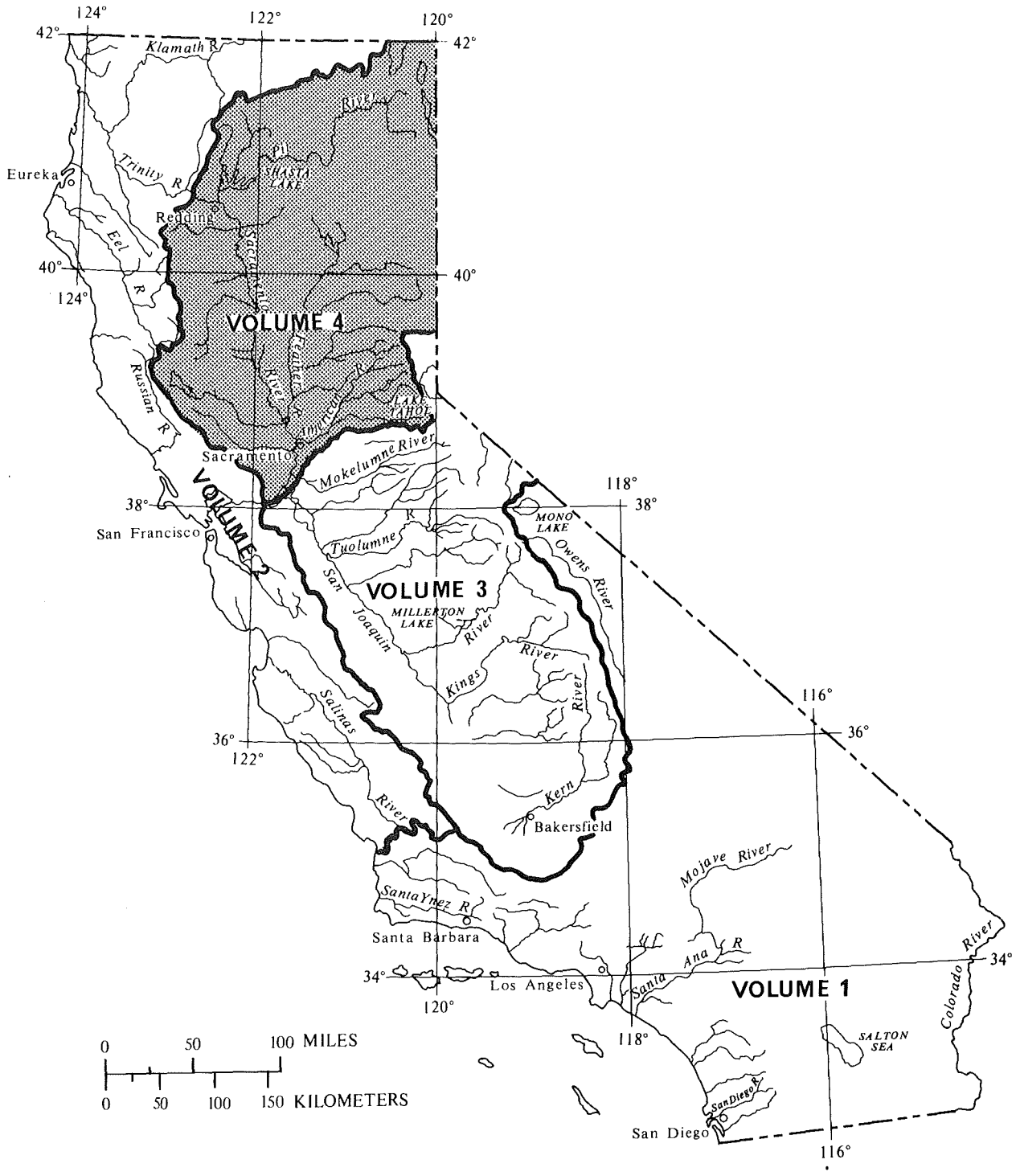

Area covered by volumes in the annual series on water-resources data for California. Area covered by this volume is shaded.

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

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

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WATER RESOURCES DATA FOR CALIFORNIA, 1977

Volume 4

INTRODUCTION

Water-resources data for the 1977 water year for California consist of records of stage, discharge, and water quality of streams; stage, contents, and water quality of lakes and reservoirs; records of water levels in selected observation wells; and selected chemical analyses of ground water. Records for a few pertinent streamflow and water-quality stations in bordering States are also included. The records were collected and computed by the Water Resources Division of the U.S. Geological Survey under the direction of Winchell Smith, Assistant District Chief for Hydrologic Data and Leonard N. Jorgensen, Chief of the Basic-Data Section. These data, a contribution to the National Water Data System, were collected by the Geological Survey and cooperating local, State, and Federal agencies in California.

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

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released, either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published 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-77-4." Water-data reports are for sale by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

COOPERATION

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

California Department of Water Resources, R. B. Robie, Director.
California Department of Transportation, Leo J. Trumbatore, District Director.
California Water Resources Control Board, Bill B. Dendy, Executive Officer
Georgetown Divide Public Utility District, C. F. Gierau, General Manager.
Lake County Flood Control and Water Conservation District, Willard D. Hansen, Manager.
Modoc County Department of Public Works, J. K. Grove, Director.
Oroville-Wyandotte Irrigation District, Milton R. Emerson, General Manager-Chief Engineer.
Paradise Irrigation District, C. P. Kelly, Manager.
Placer County Water Agency, B. G. Grant, General Manager.
Sacramento County Department of Public Works, Water Resources Division, J. P. Alessandri, Chief.
Siskiyou County Flood Control and Water Conservation District, D. A. Gravenkamp, Director of Public Works.
Yolo County Flood Control and Water Conservation District, W. L. McAnlis, Manager.

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

The following organizations aided in collecting records: Pacific Gas and Electric Co., Placer County Water Agency, Sacramento Municipal Utility District, Nevada and Oroville-Wyandotte Districts, and Yuba County Water Agency.

IIYDROLOGIC CONDITIONS

The drought, which started with the 1976 water year, continued during the 1977 water year. A persistent high-pressure ridge off the California coast displaced the usual winter storm path to a course generally north of California, which left the northern part of the State deficient in rainfall. Rainfall varied from 59 percent of average at Red Bluff to 41 percent at Sacramento. The snowpack in the Sierra Nevada was the lowest on record, averaging about one-third of normal. The snowpack at the course near Norden in the central Sierra Nevada was less than the previous minimum which was measured during the winter of 1923-24.

The 2-year drought produced an extreme demand on the reservoirs in the area. This resulted in the contents of most of the reservoirs reaching a minimum for their periods of record. Several of the smaller reservoirs in the upper Sierra Nevada contained no storage at the end of the water year.

In the area covered by this volume, runoff during the water year ranged from 47 percent of the 1941-70 median for the Sacramento River basin upstream from Keswick to 8 percent of the median for Thomes Creek at Paskenta (fig. 1). Runoff for the North Fork American River basin was only 12 percent of median.

The quality of surface water deteriorated because of the extreme low flows. In the Sacramento-San Joaquin Delta, rock dams were constructed to reduce the amount of salt-water intrusion into the Delta area. Normally there is enough fresh water available to keep the salt water flushed from the Delta.

Because of the increased demand for ground water, water levels declined 15 ft (4.6 m) in the Capay Valley and 4 ft (1.2 m) in the Alturas basin. Some wells reached a record low for their periods of record by the end of the irrigation season. Many wells were drilled during the year to supplement the reduced surface-water supplies for irrigation.

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 U.S. customary 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 the 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, by decomposing organic matter into a form available for reuse by plants.

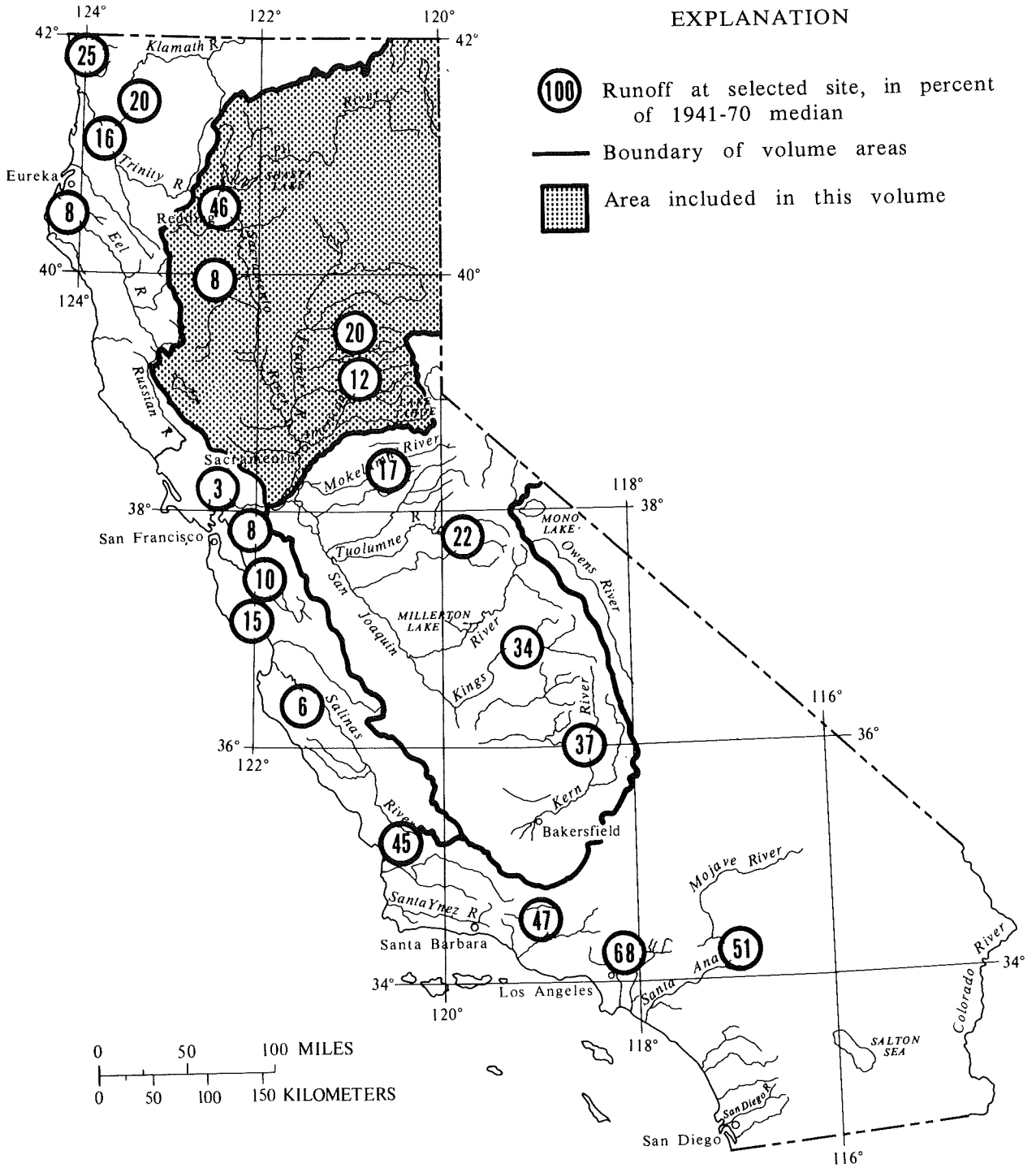

FIGURE 1.--Runoff for the current water year.

Bacteria--Continued

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptoccal bacteria are bacteria found also 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. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterrococcus medium (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 inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 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.

Biomass (continued)

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.

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 milliliters (mL) or liters (L).

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

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

Color unit is produced by 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^3/S, ft^3/s), is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

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

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

Dissolved refers to the amount of a substance present in true chemical solution. In practice, however, the term includes all forms of the substance that will pass through a 0.45-micrometer membrane filter and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

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

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

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. 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.

Ft^3/s-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.

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 gage height or discharge 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 and carbonate ($CaCO_3$).

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-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, µg/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, µg/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.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Primary productivity (continued)

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

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

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

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

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

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

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft or 0.9 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, that is discharged 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.

Substrate is the physical surface upon which an organism lives.

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

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

Surface area of a lake is the area, in 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.

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

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

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

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

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

Total load (tons) is the total quantity 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.

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Jackson turbidity units (JTU).

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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first-rank, second-rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 11407000 which appears just to the left of the station name, includes the 2-digit number "11" plus the 6-digit downstream order number "407000". In this report, the records are listed in downstream order by parts. The part number refers to an area whose boundaries coincide with certain natural drainage lines. Records for California are in Part 9 (Colorado River basin), Part 10 (The Great Basin), and Part 11 (Pacific slope basins in California). All records for a drainage basin encompassing more than one State could be arranged in downstream order by assembling pages from the various State reports by station number to include all records in the basin.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

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

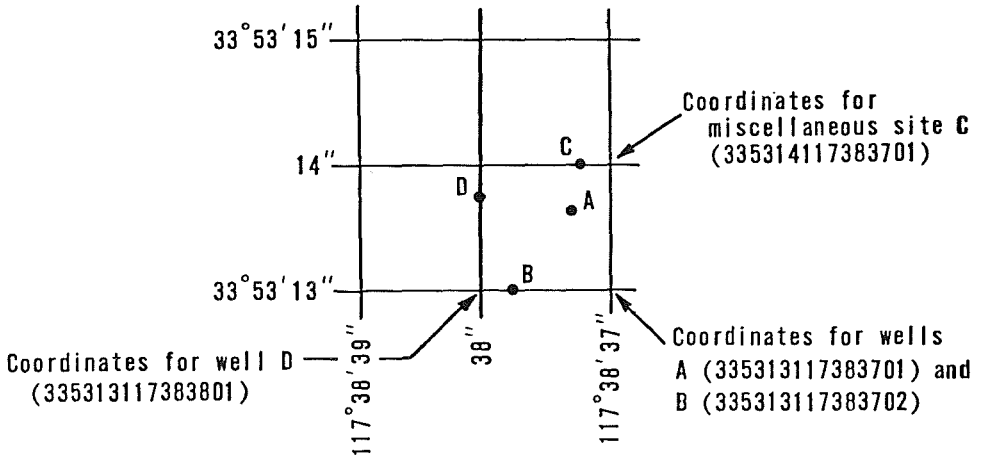

Figure 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

Local Well Numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 5S/10E-22G1 M, the part of the number preceding the slash indicates the township (T.5 S.) and the number between the slash and hyphen indicates the range (R.10 E.); the digits following the hyphen indicate the section (sec.22); the letter following the section number indicates the 40-acre subdivision of the section. Within each 40-acre tract, the wells are numbered serially, as indicated by the final digit. The final letter, separated from the rest of the number by a space, indicates the base line and meridian. Base-line and meridian designations are as follows: H, Humboldt; M, Mount Diablo; S, San Bernardino. See figure 3.

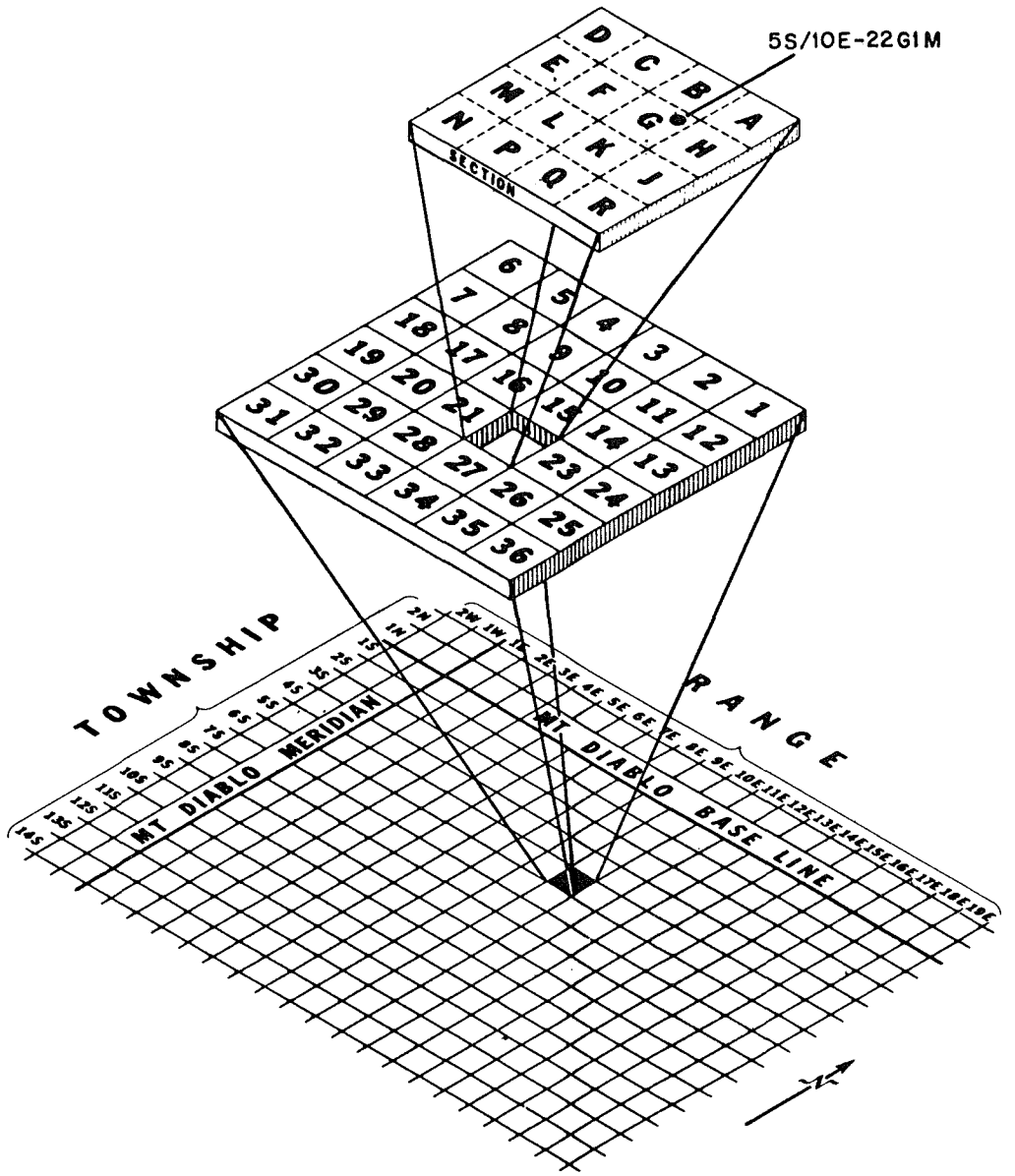

Figure 3.--California well-numbering system.

SPECIAL NETWORKS AND PROGRAMS

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

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

Volume 2:

11475500 Elder Creek near Branscomb, CA

Volume 3:

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

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

Volume 1:

09424190 Colorado River Aqueduct near San Jacinto, CA
09429500 Colorado River above Imperial Dam, AZ-CA
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
11074000 Santa Ana River below Prado Dam, CA
11103010 Los Angeles River at Willow Street Bridge, at Long Beach, CA

Volume 2:

11152300 Salinas River near Chualar, CA
11467000 Russian River near Guerneville, CA
11530500 Klamath River near Klamath, CA

Volume 3:

11250000 Friant-Kern Canal at Friant, CA
11303500 San Joaquin River near Vernalis, CA
11325500 Mokelumne River at Woodbridge, CA

Volume 4:

11447650 Sacramento River at Freeport, CA

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal 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 records of stage, of lakes and reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from direct readings on a nonrecording gage or from a water-stage recorder that gives a continuous graph of the fluctuations or a tape punched at selected time intervals. Measuremements of discharge are made with a current meter, using the methods adopted by the Geological Survey. These methods are described in standard textbooks, in Water-Supply Paper 888, and in the U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

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

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

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

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

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

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

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

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

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

The type of gage currently in use, the datum of the present gage above mean sea level, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE". In references to datum of gage, the phrase "mean sea level" denotes "National Geodetic Vertical Datum of 1929 (NGVD)" as used by the Topographic Division of the Geological Survey, unless otherwise qualified.

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

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given: First, the extremes for the period of record; second, information available outside the period of record; and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks (including the maximum for the year) above the selected base, with the time of occurrence and corresponding gage heights, are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

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

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

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

length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

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

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

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

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

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft^3/s; to tenths between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures above 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumptive use, regulation by storage, increase or decrease due to artificial causes, or to other factors. Evaporation from a reservoir is not included in the adjustments for changes in reservoir contents, unless it is so stated. Even at those stations where adjustments are made, large errors in computed runoff may occur if adjustments or losses are large in comparison with the observed discharge.

Other data available

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

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

Records of discharge collected by agencies other than the Geological Survey

Records of discharge not published by the Geological Survey have been collected at numerous sites by many other Federal, State, County, City, and local agencies and by private organizations. A listing of stream-gaging stations and the agencies operating them is published in California Department of Water Resources Bulletin 157, "Index of Stream-Gaging Stations in and Adjacent to California." The National Water Data Exchange, Water Resources Division, U.S. Geological Survey, National Center, Reston, VA 22092, maintains an index of such sites. Information on records at specific sites can be obtained upon request.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

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

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

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

Water analysis

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

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

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

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

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

Water temperature

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

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

Sediment

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

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

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

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

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

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

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

Turbidity

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

Measured values of turbidity are significantly influenced by the type of instrument used. Turbidity values published in California reports prior to July 1966 were determined by means of a Hellige Turbidimeter and are not directly comparable with those published subsequently. Data published in parts per million as silica from July 1966 to September 1968, and in milligrams per liter as silica from October 1968 to September 1970, were measured with a model 1860 Hach Turbidimeter which is optically similar to the model 2100 Hach Turbidimeter used from October 1970 to September 1974, and the model 2100A Hach Turbidimeter used since October 1974. Scales are available for those instruments providing a readout in either milligrams per liter or in Jackson turbidity units. Hence, conversion of data for the period July 1966 through September 1970, from parts per million or milligrams per liter of silica to Jackson turbidity units can be made by use of table 1.

Table 1.--*Conversion of turbidity values, measured by Hach Turbidimeters Model 1860 or 2100, from parts per million or milligrams per liter of silica to Jackson turbidity units*

Turbidity, in ppm or mg/L	Turbidity, in JTU
5	3
10	6
50	30
100	55
200	110
500	240
1000	440

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

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

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

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

Water-level measurements in this report are given in feet with reference to either mean sea level (msl) or land-surface datum (lsd). Mean sea level 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 above mean sea level is given in the well description. The height of the measuring point (MP above or below land-surface datum), if known, is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office). Prices are effective January 1978 but are subject to change.

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. $1.60.

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. $0.85.

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. $1.90.

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. $1.75.

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. $1.00.

3-A2. *Measurement of peak discharge by the slope-area method,* by Tate Dalyrmple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages. $0.35.

3-A3. *Measurement of peak discharge at culverts by indirect methods,* by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968. 60 pages. $0.40.

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. $1.00.

3-A5. *Measurement of peak discharge at dams by indirect methods,* by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967. 29 pages. $0.35.

3-A6. *General procedure for gaging streams,* by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968. 13 pages. $1.00.

3-A7. *Stage measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages. $1.40.

3-A8. *Discharge measurements at gaging stations,* by T. J. Buchanan and W. P. Somers: USGS-TWRI Book 3, Chapter A8. 1969. 65 pages. $1.25.

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. $1.20.

3-A12. *Fluormetric procedures for dye tracing,* by J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A12. 1968. 31 pages. $0.35. Not currently available.

3-B1. *Aquifer-test design, observation, and data analyses,* by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages. $0.70.

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. $2.50

3-C1. *Fluvial sediment concepts,* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages. $0.65.

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. $2.50.

3-C3. *Computation of fluvial-sediment discharge,* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages. $2.10.

4-A1. *Some statistical tools in hydrology,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages. $1.60.
4-A2. *Frequency curves,* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages. $0.35.
4-B1. *Low-flow investigations,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages. $0.65.
4-B2. *Storage analyses for water supply,* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages. $0.75.
4-B3. *Regional analyses of streamflow characteristics,* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages. $0.65.
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. $1.10.
5-A1. *Methods for collection and analysis of water samples for dissolved minerals and gases,* by Eugene Brown, M. W. Skougstad, and M. J. Fishman: USGS--TWRI Book 5, Chapter A1. 1970. 160 pages. $2.40.
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. $0.80.
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. $0.90.
5-A4.* *Methods for collection and analysis of aquatic biological and microbiological samples,* edited by D. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lum, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages. $20.00.
5-A5.* *Methods for determination of radioactive substances in water and fluvial sediments,* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages. $16.00.
5-C1. *Laboratory theory and methods for sediment analyses,* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages. $2.10.
7-C1. *Finite-difference model for aquifer simultation 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. $2.30.
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. $0.70.
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. $1.10.

*These publications are available ONLY from Superintendent of Documents, Government Printing Office, Washington, D.C. 20402. They are in looseleaf format and are subscription items. Additional supplements will be issued to subscribers at no extra cost. Checks should be made payable to Superintendent of Documents. Requester should emphasize to Superintendent of Documents that this is a subscription item.

10356500 SUSAN RIVER AT SUSANVILLE, CA

LOCATION.--Lat 40°25'03", long 120°40'15", in SW¼NE¼ sec.31, T.30 N., R.12 E., Lassen County, on left bank 0.5 mi (0.8 km) west of Susanville, and 1.1 mi (1.8 km) upstream from Piute Creek.

DRAINAGE AREA.--184 mi^2 (477 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1900 to December 1905 (gage heights only August 1901 to January 1903), March to May 1913 (gage heights only), February 1917 to June 1921, October 1950 to current year. Published as "near Susanville" 1900-1905. Discharge records for August to December 1901 and January 1903, published in WSP 300, have been found to be unreliable and should not be used.

GAGE.--Water-stage recorder. Datum of gage is 4,225.72 ft (1,287.999 m) above mean sea level. Prior to Oct. 1, 1950, nonrecording gages at several sites in vicinity of old powerplant 0.9 mi (1.4 km) upstream at various datums.

REMARKS.--Records good except those for the winter months, which are fair. Flow regulated by McCoy Flat Reservoir and Hog Flat Reservoir, combined usable capacity, 25,300 acre-ft (31.2 hm^3). Diversions for irrigation of 1,400 acres (567 hm^2) above station.

AVERAGE DISCHARGE.--33 years (water years 1901, 1904-5, 1918-20, 1951-77), 95.7 ft^3/s (2.710 m^3/s), 69,330 acre-ft/yr (85.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,850 ft^3/s (166 m^3/s) Jan. 24, 1970, gage height, 8.89 ft (2.710 m) in gage well, 10.4 ft (3.17 m), from floodmarks, from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement at gage height 6.62 ft (2.018 m) and contracted-opening measurement at gage height 8.89 ft (2.710 m); no flow Aug. 15, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35 ft^3/s (0.99 m^3/s) Feb. 21, gage height, 1.81 ft (0.552 m); minimum daily, 1.4 ft^3/s (0.040 m^3/s) July 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.6	7.6	7.1	9.2	12	11	8.6	5.8	4.1	1.5	1.9
2	7.8	8.6	7.6	8.2	9.0	12	10	8.6	5.6	4.2	1.6	1.8
3	7.8	8.6	7.5	8.6	9.0	12	10	8.1	5.5	4.2	1.7	1.8
4	7.6	8.7	7.4	7.1	9.1	12	11	9.6	5.3	4.2	1.6	1.9
5	7.3	8.7	7.3	6.9	9.2	12	14	8.9	4.3	4.2	1.6	1.9
6	6.4	9.0	7.2	6.4	10	13	17	8.3	4.2	4.1	1.6	1.9
7	6.7	9.0	7.2	5.9	12	13	16	8.5	4.3	3.9	1.9	1.8
8	6.4	9.0	7.4	4.8	14	13	17	8.8	4.5	3.7	1.8	2.0
9	5.4	9.1	6.4	4.4	13	18	16	10	7.2	2.9	1.7	2.0
10	4.4	9.4	7.4	5.2	13	16	13	12	12	2.1	1.8	2.0
11	4.3	9.6	7.3	6.5	13	14	12	11	8.0	2.3	1.7	1.7
12	4.4	9.7	8.6	7.0	13	13	12	11	5.4	2.2	1.7	1.7
13	4.6	8.3	7.8	6.5	13	12	13	10	5.7	2.0	1.7	1.9
14	4.8	9.6	9.0	6.3	14	11	13	9.5	5.3	2.2	1.7	1.6
15	5.1	11	8.4	6.2	13	12	12	9.0	4.7	2.2	1.7	1.7
16	5.3	9.8	8.2	6.3	14	13	13	9.3	6.0	2.4	1.7	1.9
17	6.1	9.3	8.2	6.5	14	13	13	9.7	11	2.3	1.8	2.4
18	7.8	9.2	8.4	6.6	13	12	11	9.3	8.9	2.1	2.3	2.3
19	7.8	9.1	7.6	6.9	13	12	10	9.5	8.3	2.1	2.2	3.5
20	7.6	9.0	7.3	7.4	13	11	10	8.4	7.0	2.5	2.5	4.2
21	8.0	9.1	7.1	8.7	22	11	8.6	7.4	6.3	2.6	2.9	4.0
22	10	9.4	7.3	12	18	11	8.6	7.4	4.9	2.1	2.0	4.2
23	9.3	9.4	6.6	12	15	13	8.3	7.7	5.7	2.1	1.9	3.6
24	9.1	9.2	7.6	12	13	14	8.4	7.4	4.7	2.0	2.0	5.0
25	8.7	9.3	7.1	11	13	13	8.5	7.4	5.1	1.9	2.8	4.4
26	7.5	9.2	7.3	9.8	13	13	8.5	7.4	4.7	2.1	3.0	3.3
27	8.3	7.7	6.9	9.5	13	14	8.1	8.3	4.2	2.0	2.4	4.3
28	8.1	7.6	7.6	9.0	13	11	8.1	7.5	3.6	1.7	2.2	3.0
29	8.5	7.6	6.2	9.0	---	11	7.7	6.8	3.6	1.4	2.0	4.1
30	8.7	7.6	7.4	9.0	---	11	7.8	6.7	3.9	1.5	1.9	4.4
31	8.6	---	6.7	10	---	11	---	6.1	---	1.5	1.9	---
TOTAL	220.4	269.4	231.6	242.8	360.5	389	336.6	268.2	175.7	80.8	60.8	82.2
MEAN	7.11	8.98	7.47	7.83	12.9	12.5	11.2	8.65	5.86	2.61	1.96	2.74
MAX	10	11	9.0	12	22	18	17	12	12	4.2	3.0	5.0
MIN	4.3	7.6	6.2	4.4	9.0	11	7.7	6.1	3.6	1.4	1.5	1.6
AC-FT	437	534	459	482	715	772	668	532	349	160	121	163

CAL YR 1976 TOTAL 7716.0 MEAN 21.1 MAX 161 MIN 3.2 AC-FT 15300
WTR YR 1977 TOTAL 2718.0 MEAN 7.45 MAX 22 MIN 1.4 AC-FT 5390

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1952 to current year.

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
OCT								
08...	0815	6.4	--	198	8.2	8.0	2	10.4
NOV								
08...	1315	--	9.0	167	8.1	7.2	1	11.9
DEC								
06...	0940	7.2	--	182	7.7	1.1	2	12.3
JAN								
05...	1400	6.9	--	179	8.0	1.0	2	12.6
FEB								
03...	1345	9.0	--	190	8.0	2.0	1	13.5
MAR								
02...	1535	--	11	160	8.4	3.5	0	13.4
APR								
14...	1130	--	14	161	8.0	12.5	1	10.6
MAY								
03...	1505	--	8.2	180	7.8	12.0	1	10.2
04...	0910	--	9.7	--	7.6	9.0	--	10.6
10...	1225	--	13	163	8.1	9.0	1	10.0
JUN								
08...	0800	--	4.3	180	7.7	21.0	--	10.0
08...	1215	--	4.4	--	7.8	21.5	1	9.6
JUL								
05...	1215	--	4.4	190	7.4	22.0	3	9.5
20...	0900	--	2.5	215	8.5	17.0	--	9.2
AUG								
03...	1000	--	1.7	193	8.1	23.0	3	8.6
SEP								
14...	1430	1.6	--	187	8.3	20.0	1	9.0

DATE	TIME	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)
FEB												
03...	1345	--	--	86	0	--	--	5.9	--	.3	--	113
MAR												
02...	1535	--	--	74	0	--	--	6.0	--	.3	--	101
APR												
14...	1130	--	--	70	0	--	--	5.5	--	.3	--	95
MAY												
03...	1505	--	--	72	0	16	7.8	5.9	15	.3	1.8	101
04...	0910	0	.8	--	--	--	--	--	--	--	--	--
10...	1225	--	--	69	0	--	--	6.4	--	.3	--	101
JUN												
08...	0800	2	.8	--	--	--	--	--	--	--	--	--
08...	1215	--	--	83	0	19	9.0	5.0	11	.2	2.4	119
JUL												
20...	0900	--	--	--	--	--	--	--	--	--	--	--

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	TOTAL NITRATE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)
FEB												
03...	0	93	--	.6	--	--	--	--	--	--	--	--
MAR												
02...	0	83	--	.5	--	--	--	--	--	--	--	--
APR												
14...	0	78	--	.0	--	--	--	--	--	--	--	--
MAY												
03...	0	83	.8	.1	116	.16	2.57	--	.02	.05	.10	.15
04...	--	--	--	--	--	--	--	--	--	--	--	--
10...	0	83	--	.0	--	--	--	--	--	--	--	--
JUN												
08...	--	--	--	--	--	--	--	--	.02	.02	.40	.42
08...	0	98	.8	1.1	140	.19	1.66	.27	--	--	--	--
JUL												
20...	--	--	--	--	--	--	--	--	.00	.06	3.0	.36

DATE	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	TANNIN AND LIGNIN (MG/L)
FEB												
03...	--	--	0	--	--	--	--	--	--	--	--	--
MAR												
02...	--	--	0	--	--	--	--	--	--	--	--	--
APR												
14...	--	--	0	--	--	--	--	--	--	--	--	--
MAY												
03...	.08	.02	0	0	0	300	0	--	30	10	--	--
04...	--	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	0	--	--	--	--	--	--	--	--	--
JUN												
08...	.06	.02	--	0	0	0	0	0	--	0	--	--
08...	--	--	0	--	--	--	--	--	--	--	--	--
JUL												
20...	.06	.02	--	0	--	--	--	--	--	--	3.9	.1

10358500 WILLOW CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°29'21", long 120°32'10", in SW¼NE¼ sec.5, T.30 N., R.13 E., Lassen County, on left bank 4 mi (6 km) upstream from Peters Valley Creek, and 8 mi (13 km) northeast of Susanville.

DRAINAGE AREA.--90.4 mi^2 (234.1 km^2), excludes that of Eagle Lake Basin.

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,836.27 ft (1,474.095 m) above mean sea level, unadjusted.

REMARKS.--Records excellent. Diversions for irrigation of 5,200 acres (21.0 km^2) above station. Some flow at times enters Willow Creek from Eagle Lake through an abandoned tunnel.

AVERAGE DISCHARGE.--27 years, 34.4 ft^3/s (0.974 m^3/s), 24,920 acre-ft/yr (30.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 816 ft^3/s (23.1 m^3/s) Feb. 1, 1963, gage height, 5.59 ft (1.704 m); minimum, 8.1 ft^3/s (0.23 m^3/s) Nov. 16, 1951.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49 ft^3/s (1.39 m^3/s) Jan. 3, gage height, 2.75 ft (0.838 m), no peak above base of 200 ft^3/s (5.66 m^3/s); minimum daily, 11 ft^3/s 0.31 m^3/s) Apr. 22-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	33	31	31	31	32	27	16	14	13	13	14
2	32	32	31	32	31	25	26	17	14	12	13	14
3	32	32	31	33	31	28	25	18	14	12	13	13
4	33	32	32	30	32	25	24	20	14	12	13	13
5	33	32	31	29	32	26	24	20	14	12	13	12
6	33	31	32	27	32	24	22	20	14	12	13	12
7	32	30	31	28	34	24	22	20	14	12	13	12
8	31	30	31	28	38	25	21	21	14	12	13	12
9	23	30	32	27	39	29	23	22	17	12	13	12
10	16	31	32	29	39	28	22	24	28	13	12	12
11	16	30	32	28	39	31	21	24	24	15	12	12
12	17	31	31	28	39	33	20	26	19	16	12	12
13	25	31	31	28	38	33	21	26	16	16	12	12
14	29	33	31	28	37	31	21	26	14	16	12	12
15	32	34	32	27	37	30	19	27	14	15	12	12
16	33	34	32	27	37	30	13	29	14	15	12	13
17	33	34	31	27	36	29	14	28	16	15	12	13
18	32	33	31	28	35	27	14	25	20	15	12	13
19	32	33	30	28	24	27	13	26	21	14	12	13
20	33	33	30	28	23	26	13	25	20	14	12	13
21	33	33	30	28	27	24	12	23	19	14	13	13
22	33	33	31	30	26	24	11	21	18	13	13	13
23	34	33	31	29	27	24	11	20	17	13	13	13
24	33	33	30	29	29	26	11	19	17	13	13	13
25	33	33	30	29	31	27	12	18	16	13	13	13
26	33	33	30	28	32	27	12	17	15	13	13	13
27	33	27	30	29	33	27	12	15	14	12	13	13
28	33	32	30	29	33	27	13	15	14	12	13	14
29	33	31	30	30	---	26	13	15	13	13	13	14
30	33	32	32	30	---	26	14	15	13	13	13	14
31	33	---	31	30	---	26	---	14	---	13	13	---
TOTAL	942	959	960	892	922	847	526	652	491	415	392	384
MEAN	30.4	32.0	31.0	28.8	32.9	27.3	17.5	21.0	16.4	13.4	12.6	12.8
MAX	34	34	32	33	39	33	27	29	28	16	13	14
MIN	16	27	30	27	23	24	11	14	13	12	12	12
AC-FT	1870	1900	1900	1770	1830	1680	1040	1290	974	823	778	762

CAL YR 1976 TOTAL 8788 MEAN 24.0 MAX 40 MIN 10 AC-FT 17430
WTR YR 1977 TOTAL 8382 MEAN 23.0 MAX 39 MIN 11 AC-FT 16630

10359300 PINE CREEK NEAR SUSANVILLE, CA

LOCATION.--Lat 40°39'54", long 120°47'25", in NE¼SE¼ sec.1, T.32 N., R.10 E., Lassen County, on right bank 0.3 mi (0.5 km) upstream from Eagle Lake, and 18 mi (29 km) northwest of Susanville.

DRAINAGE AREA.--226 mi^2 (585 km^2).

PERIOD OF RECORD.--October 1960 to September 1966, October 1967 to September 1968, October 1969 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,120 ft (1,561 m), from topographic map. Prior to September 1968, at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--No flow since Mar. 18, 1976. Figures for calendar year 1976 are as follows: Maximum daily discharge, 24 ft^3/s (0.68 m^3/s); minimum, zero; mean 0.47 ft^3/s (0.013 m^3/s); runoff, 344 acre-feet (4,242 m^3). No storage or diversion above station except for minor stock ponds.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--15 years (water years 1961-66, 1968, 1970-77), 20.6 ft^3/s (0.584 m^3/s), 14,920 acre-ft/yr (18.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft^3/s (32.3 m^3/s) May 15, 1975, gage height, 5.45 ft (1.661 m); maximum gage height, 5.60 ft (1.707 m) Jan. 24, 1970; no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1967, reached a stage of 5.29 ft (1.612 m), discharge, 826 ft^3/s (23.4 m^3/s).

EXTREMES FOR CURRENT YEAR.--No flow since Mar. 18, 1976.

10360900 BIDWELL CREEK BELOW MILL CREEK, NEAR FORT BIDWELL, CA

LOCATION.--Lat 41°52'57", long 120°10'26", in NE¼SE¼ sec.6, T.46 N., R.16 E., Modoc County, on right bank 0.9 mi (1.4 km) downstream from Mill Creek, and 2.0 mi (3.2 km) northwest of Fort Bidwell.

DRAINAGE AREA.--25.6 mi^2 (66.3 km^2).

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1961, published as Bidwell Creek near Fort Bidwell.

REVISED RECORDS.--WDR CA-71-2: 1969-70.

GAGE.--Water-stage recorder. Altitude of gage is 5,000 ft (1,524 m), from topographic map.

REMARKS.--Less than 2 ft^3/s (0.057 m^3/s) diverted upstream for irrigation. No storage above station.

COOPERATION.--Records furnished by the California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--17 years, 21.6 ft^3/s (0.612 m^3/s), 15,650 acre-ft/yr (19.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 682 ft^3/s (19.3 m^3/s) Dec. 24, 1964, gage height, 5.64 ft (1.719 m), from rating curve extended above 105 ft^3/s (2.97 m^3/s) on basis of slope-area measurement of maximum flow; minimum, 1.4 ft^3/s (0.040 m^3/s) Nov. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 38 ft^3/s (1.08 m^3/s) May 31, gage height, 3.82 ft (1.164 m); minimum daily, 1.5 ft^3/s (0.042 m^3/s) Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	4.8	3.5	3.5	3.5	3.5	4.1	6.3	34	8.0	2.1	2.1
2	7.0	4.5	3.7	3.3	3.7	3.7	4.5	7.0	31	6.8	1.5	2.0
3	5.4	4.3	3.7	3.3	3.7	3.7	6.1	6.3	31	5.9	2.4	2.0
4	5.2	4.2	4.0	3.3	3.7	3.7	7.8	6.1	30	5.6	2.4	2.0
5	5.1	4.2	4.0	3.1	3.7	3.7	9.2	6.1	30	5.3	2.3	1.9
6	5.0	3.9	4.0	3.1	3.3	3.7	11	6.0	29	5.0	2.3	1.8
7	5.0	3.9	4.3	3.1	4.0	4.0	10	6.0	26	4.7	2.2	1.8
8	5.0	3.9	4.3	3.1	3.7	4.2	8.1	8.8	23	4.5	2.1	1.8
9	4.8	4.0	4.3	3.1	3.7	4.2	6.7	11	20	4.3	1.9	1.7
10	4.9	4.0	4.3	3.1	3.7	4.3	6.9	12	18	4.1	1.9	1.7
11	5.0	4.0	4.3	3.1	3.7	3.7	7.8	11	16	4.0	2.0	1.8
12	5.0	4.3	4.3	3.3	3.9	4.2	8.2	14	15	3.9	2.0	1.7
13	5.0	5.2	4.3	3.3	3.6	4.6	7.6	20	13	3.7	2.0	1.7
14	4.9	5.3	4.3	3.1	3.6	3.7	7.7	20	12	3.5	1.9	1.8
15	5.0	4.9	4.3	3.1	3.7	3.6	8.6	17	11	3.4	1.8	2.8
16	5.0	4.6	4.0	3.1	3.7	3.6	7.9	15	11	3.3	1.7	2.9
17	5.0	4.5	4.0	3.1	3.6	3.5	6.9	14	10	3.2	1.7	2.4
18	5.2	4.3	3.7	3.1	3.6	3.6	6.5	14	11	3.2	2.2	3.3
19	5.2	4.3	3.7	3.1	3.6	3.8	6.5	18	11	3.1	2.0	3.8
20	5.2	4.6	3.7	3.1	3.8	4.1	6.6	24	9.5	3.0	2.1	2.9
21	5.0	4.5	3.7	3.3	3.7	4.9	6.8	28	8.7	2.9	1.8	2.6
22	4.9	4.4	3.7	3.3	3.6	5.1	7.1	29	8.0	2.8	1.8	2.5
23	4.9	4.4	3.7	3.3	3.5	4.6	7.7	27	7.4	2.7	3.4	5.3
24	5.0	4.6	4.0	3.5	4.1	4.4	8.4	26	6.9	2.6	4.6	3.3
25	5.7	3.2	4.0	3.5	3.5	4.6	7.5	27	6.6	2.6	4.0	2.7
26	5.3	4.3	4.0	3.5	3.5	4.7	6.8	26	6.2	2.6	2.8	2.5
27	5.1	4.3	3.7	3.5	3.7	4.7	6.7	24	5.9	2.5	2.6	3.4
28	5.2	4.4	3.7	3.5	3.6	5.3	6.5	24	5.7	2.5	2.5	17
29	4.9	4.6	3.5	3.5	---	4.1	6.3	25	5.5	2.5	2.3	6.2
30	4.8	4.6	3.5	3.5	---	4.1	7.0	29	5.8	2.7	2.2	6.1
31	4.8	---	3.5	3.5	---	4.1	---	35	---	2.4	2.2	---
TOTAL	158.1	131.0	121.7	101.3	102.7	127.7	219.5	542.6	458.2	117.3	70.7	95.5
MEAN	5.10	4.37	3.93	3.27	3.67	4.12	7.32	17.5	15.3	3.78	2.28	3.18
MAX	7.0	5.3	4.3	3.5	4.1	5.3	11	35	34	8.0	4.6	17
MIN	4.6	3.2	3.5	3.1	3.3	3.5	4.1	6.0	5.5	2.4	1.5	1.7
AC-FT	314	260	241	201	204	253	435	1080	909	233	140	189

CAL YR 1976 TOTAL 5959.8 MEAN 16.3 MAX 105 MIN 3.2 AC-FT 11820
WTR YR 1977 TOTAL 2246.3 MEAN 6.15 MAX 35 MIN 1.5 AC-FT 4460

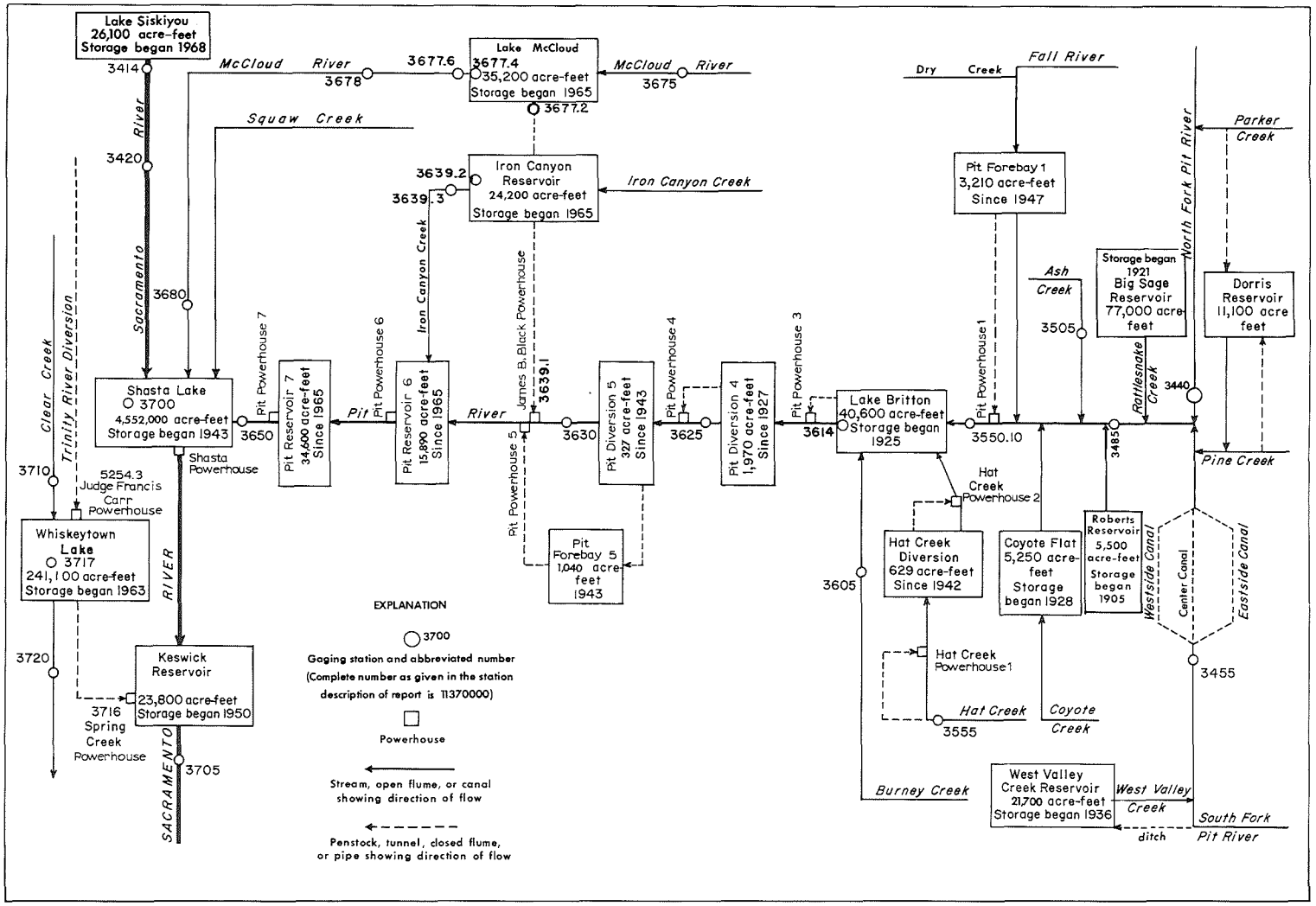

FIGURE 4.--Schematic diagram showing diversions and storage in Pit and McCloud river basins.

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA

LOCATION.--Lat 41°15'56", long 122°18'32", in SE¼SE¼ sec.33, T.40 N., R.4 W., Siskiyou County, on left bank 200 ft (61 m) upstream from Stink Creek, 0.3 mi (0.5 km) upstream from Southern Pacific Railroad bridge, 1.7 mi (2.7 km) downstream from Box Canyon Dam, and 3.3 mi (5.3 km) south of town of Mt Shasta.

DRAINAGE AREA.--135 mi^2 (350 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,800 ft (853 m), from topographic map. Prior to July 1, 1966, water-stage recorder at site 500 ft (152 m) upstream at datum 4.26 ft (1.298 m) higher.

REMARKS.--Records good. Flow regulated by Box Canyon Dam 1.7 mi (2.7 km) upstream beginning December 1968, capacity, 26,100 acre-ft (32.2 hm^3). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in Lake Siskiyou).--18 years, 244 ft^3/s (6.910 m^3/s), 176,800 acre-ft/yr (218 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft^3/s (346 m^3/s) Dec. 22, 1964, gage height, 12.6 ft (3.84 m) from floodmarks, present site and datum, from slope-area measurement of maximum flow; minimum, 37 ft^3/s (1.05 m^3/s) Sept. 6, 1962. Maximum discharge since construction of Box Canyon Dam in 1968, 11,500 ft^3/s (326 m^3/s) Jan. 16, 1974, gage height, 10.25 ft (3.124 m) from floodmarks, from rating curve extended above 2,900 ft^3/s (82.1 m^3/s) on basis of flow-over-dam computation of maximum flow; minimum daily, 14 ft^3/s (0.40 m^3/s) Dec. 8-16, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 223 ft^3/s (6.32 m^3/s) May 2, gage height, 3.79 ft (1.155 m); minimum daily, 36 ft^3/s (1.02 m^3/s) June 28-30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	102	73	67	65	76	56	185	122	37	38	39
2	58	91	72	68	44	56	56	185	117	40	38	38
3	61	80	75	68	46	50	56	174	112	47	38	38
4	57	80	74	68	51	51	56	156	109	51	38	38
5	57	80	74	66	52	51	56	143	105	47	37	39
6	55	80	74	66	52	51	57	134	101	45	37	39
7	55	80	74	66	53	51	72	129	103	44	37	41
8	55	79	74	66	54	51	101	124	110	45	37	41
9	54	63	74	66	57	52	112	117	103	45	38	39
10	54	47	74	68	72	52	111	124	99	42	38	39
11	54	47	74	68	87	53	105	132	99	40	38	39
12	54	47	74	67	87	53	100	135	98	42	38	39
13	84	48	74	65	87	53	104	134	94	41	38	39
14	120	52	74	66	87	53	100	127	91	40	38	39
15	118	49	74	68	87	53	102	123	90	40	38	39
16	118	49	74	68	87	53	107	114	90	39	38	42
17	115	49	74	67	84	54	105	114	90	39	39	53
18	116	58	74	67	86	54	101	110	92	40	39	83
19	114	91	74	65	86	54	102	113	92	40	37	140
20	113	77	74	73	86	54	110	110	75	39	37	122
21	112	77	63	84	90	55	109	106	55	39	38	83
22	112	76	48	84	87	55	112	104	54	38	39	69
23	112	76	48	84	87	55	120	107	53	38	38	63
24	111	76	48	84	85	55	128	118	52	38	38	63
25	109	75	48	84	85	55	137	119	52	38	39	63
26	109	73	48	84	86	55	162	141	51	38	42	61
27	107	73	48	84	85	56	178	174	44	39	42	61
28	105	73	48	83	86	56	182	158	36	40	43	101
29	105	73	48	83	---	56	188	144	36	41	47	143
30	105	73	48	83	---	56	187	132	36	38	44	106
31	104	---	56	83	---	56	---	126	---	38	39	---
TOTAL	2761	2094	2029	2263	2101	1685	3272	4112	2461	1268	1205	1839
MEAN	89.1	69.8	65.5	73.0	75.0	54.4	109	133	82.0	40.9	38.9	61.3
MAX	120	102	75	84	90	76	188	185	122	51	47	143
MIN	54	47	48	65	44	50	56	104	36	37	37	38
AC-FT	5480	4150	4020	4490	4170	3340	6490	8160	4880	2520	2390	3650
MEAN ‡	55.6	68.2	66.8	71.2	80.3	79.5	117	132	79.2	42.4	38.9	62.7
AC-FT ‡	3420	4060	4110	4320	4460	4890	6970	8110	4710	2610	2390	3730
†	24090	24000	24090	23920	24210	25760	26240	26190	26020	26110	26110	26190

CAL YR 1976 TOTAL 45237 MEAN 124 MAX 703 MIN 47 AC-FT 89730 MEAN ‡ 123 AC-FT ‡ 89600
WTR YR 1977 TOTAL 27090 MEAN 74.2 MAX 188 MIN 36 AC-FT 53730 MEAN ‡74.3 AC-FT ‡ 53800

† Contents, in acre-feet, at end of month in Lake Siskiyou.
‡ Adjusted for change in contents in Lake Siskiyou.

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.
CHEMICAL ANALYSES: Water years 1970-72.
WATER TEMPERATURES: Water years 1966 to current year.
SEDIMENT RECORDS: Water year 1972.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1965 to current year.

INSTRUMENTATION.--Temperature recorder since October 1965.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 20.0°C July 25-28, 1974, July 12, 1975; minimum recorded, 1.5°C on several days in 1968 and 1969.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 18.5°C July 8, 11; minimum recorded, 4.5°C on several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11342000 SACRAMENTO RIVER AT DELTA, CA

LOCATION.--Lat 40°56'23", long 122°24'58", in SW¼NW¼ sec.35, T.36 N., R.5 W, Shasta County, Bureau of Reclamation property, on left bank 0.2 mi (0.3 km) downstream from Dog Creek, 0.6 mi (1.0 km) southeast of Delta, and 2.8 mi (4.5 km) south of Lamoine.

DRAINAGE AREA.--425 mi^2 (1,101 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 1,075.00 ft (326.660 m) above mean sea level (levels by Bureau of Reclamation).

REMARKS.--Records excellent. Some regulation since December 1968 by Lake Siskiyou, capacity, 26,100 acre-ft (32.2 hm^3). Some minor diversions for irrigation above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--33 years, 1,152 ft^3/s (32.62 m^3/s), 834,600 acre-ft/yr (1,029 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft^3/s (1,980 m^3/s) Jan. 16, 1974, gage height, 27.20 ft (8.291 m), from rating curve extended above 19,000 ft^3/s (538 m^3/s) on basis of slope-area measurements at gage heights, 19.50 ft (5.944 m) in gage well, 20.0 ft (6.10 m) from floodmarks, and 27.20 ft (8.291 m) in gage well, 28.7 ft (8.75 m) from floodmarks; minimum daily, 117 ft^3/s (3.31 m^3/s) Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,320 ft^3/s (65.7 m^3/s) Sept. 19, gage height, 7.37 ft (2.246 m); minimum daily, 117 ft^3/s (3.31 m^3/s) Aug. 5, 6, 12-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	198	224	205	214	215	238	225	492	325	153	118	124
2	211	224	205	270	186	218	222	718	312	222	119	124
3	221	208	205	258	177	201	220	650	298	165	119	124
4	202	205	205	232	181	194	225	548	288	164	118	124
5	197	204	203	217	184	191	239	452	275	165	117	124
6	194	204	203	206	184	191	246	405	263	161	117	123
7	192	204	203	204	185	201	257	373	259	159	120	122
8	190	204	205	201	249	238	318	343	283	156	121	121
9	189	204	207	201	267	248	327	351	267	156	121	121
10	188	187	203	205	223	230	298	399	261	155	119	121
11	188	187	203	207	236	216	281	458	274	152	118	121
12	187	187	203	218	233	213	276	446	256	150	117	121
13	227	201	203	213	230	207	284	411	241	150	117	122
14	236	413	203	210	228	205	288	384	233	146	117	123
15	235	233	202	210	226	257	278	362	228	144	117	126
16	235	208	203	208	226	282	287	343	224	142	118	145
17	233	199	202	210	224	293	288	332	222	140	118	307
18	232	193	201	215	222	261	277	323	228	139	118	588
19	232	220	201	217	220	245	260	327	242	139	119	1150
20	229	216	201	220	222	250	253	310	223	136	119	535
21	228	211	201	235	273	250	249	295	191	135	122	300
22	229	209	184	240	264	259	244	292	178	132	120	233
23	228	208	177	236	270	298	240	321	174	130	118	211
24	229	208	177	229	258	320	238	336	169	129	123	201
25	233	207	177	225	243	300	266	325	167	126	136	194
26	230	205	177	222	234	275	312	540	165	127	144	184
27	227	204	177	220	231	269	268	580	163	126	137	184
28	226	205	177	218	242	259	251	464	153	124	134	477
29	225	205	183	216	---	246	246	407	148	125	132	549
30	224	206	214	216	---	236	260	369	148	124	132	364
31	224	---	208	215	---	229	---	345	---	119	126	---
TOTAL	6719	6393	6118	6808	6333	7520	7923	12701	6858	4491	3791	7463
MEAN	217	213	197	220	226	243	264	410	229	145	122	249
MAX	236	413	214	270	273	320	327	718	325	222	144	1150
MIN	187	187	177	201	177	191	220	292	148	119	117	121
AC-FT	13330	12680	12140	13500	12560	14920	15720	25190	13600	8910	7520	14800

CAL YR 1976 TOTAL 167924 MEAN 459 MAX 4090 MIN 170 AC-FT 333100
WTR YR 1977 TOTAL 83118 MEAN 228 MAX 1150 MIN 117 AC-FT 164900

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951 to current year.
WATER TEMPERATURES: Water years 1951, 1954-57, 1963 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June to September 1951, October 1953 to September 1957, October 1962 to current year.

INSTRUMENTATION.--Temperature recorder June to September 1951, October 1953 to September 1957, and since October 1962.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 29.5°C July 15, 1972; minimum recorded, 0.0°C on several days in 1964, 1967, 1968, and 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 27.0°C on several days during June to August; minimum recorded, 1.0°C Jan. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
NOV											
09...A	1150	204	159	8.2	11.0	1	12.6	--	--	--	--
JAN											
06...A	1345	206	162	8.0	4.0	0	14.0	--	--	59	0
MAR											
01...A	1005	238	155	7.9	8.0	1	13.8	2	1.2	59	0
01...	1130	238	139	8.7	7.0	--	12.3	--	--	56	0
MAY											
11...A	1300	471	133	8.0	12.0	2	11.0	--	--	50	0
JUN											
20...	1455	224	144	--	21.5	--	--	--	--	56	0
JUL											
06...A	1145	161	168	8.3	20.0	2	10.8	--	--	57	0
SEP											
13...A	0845	119	180	8.0	17.0	0	9.8	2	1.0	59	0
26...	1530	185	179	8.4	17.5	--	--	--	--	26	--

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	9.2	8.8	12	30	.7	1.2	76	0	62	2.6
MAR										
01...	--	--	9.9	--	.6	--	77	0	63	--
01...	8.4	8.5	10	27	.6	1.3	76	0	69	3.8
MAY										
11...	--	--	7.6	--	.5	--	69	0	57	--
JUN										
20...	8.3	8.5	10	28	.6	1.1	79	0	65	4.0
JUL										
06...	--	--	12	--	.7	--	84	0	69	--
SEP										
13...	--	--	16	--	.9	--	88	0	72	--
26...	4.3	3.9	5.1	29	.4	.6	--	--	67	--

DATE	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	SUSPENDED SOLIDS (MG/L)	DISSOLVED NITRATE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
NOV										
09...	--	--	--	159	.22	87.6	--	--	--	--
JAN										
06...	9.9	--	--	108	.15	60.1	--	--	--	--
MAR										
01...	8.0	--	--	119	.16	76.5	1	.03	--	--
01...	9.1	.1	22	104	.14	63.7	--	--	.01	.01
MAY										
11...	4.4	--	--	133	.18	169	--	.04	--	--
JUN										
20...	8.4	.1	29	110	.15	66.5	--	--	.02	.01
JUL										
06...	9.2	--	--	168	.23	73.0	--	.01	--	--
SEP										
13...	9.3	--	--	180	.24	57.8	4	.00	--	--
26...	4.0	.1	28	--	--	--	--	--	.24	.00

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	200	--
MAR										
01...	.00	.10	.10	--	.06	.00	0	--	100	--
01...	.00	.20	.20	.21	.03	.04	--	--	10	--
MAY										
11...	.00	.10	.10	--	.03	.01	--	--	100	--
JUN										
20...	.05	.00	.04	.06	.03	.02	--	--	20	--
JUL										
06...	.03	.10	.13	--	.04	.01	--	--	200	--
SEP										
13...	.00	.00	--	--	.04	.02	10	0	200	0
26...	.01	.00	.00	.24	.02	.01	--	--	0	--

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	--	--
MAR										
01...	--	--	--	--	--	.0	--	0	1.7	.00
01...	--	--	--	--	--	--	--	--	--	--
MAY										
11...	--	--	--	--	--	--	--	--	--	--
JUN										
20...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	0	0	50	0	0	--	.0	0	1.9	.00
26...	--	--	--	--	--	--	--	--	--	--

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	16.5	13.0	10.0	6.5	5.0	4.5	3.5	6.5	4.0	8.0	6.0
2	17.0	15.5	13.5	10.5	6.0	4.5	4.0	2.5	6.5	4.0	6.5	5.0
3	16.5	13.5	13.0	10.5	6.0	4.5	3.0	2.0	6.0	3.5	9.0	6.0
4	16.0	12.5	12.5	10.0	6.5	5.0	4.0	2.5	6.0	3.5	9.0	5.5
5	17.0	12.5	11.0	9.5	6.5	5.0	3.5	3.0	6.0	4.5	9.5	6.0
6	17.5	13.5	11.5	9.5	6.5	5.0	3.0	2.0	7.5	4.5	9.0	6.5
7	18.0	14.0	11.5	9.0	6.0	5.0	2.0	1.5	7.5	5.5	8.0	7.0
8	18.0	14.0	10.5	8.5	5.5	4.5	2.0	1.5	7.0	6.5	9.5	7.0
9	17.5	14.0	10.5	9.0	5.5	4.5	2.0	1.0	8.5	6.5	11.0	8.5
10	17.0	13.5	10.5	10.0	5.5	4.0	3.0	1.5	9.0	6.5	9.5	6.5
11	17.0	13.0	11.5	10.5	5.0	4.0	3.5	2.5	9.0	6.5	8.5	6.0
12	16.5	13.0	11.5	9.5	5.0	3.5	4.5	3.5	9.0	6.5	10.0	7.0
13	15.5	12.0	10.0	9.5	5.0	3.5	4.5	3.5	9.5	6.5	8.5	6.5
14	15.0	11.5	10.0	9.5	5.0	3.5	4.5	3.0	10.0	7.0	7.5	5.5
15	15.0	11.5	11.5	9.5	5.5	4.0	4.0	3.0	10.0	7.0	6.0	4.0
16	14.5	11.5	12.5	10.5	5.5	4.0	4.0	2.5	10.0	7.0	6.5	4.0
17	14.5	11.0	12.0	10.0	4.5	3.5	4.5	3.0	10.0	7.0	9.5	6.0
18	14.0	10.5	11.5	9.5	4.0	3.0	5.0	3.0	10.0	7.5	8.0	6.0
19	14.0	10.5	10.0	8.5	4.0	2.5	5.5	4.0	10.0	7.0	10.0	6.0
20	13.5	10.5	9.0	7.5	4.0	2.5	5.5	4.5	8.0	7.0	11.5	7.0
21	13.5	10.5	9.5	7.5	4.0	2.5	6.0	5.0	9.5	7.0	12.0	7.5
22	14.0	11.0	10.0	8.0	4.5	3.5	7.0	5.5	8.5	7.0	12.5	8.5
23	14.5	11.5	9.0	8.0	5.0	4.0	7.0	5.0	9.0	6.0	12.0	9.0
24	12.5	11.5	8.5	7.0	4.5	3.0	6.0	4.5	7.5	5.0	9.0	6.5
25	13.0	10.5	8.0	6.5	5.0	3.5	5.5	4.0	8.0	5.0	9.5	5.5
26	12.5	10.0	7.5	6.0	4.5	3.5	5.5	3.5	8.5	5.0	11.0	6.5
27	12.5	9.5	6.0	4.5	4.0	3.0	5.5	3.0	9.0	6.0	12.0	8.0
28	11.5	9.0	5.0	3.5	4.0	3.0	5.5	3.5	9.0	7.5	10.0	7.0
29	11.0	9.0	5.5	3.5	3.5	3.0	6.0	3.5	---	---	9.0	6.5
30	11.5	9.0	6.0	4.5	4.5	4.0	5.5	3.5	---	---	9.5	6.0
31	12.0	9.5	---	---	4.5	3.5	6.0	4.0	---	---	11.0	6.5
MONTH	19.0	9.0	13.5	3.5	6.5	2.5	7.0	1.0	10.0	3.5	12.5	4.0

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11344000 NORTH FORK PIT RIVER AT ALTURAS, CA

LOCATION.--Lat 41°28'56", long 120°32'16", in SE¼NW¼ sec.13, T.42 N., R.12 E., Modoc County, on right bank 10 ft (3 m) downstream from Estes Street bridge in Alturas, and 1.2 mi (1.9 km) upstream from confluence of North and South Forks.

DRAINAGE AREA.--212 mi^2 (549 km^2), excluding Goose Lake basin.

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,345.00 ft (1,324.356 m) above mean sea level. Since Apr. 10, 1973, a supplementary water-stage recorder for winter periods is located above a concrete weir 0.25 mi (0.40 km) upstream.

REMARKS.--Records fair. Flow is regulated by many small irrigation ponds and Dorris Reservoir, capacity, 11,100 acre-ft (13.7 hm^3). Diversions above station for irrigation of about 7,100 acres (28.7 km^2). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--6 years, 58.8 ft^3/s (1.665 m^3/s), 42,600 acre-ft/yr (52.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s (51.0 m^3/s) Feb. 29, 1972, gage height, 11.90 ft (3.627 m), from rating curve extended above 550 ft^3/s (15.6 m^3/s) on basis of estimate of peak discharge by flow-over-dam computation; minimum daily, 0.01 ft^3/s (<0.001) July 20, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 191 ft^3/s (5.41 m^3/s) May 11, gage height, 5.06 ft (1.542 m); minimum daily, 0.01 ft^3/s (<0.001 m^3/s) July 20, Aug. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	5.1	14	9.0	9.0	19	14	1.0	2.5	.29	.19	.71
2	2.6	5.3	14	9.0	9.0	17	12	.72	1.4	.44	.01	.36
3	6.3	5.7	17	9.0	9.5	18	10	.59	1.4	.43	.06	.34
4	9.3	6.1	34	9.0	10	16	12	.60	3.7	.40	.21	.23
5	5.7	5.8	11	9.0	10	19	13	.76	4.8	.54	.29	.24
6	4.9	5.7	12	8.8	10	26	2.4	.86	3.3	.69	.84	.08
7	4.6	5.6	11	8.5	11	20	.94	.41	2.4	.74	1.5	.09
8	4.8	5.5	7.0	8.0	11	17	1.3	.04	4.7	.75	1.5	.15
9	4.6	5.7	6.6	7.5	11	26	1.6	.02	41	.82	.83	.30
10	3.6	5.9	5.4	8.0	12	27	1.6	54	37	.78	.41	.43
11	5.7	10	7.1	8.5	12	17	1.9	160	17	.99	.40	.41
12	5.1	7.6	7.5	9.1	13	14	.95	138	7.2	1.4	.44	.42
13	6.7	13	6.9	9.1	15	14	2.0	29	7.2	1.1	.19	.40
14	5.0	7.2	5.9	9.0	17	15	.82	62	5.7	.57	.61	.42
15	4.0	8.0	6.3	8.5	20	15	.75	66	3.9	.89	.72	.41
16	3.9	10	7.1	8.0	21	14	.56	39	4.3	.71	.59	.57
17	4.0	10	7.2	9.5	25	19	.56	56	2.8	.22	.40	.81
18	4.0	8.8	7.0	9.5	26	17	.51	101	1.0	.06	.53	.92
19	4.1	18	6.1	9.8	25	16	.61	80	.92	.08	.23	1.0
20	4.3	20	30	12	25	16	.64	69	2.6	.01	.36	1.2
21	4.4	12	19	15	31	18	.72	64	2.4	.04	.20	1.3
22	4.2	10	11	14	43	20	.69	59	2.1	.08	.29	1.3
23	16	11	9.9	9.0	32	26	.61	64	2.0	.18	.35	1.4
24	7.6	15	9.5	8.0	21	20	.52	114	1.9	.07	.35	1.5
25	5.5	19	9.0	7.0	16	21	.78	63	1.5	.06	.26	1.7
26	4.6	11	9.0	7.2	18	19	.75	34	1.3	.16	.35	1.8
27	5.3	11	8.5	7.5	21	19	.62	47	1.2	.64	.60	1.9
28	4.8	9.3	9.0	8.0	27	13	.57	40	2.0	.31	.60	2.1
29	4.6	9.4	8.5	7.0	---	14	.53	25	1.2	.07	.50	2.9
30	5.2	9.7	8.5	7.5	---	14	.67	13	.49	.19	.61	2.6
31	5.3	---	9.0	8.0	---	13	---	6.9	---	.23	.94	---
TOTAL	162.1	286.4	334.0	277.0	510.5	559	84.60	1388.90	170.91	13.94	15.36	27.99
MEAN	5.23	9.55	10.8	8.94	18.2	18.0	2.82	44.8	5.70	.45	.50	.93
MAX	16	20	34	15	43	27	14	160	41	1.4	1.5	2.9
MIN	1.4	5.1	5.4	7.0	9.0	13	.51	.02	.49	.01	.01	.08
AC-FT	322	568	662	549	1010	1110	168	2750	339	28	30	56

CAL YR 1976 TOTAL 10329.41 MEAN 28.2 MAX 233 MIN .29 AC-FT 20490
WTR YR 1977 TOTAL 3830.70 MEAN 10.5 MAX 160 MIN .01 AC-FT 7600

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA

LOCATION.--Lat 41°13'51", long 120°26'10", in NE¼SE¼ sec.11, T.39 N., R.13 E., Modoc County, on left bank 250 ft (76 m) downstream from highway bridge, 1.4 mi (2.3 km) downstream from West Valley Creek, and 3.5 mi (5.6 km) east of Likely.

DRAINAGE AREA.--247 mi^2 (640 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,508 ft (1,374 m) above mean sea level. Prior to Oct. 1, 1931, at site 1,000 ft (305 m) downstream at different datum.

REMARKS.--Records good except those for the winter period, which are fair. Flow partly regulated by West Valley Creek Reservoir beginning in May 1937, usable capacity, 21,700 acre-ft (26.8 hm^3). Diversions for irrigation of about 3,800 acres (1,538 hm^2) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--49 years, 79.0 ft^3/s (2.237 m^3/s), 57,240 acre-ft/yr (70.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,620 ft^3/s (45.9 m^3/s) June 2, 1971, gage height, 6.05 ft (1.844 m); minimum, 0.2 ft^3/s (0.006 m^3/s) Feb. 3, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 202 ft^3/s (5.72 m^3/s) June 7, gage height, 3.25 ft (0.991 m); minimum daily, 3.3 ft^3/s (0.093 m^3/s) Feb. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	26	14	17	9.3	4.4	4.0	141	105	77	127	82
2	88	26	24	20	9.5	4.1	3.8	130	126	75	140	77
3	71	25	15	22	10	3.6	3.8	88	145	86	151	70
4	44	25	12	22	11	4.4	4.4	86	175	75	150	64
5	35	25	8.4	20	11	4.7	11	92	195	74	148	60
6	31	25	8.4	14	11	4.1	22	96	184	71	146	54
7	27	24	8.1	12	12	4.4	27	77	184	65	144	48
8	23	24	8.1	11	14	5.7	47	71	137	65	124	43
9	23	25	8.4	10	22	4.5	35	90	125	60	107	41
10	23	25	14	11	10	3.8	25	121	131	58	107	35
11	24	26	28	12	11	4.4	25	79	82	62	111	30
12	23	25	22	12	11	5.3	26	45	69	85	108	26
13	23	25	22	13	12	4.4	37	36	62	85	104	24
14	23	30	26	13	10	4.2	41	49	75	85	103	23
15	25	33	19	13	11	4.2	58	59	87	83	100	23
16	26	31	17	12	12	4.2	69	49	76	81	97	25
17	26	30	22	12	9.5	4.6	66	62	61	81	97	29
18	26	23	22	13	8.9	4.1	53	55	52	81	95	25
19	26	10	30	14	8.9	4.9	87	54	56	79	93	23
20	27	10	24	14	10	7.0	110	54	54	90	88	25
21	26	10	22	17	11	5.5	103	63	45	105	85	30
22	25	10	19	19	8.7	5.5	99	61	35	103	80	26
23	25	9.3	15	20	6.3	6.5	91	72	41	100	78	25
24	25	8.9	15	21	4.2	4.7	83	72	64	99	77	26
25	27	9.0	22	12	3.3	4.4	82	65	65	115	84	24
26	26	8.7	22	10	4.4	4.2	78	75	79	134	91	23
27	25	6.7	24	9.2	4.1	4.4	114	89	92	131	81	24
28	26	6.1	18	9.5	4.0	4.1	136	78	89	128	77	26
29	27	6.5	16	10	---	4.2	133	75	89	129	74	41
30	26	9.6	15	10	---	4.7	133	73	87	128	75	39
31	26	---	16	9.8	---	4.2	---	88	---	127	84	---
TOTAL	949	577.8	556.4	434.5	270.1	143.4	1807.0	2335	2867	2817	3226	1111
MEAN	30.6	19.3	17.9	14.0	9.65	4.63	60.2	75.3	95.6	90.9	104	37.0
MAX	88	33	30	22	22	7.0	136	141	195	134	151	82
MIN	23	6.1	8.1	9.2	3.3	3.6	3.8	36	35	58	74	23
AC-FT	1880	1150	1100	862	536	284	3580	4630	5690	5590	6400	2200

CAL YR 1976 TOTAL 23575.1 MEAN 64.4 MAX 280 MIN 4.7 AC-FT 46760
WTR YR 1977 TOTAL 17094.2 MEAN 46.8 MAX 195 MIN 3.3 AC-FT 33910

11345500 SOUTH FORK PIT RIVER NEAR LIKELY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1957 to current year.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)
OCT										
13...	1215	23	119	8.4	13.0	2	9.7	--	--	--
JUN										
08...	0745	170	118	8.0	15.0	9	9.4	10	1.3	45

DATE	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	SUSPENDED SOLIDS (MG/L)	DISSOLVED NITRATE (N) (MG/L)
OCT									
13...	--	--	--	--	--	--	--	--	--
JUN									
08...	0	6.6	.4	68	0	56	.2	25	.05

DATE	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
OCT									
13...	--	--	--	--	--	--	--	--	--
JUN									
08...	.02	.40	.42	.11	.01	0	0	0	0

DATE	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DISSOLVED SELENIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
OCT									
13...	--	--	--	--	--	--	--	--	--
JUN									
08...	0	10	100	0	70	.0	0	6.7	.00

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.--Lat 41°24'22", long 120°55'36", in NW¼SW¼ sec.10, T.41 N., R.9 E., Modoc County, on right bank at lower end of Warm Spring Valley, 4 mi (6 km) southwest of Canby.

DRAINAGE AREA.--1,431 mi^2 (3,706 km^2), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to December 1905, May 1929 to current year (1929-31 incomplete).

REVISED RECORDS.--WSP 1445: 1904, 1935(M), 1936, 1937(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,266 ft (1,300 m) above mean sea level. January 1904 to December 1905, nonrecording gage and May 6, 1929, to Sept. 30, 1931, water-stage recorder, at site 100 ft (30 m) upstream at different datum.

REMARKS.--Records excellent except those for the winter period, which are good. Flow regulated by many small reservoirs, total capacity now, about 144,000 acre-ft (178 hm^3). Diversions for irrigation of about 39,000 acres (158 km^2) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--47 years (water years 1905, 1932-77), 246 ft^3/s (6.967 m^3/s), 178,200 acre-ft/yr (220 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,000 ft^3/s (368 m^3/s) Mar. 8, 1904, gage height, 15.0 ft (4.57 m) site and datum then in use; minimum, 0.1 ft^3/s (0.003 m^3/s) Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 501 ft^3/s (14.2 m^3/s) May 13, gage height, 3.70 ft (1.128 m); minimum daily, 0.66 ft^3/s (0.019 m^3/s) July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	75	61	67	61	82	40	24	40	16	30	16
2	66	77	82	66	62	80	39	18	18	14	12	17
3	82	80	77	59	63	85	35	15	12	39	8.2	17
4	102	75	70	57	62	82	33	20	35	64	9.8	13
5	136	73	63	56	61	83	22	25	20	55	19	15
6	137	73	77	53	61	76	18	30	15	53	31	21
7	108	70	77	49	63	77	20	27	15	48	28	43
8	82	68	73	47	64	84	10	26	25	38	31	34
9	68	68	70	45	68	86	8.0	58	97	24	36	17
10	61	66	70	48	81	87	6.7	143	136	28	40	12
11	57	66	92	53	104	92	6.2	158	240	29	42	14
12	63	66	87	60	112	90	4.3	388	225	24	42	22
13	68	66	84	57	118	84	3.3	448	202	20	39	25
14	61	77	100	53	133	79	4.5	318	156	20	31	22
15	57	77	97	51	138	75	3.0	199	108	16	26	20
16	63	77	92	50	116	73	2.5	188	89	11	25	41
17	63	105	105	55	116	71	1.8	162	79	6.5	20	31
18	61	108	97	61	143	68	1.9	150	76	5.5	14	35
19	57	97	94	61	137	68	1.4	234	76	4.7	7.0	52
20	57	94	92	62	119	64	15	213	79	4.1	7.2	55
21	57	94	87	63	130	60	23	193	75	2.6	8.1	51
22	59	89	73	64	127	58	26	184	58	2.1	9.4	42
23	59	84	66	61	133	57	31	174	49	1.8	12	39
24	59	92	84	60	117	60	26	169	25	1.6	13	39
25	61	77	68	57	99	61	21	163	9.2	.92	13	35
26	68	75	65	57	86	59	20	173	65	1.6	11	31
27	68	68	74	56	79	55	51	149	83	1.2	9.0	29
28	68	77	75	57	82	54	14	128	41	1.0	11	44
29	66	75	72	58	---	58	21	129	26	.93	27	43
30	70	66	70	60	---	49	24	99	19	.66	23	57
31	77	---	68	61	---	43	---	65	---	12	22	---
TOTAL	2227	2355	2462	1764	2735	2200	532.6	4470	2193.2	546.21	656.7	932
MEAN	71.8	78.5	79.4	56.9	97.7	71.0	17.8	144	73.1	17.6	21.2	31.1
MAX	137	108	105	67	143	92	51	448	240	64	42	57
MIN	57	66	61	45	61	43	1.4	15	9.2	.66	7.0	12
AC-FT	4420	4670	4880	3500	5420	4360	1060	8870	4350	1080	1300	1850

CAL YR 1976 TOTAL 38408.40 MEAN 105 MAX 395 MIN 3.4 AC-FT 76180
WTR YR 1977 TOTAL 23073.71 MEAN 63.2 MAX 448 MIN .66 AC-FT 45770

11348500 PIT RIVER NEAR CANBY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951 to current year.
WATER TEMPERATURES: Water years 1965 to current year.
SEDIMENT RECORDS: Water years 1957-61, 1967-70.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: March 1965 to current year.

INSTRUMENTATION.--Temperature recorder since March 1965.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 31.0°C June 28, 1973; minimum recorded, 0.0°C on many days during most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 29.0°C June 24; minimum recorded, 0.0°C on many days during December to February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)
OCT 13...	1415	--	69	290	8.4	14.5	21	11.0
NOV 08...	1425	--	69	282	8.3	8.5	16	11.7
DEC 06...	1350	--	128	332	8.4	1.0	15	12.9
JAN 05...	1600	56	--	285	7.8	.0	11	11.9
FEB 02...	1545	--	61	277	7.8	--	10	12.7
MAR 02...	1230	--	78	318	8.2	3.0	37	12.0
APR 14...	0745	--	3.3	290	8.2	11.0	15	8.1
MAY 10...	1445	--	150	350	8.4	11.0	27	9.6
JUN 07...	1445	--	19	287	8.1	22.5	35	8.0
JUL 05...	1445	--	53	364	8.4	23.0	12	11.3
14...	0945	--	20	300	7.7	19.5	--	--
AUG 02...	1445	--	17	364	8.4	26.0	12	12.7
SEP 14...	1145	--	20	301	8.4	19.5	10	9.2

DATE	TIME	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)
MAY 10...	1445	101	0	38	1.6	178	0	146
JUL 14...	0945	--	--	--	--	--	--	--

DATE	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
MAY 10...	10	--	--	--	--	--	--	300
JUL 14...	--	.04	.07	.70	.77	.22	.15	--

11348500 PIT RIVER NEAR CANBY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	8.0	4.5	15.0	11.5	22.5	17.0	25.0	19.5	25.0	20.5	23.5	15.0
2	8.5	3.5	16.0	9.0	23.0	15.5	25.5	20.5	26.5	21.0	22.0	15.0
3	11.0	5.5	14.5	10.0	23.0	16.0	24.0	19.0	26.5	20.0	23.5	15.0
4	14.0	8.5	---	---	23.5	16.5	23.0	19.0	26.5	19.5	23.0	15.5
5	15.5	10.0	13.0	9.5	26.0	17.0	22.5	17.0	24.0	19.0	24.0	16.5
6	---	---	12.0	8.5	25.0	20.0	23.5	17.0	23.0	17.5	23.5	16.5
7	16.0	11.5	12.5	7.0	24.0	19.0	24.5	18.5	22.0	18.0	22.0	16.5
8	---	---	14.0	7.5	24.5	18.0	25.0	18.0	23.5	16.5	23.0	17.5
9	---	---	12.0	9.5	21.0	18.5	25.0	18.5	24.5	18.0	23.5	15.5
10	---	---	10.5	8.5	18.5	16.5	25.0	17.0	24.5	19.0	23.0	15.0
11	---	---	10.5	9.0	20.5	15.5	25.5	18.5	25.5	19.0	21.5	14.5
12	---	---	12.0	9.0	21.5	17.5	25.5	18.5	25.0	20.5	22.0	14.5
13	---	---	14.5	10.5	22.0	18.0	26.0	17.5	25.5	20.0	21.0	16.5
14	---	---	14.5	12.5	23.0	18.0	27.0	18.5	26.0	19.5	21.0	16.0
15	---	---	13.0	11.0	23.5	18.0	26.5	19.5	25.5	18.0	19.5	15.0
16	---	---	11.5	9.5	24.0	20.0	26.0	18.5	26.0	17.5	15.0	13.5
17	---	---	10.5	8.5	21.0	18.5	25.5	18.0	23.5	19.5	16.0	13.0
18	---	---	10.5	8.5	22.5	17.5	24.5	18.0	24.0	18.5	17.5	13.0
19	---	---	14.5	9.5	22.0	18.5	25.0	19.0	26.0	18.5	17.0	14.0
20	---	---	16.5	12.0	21.5	18.5	25.0	18.5	26.0	19.0	17.0	14.0
21	14.5	10.0	17.5	14.0	23.5	18.5	26.5	18.5	27.5	19.5	16.5	12.5
22	15.0	10.0	16.5	14.5	26.5	19.5	25.0	16.0	26.0	18.5	16.5	12.0
23	15.5	11.0	14.5	12.5	27.0	20.0	27.0	16.5	25.0	18.0	14.5	13.0
24	17.0	11.5	15.5	12.5	29.0	20.5	25.0	16.0	19.5	17.0	16.5	13.0
25	16.0	10.5	15.5	13.0	28.5	21.0	26.0	14.5	18.0	16.0	---	---
26	---	---	15.0	12.5	26.5	20.5	25.5	14.5	20.5	14.5	---	---
27	---	---	16.0	12.0	27.0	22.0	26.5	15.0	21.0	13.5	---	---
28	17.5	11.0	17.0	12.5	27.5	20.5	24.5	14.5	22.0	15.5	---	---
29	16.5	11.5	18.0	14.5	28.5	20.5	26.0	15.0	23.0	16.0	---	---
30	16.5	12.0	19.5	16.0	26.0	20.0	27.5	15.0	22.5	16.0	---	---
31	---	---	22.0	17.5	---	---	27.5	14.5	22.0	15.0	---	---
MONTH	---	---	22.0	7.0	29.0	15.5	27.5	14.5	27.5	13.5	24.0	12.0

11350500 ASH CREEK AT ADIN, CA

LOCATION.--Lat 41°11'54", long 120°56'32", in SE¼SW¼ sec.21, T.39 N., R.9 E., Modoc County, on left bank 300 ft (91 m) upstream from highway bridge at Adin, and 0.4 mi (0.6 km) upstream from Butte Creek.

DRAINAGE AREA.--258 mi^2 (668 km^2).

PERIOD OF RECORD.--March 1904 to December 1905, October 1928 to November 1932, October 1957 to current year. Records of daily discharge for Oct. 19-31, 1928, are in error and should not be used.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,190 ft (1,277 m), on basis of bench mark 300 ft (91 m) downstream. Prior to Sept. 12, 1957, water-stage recorder or nonrecording gage at sites within 1 mi (2 km) of present site, at different datums.

REMARKS.--Small diversions above station for irrigation. Flow regulated by many small reservoirs, total capacity, 4,732 acre-ft (5.83 hm^3). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--25 years (water years 1905, 1929-32, 1958-77), 75.7 ft^3/s (2.144 m^3/s), 54,840 acre-ft/yr (67.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,950 ft^3/s (83.5 m^3/s) Jan. 24, 1970, gage height, 14.69 ft (4.478 m) in gage well, 15.24 ft (4.645 m) from floodmarks; no flow for part of Aug. 26, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 110 ft^3/s (3.12 m^3/s) Sept. 29, gage height, 5.73 ft (1.747 m); minimum daily, 5.2 ft^3/s (0.15 m^3/s) Sept. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	39	31	32	36	35	31	28	20	19	13	11
2	41	38	31	36	36	34	31	28	17	20	11	14
3	43	37	32	36	36	36	30	28	16	22	12	11
4	38	36	32	34	36	36	30	28	17	22	11	5.2
5	36	36	32	32	36	37	29	28	16	21	12	6.1
6	35	36	32	24	37	39	27	30	15	21	13	6.6
7	35	36	32	27	39	37	25	31	19	20	15	11
8	34	36	32	25	46	38	33	30	24	20	14	11
9	34	36	33	25	48	46	35	31	23	20	13	11
10	36	36	32	34	48	40	32	60	25	21	15	11
11	36	37	32	35	49	38	29	50	23	21	14	12
12	35	36	32	40	48	39	28	44	21	20	12	14
13	35	36	33	37	48	42	27	33	19	21	13	15
14	35	41	32	34	45	40	27	30	19	21	15	15
15	34	43	31	34	44	40	27	29	19	22	14	17
16	34	45	32	33	44	44	25	32	19	22	14	27
17	34	36	32	34	42	49	25	40	33	22	14	28
18	34	34	31	35	40	42	24	42	39	22	16	23
19	33	34	30	35	39	41	25	40	41	21	15	29
20	33	32	29	36	38	42	24	37	65	23	14	29
21	36	32	29	36	44	39	21	31	38	25	15	26
22	36	33	30	36	41	37	17	30	27	23	14	25
23	36	33	30	36	38	37	20	36	24	34	15	33
24	37	32	30	36	35	39	22	34	25	25	22	29
25	38	33	30	35	33	40	22	32	24	24	26	27
26	38	33	31	34	34	37	23	31	19	23	24	26
27	39	29	31	34	34	37	22	31	16	23	18	27
28	41	30	31	34	37	34	22	28	15	27	17	32
29	39	32	31	34	---	33	21	26	14	30	21	65
30	38	30	32	34	---	34	24	25	17	21	22	47
31	38	---	32	35	---	33	---	24	---	12	15	---
TOTAL	1122	1057	970	1042	1131	1195	778	1027	709	688	479	643.9
MEAN	36.2	35.2	31.3	33.6	40.4	38.5	25.9	33.1	23.6	22.2	15.5	21.5
MAX	43	45	33	40	49	49	35	60	65	34	26	65
MIN	31	29	29	24	33	33	17	24	14	12	11	5.2
AC-FT	2230	2100	1920	2070	2240	2370	1540	2040	1410	1360	950	1280

CAL YR 1976 TOTAL 14644.0 MEAN 40.0 MAX 339 MIN 16 AC-FT 29050
WTR YR 1977 TOTAL 10841.9 MEAN 29.7 MAX 65 MIN 5.2 AC-FT 21500

11355010 PIT RIVER BELOW PIT NO. 1 POWERHOUSE, NEAR FALL RIVER MILLS, CA

LOCATION.--Lat 40°59'00", long 121°30'39", in NE¼NW¼ sec.15, T.36 N., R.4 E., Shasta County, on left bank 0.9 mi (1.4 km) downstream from Pit No. 1 powerhouse and 4 mi (6 km) southwest of Fall River Mills.

DRAINAGE AREA.--3,761 mi^2 (9,741 km^2), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,840 ft (865.6 m), from topographic map.

REMARKS.--Records good. Flow regulated by many small reservoirs, total usable reservoir capacity, 210,000 acre-ft (259 hm^3), and Pit No. 1 powerplant. Many diversions above station for irrigation.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,280 ft^3/s (92.9 m^3/s) Mar. 1, 1976, gage height, 7.60 ft (2.316 m); minimum daily, 980 ft^3/s (27.8 m^3/s) Feb. 1, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft (4.51 m), from floodmarks, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,330 ft^3/s (66.0 m^3/s) Feb. 22, gage height, 6.74 ft (2.054 m); minimum daily, 980 ft^3/s (27.8 m^3/s) Feb. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1290	1390	1440	1500	980	1650	1530	1320	1380	1230	1250	1120
2	1360	1450	1500	1560	1320	1480	1400	1290	1290	1210	1210	1220
3	1410	1380	1490	1670	1470	1600	1360	1250	1270	1220	1080	1270
4	1420	1410	1530	1510	1490	1530	1380	1370	1280	1190	1220	1260
5	1370	1350	1410	1530	1510	1490	1360	1330	1260	1180	1190	1310
6	1450	1400	1520	1440	1490	1350	1360	1310	1280	981	1270	1250
7	1470	1430	1450	1490	1490	1670	1230	1350	1280	1280	1190	1240
8	1400	1390	1480	1440	1520	1550	1440	1320	1280	1290	1230	1270
9	1400	1370	1520	1480	1550	1520	1320	1240	1290	1390	1240	1210
10	1370	1430	1520	1480	1510	1660	1470	1280	1260	1200	1300	1210
11	1370	1400	1430	1500	1520	1580	1300	1470	1240	1200	1190	1240
12	1410	1420	1490	1560	1520	1440	1340	1360	1280	1220	1230	1220
13	1310	1390	1470	1480	1570	1610	1400	1350	1190	1200	1230	1250
14	1370	1430	1450	1450	1620	1580	1350	1460	1240	1210	1240	1210
15	1350	1430	1390	1490	1760	1560	1650	1580	1250	1240	1250	1210
16	1390	1440	1450	1490	1640	1540	1530	1550	1270	1220	1240	1290
17	1380	1400	1490	1490	1620	1620	1440	1350	1260	1200	1240	1350
18	1370	1400	1420	1520	1670	1460	1280	1370	1270	1220	1240	1310
19	1430	1380	1530	1470	1660	1510	1240	1530	1300	1210	1220	1300
20	1390	1420	1340	1470	1610	1520	1300	1740	1290	1240	1230	1450
21	1330	1470	1430	1490	1610	1520	1310	1590	1290	1200	1270	1330
22	1320	1440	1360	1500	1760	1480	1310	1460	1260	1160	1190	1300
23	1340	1430	1390	1460	1630	1490	1330	1480	1250	1200	1300	1310
24	1420	1440	1410	1520	1670	1570	1270	1540	1240	1160	1230	1290
25	1380	1410	1350	1510	1660	1550	1230	1420	1200	1220	1280	1210
26	1450	1430	1480	1520	1570	1470	1410	1380	1240	1240	1270	1400
27	1390	1420	1500	1500	1560	1520	1290	1360	1250	1210	1240	1290
28	1420	1360	1460	1480	1540	1500	1280	1400	1340	1200	1280	1360
29	1450	1390	1400	1500	---	1480	1460	1320	1250	1220	1290	1460
30	1390	1370	1480	1450	---	1510	1140	1300	1210	1230	1280	1390
31	1430	---	1450	1520	---	1370	---	1420	---	1230	1270	---
TOTAL	43030	42270	45030	46470	43520	47380	40710	43490	37990	37601	38390	38530
MEAN	1388	1409	1453	1499	1554	1528	1357	1403	1266	1213	1238	1284
MAX	1470	1470	1530	1670	1760	1670	1650	1740	1380	1390	1300	1460
MIN	1290	1350	1340	1440	980	1350	1140	1240	1190	981	1080	1120
AC-FT	85350	83840	89320	92170	86320	93980	80750	86260	75350	74580	76150	76420

CAL YR 1976 TOTAL 563160 MEAN 1539 MAX 3100 MIN 1010 AC-FT 1117000
WTR YR 1977 TOTAL 504411 MEAN 1382 MAX 1760 MIN 980 AC-FT 1000000

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	ALKALINITY AS CACO3 (MG/L)
AUG 15...	1500	1320	155	8.5	18.5	9.0	74
SEP 13...	0845	1190	159	8.2	15.5	9.3	77

11355500 HAT CREEK NEAR HAT CREEK, CA

LOCATION.--Lat 40°41'12", long 121°25'25", in NE¼SE¼ sec.28, T.33 N., R.5 E., Shasta County, on right bank 0.8 mi (1.3 km) northeast of Old Station Post Office, and 8 mi (13 km) southeast of Hat Creek Post Office.

DRAINAGE AREA.--162 mi^2 (420 km^2), hydrologic drainage boundary uncertain owing to ground-water exchange.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1926 to September 1929, April 1930 to current year.

REVISED RECORDS.--WSP 1395: 1938. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,300 ft (1,311 m), from topographic map. July 1926 to April 1928 at site 0.5 mi (0.8 km) upstream at different datum. May 1928 to July 1965 at site 80 ft (24 m) upstream at datum 2.76 ft (0.841 m) higher.

REMARKS.--Records excellent. Diversions for irrigation of 260 acres (1.05 km^2) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--50 years, 140 ft^3/s (3.965 m^3/s), 101,400 acre-ft/yr (125 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft^3/s (94.0 m^3/s) Dec. 11, 1937, gage height, 7.75 ft (2.362 m) in gage well, affected by drawdown, site and datum then in use, from rating curve extended above 610 ft^3/s (17.3 m^3/s) on basis of slope-area measurement of maximum flow; minimum, 67 ft^3/s (1.90 m^3/s) Sept. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 152 ft^3/s (4.30 m^3/s) June 6, Sept. 29, gage height, 2.85 ft (0.869 m), no peak above base of 220 ft^3/s (6.23 m^3/s); minimum daily, 112 ft^3/s (3.17 m^3/s) June 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	130	129	128	129	129	129	126	127	136	117	130	121
2	130	128	128	131	129	129	126	125	136	115	130	120
3	130	128	128	129	129	129	125	126	134	115	129	117
4	130	128	130	128	129	129	126	125	134	115	129	117
5	129	128	128	127	129	129	126	127	133	114	130	116
6	129	128	128	127	129	131	127	128	136	115	129	116
7	129	128	128	127	129	129	128	126	142	115	129	117
8	127	128	129	127	130	129	131	127	135	117	129	126
9	123	128	129	127	131	131	130	129	133	117	123	129
10	122	128	127	128	131	129	127	130	125	124	118	129
11	122	128	128	128	130	129	127	133	120	128	118	129
12	122	128	128	128	130	131	127	132	119	128	117	128
13	122	128	129	128	130	130	128	132	117	128	117	128
14	122	130	128	128	130	129	128	132	115	127	117	128
15	119	128	128	128	130	129	128	133	113	127	117	128
16	121	129	129	129	130	130	129	133	113	127	117	129
17	126	129	129	129	130	129	126	133	112	127	117	127
18	126	129	129	129	130	129	122	133	114	129	119	122
19	126	128	128	129	130	129	121	133	117	129	126	120
20	126	128	127	129	130	129	122	132	125	121	129	120
21	129	128	127	129	133	129	123	128	126	117	130	116
22	130	129	127	129	130	129	123	128	127	116	129	116
23	129	128	128	129	131	131	125	129	127	116	129	117
24	129	128	128	129	130	128	125	127	127	115	130	116
25	129	128	127	129	129	128	126	127	127	116	130	115
26	129	128	128	129	129	128	124	128	128	116	130	115
27	129	127	128	128	129	129	124	128	128	116	129	117
28	129	126	129	128	131	127	124	126	127	116	129	129
29	129	126	129	128	---	125	125	127	127	118	122	138
30	129	127	130	129	---	125	126	127	120	126	118	129
31	129	---	129	129	---	125	---	133	---	130	118	---
TOTAL	3931	3841	3976	3981	3637	3992	3775	4004	3773	3737	3864	3675
MEAN	127	128	128	128	130	129	126	129	126	121	125	123
MAX	130	130	130	131	133	131	131	133	142	130	130	138
MIN	119	126	127	127	129	125	121	125	112	114	117	115
AC-FT	7800	7620	7890	7900	7210	7920	7490	7940	7480	7410	7660	7290

CAL YR 1976 TOTAL 51731 MEAN 141 MAX 186 MIN 119 AC-FT 102600
WTR YR 1977 TOTAL 46186 MEAN 127 MAX 142 MIN 112 AC-FT 91610

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	ALKALINITY AS CACO3 (MG/L)
JUL 14...	1230	125	153	7.9	11.0	9.7	77
AUG 15...	1245	115	140	8.1	11.0	9.9	77
SEP 12...	1415	128	152	7.9	11.0	9.6	77

11360500 BURNEY CREEK AT PARK AVENUE, NEAR BURNEY, CA

LOCATION.--Lat 40°52'35", long 121°40'13", in NE¼SE¼ sec.19, T.35 N., R.3 E., Shasta County, on right bank upstream edge of Park Avenue bridge, 0.4 mi (0.6 km) southwest of Burney Post Office, and 3.5 mi (5.6 km) upstream from Goose Creek.

DRAINAGE AREA.--94.6 mi^2 (245.0 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1911 to August 1913 (published as "at Burney"), March 1921 to September 1922, April 1958 to September 1964, October 1965 to September 1974 (published as "near Burney"), October 1974 to September 1975, October 1976 to September 1977. Monthly discharge only for some periods, published in WSP 1315-A.

REVISIONS.--WSP 1931: Drainage area. WDR CA-71-2: 1970.

GAGE.--Water-stage recorder. Altitude of gage is 3,180 ft (969 m), from topographic map. August 1911 to August 1913 and March 1921 to September 1922, nonrecording gage or water-stage recorder at different site and datum. April 1958 to September 1964, October 1965 to Nov. 6, 1974, at site 1.0 mi (1.6 km) upstream at different datum.

REMARKS.--Small diversions upstream for irrigation. Slight regulation probably caused by logging operations.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1912-13, 1922, 1959-64, 1966-75, 1977), 69.4 ft^3/s (1.965 m^3/s), 50,280 acre-ft/yr (62.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,910 ft^3/s (139 m^3/s) Jan. 23, 1970, gage height, 15.89 ft (4.843 m), from rating curve extended above 2,500 ft^3/s (70.8 m^3/s) on basis of contracted-opening measurement of maximum flow; minimum, 3.4 ft^3/s (0.096 m^3/s) Aug. 4, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft^3/s (0.85 m^3/s) Mar. 9, gage height, 3.69 ft (1.125 m); minimum daily, 5.4 ft^3/s (0.153 m^3/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	19	23	20	18	18	17	14	7.9	7.1	7.7
2	11	13	20	23	21	17	18	19	13	7.7	7.3	7.6
3	11	14	20	23	21	17	18	19	13	7.2	7.3	7.5
4	11	13	21	23	21	17	18	20	13	7.1	7.6	7.4
5	11	13	21	22	21	17	18	22	13	7.1	7.1	7.4
6	11	14	22	22	21	17	18	23	13	7.2	7.4	7.2
7	11	14	22	22	20	17	18	22	13	7.3	7.5	7.0
8	11	14	22	22	20	17	18	21	12	7.4	7.5	7.0
9	11	14	23	22	19	23	18	23	12	7.8	7.2	7.0
10	11	13	24	21	19	20	18	23	12	7.7	7.2	7.0
11	11	13	24	21	19	19	18	18	12	7.5	7.2	7.0
12	11	13	25	21	19	19	18	18	12	6.6	7.3	7.1
13	11	13	26	21	19	19	17	20	12	6.8	7.5	7.2
14	11	15	26	21	18	19	17	20	11	6.9	7.5	7.3
15	11	15	27	20	18	19	17	20	11	7.0	7.7	9.1
16	12	14	28	20	18	19	17	20	10	7.1	7.5	12
17	12	14	27	20	17	19	17	20	10	7.0	6.8	11
18	12	14	27	20	17	19	16	20	10	7.2	7.0	12
19	12	14	27	19	17	19	16	21	9.6	7.2	7.2	17
20	12	15	27	19	18	19	16	20	8.9	7.2	7.9	12
21	12	15	26	19	29	19	15	19	8.1	6.9	8.6	11
22	12	15	26	19	21	19	15	19	8.1	6.6	8.1	11
23	13	16	26	19	19	19	15	19	7.8	6.4	5.5	10
24	12	16	26	18	18	20	15	18	7.8	6.1	7.3	10
25	13	17	25	18	17	20	15	17	7.7	5.9	9.4	10
26	13	17	25	18	17	20	15	18	7.9	5.7	10	10
27	12	18	25	18	17	19	15	18	7.9	5.4	9.9	13
28	13	18	24	19	18	19	15	16	7.9	6.6	9.3	14
29	13	18	24	19	---	19	14	16	7.8	7.5	8.3	12
30	13	19	24	19	---	19	15	15	7.9	7.3	7.9	11
31	13	---	24	20	---	18	---	14	---	7.2	7.7	---
TOTAL	364	444	753	631	539	581	498	595	313.4	216.5	238.8	286.5
MEAN	11.7	14.8	24.3	20.4	19.3	18.7	16.6	19.2	10.4	6.98	7.70	9.55
MAX	13	19	28	23	29	23	18	23	14	7.9	10	17
MIN	11	13	19	18	17	17	14	14	7.7	5.4	5.5	7.0
AC-FT	722	881	1490	1250	1070	1150	988	1180	622	429	474	568

CAL YR 1976	TOTAL	--	MEAN	--	MAX	--	MIN	--	AC-FT	--
WTR YR 1977	TOTAL	5460.2	MEAN	15.0	MAX	29	MIN	5.4	AC-FT	10830

11360500 BURNEY CREEK AT PARK AVENUE, NEAR BURNEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1951-58, 1977.

REMARKS.--Reported as "Burney Creek near Burney during period 1951-58.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
JUL 14...	0900	7.2	114	7.7	15.0	1	8.4	12
AUG 16...	0745	7.9	106	7.5	13.5	2	8.9	11
SEP 13...	1030	7.2	108	7.6	12.0	1	9.9	10

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
JUL 14...	5.3	4.8	1.5	73	0	60	1.5	.3	.0
AUG 16...	4.3	3.6	1.0	72	0	59	1.7	.4	.0
SEP 13...	5.5	4.5	1.0	70	--	57	1.1	.4	.1

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
JUL 14...	30	86	91	.12	1.67	.02	.00	.02
AUG 16...	30	73	88	.10	1.56	.01	.00	.01
SEP 13...	29	88	86	.12	1.71	--	--	--

RESERVOIRS IN PIT AND McCLOUD RIVER BASINS, CA

11361400 LAKE BRITTON NEAR BURNEY.--Lat 41°01'20", long 121°40'32", in SW¼SW¼ sec.30, T.37 N., R.3 E., Shasta County, Shasta National Forest, at control house on right bank 200 ft (61 m) upstream from dam on Pit River, 1.1 mi (1.8 km) downstream from Clark Creek, 1.3 mi (2.1 km) northwest of Burney Falls, and 9 mi (14 km) north of Burney. DRAINAGE AREA, 4,607 mi^2 (11,932 km^2). PERIOD OF RECORD, October 1965 to current year. GAGE, remote telemark read once daily. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.).

Reservoir is formed by gravity-type concrete dam. Storage began July 15, 1925. Maximum storage, 40,626 acre-ft (50.1 hm^3). Dead storage, 30 acre-ft (370 m^3). Normal operating pool is from elevation 2,744.0 ft (836.371 m), capacity, 26,183 acre-ft (32.3 hm^3) to 2,757.0 ft (840.33 m), capacity, 40,626 acre-ft (50.1 hm^3). Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project. See schematic diagram of Pit and McCloud River basins. Records prior to water year 1977 reported usable contents only.

EXTREMES FOR PERIOD OF RECORD: Maximum total contents, 46,576 acre-ft (57.4 hm^3) Jan. 25, 1970, elevation, 2,761.55 ft (841.720 m); minimum total contents, 26,755 acre-ft (33.0 hm^3) Oct. 9, 1976, elevation, 2,744.60 ft (836.554 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 39,994 acre-ft (49.3 hm^3) May 12, elevation, 2,756.50 ft (840.181 m); minimum, 29,551 acre-ft (36.4 hm^3) Mar. 18, elevation, 2,747.40 ft (837.408 m).

11363920 IRON CANYON RESERVOIR NEAR BIG BEND.--Lat 41°02'41", long 121°58'52", in SW¼SE¼ sec.21, T.37 N., R.1 W., Shasta County, Shasta National Forest, in control house on left bank 500 ft (150 m) upstream from Iron Canyon Dam on Iron Canyon Creek, 3.7 mi (6.0 km) northwest of Big Bend. DRAINAGE AREA, 11.1 mi^2 (28.7 km^2). PERIOD OF RECORD, December 1965 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.).

Reservoir is formed by a rockfill dam completed in 1965. Capacity is 24,200 acre-ft (29.8 hm^3) between elevations 2,525.00 ft (769.620 m), invert of sluice pipe and 2,665.00 ft (812.292 m), crest of spillway. No dead storage. Water is diverted from Lake McCloud through a tunnel to Iron Canyon Reservoir and thence into the Pit River via a powerplant. Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 23,539 acre-ft (29.0 hm^3) May 16, 22, 1977, elevation, 2,663.60 ft (811.865 m); normal minimum since initial operation of reservoir, 2,860 acre-ft (3.53 hm^3) May 23, 24, 29, June 2, 7, 9, 14, 23, 24, 1966, elevation, 2,590.00 ft (789.432 m). Reservoir drained for inspection Feb. 10, 1971. Contents reduced to 195 acre-ft (240,000 m^3), elevation, 2,540.00 ft (774.192 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 23,539 acre-ft (29.0 hm^3) May 16, 22, elevation, 2,663.60 ft (811.865 m); minimum, 7,848 acre-ft (9.68 hm^3) Jan. 5, elevation, 2,619.60 ft (798.454 m).

11367740 LAKE McCLOUD NEAR McCLOUD.--Lat 41°08'06", long 122°04'26", in SE¼SW¼ sec.22, T.38 N., R.2 W., Shasta County, Shasta National Forest, on McCloud Dam near spillway on McCloud River, 200 ft (61 m) downstream from Panther Creek, and 8.8 mi (14.1 km) southeast of McCloud. DRAINAGE AREA, 403 mi^2 (1,044 km^2). PERIOD OF RECORD, October 1965 to current year. GAGE, water-stage recorder. Datum of gage is at mean sea level (levels by Pacific Gas and Electric Co.).

Reservoir is formed by a rockfill dam completed in 1965. Capacity, 35,234 acre-ft (43.4 hm^3) between elevations 2,471.30 ft (753.252 m), invert of sluice pipe and 2,680.00 ft (816.864 m), maximum operational water surface. No dead storage. Water is diverted from Lake McCloud through a diversion tunnel to Iron Canyon Reservoir and thence into the Pit River. Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project. See schematic diagram of Pit and McCloud River basins.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 35,967 acre-ft (44.3 hm^3) Jan. 15, 1974, elevation, 2,681.40 ft (817.291 m); minimum since storage pool first filled, 15,700 acre-ft (19.4 hm^3) Jan. 22, 1967, elevation, 2,632.60 ft (802.416 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 33,194 acre-ft (40.9 hm^3) June 18-24, elevation, 2,676.00 ft (815.645 m); minimum, 17,848 acre-ft (22.0 hm^3) Mar. 31, elevation, 2,639.30 ft (804.459 m).

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)[1/]	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11361400 LAKE BRITTON			11363920 IRON CANYON RESERVOIR			11367740 LAKE MCCLOUD		
Sept. 30.....	2751.75	34290	--	2626.50	9612	--	2646.90	20551	--
Oct. 31.....	2750.45	32825	-1465	2624.40	9053	-559	2641.50	18605	-1946
Nov. 30.....	2750.20	32548	-277	2622.60	8589	-464	2640.20	18155	-450
Dec. 31.....	2748.35	30546	-2002	2622.70	8615	+26	2640.30	18190	+35
CAL YR 1976..	--	--	+212	--	--	+3292	--	--	-1212
Jan. 31.....	2752.35	34981	+4435	2623.60	8845	+230	2640.00	18087	-103
Feb. 28.....	2749.15	31401	-3580	2622.40	8539	-306	2639.90	18052	-35
Mar. 31.....	2748.40	30599	-802	2625.10	9237	+698	2639.30	17848	-204
Apr. 30.....	2752.80	35504	+4905	2645.40	15630	+6393	2651.80	22424	+4576
May 31.....	2754.35	37345	+1841	2660.60	22081	+6451	2675.00	32696	+10272
June 30.....	2753.25	36033	-1312	2660.90	22224	+143	2675.90	33144	+448
July 31.....	2754.80	37891	+1858	2662.50	22997	+773	2674.90	32647	-497
Aug. 31.....	2753.75	36626	-1265	2651.20	17908	-5089	2668.60	29628	-3019
Sept. 30.....	2753.75	36626	0	2637.90	13010	-4898	2657.90	24900	-4728
WTR YR 1977..	--	--	+2336	--	--	+3398	--	--	+4349

1/ Prior to water year 1977 usable contents only were reported.

11362500 PIT RIVER BELOW PIT NO. 4 DAM, CA

LOCATION.--Lat 40°58'25", long 121°46'42", unsurveyed, T.36 N., R.2 E., Shasta County, Shasta National Forest, on right bank 0.6 mi (1.0 km) downstream from Ruling Creek, 1.3 mi (2.1 km) downstream from Pit No. 4 Dam, and 2.7 mi (4.3 km) downstream from Pit No. 3 powerhouse.

DRAINAGE AREA.--4,648 mi² (12,038 km²), excluding Goose Lake basin.

PERIOD OF RECORD.--May 1922 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "near Pecks Bridge" April to October 1922, and as "at Lindsay Flat" November 1922 to June 1927.

REVISED RECORDS.--WSP 843: 1935(M). WSP 1315-A: 1928(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 2,358 ft (718.7 m), from river-profile map. Prior to November 1922, water-stage recorder at site at Pecks Bridge 7.4 mi (11.9 km) upstream at different datum. November 1922 to June 20, 1927, at site at Lindsay Flat 1.8 mi (2.9 km) upstream at different datum.

REMARKS.--Flow regulated by small reservoirs and powerplants, total usable reservoir capacity, 253,000 acre-ft (312 hm³). Many diversions above station; diversion to Pit No. 4 powerplant began June 9, 1955. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--55 years (water years 1923-77), 2,713 ft³/s (76.83 m³/s), 1,966,000 acre-ft/yr (2.42 km³/yr), adjusted for diversion to Pit No. 4 powerplant.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft³/s (878 m³/s) Jan. 25, 1970, gage height, 18.04 ft (5.499 m), from rating curve extended above 17,000 ft³/s (481 m³/s); minimum daily, 234 ft³/s (6.63 m³/s) Sept. 13, 1953. Minimum daily discharge since diversion to Pit No. 4 powerplant in 1955, 22 ft³/s (0.62 m³/s) Dec. 2-4, 1969.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 238 ft³/s (6.74 m³/s) Oct. 30, gage height, 4.54 ft (1.384 m); minimum daily, 41 ft³/s (1.16 m³/s) Jan. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	77	47	51	51	52	94	155	152	147	150	148
2	98	73	45	52	51	51	102	151	152	147	151	147
3	97	73	46	68	52	52	99	155	153	147	155	149
4	97	71	46	73	52	52	102	151	150	143	145	152
5	97	73	46	41	50	52	102	162	150	145	142	151
6	96	72	46	51	52	53	102	155	151	145	151	151
7	97	73	48	55	52	54	99	150	156	143	154	152
8	98	73	51	55	52	51	99	153	154	142	155	151
9	96	73	53	53	51	53	102	158	151	142	151	149
10	97	73	51	55	52	52	103	156	154	142	148	148
11	98	71	50	54	52	53	100	158	153	145	148	147
12	97	74	52	51	52	53	100	158	155	140	151	153
13	97	71	50	50	51	52	100	154	155	138	147	153
14	99	71	51	52	52	54	98	150	152	142	147	152
15	98	73	52	50	51	53	103	152	154	142	154	151
16	97	72	51	52	53	52	99	157	152	142	154	148
17	95	73	50	51	51	53	98	153	154	143	150	152
18	96	74	53	52	51	53	99	154	158	142	150	147
19	98	70	52	51	50	52	100	153	156	142	151	150
20	99	73	52	51	51	52	100	151	154	140	151	153
21	96	71	51	51	51	52	99	155	154	140	147	148
22	97	72	50	52	52	52	100	153	152	142	148	147
23	97	71	54	51	53	52	100	152	152	140	150	151
24	97	72	51	52	52	52	99	154	150	136	147	148
25	98	73	51	51	52	52	99	153	150	140	155	150
26	96	73	51	52	52	50	101	154	150	142	150	154
27	101	71	52	52	52	52	125	154	152	142	148	148
28	98	74	50	52	53	51	152	154	150	148	150	148
29	97	73	51	51	---	51	149	152	147	150	149	153
30	118	73	50	52	---	52	155	151	147	149	149	153
31	101	---	50	51	---	52	---	154	---	150	148	---
TOTAL	3042	2176	1553	1635	1446	1617	3180	4772	4570	4438	4646	4504
MEAN	98.1	72.5	50.1	52.7	51.6	52.2	106	154	152	143	150	150
MAX	118	77	54	73	53	54	155	162	158	150	155	154
MIN	95	70	45	41	50	50	94	150	147	136	142	147
AC-FT	6030	4320	3080	3240	2870	3210	6310	9470	9060	8800	9220	8930
MEAN ‡	2344	2423	2466	2285	2551	2448	2047	2226	2042	1869	1934	1996
AC-FT ‡	144100	144200	151600	140500	141700	150500	121800	136900	121500	114900	118900	118800

GAL YR 1976 TOTAL 40464 MEAN 111 MAX 675 MIN 45 AC-FT 80260 MEAN ‡ 2409 AC-FT ‡ 1749000
WTR YR 1977 TOTAL 37579 MEAN 103 MAX 162 MIN 41 AC-FT 74540 MEAN ‡ 2217 AC-FT ‡ 1605000

‡ Adjusted for diversion to Pit No. 4 powerplant.

11363000 PIT RIVER AT BIG BEND, CA

LOCATION.--Lat 41°01'10", long 121°54'36", in NW¼SW¼ sec.31, T.37 N., R.1 E., Shasta County, on left bank at Big Bend, 0.4 mi (0.6 km) downstream from Nelson Creek, and 1.5 mi (2.4 km) upstream from Kosk Creek.

DRAINAGE AREA.--4,711 mi^2 (12,201 km^2), excluding Goose Lake basin.

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Published as "at Henderson" 1910-23.

REVISED RECORDS.--WSP 1345: 1911, 1914(M), 1916(M), 1917, 1928, 1935-36(M). WDR CA-75-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,674.47 ft (510.378 m) above mean sea level. Prior to Dec. 28, 1912, nonrecording gage and Dec. 28, 1912, to June 21, 1924, water-stage recorder at same site at datum 7.69 ft (2.344 m) higher.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, about 253,000 acre-ft (312 hm^3). Many diversions above station; diversion to Pit No. 5 powerhouse began May 1, 1944. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (prior to diversion to Pit No. 5 powerplant).--33 years (water years 1911-43), 2,931 ft^3/s (83.0 m^3/s), 2,122,000 acre-ft/yr (2.62 km^3/yr); 34 years (water years 1944-77), 573 ft^3/s (16.23 m^3/s), 415,100 acre-ft/yr (512 hm^3/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft^3/s (1,390 m^3/s) Jan. 25, 1970, gage height, 18.17 ft (5.538 m) in gage well, 19.0 ft (5.79 m) from floodmarks, from rating curve extended above 17,000 ft^3/s (481 m^3/s), partly affected by gate operation at Pit No. 4 Dam; minimum daily, 34 ft^3/s (0.96 m^3/s) Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 720 ft^3/s (20.4 m^3/s) Sept. 29, gage height, 6.80 ft (2.073 m); minimum daily, 45 ft^3/s (1.27 m^3/s) Apr. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	94	75	52	67	58	51	77	110	116	109	109
2	120	80	52	59	63	57	50	104	112	114	108	110
3	114	80	55	58	60	54	48	116	109	109	104	108
4	115	79	54	55	61	50	50	110	113	107	109	114
5	112	83	54	53	62	50	49	110	110	108	113	111
6	112	80	54	53	64	50	49	110	112	114	114	112
7	111	78	55	53	64	50	50	105	112	110	113	113
8	114	76	54	50	68	50	52	114	113	113	114	112
9	105	65	54	48	63	57	52	116	132	106	116	114
10	104	66	53	51	53	53	48	128	123	103	113	113
11	107	66	54	50	53	53	51	134	117	107	115	111
12	106	66	54	54	51	50	51	120	118	111	112	109
13	107	64	52	52	50	52	50	113	120	112	112	111
14	108	75	50	63	53	52	50	119	119	114	109	110
15	109	71	51	68	52	57	51	118	119	110	111	107
16	108	72	51	70	53	54	49	116	116	105	108	130
17	106	82	51	72	53	54	46	117	114	102	112	138
18	108	80	49	72	52	54	45	118	111	109	113	119
19	108	84	48	72	52	50	48	118	115	111	113	165
20	110	79	52	74	54	50	48	113	118	114	105	125
21	108	78	53	70	61	51	48	114	116	114	103	107
22	113	81	53	67	55	51	49	109	120	111	112	106
23	104	81	53	66	58	54	49	115	117	108	108	99
24	108	80	51	72	54	55	47	117	117	112	113	99
25	107	80	52	69	55	55	50	114	114	112	118	98
26	109	79	53	67	54	53	52	120	113	111	117	99
27	106	77	51	69	55	52	52	116	114	109	105	103
28	102	75	51	65	59	52	53	110	116	113	108	212
29	101	80	52	64	---	52	53	112	116	116	112	338
30	101	85	53	66	---	50	55	111	112	108	113	160
31	101	---	51	67	---	52	---	115	---	108	109	---
TOTAL	3361	2316	1645	1921	1599	1632	1496	3529	3468	3417	3441	3762
MEAN	108	77.2	53.1	62.0	57.1	52.6	49.9	114	116	110	111	125
MAX	120	94	75	74	68	58	55	134	132	116	118	338
MIN	101	64	48	48	50	50	45	77	109	102	103	98
AC-FT	6670	4590	3260	3810	3170	3240	2970	7000	6880	6780	6830	7460

CAL YR 1976 TOTAL 39849 MEAN 109 MAX 1350 MIN 47 AC-FT 79040
WTR YR 1977 TOTAL 31587 MEAN 86.5 MAX 338 MIN 45 AC-FT 62650

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

LOCATION.--Lat 40°59'12", long 121°58'35", in SW¼SE¼ sec.9, T.36 N., R.1 W., Shasta County, at powerplant on right bank of Pit River, 5.8 mi (9.3 km) downstream from Big Bend.

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) at SE¼SW¼ sec.22, T.38 N., R.2 W., to Iron Canyon Reservoir (station 11363920), and then into the penstock for James B. Black powerplant. Records are combined flow of diversion from McCloud River at McCloud Dam plus Iron Canyon Creek.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 1,006 ft^3/s (28.49 m^3/s), 728,800 acre-ft/yr (899 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft^3/s (68.5 m^3/s) July 15, 1966; no flow for several days most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	643	939	559	412	475	678	720	35	734	587	1000	1080
2	715	606	667	670	687	571	660	451	42	364	1070	735
3	931	790	589	868	713	542	535	63	707	530	383	396
4	623	763	641	785	632	621	700	53	548	507	641	713
5	651	748	588	937	577	786	419	44	527	930	560	891
6	623	396	538	648	591	492	823	596	719	489	520	939
7	724	515	653	497	626	992	462	51	426	610	653	976
8	797	1050	818	522	698	361	384	45	534	638	594	482
9	953	490	564	595	1100	1120	69	362	943	464	714	298
10	457	598	735	671	302	470	43	46	939	656	542	890
11	1360	737	533	480	706	478	594	644	119	709	380	478
12	890	874	690	525	530	566	510	208	196	359	641	637
13	716	426	704	1020	548	364	809	84	650	764	495	595
14	539	431	631	317	650	975	589	64	579	865	254	786
15	644	498	596	783	672	822	590	52	573	618	730	489
16	922	810	692	648	767	571	83	179	513	397	943	723
17	543	705	614	426	729	669	66	598	689	267	297	440
18	806	626	732	649	583	630	170	274	478	584	432	592
19	733	764	509	812	682	361	607	459	546	578	934	612
20	942	630	836	869	426	708	668	526	641	657	68	901
21	622	604	431	542	801	542	987	532	621	781	528	540
22	786	639	678	548	542	478	683	368	725	818	926	971
23	351	507	767	572	668	640	141	506	608	371	898	952
24	629	688	750	521	686	877	119	800	819	277	871	332
25	775	600	405	738	839	707	683	557	432	658	940	784
26	692	710	581	543	475	531	617	861	269	428	406	830
27	573	658	739	651	648	400	451	874	718	688	302	1070
28	625	636	580	739	772	863	211	208	533	517	313	1170
29	749	609	586	578	---	528	193	362	755	1030	1130	607
30	641	715	637	525	---	713	54	549	797	179	1120	955
31	495	---	802	653	---	331	---	959	---	590	941	---
TOTAL	22150	19762	19845	19744	18125	19387	13640	11410	17380	17910	20226	21864
MEAN	715	659	640	637	647	625	455	368	579	578	652	729
MAX	1360	1050	836	1020	1100	1120	987	959	943	1030	1130	1170
MIN	351	396	405	317	302	331	43	35	42	179	68	298
AC-FT	43930	39200	39360	39160	35950	38450	27050	22630	34470	35520	40120	43370

CAL YR 1976 TOTAL 283900 MEAN 776 MAX 2280 MIN 34 AC-FT 563100
WTR YR 1977 TOTAL 221443 MEAN 607 MAX 1360 MIN 35 AC-FT 439200

11363930 IRON CANYON CREEK BELOW IRON CANYON DAM, NEAR BIG BEND, CA

LOCATION.--Lat 41°02'27", long 121°59'02", in NW¼NW¼ sec.28, T.37 N., R.1 W., Shasta County, on left bank 0.2 mi (0.3 km) downstream from Iron Canyon Dam, and 4.2 mi (6.8 km) west of Big Bend.

DRAINAGE AREA.--11.6 mi^2 (30.0 km^2).

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

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control. Datum of gage is 2,461.52 ft (750.271 m) above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow is regulated by Iron Canyon Dam. There is interbasin diversion from Lake McCloud (station 11367790) to Iron Canyon Reservoir (station 11363920) and then into a tunnel to James. B. Black powerplant on the Pit River (station 11363910). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 4.28 ft^3/s (0.121 m^3/s), 3,100 acre-ft/yr (3.82 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge recorded, 391 ft^3/s (11.1 m^3/s) Feb. 1, 1971, gage height, 3.10 ft (0.945 m), from rating curve extended above 65 ft^3/s (1.84 m^3/s) on basis of computation of flow over weir (flow was a result of sluicing at dam); no flow July 15-18, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6.8 ft^3/s (0.19 m^3/s) Sept. 29, gage height, 1.56 ft (0.476 m); minimum daily, 2.7 ft^3/s (0.076 m^3/s) Feb. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	4.1
2	3.4	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.0
3	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.2	3.1	3.1	3.1	4.0
4	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.2	4.0
5	3.2	3.3	3.3	3.3	3.1	3.1	2.9	3.1	3.1	3.1	3.1	4.0
6	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	4.2
7	3.3	3.2	3.3	3.3	3.1	3.1	3.1	3.2	3.1	3.1	3.2	3.6
8	3.3	3.3	2.9	3.2	3.1	3.1	3.2	3.2	3.2	3.1	3.1	3.1
9	3.3	3.3	3.3	3.2	3.2	3.1	3.1	3.2	3.1	3.1	3.2	3.2
10	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
11	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.1
12	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.2	3.1	3.1	3.2	3.1
13	3.2	3.3	3.2	3.2	3.1	3.1	3.1	3.2	3.1	3.1	3.2	3.1
14	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
15	3.3	3.3	3.3	3.2	2.7	3.1	3.1	3.1	3.1	3.1	3.1	2.9
16	3.3	3.3	3.3	3.2	3.2	3.1	3.1	3.1	2.9	3.1	3.1	3.2
17	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
18	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.2	3.1
19	3.0	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.2
20	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
21	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
22	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
23	3.3	3.3	3.2	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
24	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
25	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.1
26	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.2	3.1	3.1	3.1	3.1
27	3.3	3.3	3.3	3.3	3.2	3.1	3.1	3.1	3.1	3.1	3.1	3.1
28	3.3	3.3	3.3	3.3	3.1	3.1	3.1	3.1	3.1	3.1	3.1	3.0
29	3.3	3.3	3.2	3.2	---	3.1	3.1	3.1	3.1	3.1	3.1	3.1
30	3.3	3.3	3.2	3.3	---	3.1	3.1	3.1	3.1	3.1	4.4	3.1
31	3.3	---	3.2	3.2	---	3.1	---	3.1	---	3.1	4.7	---
TOTAL	101.8	98.9	101.0	100.4	86.8	96.1	92.9	96.8	92.9	96.1	99.7	99.2
MEAN	3.28	3.30	3.26	3.24	3.10	3.10	3.10	3.12	3.10	3.10	3.22	3.31
MAX	3.4	3.3	3.3	3.3	3.2	3.1	3.2	3.2	3.2	3.1	4.7	4.2
MIN	3.0	3.2	2.9	3.2	2.7	3.1	2.9	3.1	2.9	3.1	3.1	2.9
AC-FT	202	196	200	199	172	191	184	192	184	191	198	197

CAL YR 1976 TOTAL 1108.4 MEAN 3.03 MAX 3.4 MIN 2.6 AC-FT 2200
WTR YR 1977 TOTAL 1162.6 MEAN 3.19 MAX 4.7 MIN 2.7 AC-FT 2310

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'36", long 122°00'58", in NW¼SE¼ sec.31, T.35 N., R.1 W., Shasta County, Shasta National Forest, on right bank 0.5 mi (0.8 km) upstream from Potem Creek, 1.9 mi (3.1 km) downstream from Pit No. 7 Dam and powerhouse, and 5.0 mi (8.0 km) west of town of Montgomery Creek.

DRAINAGE AREA.--4,952 mi^2 (12,823 km^2), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to current year (monthly discharge only December 1964 to May 1965). Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,036 ft (315.773 m) above mean sea level (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 1.9 mi (3.1 km) upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 2.7 mi (4.3 km) upstream at different datum.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft (416 hm^3). Many diversions above station for irrigation. Diversion from McCloud River to Pit River began December 1965 (station 11367720). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (prior to diversion from McCloud River).--21 years (water years 1945-65), 3,759 ft^3/s (106.5 m^3/s), 2,721,000 acre-ft/yr (3.35 km^3/yr); 12 years (water years 1966-77), 5,220 ft^3/s (147.8 m^3/s), 3,782,000 acre-ft/yr (4.66 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s (2,070 m^3/s) Jan. 24, 1970, gage height, 32.36 ft (9.863 m); minimum daily, 30 ft^3/s (0.85 m^3/s) July 12, 27, 1975, result of construction work below Pit No. 7 powerplant.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,350 ft^3/s (236 m^3/s) on many days during the year, gage height, 25.15 ft (7.666 m); minimum daily, 134 ft^3/s (3.79 m^3/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3080	3920	3300	2020	3950	3810	3630	2070	2960	3040	3360	3360
2	3370	3460	3870	2120	3660	3300	1840	2010	2700	2210	3700	3080
3	3750	3270	3230	4480	3050	2460	1620	2550	2880	1900	2420	1140
4	2770	3340	2350	4550	2920	3400	3570	2040	2130	1560	2730	2280
5	3240	4390	2070	3760	2270	3280	2940	1520	1810	3020	2160	2710
6	3030	2130	3140	3410	2240	2500	3980	2970	3440	4070	1630	3120
7	3560	1650	3720	3480	3360	4290	2870	1680	3320	2230	2200	3410
8	3770	4220	3480	1960	3140	2660	3060	2120	5310	3030	2230	2550
9	2400	3670	3630	1690	3980	4420	509	2310	5710	2220	3050	1960
10	1440	3800	3140	3630	4440	3330	291	2190	4940	964	2800	3010
11	4470	3710	3690	2530	4020	2850	2680	3210	145	2700	2740	1790
12	4020	3740	2840	3550	2360	1970	3600	2320	957	2210	2510	2560
13	3810	1810	3310	5060	2090	3580	3180	2540	282	2820	2200	2460
14	2890	1880	3640	2690	3380	4090	4120	3790	2850	3720	1680	3290
15	2550	4060	3470	2390	3640	3050	3110	3610	2810	3150	2830	2520
16	3370	4210	3590	2300	2770	4220	2200	2210	3230	1990	3250	3020
17	1200	3640	3380	3160	3470	3260	356	2810	3060	915	2840	2080
18	4130	3880	2400	3770	3070	3830	2360	2410	1280	2650	5260	2500
19	3210	4220	1660	4230	3860	1480	2730	3430	1850	2640	5140	2890
20	5120	2100	4240	3820	4000	1600	3100	2720	3050	2550	766	4170
21	3520	2030	3140	3090	3730	3560	4430	2660	2680	3210	134	2880
22	4090	3680	3750	1990	3070	3260	3290	2270	2990	3430	1310	3450
23	1170	3590	3510	1960	3500	3450	1610	2890	3430	1850	3180	2930
24	1570	3540	3600	3590	3510	4130	600	3850	3840	1110	3510	1530
25	3750	3380	1520	3520	3180	4040	3060	2930	2500	2550	5850	2590
26	3870	3760	2810	3400	3510	2170	3460	3510	620	2680	5520	2930
27	3030	2630	3230	3560	4440	1900	3020	4230	2830	2860	491	3620
28	3730	2070	3820	3340	3770	3830	2730	1880	3200	3110	183	4320
29	4570	3120	3730	2410	---	3580	2280	1710	2940	3680	578	4840
30	3420	3890	3920	2860	---	4110	2550	2250	3010	1320	3650	3570
31	2670	---	3250	3030	---	3050	---	4190	---	1450	3200	---
TOTAL	100570	98790	100430	97350	94380	100460	78776	82880	82754	76839	83102	86560
MEAN	3244	3293	3240	3140	3371	3241	2626	2674	2758	2479	2681	2885
MAX	5120	4390	4240	5060	4440	4420	4430	4230	5710	4070	5850	4840
MIN	1170	1650	1520	1690	2090	1480	291	1520	145	915	134	1140
AC-FT	199500	195900	199200	193100	187200	199300	156300	164400	164100	152400	164800	171700

CAL YR 1976 TOTAL 1304193 MEAN 3563 MAX 8790 MIN 220 AC-FT 2587000
WTR YR 1977 TOTAL 1082891 MEAN 2967 MAX 5850 MIN 134 AC-FT 2148000

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1953 to current year.
CHEMICAL ANALYSES: Water years 1951, 1953, 1955 to current year.
WATER TEMPERATURES: Water years, 1951, 1954-57, 1959.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June to September 1951, October 1953 to September 1957, October 1958 to August 1959.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
NOV											
09...A	0750	1000	112	7.7	10.0	1	11.9	--	--	--	--
FEB											
28...	1345	3770	133	7.5	9.0	--	11.4	--	--	52	0
MAR											
02...A	1000	5460	147	8.1	8.5	2	13.2	0	1.6	54	0
MAY											
11...A	0945	2770	151	8.2	13.0	2	10.3	--	--	--	--
JUN											
20...	0900	1950	127	--	17.5	--	--	--	--	51	0
JUL											
06...A	0815	4970	148	8.2	19.0	2	10.0	--	--	--	--
SEP											
14...A	0915	3660	142	8.0	17.0	0	9.6	1	.8	50	0
26...	0930	4200	93	7.9	15.0	--	--	--	--	34	0

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
NOV											
09...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	9.8	6.6	10	28	.6	2.5	83	0	74	2.8	4.3
MAR											
02...	--	--	10	--	.6	--	82	0	67	--	2.6
MAY											
11...	--	--	--	--	--	--	--	--	--	--	--
JUN											
20...	10	6.2	10	29	.6	2.2	81	0	66	2.3	4.2
JUL											
06...	--	--	--	--	--	--	--	--	--	--	--
SEP											
14...	--	--	11	--	.7	--	78	0	64	--	2.4
26...	7.6	3.7	6.0	27	.4	1.2	48	0	39	2.3	3.0

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	SUSPENDED SOLIDS (MG/L)	TOTAL NITRATE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
FEB										
28...	.1	32	112	.15	1140	--	.09	--	.13	.08
MAR										
02...	--	--	121	.16	1780	3	--	.10	--	--
MAY										
11...	--	--	--	--	--	--	--	.05	--	--
JUN										
20...	.2	33	107	.15	563	--	.00	--	.02	.01
JUL										
06...	--	--	--	--	--	--	--	.07	--	--
SEP										
14...	--	--	--	--	--	2	--	.02	--	--
26...	.1	32	92	.13	1040	--	.74	--	.16	.07

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	SUS-PENDED ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED BORON (B) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)
NOV											
09...	--	--	--	--	--	--	--	--	--	--	--
FEB											
28...	.01	.14	.15	.28	.06	.05	--	--	--	0	--
MAR											
02...	.00	.10	.10	--	.06	.03	--	0	--	0	--
MAY											
11...	.00	.10	.10	--	.06	.04	--	--	--	--	--
JUN											
20...	.06	.05	.11	.13	.06	.03	--	--	--	0	--
JUL											
06...	.04	.20	.24	--	.07	.01	--	--	--	--	--
SEP											
14...	.01	.70	--	--	.05	.04	0	--	0	0	0
26...	.01	.03	.04	.20	.04	.01	--	--	--	0	--

DATE	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
FEB										
28...	--	--	--	--	--	--	--	--	--	--
MAR										
02...	--	--	--	--	--	.0	--	0	1.1	.00
MAY										
11...	--	--	--	--	--	--	--	--	--	--
JUN										
20...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
14...	0	0	20	0	0	--	.0	0	2.3	.00
26...	--	--	--	--	--	--	--	--	--	--

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW¼NE¼ sec.34, T.39 N., R.2 W., Siskiyou County, on right bank 0.4 mi (0.6 km) downstream from Angel Creek, and 6 mi (10 km) southeast of McCloud.

DRAINAGE AREA.--358 mi^2 (927 km^2).

PERIOD OF RECORD.--April 1931 to current year.

REVISED RECORDS.--WSP 843: 1936(M). WSP 1445: 1940(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,711.2 ft (826.37 m) above mean sea level (river-profile survey).

REMARKS.--Two small diversions above station for irrigation, and one 22-in (0.56-m) pipeline for town of McCloud and millpond. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--46 years, 929 ft^3/s (26.31 m^3/s), 673,100 acre-ft/yr (830 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft^3/s (334 m^3/s) Dec. 21, 1955, gage heights, 9.42 ft (2.871 m) in gage well, 10.7 ft (3.26 m) from floodmarks, from rating curve extended above 8,800 ft^3/s (249 m^3/s) on basis of slope-area measurement of maximum flow; minimum, 524 ft^3/s (14.8 m^3/s) Nov. 23, 24, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 796 ft^3/s (22.5 m^3/s) Sept. 29, gage height, 1.37 ft (0.418 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily, 651 ft^3/s (18.4 m^3/s) July 28 to Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	731	726	714	705	689	700	695	707	685	667	651	662
2	742	726	714	709	689	697	694	707	682	668	659	662
3	740	726	714	704	688	697	692	703	682	668	674	661
4	739	726	714	701	688	701	692	701	682	665	672	662
5	739	726	714	701	689	701	706	701	682	664	666	662
6	739	726	714	697	688	701	711	701	680	664	664	661
7	739	726	714	696	688	700	712	695	680	664	660	661
8	739	726	714	696	701	700	714	695	681	664	661	661
9	739	726	714	695	698	703	711	699	678	664	663	659
10	739	726	711	696	695	699	707	698	679	664	662	659
11	738	726	710	696	695	696	707	703	678	664	662	659
12	737	726	709	695	694	704	706	701	677	659	660	659
13	736	728	709	695	694	702	708	698	676	658	660	658
14	737	735	708	695	693	702	706	696	676	658	666	657
15	737	729	707	695	693	706	706	695	676	658	664	658
16	737	726	707	695	697	703	707	695	676	657	663	668
17	734	723	707	695	696	702	707	695	676	657	663	681
18	734	721	707	695	695	701	704	695	678	657	663	680
19	733	721	706	695	695	701	703	693	676	657	662	706
20	733	720	705	695	695	701	702	689	674	657	662	675
21	733	720	705	695	702	699	702	689	671	657	662	666
22	733	720	707	695	699	699	701	690	670	657	662	661
23	733	720	707	695	700	703	701	690	670	657	660	663
24	733	720	704	695	701	706	701	689	669	657	662	664
25	733	720	704	695	701	701	704	689	668	655	665	661
26	731	720	701	695	699	701	702	689	667	654	667	657
27	728	720	701	695	699	700	701	696	666	653	664	663
28	728	720	702	692	701	697	701	694	665	651	664	695
29	728	720	703	689	---	696	701	689	664	651	665	726
30	727	720	705	689	---	695	701	689	664	651	662	711
31	727	---	701	689	---	695	---	689	---	651	662	---
TOTAL	22776	21715	21952	21575	19462	21709	21105	21560	20248	20428	20552	20078
MEAN	735	724	708	696	695	700	704	695	675	659	663	669
MAX	742	735	714	709	702	706	714	707	685	668	674	726
MIN	727	720	701	689	688	695	692	689	664	651	651	657
AC-FT	45180	43070	43540	42790	38600	43060	41860	42760	40160	40520	40760	39820

CAL YR 1976 TOTAL 290525 MEAN 794 MAX 1180 MIN 701 AC-FT 576300
WTR YR 1977 TOTAL 253160 MEAN 694 MAX 742 MIN 651 AC-FT 502100

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE¼SW¼ sec.22, T.38 N., R.2 W., Shasta County, Shasta National Forest, on left bank of Lake McCloud, 8.8 mi (14.2 km) southeast of McCloud.

PERIOD OF RECORD.--December 1965 to current year.

REVISED RECORDS.--WDR CA-75-4: 1973.

GAGE.--None. Water-stage recorders on Lake McCloud and Iron Canyon Reservoir used to compute record.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) to Iron Canyon Reservoir (station 11363920) and thence into James B. Black powerplant (station 11363910) on the Pit River. Diversion began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 1,011 ft^3/s (28.63 m^3/s), 732,500 acre-ft/yr (903 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft^3/s (53.5 m^3/s) May 20-22, June 1-3, 10, 1967; no flow for several days in 1965-68, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	646	654	601	570	570	613	572	303	565	559	548	664
2	637	643	609	589	583	595	581	354	508	537	590	655
3	663	663	593	614	597	581	566	319	526	529	561	616
4	639	670	591	641	595	583	574	292	531	522	563	608
5	626	670	591	674	583	599	560	266	529	555	557	618
6	612	618	581	652	583	572	581	348	546	540	546	626
7	616	601	583	613	583	632	557	308	531	542	554	637
8	629	663	614	579	589	574	518	280	529	542	552	604
9	655	628	601	562	663	652	424	316	565	526	563	550
10	616	614	618	593	595	618	363	289	594	533	552	557
11	713	607	597	570	609	579	424	372	544	540	530	528
12	728	634	603	562	587	572	440	362	510	517	533	528
13	715	587	611	635	574	525	506	332	529	533	521	512
14	679	568	603	568	583	605	522	303	531	555	496	533
15	677	585	595	603	591	636	526	287	533	555	512	517
16	696	635	607	603	614	620	446	296	531	535	550	531
17	672	632	595	564	622	615	376	361	542	508	517	512
18	684	628	607	572	609	609	347	361	535	510	505	515
19	684	639	595	605	607	555	415	386	531	513	550	514
20	713	634	628	632	574	579	462	413	540	524	491	553
21	686	624	589	609	613	570	538	438	540	542	491	537
22	691	622	599	591	597	560	547	430	553	557	530	572
23	633	597	614	585	601	574	472	449	555	559	556	598
24	624	611	630	574	607	618	421	486	573	503	577	548
25	643	605	583	599	630	618	459	494	557	513	602	559
26	646	618	581	587	593	603	482	528	524	501	577	578
27	624	611	603	589	599	566	469	559	540	513	544	614
28	624	613	593	605	614	617	427	524	533	508	517	662
29	641	607	585	601	---	587	389	503	546	550	573	638
30	635	616	591	587	---	609	337	510	565	508	616	662
31	606	---	616	593	---	547	---	552	---	508	614	---
TOTAL	20353	18697	18607	18521	16765	18383	14301	12021	16236	16437	16988	17346
MEAN	657	623	600	597	599	593	477	388	541	530	548	578
MAX	728	670	630	674	663	652	581	559	594	559	616	664
MIN	606	568	581	562	570	525	337	266	508	501	491	512
AC-FT	40370	37090	36910	36740	33250	36460	28370	23840	32200	32600	33700	34410

CAL YR 1976 TOTAL 269561 MEAN 737 MAX 1030 MIN 568 AC-FT 534700
WTR YR 1977 TOTAL 204655 MEAN 561 MAX 728 MIN 266 AC-FT 405900

11367760 McCLOUD RIVER BELOW McCLOUD DAM, NEAR McCLOUD, CA

LOCATION.--Lat 41°07'44", long 122°04'08", in SW¼NE¼ sec.27, T.38 N., R.2 W., Shasta County, Shasta National Forest, on left bank 0.1 mi (0.2 km) downstream from Lizard Creek, 0.6 mi (1.0 km) downstream from McCloud Dam, and 9 mi (14 km) southeast of McCloud.

DRAINAGE AREA.--404 mi^2 (1,046 km^2).

PERIOD OF RECORD.--April 1966 to current year (low flow only).

GAGE.--Water-stage recorder. Datum of gage is 2,401.76 ft (732.056 m) above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. Prior to water year 1974, flow was computed up to 400 ft^3/s (11.3 m^3/s). Because of channel changes, flow is computed only up to 200 ft^3/s (5.66 m^3/s). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	175	180	158	156	152	157	155	152	153	155	162
2	172	175	176	154	157	155	157	149	152	155	155	182
3	172	175	178	155	157	155	157	149	155	154	155	185
4	172	172	178	159	157	153	157	149	155	154	157	184
5	172	172	178	158	158	156	157	151	155	154	155	183
6	172	179	178	158	158	159	158	153	155	154	155	183
7	172	179	178	157	158	158	145	153	154	153	155	183
8	172	179	178	158	142	153	141	155	154	153	153	184
9	172	173	179	157	143	143	160	151	150	155	152	181
10	173	172	175	153	146	147	160	149	149	153	152	181
11	173	172	175	153	147	149	163	145	149	153	153	181
12	173	172	174	153	144	149	165	145	152	153	153	181
13	173	176	175	153	150	151	165	147	153	153	152	183
14	172	162	174	154	157	154	164	151	153	153	152	182
15	172	166	175	153	155	158	167	152	153	156	152	182
16	172	172	174	153	151	158	167	152	153	152	152	179
17	173	172	165	155	152	157	167	152	153	153	152	165
18	173	171	163	155	155	157	166	151	153	157	152	171
19	172	172	160	152	154	157	163	153	153	157	152	154
20	172	173	161	156	151	157	163	153	152	157	153	159
21	172	174	162	156	146	157	163	140	152	156	150	173
22	175	174	165	153	146	157	163	148	153	144	150	177
23	175	179	165	153	149	156	163	151	155	154	150	177
24	175	179	165	153	149	154	163	137	153	155	150	179
25	175	179	165	156	152	155	163	152	153	155	150	179
26	175	179	165	154	152	158	163	150	153	155	150	181
27	175	179	165	156	152	157	165	149	153	155	150	178
28	175	180	160	158	151	157	165	149	153	155	150	162
29	175	180	160	155	---	157	166	151	153	155	150	116
30	175	180	161	153	---	157	165	155	153	155	150	147
31	175	---	157	153	---	157	---	155	---	155	150	---
TOTAL	5368	5242	5264	4804	4245	4800	4838	4652	4586	4776	4717	5214
MEAN	173	175	170	155	152	155	161	150	153	154	152	174
MAX	175	180	180	159	158	159	167	155	155	157	157	185
MIN	172	162	157	152	142	143	141	137	149	144	150	116
AC-FT	10650	10400	10440	9530	8420	9520	9600	9230	9100	9470	9360	10340

CAL YR 1976 TOTAL 56322 MEAN 154 MAX 180 MIN 44 AC-FT 111700
WTR YR 1977 TOTAL 58506 MEAN 160 MAX 185 MIN 116 AC-FT 116000

11367800 McCLOUD RIVER AT AH-DI-NA, NEAR McCLOUD, CA

LOCATION.--Lat 41°06'39", long 122°05'42", in NE¼SW¼ sec.33, T.38 N., R.2 W., Shasta County, Shasta National Forest, on right bank at Ah-Di-Na, 1.8 mi (2.9 km) downstream from Squirrel Creek, 3.9 mi (6.3 km) downstream from McCloud Dam, and 9.6 mi (15.4 km) south of McCloud.

DRAINAGE AREA.--427 mi^2 (1,106 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (658 m), from topographic map.

REMARKS.--Flow regulated by Lake McCloud 3.9 mi (6.3 km) upstream (station 11367740) since November 1965. Diversion to Iron Canyon Reservoir (station 11363920) through McCloud River diversion tunnel (station 11367720) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--13 years, 1,285 ft^3/s (36.39 m^3/s), 931,000 acre-ft/yr (1.15 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to construction of McCloud Dam, 9,660 ft^3/s (274 m^3/s) Dec. 22, 1964, gage height, 9.43 ft (2.874 m), from rating curve extended above 2,500 ft^3/s (70.8 m^3/s); minimum daily, 86 ft^3/s (2.44 m^3/s) Oct. 1-26, 1964. Maximum discharge since construction of McCloud Dam in 1965, 26,400 ft^3/s (748 m^3/s) Jan. 16, 1974, gage height, 13.68 ft (4.170 m) in gage well, 15.38 ft (4.688 m) from floodmarks, from rating curve extended above 8,000 ft^3/s (227 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 41 ft^3/s (1.16 m^3/s) Dec. 18-20, 1971 (caused by valve malfunction at dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a stage of 12.5 ft (3.81 m), discharge, 17,800 ft^3/s (504 m^3/s), from rating curve extended above 2,500 ft^3/s (85.0 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 211 ft^3/s (5.98 m^3/s) Sept. 17, gage height, 1.35 ft (0.411 m); minimum daily, 146 ft^3/s (4.13 m^3/s) May 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	178	182	184	165	162	163	168	169	162	159	159	160
2	182	182	185	163	164	164	167	162	160	161	159	182
3	181	180	185	161	164	163	166	162	164	160	158	183
4	181	178	185	162	164	162	166	162	164	159	160	183
5	181	180	185	166	166	164	166	161	164	159	159	183
6	180	186	185	165	166	168	168	163	162	159	159	183
7	180	186	184	165	166	168	159	162	161	159	159	182
8	179	183	186	165	160	164	149	164	162	159	158	182
9	179	178	182	165	156	160	173	163	159	160	156	181
10	181	179	181	161	157	161	171	161	157	159	154	181
11	181	178	181	160	156	161	174	163	157	159	155	180
12	181	180	181	162	154	160	175	161	160	159	155	180
13	181	186	181	161	158	162	175	161	161	159	154	181
14	180	181	181	160	166	164	175	164	160	159	154	181
15	179	180	181	160	165	171	176	163	160	161	154	181
16	179	181	174	160	159	169	176	163	160	157	154	184
17	181	180	170	163	161	169	176	163	159	158	154	194
18	180	180	167	163	164	169	176	163	160	162	154	182
19	179	180	167	159	162	169	172	164	159	162	154	191
20	179	181	167	165	160	169	173	164	159	162	156	178
21	179	182	169	166	161	169	173	154	159	161	153	180
22	183	183	172	162	158	169	172	155	159	148	153	181
23	183	186	172	162	162	171	171	163	161	159	153	179
24	183	186	172	162	160	170	171	146	159	159	152	181
25	183	186	172	164	162	169	174	162	159	160	153	180
26	183	186	171	162	162	172	173	163	159	160	152	181
27	183	186	172	164	161	172	173	162	159	160	152	181
28	183	186	168	165	162	171	173	161	159	158	151	191
29	182	186	168	162	---	170	173	161	159	158	151	190
30	182	186	168	161	---	169	175	165	159	158	150	179
31	182	---	164	160	---	169	---	164	---	159	150	---
TOTAL	5608	5474	5460	5041	4518	5171	5129	5014	4802	4932	4795	5455
MEAN	181	182	176	163	161	167	171	162	160	159	155	182
MAX	183	186	186	166	166	172	176	169	164	162	160	194
MIN	178	178	164	159	154	160	149	146	157	148	150	160
AC-FT	11120	10860	10830	10000	8960	10260	10170	9950	9520	9780	9510	10820
MEAN ‡	806	798	777	758	759	757	725	717	709	681	654	681
AC-FT ‡	49540	47500	47780	46640	42180	46520	43120	44060	42170	41880	40190	40500

GAL YR 1976 TOTAL 63898 MEAN 175 MAX 410 MIN 143 AC-FT 126700 MEAN ‡ 913 AC-FT ‡ 662600
WTR YR 1977 TOTAL 61399 MEAN 168 MAX 194 MIN 146 AC-FT 121800 MEAN ‡ 735 AC-FT ‡ 532100

‡ Adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud.

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°57'30", long 122°13'07", unsurveyed, T.36 N., R.3 W., Shasta County, on right bank just upstream from Shasta Lake, 0.2 mi (0.3 km) downstream from Big Bollibokka Creek, and 11.3 mi (18.2 km) east of Lamoine.

DRAINAGE AREA.--604 mi^2 (1,564 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to current year. Prior to 1950, published as "above Shasta Reservoir."

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft (335.280 m) above mean sea level (levels by Bureau of Reclamation).

REMARKS.--Flow partially regulated by Lake McCloud (station 11367740) since Nov. 3, 1965. Diversions to Iron Canyon Reservoir (station 11363920) began Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (prior to regulation by Lake McCloud and diversion to Pit River basin).--20 years (water years 1946-65), 1,699 ft^3/s (48.12 m^3/s), 1,230,000 acre-ft/yr (1.52 km^3/yr); 12 years (water years 1966-77), 788 ft^3/s (22.32 m^3/s), 570,900 acre-ft/yr (704 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft^3/s (1,290 m^3/s) Jan. 16, 1974, gage height, 28.26 ft (8.614 m), from rating curve extended above 15,000 ft^3/s (425 m^3/s) on basis of slope-area measurement of maximum flow; minimum daily, 109 ft^3/s (3.09 m^3/s) Dec. 16-20, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 750 ft^3/s (21.2 m^3/s) Sept. 29, gage height, 10.70 ft (3.261 m); minimum daily, 187 ft^3/s (5.30 m^3/s) Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	227	230	243	237	224	237	237	248	227	203	197	191
2	237	233	241	276	227	233	234	239	223	208	197	217
3	239	233	241	260	227	233	233	238	226	209	197	222
4	230	230	241	241	226	226	230	225	225	203	198	222
5	229	229	242	237	227	227	229	221	222	204	194	222
6	229	236	242	233	227	228	231	224	222	201	195	222
7	229	237	243	233	228	237	209	222	224	201	195	221
8	229	236	244	233	261	250	239	223	226	201	194	222
9	229	230	243	229	250	260	234	238	221	201	191	220
10	226	232	240	229	233	246	232	245	220	202	191	219
11	226	233	241	229	228	234	233	256	219	201	191	219
12	226	233	241	237	225	238	231	239	218	201	192	219
13	226	249	241	233	220	231	228	236	218	200	191	219
14	226	313	239	229	231	233	228	232	215	203	191	220
15	226	253	240	229	230	269	229	227	215	199	191	223
16	226	246	240	222	224	268	226	226	214	198	191	250
17	225	242	229	222	222	277	226	226	211	196	190	360
18	224	240	228	229	226	260	224	228	237	201	188	299
19	225	240	226	226	226	253	221	225	223	201	189	480
20	227	241	226	233	223	250	219	222	212	201	192	359
21	229	243	226	237	256	245	217	213	211	201	190	277
22	232	242	231	237	235	242	215	225	208	197	188	262
23	233	244	232	237	250	253	215	231	209	191	187	253
24	233	244	230	233	242	280	218	212	208	197	195	252
25	233	244	230	233	235	267	232	225	204	199	204	246
26	233	244	229	229	230	274	221	266	204	201	206	245
27	233	243	226	229	229	258	218	247	194	200	199	250
28	233	244	226	226	239	259	215	239	201	198	197	362
29	232	244	229	226	---	248	220	234	201	197	194	549
30	230	244	229	222	---	243	239	234	201	198	193	357
31	230	---	237	222	---	239	---	231	---	197	191	---
TOTAL	7112	7252	7296	7228	6501	7698	6783	7197	6459	6210	5999	8079
MEAN	229	242	235	233	232	248	226	232	215	200	194	269
MAX	239	313	244	276	261	280	239	266	237	209	206	549
MIN	224	229	226	222	220	226	209	212	194	191	187	191
AC-FT	14110	14380	14470	14340	12890	15270	13450	14280	12810	12320	11900	16020

CAL YR 1976 TOTAL 112967 MEAN 309 MAX 2810 MIN 212 AC-FT 224100
WTR YR 1977 TOTAL 83814 MEAN 230 MAX 549 MIN 187 AC-FT 166200

11368000 MCCLOUD RIVER ABOVE SHASTA LAKE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951, 1953 to current year.
CHEMICAL ANALYSES: Water years 1951, 1953 to current year.
WATER TEMPERATURES: Water years 1951, 1954-59.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June to September 1951, October 1953 to September 1959.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
NOV											
09...	1045	229	111	8.0	8.3	1	12.7	--	--	--	--
JAN											
06...	1345	233	115	7.8	3.0	1	13.8	--	--	44	0
MAR											
01...	0830	237	117	7.7	7.0	0	13.3	0	1.2	48	0
MAY											
11...	1200	256	119	7.9	11.0	2	11.0	--	--	--	--
JUL											
06...	1030	201	118	8.0	18.0	1	10.2	--	--	--	--
SEP											
13...	0730	219	111	7.5	13.0	1	9.9	0	.9	44	0

DATE	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	SUSPENDED SOLIDS (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	4.1	.3	64	0	52	2.0	--	--	--	--
MAR										
01...	5.3	.3	64	0	52	1.3	97	.13	62.1	2
MAY										
11...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	6.8	.4	60	0	49	.6	--	--	--	6

DATE	DISSOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	SUSPENDED ARSENIC (AS) (UG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED BORON (B) (UG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	--	0
MAR										
01...	.01	.00	.00	.00	.04	.01	--	0	--	0
MAY										
11...	.02	.00	.00	.00	.03	.01	--	--	--	--
JUL										
06...	.00	.03	.10	.13	.03	.01	--	--	--	--
SEP										
13...	.01	.00	.00	--	.05	.02	0	--	0	0

DATE	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DISSOLVED SELENIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
NOV										
09...	--	--	--	--	--	--	--	--	--	--
JAN										
06...	--	--	--	--	--	--	--	--	--	--
MAR										
01...	--	--	--	--	--	--	.1	0	1.3	.00
MAY										
11...	--	--	--	--	--	--	--	--	--	--
JUL										
06...	--	--	--	--	--	--	--	--	--	--
SEP										
13...	0	0	0	40	0	0	.0	0	1.5	.00

11370000 SHASTA LAKE NEAR REDDING, CA

LOCATION.--Lat 40°43'08", long 122°25'12", in SE¼NW¼ sec.15, T.33 N., R.5 W., Shasta County, in Shasta Dam on Sacramento River near right bank, 2 mi (3 km) downstream from Squaw Creek, and 9.5 mi (15.3 km) north of Redding.

DRAINAGE AREA.--6,421 mi² (16,630 km²), excluding Goose Lake basin.

PERIOD OF RECORD.--November 1942 to current year. Prior to 1950, published as Shasta Reservoir near Redding.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation). Prior to July 10, 1944, nonrecording gage at various sites near dam at same datum.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1949; regulation began Dec. 30, 1943. Usable capacity, 4,436,300 acre-ft (5.47 km³) between elevations 737.75 ft (224.866 m), bottom of lowest set of river outlets and 1,067.0 ft (325.22 m), top of flashboard gates on drum-type spillway gates, above mean sea level. Dead storage, 115,700 acre-ft (143 hm³). Installation of flashboard gates on top of drum gates completed Nov. 12, 1964. Gates increased elevation to 1,067.0 ft (325.22 m), total capacity, 4,552,100 acre-ft (5.61 km³). All water passes down the Sacramento River, most of which is through powerplant at dam. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 4,550,300 acre-ft (5.61 km³) May 19, 1967, elevation, 1,066.94 ft (325.203 m); minimum since reservoir first filled, 562,600 acre-ft (694 hm³) Sept. 13, 1977, elevation, 836.68 ft (255.020 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,612,500 acre-ft (1.99 km³) Jan. 11, elevation, 933.13 ft (284.418 m); minimum, 562,600 acre-ft (694 hm³) Sept. 13, elevation, 836.68 ft (255.020 m).

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

830	515500	910	1291900	990	2616600
840	587100	920	1424800	1000	2828500
850	665500	930	1566200	1010	3051800
860	751000	940	1717300	1020	3286900
870	843600	950	1877000	1030	3533500
880	943900	960	2046900	1050	4063100
890	1052000	970	2226100	1067	4552100
900	1167800	980	2416000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1300200	1499300	1562400	1594600	1529600	1487300	1460300	1202100	1126300	928200	672500	577100
2	1306400	1504400	1563800	1592000	1526600	1490100	1456500	1189300	1125100	917800	668100	575600
3	1313600	1508400	1565100	1591800	1523500	1488700	1449600	1182900	1122300	906600	660800	571400
4	1318100	1512100	1565100	1594000	1518800	1489700	1448700	1174300	1117700	896200	654200	571600
5	1324400	1518200	1564300	1595500	1514000	1489400	1446500	1166400	1110400	889400	647400	572900
6	1330400	1519500	1565200	1600100	1507300	1486200	1445800	1161900	1107000	884500	639000	573900
7	1338300	1520500	1567700	1605000	1503600	1486400	1443100	1155800	1104400	876300	632200	573900
8	1346400	1525700	1570300	1607400	1501000	1484000	1441500	1147300	1105100	867800	625800	573200
9	1352400	1530100	1572400	1607800	1500900	1485200	1433600	1142900	1106500	859500	624100	572100
10	1356000	1533700	1573900	1611100	1500900	1483800	1424400	1137100	1109500	849700	621200	569700
11	1365300	1537600	1576100	1612500	1500900	1481400	1419200	1135900	1099200	842100	617500	565800
12	1374500	1541000	1577200	1610700	1497300	1477600	1415200	1133900	1088900	836300	612800	563400
13	1383100	1541700	1579000	1610400	1492400	1476500	1409600	1133100	1078700	830400	608900	562600
14	1389500	1541700	1582700	1605600	1491400	1476600	1405600	1135000	1072300	824200	604800	565700
15	1395700	1544900	1584700	1600300	1489500	1476900	1399400	1136200	1066800	817500	603400	564400
16	1403300	1548200	1588600	1594800	1486700	1476700	1389800	1135800	1060700	808800	603000	565500
17	1405800	1550200	1591700	1590100	1485300	1475200	1372400	1132100	1054200	798200	602700	567300
18	1414200	1553000	1592100	1587000	1482600	1474100	1360200	1129800	1044400	790800	605600	568600
19	1420800	1556500	1591400	1584900	1482200	1470400	1350000	1130400	1034900	782100	609600	577700
20	1431000	1556200	1593700	1582400	1481600	1465000	1339300	1128600	1028300	773700	605900	587100
21	1437300	1555500	1595500	1578300	1481600	1465300	1331700	1127800	1020700	765400	598800	590200
22	1444900	1557100	1597900	1572500	1480100	1465300	1321500	1125400	1012300	758800	592500	594700
23	1446700	1558700	1600600	1565400	1480000	1465300	1306200	1125400	1006100	749100	591100	597500
24	1449600	1560400	1603100	1561400	1481400	1467200	1288100	1127100	999000	737800	590600	598000
25	1456500	1561600	1602600	1558200	1481400	1468600	1277200	1126800	988200	728800	595700	599000
26	1464300	1564100	1603200	1554900	1481800	1466000	1266400	1128600	975400	720900	599000	601500
27	1469700	1563200	1604400	1550900	1483900	1460900	1254500	1131500	965500	713900	594400	605600
28	1475600	1560800	1606100	1548000	1485600	1461100	1241600	1129800	957300	707000	587700	615300
29	1483800	1559800	1604100	1541800	---	1461500	1227300	1128800	948600	699400	579400	627500
30	1489000	1562000	1602600	1537200	---	1462500	1214100	1129100	937700	691100	578900	630600
31	1492600	---	1599100	1532900	---	1460700	---	1127100	---	680500	578000	---
MAX	1492600	1564100	1606100	1612500	1529600	1490100	1460300	1202100	1126300	928200	672500	630600
MIN	1300200	1499300	1562400	1532900	1480000	1460700	1214100	1125400	937700	680500	578000	562600
†	921.88	929.71	932.21	927.70	924.38	922.60	903.84	896.57	879.40	851.81	838.78	845.65
‡	+197300	+69400	+37100	-66200	-47300	-24900	-246600	-87000	-189400	-257200	-102500	+52600
††	4150	2430	2230	1720	2330	3080	5260	3630	6420	7150	4960	2910

CAL YR 1976 ‡ -1437800
WTR YR 1977 ‡ -664700

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

11370500 SACRAMENTO RIVER AT KESWICK, CA

LOCATION.--Lat 40°36'04", long 122°26'36", in SW¼NW¼ sec.28, T.32 N., R.5 W., Shasta County, on right bank 0.4 mi (0.6 km) upstream from Middle Creek, 0.8 mi (1.3 km) downstream from Keswick Dam, 1.6 mi (2.6 km) downstream from Keswick, and 10 mi (16 km) downstream from Shasta Dam.

DRAINAGE AREA.--6,468 mi² (16,752 km²), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.81 ft (146.246 m) above mean sea level. Prior to Oct. 1, 1939, at site 1.5 mi (2.4 km) upstream at datum 20.2 ft (6.16 m) higher and Oct. 1, 1939, to Apr. 30, 1942, at site 1.5 mi (2.4 km) upstream at datum 15.2 ft (4.63 m) higher. Aug. 20, 1960, to July 3, 1973, auxiliary water-stage recorder at city of Redding pumping plant 2.1 mi (3.4 km) downstream.

REMARKS.--Records good. Flow regulated by Shasta Dam beginning Dec. 30, 1943 (station 11370000). Diurnal fluctuations from Shasta powerplant re-regulated by Keswick Reservoir, capacity, 4,170 acre-ft (5.14 hm³) between normal operations elevations 579.0 ft (176.48 m) and 586.0 ft (178.61 m) and powerplant. No diversion for irrigation between Shasta Dam and station at Keswick. Since December 1963, water is released from Whiskeytown Lake (station 11371700) at lat 40°37'03", long 122°31'31", through a tunnel to Spring Creek powerplant (station 11371600) and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir).--39 years, 8,523 ft³/s (241.4 m³/s), 6,175,000 acre-ft/yr (7,614 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 186,000 ft³/s (5,270 m³/s) Feb. 23, 1940, gage height, 47.2 ft (14.39 m) site and datum then in use, from rating curve extended above 75,000 ft³/s (2,120 m³/s) on basis of peak discharge at Kennet plus 4,000 ft³/s (113 m³/s) estimated inflow; minimum observed, 2,730 ft³/s (77.3 m³/s) Aug. 22, 1939. Maximum discharge since construction of Shasta Dam in 1944, 81,400 ft³/s (2,310 m³/s) Apr. 1, 1974, gage height, 31.92 ft (9.729 m); maximum gage height, 32.22 ft (9.821 m) Jan. 24, 1970; minimum discharge, 154 ft³/s (4.36 m³/s) May 15, 1948.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,800 ft³/s (334 m³/s) July 7, gage height, 14.52 ft (4.426 m); minimum daily, 3,180 ft³/s (90.1 m³/s) Dec. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3960	3770	3900	6280	6210	4190	5360	9760	6800	11500	10700	6030
2	3850	3790	3740	6250	6270	4230	5330	9660	7110	11400	10700	5990
3	3890	3760	3690	5960	6160	5130	5330	9730	7650	11100	10700	5880
4	3980	3720	3580	5170	6190	5240	5370	9450	8150	11100	10700	5770
5	3740	3740	3470	3960	6200	6160	5270	8720	8170	10700	10300	5610
6	3790	3710	3370	3940	6150	6180	5310	7830	8260	10600	10400	5350
7	3850	3690	3250	3960	6190	6170	5910	8240	8210	10700	10400	5230
8	3880	3680	3220	4000	6160	6150	6560	9260	8720	10700	10000	5050
9	3870	3720	3230	5230	5220	6130	7010	8970	8780	10700	9350	4950
10	3830	3720	3310	5250	5190	6130	7050	8430	8760	10700	9300	5000
11	3820	3710	3180	5300	5190	6130	7040	7930	8790	10700	8750	5010
12	3830	3690	3230	6220	5220	5940	7480	7070	8770	10300	8630	4860
13	3810	3700	3190	6330	5190	5950	7880	6890	9410	10300	8520	4790
14	3810	3710	3200	6300	5180	5960	8390	6560	9420	10500	8480	4740
15	3820	3730	3200	6290	5170	5960	8430	6490	9480	10700	8000	4760
16	3820	3980	3260	6220	5190	5960	9200	6480	9930	10600	7950	4620
17	3810	3950	3230	6250	5160	5950	9700	6530	9960	10700	7980	4420
18	3810	3950	3220	6230	5180	5860	9730	6530	10300	10700	8080	4280
19	3810	3910	3220	6270	5200	4960	9240	6570	10300	10900	8160	4270
20	3820	3960	3230	6270	5190	4940	9240	6590	10200	11100	8120	3920
21	3770	3960	3230	6280	5160	4910	9250	6620	10300	11100	8150	3870
22	3770	3930	3230	6260	5170	4920	9730	6610	10300	11100	8150	3880
23	3770	3980	3230	6230	5070	4920	9780	6590	10500	11100	7840	3860
24	3800	4040	3250	6190	4350	4960	9780	6590	11100	11000	7640	3810
25	3800	3990	3220	6230	4250	4960	9760	6600	11200	11100	7140	3630
26	3820	3970	3240	6230	4210	4980	9800	6640	11100	11000	7110	3610
27	3810	4040	3260	6280	4170	4950	9790	6660	11100	10600	6860	3430
28	3790	4070	4700	6280	4190	4980	9770	6610	11100	10600	6620	3450
29	3800	4080	6090	6230	---	4980	9790	6600	11200	10700	6600	3440
30	3790	4030	6230	6220	---	4990	9800	6560	11500	10700	6280	3420
31	3770	---	6210	6170	---	5410	---	6580	---	10700	6000	---
TOTAL	118490	115680	112810	180280	148380	168280	242080	230350	286570	335400	263610	136930
MEAN	3822	3856	3639	5815	5299	5428	8069	7431	9552	10820	8504	4564
MAX	3980	4080	6230	6330	6270	6180	9800	9760	11500	11500	10700	6030
MIN	3740	3680	3180	3940	4170	4190	5270	6480	6800	10300	6000	3420
AC-FT	235000	229500	223800	357600	294300	333800	480200	456900	568400	665300	522900	271600
MEAN ‡	3628	3837	3783	3915	4099	3919	3260	3588	3514	3055	3264	3887
AC-FT ‡	223000	228300	232600	240800	227700	241000	194000	220600	209100	187800	200700	231300

CAL YR 1976 TOTAL 2985900 MEAN 8158 MAX 13700 MIN 3180 AC-FT 5923000 MEAN ‡ 4701 AC-FT ‡ 3413000
WTR YR 1977 TOTAL 2338860 MEAN 6408 MAX 11500 MIN 3180 AC-FT 4639000 MEAN ‡ 3642 AC-FT ‡ 2637000

‡ Adjusted for change in contents of and evaporation from Shasta Lake and transbasin diversion into Keswick Reservoir.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1951 to current year. Published as "near Keswick" in 1951 and 1953; as "at Keswick Dam, near Keswick" in 1968-69.

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)
OCT												
18...	1000	3800	88	7.0	13.0	1	9.8	--	--	--	--	--
NOV												
12...	1230	3680	124	7.1	15.0	2	9.0	--	--	--	--	--
DEC												
14...	1145	3210	133	7.4	12.0	3	10.3	53	0	8.0	.5	72
JAN												
17...	1245	6210	134	7.5	14.0	4	12.5	54	0	8.6	.5	74
FEB												
10...	1100	5140	140	7.7	9.0	2	13.2	51	0	8.8	.5	73
MAR												
22...	1000	4880	133	7.6	11.0	1	12.3	50	0	7.8	.5	71
APR												
19...	0915	9150	148	7.2	12.0	1	12.4	51	0	8.8	.5	76
MAY												
17...	1020	6520	118	7.2	12.0	2	10.7	--	--	--	--	--
JUN												
20...	0915	10100	138	7.1	15.0	1	10.0	48	0	8.0	.5	72
JUL												
19...	1145	11000	136	7.1	18.0	1	8.4	48	0	7.4	.5	71
AUG												
16...	1500	7950	118	7.1	19.0	7	7.5	--	--	--	--	--
SEP												
26...	1045	3650	130	7.1	19.0	8	8.0	48	0	7.3	.5	70

DATE	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
OCT											
18...	--	--	--	.03	--	--	.00	.03	.01	--	--
NOV											
12...	--	--	--	.16	--	--	.00	.03	.00	--	--
DEC											
14...	0	59	4.0	.24	--	--	.10	.02	.02	100	--
JAN											
17...	0	61	2.5	.12	--	--	.10	.02	.02	0	--
FEB											
10...	0	60	3.1	.20	.00	.00	.00	.04	.00	0	--
MAR											
22...	0	58	2.6	.11	.01	.10	.11	.02	.01	0	1.0
APR											
19...	0	62	3.3	.09	.00	.10	.10	.04	.01	100	--
MAY											
17...	--	--	--	.04	.00	.00	.00	.02	.00	--	--
JUN											
20...	0	59	4.3	.06	.00	.10	.10	.02	.00	0	--
JUL											
19...	0	58	3.9	.04	.02	.10	.12	.06	.01	0	--
AUG											
16...	--	--	--	.03	.00	.10	.10	.03	.02	--	--
SEP											
26...	0	57	3.3	.15	.14	.30	.44	.07	.00	100	1.4

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	SUSPENDED SOLIDS (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)	TOTAL CHROMIUM (CR) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)
MAR									
22...	1000	1	1.2	6	0	0	0	0	--
SEP									
26...	1045	1	1.1	10	0	0	0	--	0

DATE	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DISSOLVED SELENIUM (SE) (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
MAR								
22...	0	10	0	0	--	.1	0	.00
SEP								
26...	10	140	0	20	20	.0	0	.00

11371000 CLEAR CREEK AT FRENCH GULCH, CA

LOCATION.--Lat 40°41'42", long 122°38'08", unsurveyed, Shasta County, on right bank 1,200 ft (366 m) downstream from French Gulch, 0.3 mi (0.5 km) south of town of French Gulch, and 15 mi (24 km) northwest of Redding.

DRAINAGE AREA.--115 mi^2 (298 km^2).

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1285: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,320.60 ft (402.519 m) above mean sea level. Prior to Dec. 28, 1959, water-stage recorder at datum 3.00 ft (0.914 m) higher. Control partially destroyed January 1974.

REMARKS.--Records excellent except those for the month of June which are fair, and those for the months of July to September which are poor. No large diversion above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--27 years, 213 ft^3/s (6.032 m^3/s), 154,300 acre-ft/yr (190 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft^3/s (413 m^3/s) Jan. 16, 1974, gage height, 14.99 ft (4.569 m), from rating curve extended above 5,200 ft^3/s (147 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft^3/s (0.042 m^3/s) July 19-22, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft^3/s (2.86 m^3/s) May 2, gage height, 3.75 ft (1.143 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily, 1.5 ft^3/s (0.042 m^3/s) July 19-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	17	21	19	25	25	54	18	3.8	2.0	2.3
2	15	13	17	41	19	24	24	91	17	3.6	2.0	2.3
3	16	13	17	42	19	23	23	63	17	3.3	2.0	2.3
4	16	13	17	32	19	22	22	49	16	3.1	2.1	2.3
5	14	13	17	26	19	21	22	40	15	2.9	2.1	2.3
6	13	13	17	23	19	20	22	35	14	2.7	2.1	2.2
7	13	12	17	22	19	20	21	31	13	2.6	2.0	2.1
8	12	13	17	20	26	24	23	27	11	2.4	2.0	2.0
9	12	13	18	20	37	30	24	33	20	2.3	2.0	2.0
10	12	13	18	22	28	29	21	44	20	2.1	2.0	2.0
11	12	17	17	22	24	26	20	43	21	2.0	2.1	1.9
12	12	18	17	26	23	24	19	43	17	1.8	2.1	1.9
13	12	19	17	26	21	23	17	39	15	1.8	2.1	2.0
14	12	43	17	24	21	22	17	34	14	1.7	2.1	2.5
15	12	29	17	23	21	47	16	31	11	1.6	2.1	3.0
16	12	22	17	23	20	63	16	26	9.6	1.6	2.1	4.7
17	12	20	17	23	61	61	14	26	8.2	1.6	2.0	9.0
18	12	19	17	25	20	49	14	26	9.6	1.6	2.0	21
19	12	18	17	25	19	43	14	27	11	1.5	2.0	39
20	12	18	16	26	20	43	14	25	8.2	1.5	2.0	32
21	12	18	17	26	31	44	14	21	6.9	1.5	2.0	16
22	12	17	17	26	33	48	14	21	4.6	1.5	2.0	12
23	12	17	17	25	50	50	14	25	3.7	1.6	2.0	11
24	13	17	17	23	35	49	13	24	3.4	1.6	2.1	10
25	14	17	17	22	28	43	16	22	3.4	1.6	2.1	9.8
26	14	17	17	21	26	38	19	29	4.1	1.6	3.2	9.4
27	13	17	17	20	25	33	15	32	4.7	1.7	3.3	9.8
28	12	17	17	20	25	32	14	26	4.4	1.8	2.4	22
29	12	17	17	19	---	29	14	22	4.2	1.8	2.3	33
30	12	18	24	19	---	27	16	20	4.0	1.9	2.4	21
31	13	---	21	19	---	26	---	20	---	2.0	2.3	---
TOTAL	397	524	539	752	727	1058	537	1049	329.0	64.1	67.0	292.8
MEAN	12.8	17.5	17.4	24.3	26.0	34.1	17.9	33.8	11.0	2.07	2.16	9.76
MAX	16	43	24	42	61	63	25	91	21	3.8	3.3	39
MIN	12	12	16	19	19	20	13	20	3.4	1.5	2.0	1.9
AC-FT	787	1040	1070	1490	1440	2100	1070	2080	653	127	133	581

CAL YR 1976 TOTAL 20545.3 MEAN 56.1 MAX 683 MIN 7.8 AC-FT 40750
WTR YR 1977 TOTAL 6335.9 MEAN 17.4 MAX 91 MIN 1.5 AC-FT 12570

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, at powerplant 1.6 mi (2.6 km) downstream from Mill Creek, and 3.8 mi (6.1 km) south of French Gulch.

PERIOD OF RECORD.--April 1963 to current year.

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Trinity River at NW¼SE¼ sec.8, T.33 N., R.8 W., through a tunnel to powerplant and then into Whiskeytown Lake (station 11371700). See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--14 years, 1,727 ft^3/s (48.91 m^3/s), 1,251,000 acre-ft/yr (1.54 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,910 ft^3/s (111 m^3/s) Feb. 11, 1970; no flow for several days in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2640	2580	535	521	337	526	1690	0	2630	3390	3630	1930
2	2620	2580	547	491	346	1500	1640	66	2560	3400	3610	1840
3	2620	2110	538	626	307	1520	1600	2560	2550	3400	3440	1860
4	2620	2110	473	466	306	1510	1600	2580	2550	3410	3400	3130
5	2760	2120	467	387	523	1500	1600	2560	2550	3420	3580	3140
6	2870	2060	496	2700	320	1490	1600	2560	2580	3570	3550	2930
7	2860	2110	487	2770	348	1500	1640	2560	2550	3640	3530	1420
8	2950	1900	647	2580	330	1490	1720	2560	3070	3640	3510	1120
9	2860	1820	796	2590	321	1490	1640	2550	3220	3630	3490	1090
10	2860	1330	518	2580	322	1490	1640	2570	3020	3640	3450	674
11	2850	1300	477	2500	315	1500	1640	2560	3020	3630	3470	1310
12	2850	1150	594	377	323	1490	1640	2560	3020	3640	3470	1460
13	2840	962	633	334	315	1490	1640	2670	2990	3640	3460	1470
14	3420	1200	520	320	395	1500	1640	2570	3000	3630	3470	2160
15	3350	1200	517	363	449	1500	1790	2560	2990	3630	3580	1010
16	3370	567	497	339	383	1500	1610	2560	2980	3630	3670	986
17	3060	504	508	336	388	1490	92	2560	2990	3660	3490	1470
18	2940	1030	503	356	379	1500	0	2550	2990	3620	3400	1510
19	2960	929	506	335	314	1500	0	2530	2990	3050	3460	1500
20	2830	875	507	308	317	1500	0	2570	2980	3630	3400	1470
21	2580	880	520	395	318	1500	0	2550	2990	3160	3380	1470
22	2570	951	514	365	325	1490	0	2550	2990	3610	3330	1470
23	2580	535	508	361	342	1500	0	2580	2990	3620	3330	1470
24	2580	533	504	374	458	1500	0	2560	3030	3620	3320	1450
25	2580	455	519	369	454	1500	0	2560	3090	3620	2890	1460
26	2580	442	615	394	503	1500	0	2560	3060	3640	2800	1470
27	2580	492	512	369	510	1510	0	2560	3060	3640	2580	1460
28	2580	427	512	358	496	1510	0	2560	2990	3590	2230	1300
29	2580	504	530	314	---	1510	0	2560	2990	3640	2220	0
30	2580	576	517	300	---	1510	0	2550	2990	3610	2110	0
31	2580	---	526	327	---	1510	---	2580	---	3640	2070	---
TOTAL	86500	36232	16543	25205	10444	45526	26422	74426	87410	110290	100320	45030
MEAN	2790	1208	534	813	373	1469	881	2401	2914	3558	3236	1501
MAX	3420	2580	796	2770	523	1520	1790	2670	3220	3660	3670	3140
MIN	2570	427	467	300	306	526	0	0	2550	3050	2070	0
AC-FT	171600	71870	32810	49990	20720	90300	52410	147600	173400	218800	199000	89320

CAL YR 1976 TOTAL 540287.00 MEAN 1476 MAX 3420 MIN 0 AC-FT 1072000
WTR YR 1977 TOTAL 664348.00 MEAN 1820 MAX 3670 MIN 0 AC-FT 1318000

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE¼SE¼ sec.18, T.32 N., R.5 W., Shasta County, at powerplant on Spring Creek, 0.4 mi (0.6 km) northwest of Keswick, and 4.9 mi (7.9 km) northwest of Redding.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Discharge computed from powerplant output.

REMARKS.--Water is released from Whiskeytown Lake (station 11371700) at lat 40°37'03", long 122°31'31", through a tunnel to powerplant and then into Keswick Reservoir. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--13 years, 2,116 ft^3/s (59.93 m^3/s), 1,533,000 acre-ft/yr (1.89 km^2).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,700 ft^3/s (133 m^3/s) Jan. 21, 1971; no flow for many days in 1974-77.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3230	2760	453	459	353	562	935	0	2770	3390	3490	1860
2	3210	2660	464	535	244	1470	1000	0	2670	3420	4020	1870
3	3250	2090	471	525	434	1480	0	2120	2550	3490	4040	1970
4	3270	2130	448	561	386	1450	1010	2490	2490	3500	4050	3200
5	3540	2100	543	347	393	1440	1000	2740	2620	3470	4060	3220
6	3640	2140	574	2660	317	1450	1010	2240	2720	3400	4110	2830
7	4050	2130	614	2800	346	1480	999	2720	2710	3630	4100	1540
8	4020	1950	540	2790	361	1450	1730	2680	2930	3650	4080	1730
9	3940	1870	0	2820	357	1610	1730	2740	3060	3770	4060	1730
10	3950	1400	197	2900	366	1480	1730	2670	2990	4160	4060	683
11	3970	1370	505	2700	355	1550	1720	2750	2910	4170	4050	1020
12	3960	1210	545	485	314	1590	1590	2730	2940	4140	4080	1420
13	3880	1000	409	409	385	1590	1590	2810	2970	3680	4120	1500
14	3920	1030	491	358	388	1670	1590	2800	2940	3710	4100	2200
15	3930	1120	547	430	357	1670	1590	2760	2920	3730	4120	1140
16	3920	534	717	391	371	1030	1590	3260	3190	3710	4100	1120
17	3720	533	636	447	304	1010	154	1250	3250	3720	4090	1590
18	3690	967	458	439	317	1000	451	2730	3010	3700	4100	1490
19	3700	1040	468	414	308	1000	521	2670	3060	3720	4130	1500
20	3500	991	487	340	311	0	334	2850	3040	3730	4070	2010
21	3150	982	498	312	306	1060	213	2740	3080	3590	4080	1590
22	3190	997	503	334	354	1000	138	2630	3040	3740	3860	1640
23	3190	593	509	314	411	1010	0	2700	3110	3710	3400	1900
24	3190	556	515	316	635	1010	0	2660	2920	3700	3460	1470
25	3190	487	505	328	567	838	0	2650	3120	3710	2920	1510
26	3180	473	542	329	559	1000	0	2720	3090	3670	2780	1520
27	3240	465	540	313	568	0	0	2670	3210	3680	2610	1510
28	2880	385	542	350	557	1030	0	2660	3610	3670	2540	1540
29	2770	469	543	318	---	891	0	3310	3010	3730	2510	0
30	2660	408	561	322	---	1070	0	2880	2960	4160	2220	0
31	2660	---	561	342	---	917	---	2480	---	3380	1860	---
TOTAL	107590	36840	15386	26388	10924	35808	22625	77110	88890	114630	113270	48303
MEAN	3471	1228	496	851	390	1155	754	2487	2963	3698	3654	1610
MAX	4050	2760	717	2900	635	1670	1730	3310	3610	4170	4130	3220
MIN	2660	385	0	312	244	0	0	0	2490	3380	1860	0
AC-FT	213400	73070	30520	52340	21670	71030	44880	152900	176300	227400	224700	95810

CAL YR 1976 TOTAL 576892.00 MEAN 1576 MAX 4050 MIN 0 AC-FT 1144000
WTR YR 1977 TOTAL 697764.00 MEAN 1912 MAX 4170 MIN 0 AC-FT 1384000

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.--Lat 40°37'03", long 122°31'31", unsurveyed, Shasta County, at outlet works to Spring Creek powerplant on Clear Creek, 1.8 mi (2.9 km) downstream from Whiskey Creek, and 7.8 mi (12.6 km) northeast of Igo.

DRAINAGE AREA.--200 mi^2 (518 km^2).

PERIOD OF RECORD.--May 1963 to current year. Prior to October 1964 published as Whiskeytown Reservoir near Igo.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by earth- and rockfill dam. Storage began in May 1963. Capacity, 241,100 acre-ft (297 hm^3) between elevations 1,100.00 ft (335.280 m), minimum operating level and 1,210.00 ft (368.808 m), crest of spillway. No dead storage. Transbasin water enters the reservoir through Judge Francis Carr powerplant (station 11525430) and is released through Spring Creek tunnel to Spring Creek powerplant (station 11371600) and Keswick Reservoir. Records, including extremes, represent contents at 2400 hours. See schematic diagram of Pit and McCloud River basins.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 253,100 acre-ft (312 hm^3) Mar. 30, 1974, elevation, 1,213.69 ft (369.933 m); minimum since reservoir was first filled, 159,000 acre-ft (196 hm^3) Oct. 25, 1970, elevation, 1,181.48 ft (360.115 m).

EXTREMES FOR CURRENT YEAR: Maximum contents, 240,600 acre-ft (297 hm^3) Apr. 17, elevation, 1,209.85 ft (368.762 m); minimum, 201,200 acre-ft (248 hm^3) Dec. 7, elevation, 1,196.97 ft (364.836 m).

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

1015	714	1080	15100
1020	994	1100	27500
1030	1800	1120	46700
1040	3060	1140	74000
1050	4900	1180	155300
1060	7420	1220	274400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237700	202500	201900	202000	202000	202300	228900	236300	237200	239200	238800	217500
2	236700	202400	202000	202400	202200	202400	230300	236600	237100	239500	238300	217500
3	235700	202600	202000	202700	202000	202600	233600	237700	237200	239400	237400	217400
4	234500	202600	202000	202600	201800	202800	234800	238100	237500	239300	236400	217400
5	233100	202700	201800	202700	202100	203000	236100	237900	237500	239300	235700	217500
6	231800	202500	201500	203000	202100	203300	237400	238800	237300	239700	234800	217900
7	229600	202500	201200	203200	202100	203500	238800	238600	237100	240000	233900	217700
8	227700	202400	201400	203000	202300	203700	239100	238500	237500	240300	232800	216500
9	225700	202300	202900	202700	202300	203700	239100	238600	238100	240200	231700	215200
10	223700	202300	203400	202400	202200	203800	239000	238800	238300	239500	230700	215100
11	221700	202200	203300	202300	202200	203900	239000	238800	238800	238700	229800	215700
12	219600	202100	203300	202100	202200	203800	239200	238800	239000	237900	228700	215700
13	217700	202400	203600	202000	202100	203800	239400	238800	239200	238200	227700	215700
14	217000	203000	203600	201900	202100	203700	239700	238500	239500	238300	226600	215700
15	216100	203200	203400	201800	202300	204100	240300	238200	239800	238400	225700	215500
16	215300	203200	203000	201800	202300	205300	240500	237000	239500	238600	225000	215400
17	214200	203000	202600	201600	202500	206500	240600	239800	239100	238700	224100	215700
18	212900	203100	202600	201400	202600	207700	239600	239600	239300	238800	222900	215900
19	211700	202900	202600	201300	202600	208900	238400	239500	239300	237700	221700	218000
20	210500	202600	202600	201300	202700	212000	237600	239200	239300	237800	220500	217200
21	209600	202500	202500	201500	203000	213100	237000	238900	239300	237100	219200	217000
22	208600	202300	202500	201600	203000	214300	236700	239000	239300	237200	218300	216800
23	207500	202200	202400	201700	203000	215400	236500	239000	239200	237400	218300	216100
24	206600	202000	202300	201800	202800	216800	236400	239000	239600	237500	218200	216200
25	205600	201900	202200	201900	202600	218300	236400	239000	239600	237700	218300	216200
26	204600	201700	202300	202000	202500	219500	236300	239000	239800	237900	218400	216300
27	203400	201700	202100	202100	202500	222400	236100	238900	239600	238100	218400	216300
28	202900	201600	202000	202100	202400	223600	236000	238800	238500	238100	217800	216500
29	202700	201600	201900	202100	---	225000	235900	237600	238500	238200	217300	216500
30	202700	201800	201900	202000	---	225900	235900	237000	238800	237400	217000	216500
31	202700	---	201800	202000	---	227200	---	237400	---	238200	217300	---
MAX	237700	203200	203600	203200	203000	227200	240600	239800	239800	240300	238800	218000
MIN	202700	201600	201200	201300	201800	202300	228900	236300	237100	237100	217000	215100
†	1197.48	1197.18	1197.18	1197.24	1197.38	1205.60	1208.37	1208.84	1209.28	1209.10	1202.38	1202.12
‡	-35900	-900	0	+200	+400	+24800	+8700	+1500	+1400	-600	-20900	-800
††	670	330	230	180	360	530	1080	900	1780	2180	1850	1040

CAL YR 1976 ‡ -1700
WTR YR 1977 ‡ -22100

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

11372000 CLEAR CREEK NEAR IGO, CA

LOCATION.--Lat 40°30'48", long 122°31'23", unsurveyed, Shasta County, on left bank at highway bridge on Redding-Igo Road 1.0 mi (1.6 km) northeast of Igo, 8.3 mi (13.4 km) southwest of Redding, and 10.4 mi (16.7 km) upstream from mouth.

DRAINAGE AREA.--228 mi^2 (590 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1345: Drainage area. WSP 1395: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 672.99 ft (205.127 m) above mean sea level.

REMARKS.--Records excellent. Flow regulated by Whiskeytown Lake since May 1963 (station 11371700). Transbasin diversion from Trinity River through Judge Francis Carr powerplant to Whiskeytown Lake began in April 1963 (station 11525430). Diversions from Whiskeytown Lake to Spring Creek powerplant (station 11371600) began in December 1963. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents and diversions in and out of Whiskeytown Lake).--37 years, 452 ft^3/s (12.80 m^3/s), 327,500 acre-ft/yr (404 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s (694 m^3/s) Dec. 21, 1955, gage height, 13.75 ft (4.191 m); minimum, 8.6 ft^3/s (0.24 m^3/s) Sept. 4, 6, 7, 1950. Maximum discharge since contruction of Whiskeytown Dam in 1963, 9,940 ft^3/s (282 m^3/s) Dec. 22, 1964, gage height, 9.23 ft (2.813 m); minimum daily, 31 ft^3/s (0.88 m^3/s) Sept. 11-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 295 ft^3/s (8.35 m^3/s) Sept. 19, gage height, 3.40 ft (1.036 m); minimum daily, 31 ft^3/s (0.88 m^3/s) Sept. 11-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	72	94	97	48	49	49	64	51	47	51	51
2	53	103	94	130	48	50	49	59	50	47	49	36
3	53	103	94	91	48	49	49	53	49	53	49	35
4	53	103	94	54	48	49	49	52	49	62	49	35
5	52	103	94	51	48	49	49	50	49	59	49	35
6	52	103	94	50	48	49	49	49	49	61	49	35
7	52	103	94	49	48	49	48	49	49	47	50	34
8	52	103	94	49	51	49	49	49	49	53	50	34
9	52	103	94	49	53	51	49	61	49	66	50	34
10	51	103	94	49	50	48	50	93	49	53	49	32
11	51	103	94	49	49	48	50	85	49	45	47	31
12	51	104	94	49	48	48	48	70	49	46	46	31
13	51	107	94	49	48	48	55	61	49	45	47	31
14	51	116	94	49	48	48	49	57	49	46	47	31
15	51	97	94	49	48	67	50	59	48	44	48	32
16	51	95	94	48	48	68	75	53	47	45	49	36
17	51	95	94	48	48	57	61	52	46	44	50	36
18	51	94	94	48	48	53	60	53	48	44	50	35
19	51	94	94	48	48	52	48	54	52	44	50	88
20	51	94	94	48	48	51	48	52	55	44	50	49
21	51	94	94	48	56	51	48	52	49	44	50	35
22	51	94	94	48	52	51	47	53	56	45	49	34
23	51	94	95	48	58	51	46	53	59	45	50	33
24	51	94	94	48	54	55	47	51	50	46	52	33
25	51	94	95	48	51	53	55	51	52	46	53	33
26	51	94	95	48	50	51	50	70	45	48	53	33
27	51	94	94	48	51	49	48	66	49	49	52	33
28	51	94	94	48	50	49	48	62	46	52	52	58
29	51	94	94	48	---	49	48	54	45	52	52	49
30	51	94	96	48	---	49	49	52	46	52	52	36
31	51	---	95	48	---	49	---	51	---	51	52	---
TOTAL	1593	2938	2920	1682	1393	1589	1520	1790	1482	1525	1546	1138
MEAN	51.4	97.9	94.2	54.3	49.8	51.3	50.7	57.7	49.4	49.2	49.9	37.9
MAX	53	116	96	130	58	68	75	93	59	66	53	88
MIN	51	72	94	48	48	48	46	49	45	44	46	31
AC-FT	3160	5830	5790	3340	2760	3150	3010	3550	2940	3020	3070	2260
MEAN ‡	160	109	60.7	99.4	80.5	149	88.9	184	151	217	158	151
AC-FT ‡	9810	6460	3730	6110	4470	9190	5290	11300	9000	13330	9700	9010

CAL YR 1976 TOTAL 26114 MEAN 71.3 MAX 777 MIN 49 AC-FT 51800 MEAN ‡ 184 AC-FT ‡ 133800
WTR YR 1977 TOTAL 21116 MEAN 57.9 MAX 130 MIN 31 AC-FT 41880 MEAN ‡ 135 AC-FT ‡ 97400

‡ Adjusted for change in contents and evaporation from Whiskeytown Lake, diversion from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant, furnished by Bureau of Reclamation.

11372000 CLEAR CREEK NEAR IGO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.
CHEMICAL ANALYSES: Water years 1958-66.
WATER TEMPERATURES: Water years 1965 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: March 1965 to current year.

INSTRUMENTATION.--Temperature recorder since March 1965.

REMARKS.--Clock stopped June 11-28, Sept. 22-30; range in temperature, 14.0°C to 20.5°C, and 14.0°C to 18.0°C, respectively.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 22.0°C Sept. 6; minimum recorded, 2.0°C sometime during periods Jan. 3 to Feb. 1, 1968, and Jan. 13 to Feb. 6, 1975.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 22.0°C Sept. 6; minimum recorded, 4.0°C Jan. 7-9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11372000 CLEAR CREEK NEAR IGO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11374000 COW CREEK NEAR MILLVILLE, CA

LOCATION.--Lat 40°30'19", long 122°13'56", in NE¼NW¼ sec.32, T.31 N., R.3 W., Shasta County, on right bank 2.9 mi (4.7 km) upstream from mouth, 4.2 mi (6.8 km) southwest of Millville, and 4.3 mi (6.9 km) downstream from Little Cow Creek.

DRAINAGE AREA.--425 mi^2 (1,100 km^2).

PERIOD OF RECORD.--October 1949 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 408.3 ft (124.44 m) above mean sea level.

REMARKS.--Records good except those for the summer months, which are fair. Numerous small diversions above station for irrigation. Streamflow July 30 to Aug. 26, 1977, was supplemented with ground water for irrigation use downstream.

AVERAGE DISCHARGE.--28 years, 669 ft^3/s (18.95 m^3/s), 484,700 acre-ft/yr (598 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft^3/s (1,280 m^3/s) Dec. 27, 1951, gage height, 21.55 ft (6.568 m); minimum daily, 0.02 ft^3/s (0.006 m^3/s) July 29, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1937 or 1940 reached a stage of 23.8 ft (7.25 m) from floodmarks. Probable backwater effect from high flows on the Sacramento River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft^3/s (36.0 m^3/s) May 11, gage height, 4.53 ft (1.381 m), no peak above base of 10,000 ft^3/s (283 m^3/s); minimum daily, 0.02 ft^3/s (0.006 m^3/s) July 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	57	84	108	87	116	94	59	55	1.0	.40	.60
2	56	57	84	284	87	104	86	61	46	3.5	.45	.41
3	65	53	83	376	86	97	83	62	39	2.3	.30	.40
4	68	49	83	156	86	91	83	64	30	1.2	.30	.45
5	55	47	79	122	86	86	68	64	24	1.3	.45	.50
6	44	53	78	113	86	85	64	62	21	1.2	.45	1.5
7	40	54	78	101	83	88	66	88	19	.67	.45	1.0
8	43	56	81	98	98	88	72	64	19	1.0	.40	.80
9	42	55	87	93	149	112	145	73	21	1.8	.14	.90
10	42	60	81	94	114	136	139	119	20	.65	.86	1.1
11	37	65	81	94	100	103	105	740	31	.49	.70	.95
12	36	69	81	105	96	98	91	563	34	.46	.60	1.0
13	39	71	79	103	92	100	79	261	26	.42	.50	1.0
14	37	109	82	98	89	102	66	187	17	.31	.19	1.0
15	36	163	81	97	88	115	66	151	14	.30	.48	1.4
16	38	113	78	96	88	144	58	128	8.2	.29	.35	.80
17	36	98	79	95	84	140	54	112	7.3	.28	.60	88
18	36	91	77	96	74	137	52	103	11	.27	.86	74
19	36	95	77	97	70	116	48	104	23	.26	.77	72
20	41	92	81	98	71	106	42	95	23	.26	1.7	278
21	45	88	82	100	101	101	38	75	14	.25	1.7	135
22	46	90	82	97	169	98	34	67	12	.25	1.6	78
23	45	90	83	94	152	108	33	98	8.6	.20	1.4	60
24	49	89	83	91	197	208	29	120	8.1	.15	.70	59
25	48	86	82	89	132	258	31	100	4.7	.08	.70	55
26	46	81	81	88	115	163	38	99	2.1	.08	.70	52
27	48	78	81	88	107	134	29	130	1.0	.06	1.2	48
28	47	79	80	88	102	117	27	127	.80	.04	1.6	63
29	52	81	81	85	---	108	31	101	2.8	.02	.95	116
30	56	84	100	84	---	102	38	86	1.8	.20	.85	127
31	56	---	112	86	---	95	---	70	---	.30	.70	---
TOTAL	1417	2353	2561	3514	2889	3656	1889	4213	544.40	19.59	23.05	1318.81
MEAN	45.7	78.4	82.6	113	103	118	63.0	136	18.1	.63	.74	44.0
MAX	68	163	112	376	197	258	145	740	55	3.5	1.7	278
MIN	36	47	77	84	70	85	27	59	.80	.02	.14	.40
AC-FT	2810	4670	5080	6970	5730	7250	3750	8360	1080	39	46	2620

CAL YR 1976 TOTAL 81331.90 MEAN 222 MAX 10000 MIN 6.4 AC-FT 161300
WTR YR 1977 TOTAL 24397.85 MEAN 66.8 MAX 740 MIN .02 AC-FT 48390

11374400 MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CA

LOCATION.--Lat 40°22'03", long 122°34'19", in SW¼NW¼ sec.17, T.29 N., R.6 W., Shasta County, on left bank 700 ft (213 m) downstream from Poverty Gulch, 4.6 mi (7.4 km) upstream from North Fork Cottonwood Creek, and 7.8 mi (12.6 km) southeast of Ono.

DRAINAGE AREA.--244 mi² (632 km²).

PERIOD OF RECORD.--Water years 1964-72, January to September 1977.
WATER TEMPERATURES: Water years 1964-65, 1968-72, January to September 1977.
SEDIMENT RECORDS: Water years 1963-70.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1963 to September 1965, July 1968 to September 1972, January to September 1977.

INSTRUMENTATION.--Temperature recorder July 24, 1968 to Sept. 30, 1972, and since Jan. 24, 1977.

REMARKS.--Prior to June 24, 1970, water temperature data collected at site 4.2 mi (6.8 km) downstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 36.5°C July 15, 1972; minimum recorded, 0.0°C on several days in 1968, 1971, and 1972.

EXTREMES FOR PERIOD JANUARY TO SEPTEMBER.--
WATER TEMPERATURES: Maximum recorded, 34.5°C Aug. 11; minimum recorded, 3.0°C Jan. 25-27, Feb. 3, Mar. 16.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

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

11374400 MIDDLE FORK COTTONWOOD CREEK NEAR ONO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	19.0	10.5	18.0	15.5	28.5	20.5			---	---	28.0	20.0
2	20.0	10.5	19.0	13.5	27.5	17.0			---	---	28.0	20.5
3	22.0	11.5	20.5	14.5	26.5	19.0			31.0	25.5	27.5	20.0
4	24.0	13.0	21.5	11.5	29.5	19.5			30.5	25.5	28.5	20.5
5	24.5	14.5	20.5	12.5	32.5	21.5			30.0	24.5	29.0	21.0
6	24.5	15.0	18.5	12.0	30.5	24.0			29.0	24.5	28.5	21.5
7	24.0	15.5	18.5	12.0	31.5	24.0			30.0	24.0	28.5	21.0
8	18.5	15.0	22.0	12.0	31.0	22.5			30.5	24.0	27.5	20.5
9	21.0	12.0	17.5	15.0	26.5	23.0			31.5	25.0	27.0	20.0
10	22.0	12.0	16.5	12.5	22.0	19.5			32.5	26.0	26.5	19.5
11	24.0	13.5	15.0	13.0	26.5	18.0			34.5	26.5	26.0	18.5
12	25.0	14.5	21.5	12.5	27.5	19.5			34.0	26.0	25.5	18.0
13	23.5	14.5	---	---	27.0	20.5			32.5	25.5	23.5	18.0
14	22.5	13.0	---	---	28.0	19.5			32.0	24.0	24.5	18.5
15	25.5	14.0	22.0	13.0	29.5	20.0			32.5	23.5	20.5	17.5
16	24.5	14.5	19.0	12.5	29.5	21.0			32.5	23.5	17.5	16.0
17	24.0	14.0	23.0	12.5	27.0	21.5			29.5	25.0	17.0	15.5
18	22.0	13.0	17.5	15.0	28.0	20.5			31.0	23.5	19.0	16.0
19	23.0	12.0	---	---	29.5	21.0			32.5	24.0	20.0	16.5
20	24.0	13.5	27.5	17.5	---	---			32.5	26.0	23.0	16.0
21	23.5	14.0	---	---	---	---			33.0	24.5	23.0	16.0
22	23.5	14.0	21.0	17.5	---	---			31.5	24.0	22.0	15.5
23	23.5	14.0	19.5	15.5	---	---			31.5	23.5	19.0	15.5
24	22.0	14.5	24.5	14.5	---	---			27.5	23.0	21.5	15.5
25	18.5	15.0	22.5	17.5	---	---			24.0	21.0	22.0	15.5
26	24.0	12.0	21.0	17.0	---	---			27.0	18.0	22.0	16.5
27	25.0	15.0	24.5	14.0	---	---			28.5	19.5	19.0	17.0
28	23.5	16.0	25.5	14.5	---	---			30.5	21.0	18.0	17.0
29	21.0	16.0	27.5	16.5	---	---			29.5	21.5	23.0	17.0
30	22.5	15.5	29.0	18.0	---	---			28.5	20.5	20.5	15.0
31	---	---	30.5	20.0	---	---			28.5	20.5	---	---
MONTH	25.5	10.5	30.5	11.5	---	---			34.5	18.0	29.0	15.0

11375700 NORTH FORK COTTONWOOD CREEK NEAR IGO, CA

LOCATION.--Lat 40°26'32", long 122°32'57", in SE¼NW¼ sec.21, T.30 N., R.6 W., Shasta County, near right bank on downstream side of bridge on Gas Point Road, 1.2 mi (1.9 km) downstream from Huling Creek, 4.4 mi (7.1 km) south of Igo, and 4.5 mi (7.2 km) upstream from Middle Fork.

DRAINAGE AREA.--88.7 mi^2 (229.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1956 to current year.

REVISED RECORDS.--WSP 1931: 1960(M).

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (192 m), from topographic map.

REMARKS.--Some storage for irrigation above station in Rainbow Lake, capacity, 4,800 acre-ft (5.92 hm^3). Some flow diverted upstream to Clear Creek basin by Happy Valley Irrigation Canal.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--21 years, 164 ft^3/s (4.644 m^3/s), 118,800 acre-ft/yr (146 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s (312 m^3/s) Dec. 22, 1964, gage height, 39.45 ft (12.024 m) in gage well 41.7 ft (12.71 m), from floodmarks, from rating curve extended above 4,400 ft^3/s (125 m^3/s) on basis of slope-area measurement of maximum flow; minimum daily, 0.30 ft^3/s (0.008 m^3/s) Sept. 5, 11-15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 21, 1955, reached a peak discharge of 14,300 ft^3/s (405 m^3/s) by slope-area measurement at site 1.2 mi (1.9 km) upstream (above Huling Creek) adjusted for intervening drainage area.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 125 ft^3/s (3.54 m^3/s) Jan. 2, gage height, 30.46 ft (9.284 m); minimum daily, 0.30 ft^3/s (0.008 m^3/s) Sept. 5, 11-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	4.8	13	32	13	13	12	27	8.8	4.0	.70	.40
2	12	4.8	13	81	13	13	12	45	7.1	4.0	.60	.40
3	10	4.8	13	52	13	13	11	21	5.3	3.8	.60	.40
4	8.2	6.8	14	29	13	12	11	15	4.8	3.7	.50	.40
5	8.0	6.9	13	21	13	12	10	11	4.4	3.2	.50	.30
6	7.7	7.2	13	27	13	12	8.9	10	4.0	3.0	.50	.40
7	5.4	7.3	14	27	13	12	7.3	11	3.3	3.5	.50	.40
8	5.7	8.6	14	26	15	12	7.1	10	3.1	3.3	.50	.40
9	6.0	9.5	14	25	18	14	7.1	19	3.3	3.4	.50	.40
10	6.1	9.8	14	25	15	12	6.7	49	3.8	3.4	.50	.40
11	5.7	12	17	25	19	9.8	6.3	77	4.1	3.3	.50	.30
12	5.2	16	17	22	44	8.9	5.6	68	4.0	3.5	.50	.30
13	8.7	14	17	14	42	9.8	5.4	55	3.5	3.6	.60	.30
14	9.4	56	16	13	40	11	40	46	3.4	1.6	.60	.30
15	9.3	33	16	13	21	25	61	30	3.1	1.3	.60	.30
16	9.2	35	16	13	10	55	44	29	2.9	1.9	.60	.70
17	8.7	32	15	14	10	29	5.5	25	2.9	2.2	.60	2.2
18	8.2	30	13	14	10	19	4.1	25	3.1	2.1	.60	17
19	6.9	29	13	14	10	17	3.5	28	3.8	1.6	.50	28
20	6.9	29	13	14	10	17	3.7	21	4.0	1.4	.50	30
21	6.8	27	14	14	17	17	3.3	18	3.6	1.0	.50	8.1
22	6.3	27	14	15	17	19	3.4	18	3.5	.80	.50	4.0
23	6.3	21	15	14	18	21	3.5	21	4.0	.60	.50	3.3
24	6.6	13	15	14	17	25	3.7	22	4.7	.60	.40	3.2
25	7.0	12	15	13	14	22	5.5	16	5.0	.60	.50	3.1
26	5.8	13	15	13	13	17	5.0	29	4.9	.60	.50	3.1
27	5.1	13	15	13	13	15	4.2	27	4.8	.60	.50	3.2
28	4.5	13	15	13	13	15	4.1	18	4.4	.50	.40	20
29	4.4	13	15	13	---	14	4.3	16	3.2	.60	.40	43
30	4.7	13	18	13	---	14	4.5	14	3.2	.60	.40	28
31	4.8	---	17	13	---	13	---	13	---	.70	.40	---
TOTAL	229.6	521.5	456	649	477	518.5	313.7	834	124.0	65.00	16.00	202.30
MEAN	7.41	17.4	14.7	20.9	17.0	16.7	10.5	26.9	4.13	2.10	.52	6.74
MAX	20	56	18	81	44	55	61	77	8.8	4.0	.70	43
MIN	4.4	4.8	13	13	10	8.9	3.3	10	2.9	.50	.40	.30
AC-FT	455	1030	904	1290	946	1030	622	1650	246	129	32	401

CAL YR 1976 TOTAL 16207.60 MEAN 44.3 MAX 892 MIN 4.4 AC-FT 32150
WTR YR 1977 TOTAL 4406.60 MEAN 12.1 MAX 81 MIN .30 AC-FT 8740

11375700 NORTH FORK COTTONWOOD CREEK NEAR IGO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January to September 1977.

INSTRUMENTATION.--Temperature recorder since Jan. 14, 1977.

EXTREMES FOR PERIOD JANUARY TO SEPTEMBER.--
WATER TEMPERATURES: Maximum recorded, 36.0°C July 16; minimum recorded, 1.5°C on several days during January.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

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

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	10.5	17.5	15.0	27.5	21.5	29.0	23.5	34.5	22.0	33.5	16.5
2	16.0	10.5	19.5	12.5	27.5	19.0	32.0	24.0	35.0	22.0	33.5	17.0
3	18.0	10.5	19.5	14.0	28.0	19.5	31.5	22.5	35.5	22.5	33.5	16.5
4	19.0	12.5	18.0	12.0	30.0	20.0	31.5	21.5	35.0	21.5	34.0	18.0
5	20.5	14.0	19.0	14.0	32.5	21.5	31.5	20.0	32.5	20.0	34.5	18.5
6	21.5	14.5	18.5	13.0	31.5	24.5	33.5	19.5	32.5	19.5	35.0	19.0
7	21.5	15.0	17.5	12.5	34.5	24.0	34.0	20.5	33.5	18.5	34.0	18.0
8	18.0	14.5	20.0	12.5	33.0	23.5	34.0	20.5	33.5	17.5	33.5	17.5
9	19.5	12.5	18.0	13.5	29.0	23.0	34.0	20.5	33.0	18.5	33.5	16.5
10	20.0	12.0	15.0	12.0	23.5	19.5	34.5	20.0	34.0	19.0	32.0	16.5
11	21.0	13.0	14.0	11.5	27.0	18.0	34.5	20.0	35.5	19.5	32.0	15.5
12	22.0	13.5	21.5	11.0	29.5	20.5	33.5	21.5	34.0	20.5	31.5	15.0
13	23.0	16.5	21.5	12.0	28.0	21.0	34.5	21.0	32.0	20.0	28.0	16.0
14	19.5	13.0	22.0	13.0	30.0	19.0	35.5	20.5	33.5	18.0	28.5	16.0
15	21.0	10.5	20.5	13.0	31.5	19.5	35.5	20.0	34.0	17.5	19.0	16.5
16	21.0	13.0	17.0	12.0	31.0	20.5	36.0	20.0	34.5	17.0	18.0	15.5
17	21.5	13.5	20.0	11.0	29.0	21.5	35.0	20.5	30.5	20.0	17.5	15.5
18	21.5	13.0	17.5	13.0	31.0	20.0	35.0	20.5	33.5	19.0	19.0	16.0
19	22.5	11.5	22.5	12.0	32.0	21.5	34.5	22.0	33.5	19.0	19.0	16.0
20	22.5	12.0	24.5	15.5	31.5	22.5	35.0	21.5	34.0	22.0	20.5	15.0
21	23.5	13.0	24.0	16.5	33.0	22.5	35.0	21.0	35.5	19.5	21.5	16.0
22	22.0	12.0	22.0	16.5	34.5	22.5	35.0	19.5	34.0	19.0	23.0	15.0
23	23.5	13.0	17.5	14.5	33.5	23.5	35.0	20.0	34.0	19.0	20.0	14.5
24	22.0	12.5	22.0	13.0	34.0	24.5	33.0	19.5	30.0	19.5	23.5	14.5
25	16.5	13.0	20.0	16.0	34.0	25.5	33.0	20.0	21.5	18.5	24.0	14.5
26	22.0	11.5	20.0	15.5	33.5	24.5	35.0	19.5	31.5	14.5	24.5	15.5
27	24.5	13.0	22.0	11.5	33.5	25.0	34.0	19.0	32.5	15.0	20.5	17.0
28	22.0	14.5	23.0	13.5	33.5	25.0	34.5	18.0	35.0	18.5	18.5	17.5
29	21.5	15.5	25.0	15.5	34.5	24.0	34.0	19.5	34.0	18.5	21.0	16.5
30	22.5	15.5	26.0	16.5	27.0	23.5	35.5	19.5	34.0	17.5	18.5	14.0
31	---	---	28.0	19.0	---	---	34.5	20.0	34.0	16.0	---	---
MONTH	24.5	10.5	28.0	11.0	34.5	18.0	36.0	18.0	35.5	14.5	35.0	14.0

11375810 COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°23'06", long 122°28'31", in SE¼NW¼ sec.7, T.29 N., R.5 W., Shasta County, on left bank 1.0 mi (1.6 km) downstream from Dutch Gulch, and 5.5 mi (8.8 km) southwest of Olinda.

DRAINAGE AREA.--395 mi^2 (1,023 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 515 ft (157 m), from topographic map.

REMARKS.--Records excellent. Numerous pumping diversions above station.

AVERAGE DISCHARGE.--6 years, 403 ft^3/s (11.41 m^3/s), 292,000 acre-ft/yr (360 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft^3/s (1,050 m^3/s) Jan. 16, 1974, gage height, 21.44 ft (6.535 m) from rating curve extended above 11,000 ft^3/s (312 m^3/s) on basis of slope-area measurement of peak flow; no flow Aug. 30, Sept. 7, 8, 1972, and many days in 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 827 ft^3/s (23.4 m^3/s) Sept. 19, gage height, 7.53 ft (2.295 m), no peak above base of 3,000 ft^3/s (85.0 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	13	27	44	31	40	56	57	36	2.7		0
2	29	12	28	154	32	40	50	131	32	3.1		0
3	23	12	26	168	31	37	48	84	30	3.3		0
4	21	14	25	105	30	35	45	52	25	2.0		0
5	17	15	25	72	30	35	49	34	22	.67		0
6	15	17	25	59	30	30	61	30	19	.71		0
7	9.7	17	23	52	30	30	62	28	18	0		0
8	11	18	23	48	36	30	67	26	18	0		0
9	12	20	23	48	47	34	68	29	52	0		0
10	15	21	23	51	48	56	53	86	36	.15		0
11	14	25	26	49	39	53	42	138	26	1.2		0
12	14	39	29	51	73	40	35	155	22	.90		0
13	17	45	30	44	64	39	32	106	19	.53		0
14	18	102	30	40	63	40	50	88	17	.15		0
15	19	106	28	37	57	50	95	64	15	0		0
16	18	83	28	36	32	334	98	54	14	0		0
17	18	70	28	35	29	227	52	50	13	0		11
18	17	55	27	35	27	118	37	51	12	0		2.4
19	15	48	27	36	26	98	29	64	12	0		56
20	16	44	26	39	26	91	27	51	11	0		40
21	15	38	26	40	37	87	30	43	11	0		21
22	16	36	26	41	87	85	26	52	7.0	0		13
23	17	36	27	42	78	94	22	67	6.1	0		9.1
24	15	26	28	40	79	105	18	59	4.5	0		6.9
25	15	23	28	37	65	104	19	46	4.7	0		7.4
26	16	23	28	35	53	88	22	55	5.4	0		6.9
27	15	23	28	35	47	81	24	71	4.3	0		4.7
28	14	24	28	35	43	83	22	54	2.5	0		6.0
29	13	25	29	35	---	80	22	42	.43	0		52
30	13	26	37	32	---	75	27	39	0	0		59
31	12	---	42	30	---	68	---	39	---	0		---
TOTAL	515.7	1056	854	1605	1270	2407	1288	1945	494.93	15.41	0	295.4
MEAN	16.6	35.2	27.5	51.8	45.4	77.6	42.9	62.7	16.5	.50	0	9.85
MAX	36	106	42	168	87	334	98	155	52	3.3	0	59
MIN	9.7	12	23	30	26	30	18	26	0	0	0	0
AC-FT	1020	2090	1690	3180	2520	4770	2550	3860	982	31	0	586

CAL YR 1976 TOTAL 35557.35 MEAN 97.2 MAX 2400 MIN .25 AC-FT 70530
WTR YR 1977 TOTAL 11746.44 MEAN 32.2 MAX 334 MIN 0 AC-FT 23300

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1971, 1973 to current year.
CHEMICAL ANALYSES: Water year 1971.
WATER TEMPERATURES: Water years 1973 to current year.
SEDIMENT RECORDS: January to May 1977 (winter period only).
TURBIDITY: March to September 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February 1973 to current year.
SEDIMENT RECORDS: January to May 1977.

INSTRUMENTATION.--Temperature recorder since February 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 33.0°C June 25, 1977; minimum recorded, 2.5°C Jan. 9, 1977.
SEDIMENT CONCENTRATIONS (January to May 1977): Maximum daily mean, 656 mg/L Mar. 16, 1977; minimum daily mean, 1 mg/L on many days in 1977.
SEDIMENT DISCHARGE (January to May 1977): Maximum daily, 727 tons (660 tonnes) Mar. 16, 1977; minimum daily, 0.07 ton (0.06 tonne) Feb. 20, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 33.0°C June 25; minimum recorded, 2.5°C Jan. 9.
SEDIMENT CONCENTRATIONS (January to May): Maximum daily mean, 656 mg/L Mar. 16; minimum daily mean, 1 mg/L on many days during January to March.
SEDIMENT DISCHARGE (January to May): Maximum daily, 727 tons (660 tonnes) Mar. 16; minimum daily, 0.07 ton (0.06 tonne) Feb. 20.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.0	13.0	19.0	16.5	25.0	21.0	28.5	23.5			---	---
2	16.5	13.0	19.0	15.0	24.0	19.0	30.5	24.0			---	---
3	18.0	13.0	19.5	15.5	24.0	19.5	30.0	23.0			---	---
4	18.5	14.5	20.0	13.5	25.0	20.5	28.5	21.5			---	---
5	19.5	15.0	19.5	14.0	27.0	22.5	28.5	22.5			---	---
6	20.0	16.0	18.0	14.0	27.0	25.0	29.0	22.5			---	---
7	20.0	16.5	18.5	14.0	27.5	24.5	---	---			---	---
8	17.5	15.5	19.5	14.0	28.0	24.5	---	---			---	---
9	18.0	14.5	18.5	15.5	28.0	25.0	---	---			---	---
10	18.0	14.0	17.5	14.0	25.0	22.5	30.0	23.5			---	---
11	18.5	15.0	15.5	14.0	24.5	21.0	31.0	23.5			---	---
12	19.5	15.0	19.0	13.0	26.0	23.0	30.0	25.0			---	---
13	19.5	16.5	21.0	15.5	26.5	23.5	30.5	24.5			---	---
14	19.0	15.0	22.0	17.0	29.0	22.5	31.0	24.5			---	---
15	19.5	15.0	20.5	16.0	30.5	21.0	---	---			---	---
16	19.5	16.5	19.5	14.5	30.0	21.5	---	---			---	---
17	19.0	15.5	21.0	14.5	27.5	22.5	---	---			17.5	15.0
18	18.5	15.0	18.5	16.0	29.5	21.5	---	---			20.5	17.5
19	18.0	14.5	22.0	15.0	30.5	22.0	---	---			21.5	10.0
20	18.5	15.0	23.5	18.0	---	---	---	---			23.5	12.5
21	18.5	15.5	23.5	19.0	---	---	---	---			24.0	18.0
22	19.0	15.5	22.0	18.0	---	---	---	---			25.0	18.0
23	19.5	16.0	20.0	17.0	32.0	23.0	---	---			21.5	18.0
24	19.0	16.5	22.0	16.0	31.5	24.5	---	---			25.0	17.5
25	19.5	16.5	21.5	18.5	33.0	25.5	---	---			25.0	17.5
26	22.0	13.5	20.0	18.0	32.5	24.5	---	---			25.0	18.5
27	22.5	15.0	22.0	16.0	32.0	24.5	---	---			21.0	18.5
28	21.0	16.5	22.0	16.5	31.5	25.5	---	---			20.5	18.5
29	20.5	17.0	22.5	18.0	32.0	26.0	---	---			23.5	18.5
30	21.5	17.0	24.5	19.0	---	---	---	---			22.5	16.5
31	---	---	25.5	20.0	---	---	---	---			---	---
MONTH	22.5	13.0	25.5	13.0	33.0	19.0	---	---			---	---

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	JANUARY			FEBRUARY			MARCH		
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	---	---	---	31	2	.17	40	7	.76
2	---	---	---	32	3	.26	40	4	.43
3	---	---	---	31	3	.25	37	3	.30
4	---	---	---	30	3	.24	35	3	.28
5	---	---	---	30	2	.16	35	3	.28
6	---	---	---	30	1	.08	30	2	.16
7	---	---	---	30	1	.08	30	1	.08
8	---	---	---	36	1	.10	30	1	.08
9	---	---	---	47	1	.13	34	1	.09
10	---	---	---	48	1	.13	56	5	.74
11	---	---	---	39	1	.11	53	8	1.1
12	---	---	---	73	9	1.9	40	15	1.6
13	---	---	---	64	4	.69	39	9	.95
14	---	---	---	63	3	.51	40	2	.22
15	---	---	---	57	2	.31	50	6	.97
16	---	---	---	32	2	.17	334	656	727
17	---	---	---	29	3	.23	227	212	165
18	---	---	---	27	4	.29	118	23	7.3
19	---	---	---	26	2	.14	98	11	2.9
20	39	1	.11	26	1	.07	91	7	1.7
21	40	1	.11	37	3	.30	87	5	1.2
22	41	2	.22	87	10	2.4	85	5	1.1
23	42	2	.23	78	4	.84	94	10	2.5
24	40	2	.22	79	3	.64	105	27	7.7
25	37	2	.20	65	2	.35	104	28	7.9
26	35	3	.28	53	2	.29	88	20	4.8
27	35	3	.28	47	4	.51	81	14	3.1
28	35	2	.19	43	7	.81	83	11	2.5
29	35	2	.19	---	---	---	80	10	2.2
30	32	1	.09	---	---	---	75	11	2.2
31	30	1	.08	---	---	---	68	13	2.4
TOTAL	441	---	2.20	1270	---	12.16	2407	---	949.54

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	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	56	15	2.3	57	28	7.1			
2	50	14	1.9	131	124	44			
3	48	10	1.3	84	45	11			
4	45	6	.73	52	10	1.4			
5	49	4	.53	34	7	.64			
6	61	4	.66	30	6	.49			
7	62	4	.67	28	6	.45			
8	67	7	1.2	26	6	.42			
9	68	10	1.8	29	6	.47			
10	53	9	1.3	86	59	15			
11	42	8	.91	138	178	69			
12	35	8	.76	155	60	27			
13	32	8	.69	106	8	2.3			
14	50	8	1.1	88	6	1.4			
15	95	7	1.8	64	5	.86			
16	98	7	1.9	54	4	.58			
17	52	6	.84	50	4	.54			
18	37	4	.40	51	4	.55			
19	29	2	.16	64	4	.69			
20	27	2	.15	51	4	.55			
21	30	3	.24	43	4	.46			
22	26	5	.35	52	6	1.1			
23	22	8	.48	67	7	1.3			
24	18	10	.49	59	4	.64			
25	19	9	.46	46	4	.50			
26	22	6	.36	55	4	.59			
27	24	3	.19	71	6	1.2			
28	22	2	.12	54	6	.87			
29	22	2	.12	42	4	.45			
30	27	3	.22	39	3	.32			
31	---	---	---	39	2	.21			
TOTAL	1288	---	24.13	1945	---	192.08			
PERIOD	7351	---	1180.11						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, JANUARY TO MAY 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
JAN							
03...	1225	5.5	135	85	31	--	--
MAR							
16...	0915	7.5	380	305	313	37	59
16...	1010	8.0	454	319	391	34	62
16...	1420	7.0	478	1200	1550	44	64
16...	1625	8.0	410	887	982	50	73
16...	1800	7.0	375	1140	1150	48	67
17...	0905	8.0	239	184	119	62	85

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
JAN						
03...	--	--	--	99	99	100
MAR						
16...	77	92	97	99	99	100
16...	79	93	98	99	99	100
16...	83	95	98	100	--	--
16...	89	99	100	--	--	--
16...	84	94	97	99	99	100
17...	94	100	--	--	--	--

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SEDIMENT IN TRANSIT WITHIN 0.25 FOOT OF BED SURFACE, JANUARY TO MAY 1977

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (CFS)	STREAM WIDTH (FT)	SEDIMENT BEDLOAD DISCHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
MAR							
17...	0945	9.0	11	247	126	.85	0

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
MAR						
17...	1	6	29	84	99	100

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION AND TURBIDITY, MARCH TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	TURBIDITY (JTU)
MAR						
17...	1600	178	13.0	99	48	100
18...	1155	110	13.0	26	7.7	15
22...	1150	80	15.5	5	1.1	2
22...	1210	80	16.0	5	1.1	2
22...	1220	80	16.0	5	1.1	2
24...	1400	105	10.5	31	8.8	15
26...	1300	88	16.0	20	4.8	15
29...	1700	80	15.0	10	2.2	2
31...	1800	68	16.0	14	2.6	3
APR						
08...	1210	60	16.0	3	.49	2
08...	1250	60	16.5	4	.65	2
08...	1300	60	16.5	4	.65	1
09...	1700	68	20.0	10	1.8	3
12...	1215	35	20.0	8	.76	3
16...	1310	98	22.0	7	1.9	2
20...	0915	29	15.5	2	.16	1
20...	0925	29	15.5	2	.16	1
22...	1450	26	22.5	4	.28	2
22...	1500	26	22.5	6	.42	2
23...	1630	21	21.0	9	.51	3
28...	1600	21	20.0	2	.11	1
30...	1700	24	22.5	3	.19	1
MAY						
01...	1600	35	16.5	4	.38	2
03...	1050	85	15.5	22	5.0	20
09...	1830	32	16.0	6	.52	2
11...	1500	128	14.5	45	16	15
11...	1700	128	14.5	93	32	100
11...	1900	132	14.5	88	31	100
11...	2000	135	14.0	50	18	10
12...	1105	160	15.0	41	18	35
12...	1115	160	15.0	50	22	40
12...	1300	151	14.5	34	14	25
19...	0900	66	16.0	4	.71	2
19...	1200	66	18.0	6	1.1	2
19...	1210	66	18.0	4	.71	1
25...	1800	46	20.5	4	.50	2
27...	1210	76	18.5	5	1.0	2
27...	1305	76	20.0	6	1.2	3
27...	1325	76	20.0	6	1.2	2
28...	1900	46	24.0	5	.62	1
31...	1030	39	22.5	2	.21	1
JUN						
03...	1035	30	21.5	3	.24	1
03...	1040	30	21.5	3	.24	1
JUL						
12...	1700	.90	28.0	10	.02	2
SEP						
20...	1145	49	18.5	77	10	40
20...	1200	49	19.0	73	9.7	35
27...	1315	4.7	19.0	16	.20	5

11375820 SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°18'59", long 122°26'52", in SW¼SE¼ sec.32, T.29 N., R.5 W., Tehama County, on right bank 15 ft (5 m) downstream from highway bridge, 0.7 mi (1.1 km) upstream from Dry Fork, and 10.3 mi (16.6 km) southwest of Cottonwood.

DRAINAGE AREA.--217 mi^2 (562 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 525 ft (160 m), from topographic map. October 1962 to Dec. 22, 1964, at site 85 ft (26 m) upstream at different datum.

REMARKS.--Small diversion above station.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--15 years, 213 ft^3/s (6.032 m^3/s), 154,300 acre-ft/yr (190 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft^3/s (530 m^3/s) Jan. 16, 1974, gage height, 14.05 ft (4.282 m); no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 107 ft^3/s (3.03 m^3/s) Mar. 17, gage height, 1.98 ft (0.604 m); no flow many days during the year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.7	4.0	9.0	12	10	19	35	25	17	.40		
2	10	4.2	9.0	22	9.8	19	31	40	16	.30		
3	9.0	4.3	9.0	46	9.6	18	29	42	16	1.1		
4	8.8	4.4	8.9	31	9.4	16	28	36	16	.90		
5	7.9	4.9	8.7	24	9.3	16	28	31	14	.70		
6	6.8	5.0	8.4	20	9.4	15	37	28	14	.40		
7	6.1	5.1	8.5	16	9.2	14	48	26	12	.40		
8	5.5	5.3	8.6	14	9.8	14	56	26	14	.20		
9	5.1	5.5	8.7	13	11	15	64	26	36	.10		
10	4.7	5.8	8.7	13	12	17	55	29	35	.10		
11	4.5	5.9	8.6	14	13	23	45	35	28	.10		
12	4.2	6.5	8.8	14	12	23	38	58	22	.10		
13	3.9	10	9.0	14	12	21	34	53	24	.10		
14	3.7	14	9.1	15	11	21	31	45	14	0		
15	3.6	26	9.2	14	11	23	30	39	11	0		
16	3.6	22	9.0	14	11	44	28	34	8.2	0		
17	3.6	17	9.1	13	11	95	27	30	5.9	0		
18	3.4	15	10	13	11	77	26	28	5.6	0		
19	3.4	13	9.7	13	11	57	25	31	5.6	0		
20	3.4	12	9.6	13	11	50	24	35	5.0	0		
21	3.5	11	9.4	13	12	49	22	31	4.2	0		
22	3.5	11	9.4	14	32	48	21	29	3.8	0		
23	3.2	10	9.4	14	45	56	20	34	3.3	0		
24	3.1	9.9	9.4	14	35	67	20	37	2.4	0		
25	3.3	9.7	9.4	14	28	66	19	34	1.9	0		
26	3.5	9.6	9.4	13	25	51	19	31	1.3	0		
27	3.7	9.5	9.3	12	22	46	20	30	1.1	0		
28	3.8	9.3	9.2	11	20	48	19	30	.70	0		
29	4.0	9.2	9.4	11	---	48	19	26	.50	0		
30	4.1	9.0	11	11	---	44	20	21	.40	0		
31	3.9	---	11	11	---	39	---	21	---	0		---
TOTAL	145.5	288.1	285.9	486	432.5	1159	918	1021	338.90	4.90	0	0
MEAN	4.69	9.60	9.22	15.7	15.4	37.4	30.6	32.9	11.3	.16	0	0
MAX	10	26	11	46	45	95	64	58	36	1.1	0	0
MIN	3.1	4.0	8.4	11	9.2	14	19	21	.40	0	0	0
AC-FT	289	571	567	964	858	2300	1820	2030	672	9.7	0	0

CAL YR 1976 TOTAL 13162.10 MEAN 36.0 MAX 556 MIN 1.3 AC-FT 26110
WTR YR 1977 TOTAL 5079.80 MEAN 13.9 MAX 95 MIN 0 AC-FT 10080

11375820 SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957, 1959-66, January to September 1977.
CHEMICAL ANALYSES: Water years 1957, 1959-66. Prior to water year 1963 published as sta 11375900.
WATER TEMPERATURES: January to September 1977.
SEDIMENT RECORDS: Water years 1963-70.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January to September 1977.

INSTRUMENTATION.--Temperature recorder since January 1977.

REMARKS.--Prior to October 1965, chemical-quality and sediment samples were collected 6.6 mi (10.6 km) downstream.

EXTREMES FOR PERIOD JANUARY TO SEPTEMBER.--
WATER TEMPERATURES: Maximum recorded, 37.0°C June 27; minimum recorded, 3.0°C Jan. 26.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

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

11375820 SOUTH FORK COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, JANUARY TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	11.0	18.5	15.5	30.5	20.0	32.5	22.5				
2	19.5	10.5	21.5	13.0	29.0	17.5	33.5	22.5				
3	21.0	11.0	21.5	15.5	28.5	19.0	32.5	22.0				
4	23.0	12.5	22.5	12.0	31.5	19.0	32.5	20.0				
5	23.5	13.5	21.5	12.5	34.0	21.5	32.5	19.0				
6	24.5	15.0	21.5	13.0	33.5	24.0	33.5	19.5				
7	23.0	15.5	20.0	12.0	34.5	24.0	33.5	19.5				
8	17.0	13.5	23.5	13.0	32.5	23.0	33.0	20.5				
9	20.0	12.0	18.0	14.5	27.5	23.0	32.0	20.0				
10	20.0	11.5	19.0	13.0	23.0	19.5	33.5	19.0				
11	22.0	13.0	17.5	14.0	29.5	18.5	33.0	19.0				
12	23.5	13.5	22.0	13.0	29.5	20.5	31.0	20.5				
13	23.5	15.5	23.5	14.5	28.0	20.5	---	---				
14	20.5	12.0	25.0	16.5	30.5	19.5	---	---				
15	24.5	13.0	22.0	14.5	32.0	20.0	---	---				
16	25.0	15.5	20.5	12.0	31.5	21.0	---	---				
17	22.5	13.5	23.0	12.0	29.0	21.0	---	---				
18	21.5	12.5	18.0	15.0	31.5	20.0	---	---				
19	22.5	11.5	25.0	13.5	32.5	20.5	---	---				
20	23.0	12.5	27.5	17.0	32.0	21.5	---	---				
21	23.5	13.5	27.0	18.0	33.5	21.5	---	---				
22	23.5	13.0	22.0	17.0	35.5	22.5	---	---				
23	24.5	13.5	19.0	15.0	36.0	22.5	---	---				
24	22.5	14.0	24.5	14.0	36.5	23.5	---	---				
25	21.0	15.0	22.0	17.0	36.5	24.0	---	---				
26	24.0	12.5	19.5	16.5	36.5	23.0	---	---				
27	25.0	14.0	25.0	13.5	37.0	23.5	---	---				
28	23.0	15.5	26.0	15.0	34.5	23.5	---	---				
29	22.0	16.0	27.5	16.5	36.0	23.5	---	---				
30	24.5	16.5	29.5	17.5	31.5	24.0	---	---				
31	---	---	31.5	19.5	---	---	---	---				
MONTH	25.0	10.5	31.5	12.0	37.0	17.5	---	---				

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°19'34", long 122°26'40", in SE¼NE¼ sec.32, T.29 N., R.5 W., Tehama County, on left bank 250 ft (76 m) downstream from Dry Creek and 8.0 mi (12.9 km) south of Olinda.

DRAINAGE AREA.--371 mi^2 (961 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1976 to September 1977.

GAGE.--Water-stage recorder. Altitude of gage is 540 ft (165 m), from topographic map.

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

EXTREMES NOVEMBER TO SEPTEMBER.--Maximum discharge, 486 ft^3/s (13.8 m^3/s) Mar. 16, gage height, 2.79 ft (0.850 m), no peak above base of 2,500 ft^3/s (70.8 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, NOVEMBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	9.4	13	13	22	38	37	20	.45		
2		---	9.0	40	13	23	34	55	20	.26		
3		---	8.9	91	12	22	32	48	19	1.7		
4		---	8.8	48	12	20	31	38	19	1.5		
5		---	8.8	30	12	20	35	32	18	.80		
6		---	8.3	24	12	19	52	27	16	.55		
7		---	8.2	18	12	18	58	26	15	.32		
8		---	8.6	16	14	18	63	25	18	.23		
9		---	8.7	15	15	20	71	27	51	.19		
10		---	8.7	15	17	28	56	33	38	.12		
11		---	8.6	16	17	34	45	51	28	.12		
12		---	8.8	17	16	28	38	87	22	.02		
13		---	8.8	18	14	25	34	61	18	0		
14		---	8.7	18	14	25	32	48	16	0		
15		---	8.5	17	13	31	30	39	14	0		
16		---	8.3	16	13	269	27	34	11	0		
17		---	8.5	16	13	270	27	30	9.4	0		
18		---	9.5	15	13	146	27	28	8.4	0		
19		10	9.2	15	13	91	25	36	8.2	0		
20		9.8	8.7	16	12	75	24	38	7.6	0		
21		9.0	8.3	17	15	67	23	30	6.6	0		
22		9.5	8.5	18	70	62	21	28	5.2	0		
23		9.5	8.6	18	58	73	21	54	4.3	0		
24		9.4	8.3	18	43	84	22	44	3.5	0		
25		8.5	8.3	16	37	77	22	33	2.6	0		
26		8.3	8.6	15	31	60	23	31	2.1	0		
27		8.7	9.2	14	26	54	23	33	1.8	0		
28		9.2	8.9	14	24	59	22	31	1.3	0		
29		9.1	8.9	13	---	55	22	26	.66	0		
30		9.2	11	13	---	48	23	23	.41	0		
31		---	13	13	---	43	---	21	---	0		---
TOTAL		---	276.6	643	574	1886	1001	1154	405.07	6.26	0	0
MEAN		---	8.92	20.7	20.5	60.8	33.4	37.2	13.5	.20	0	0
MAX		---	13	91	70	270	71	87	51	1.7	0	0
MIN		---	8.2	13	12	18	21	21	.41	0	0	0
AC-FT		---	549	1280	1140	3740	1990	2290	803	12	0	0

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
WATER TEMPERATURES: Water year 1977.
SEDIMENT RECORDS: January to May 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1976 to September 1977.
SEDIMENT RECORDS: January to May 1977.

INSTRUMENTATION.--Temperature recorder since November 1976.

EXTREMES NOVEMBER 1976 TO SEPTEMBER 1977.--
WATER TEMPERATURES: Maximum recorded, 35.5°C June 25, 27, 29; minimum recorded, 0.5°C Jan. 7-9.
SEDIMENT CONCENTRATIONS (January to May): Maximum daily mean, 1,220 mg/L Mar. 16; minimum daily mean, 3 mg/L on many days.
SEDIMENT DISCHARGE (January to May): Maximum daily, 1,350 tons (1,220 tonnes) Mar. 16; minimum daily, 0.10 ton (0.09 tonne) on several days during February.

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1			---	---	10.0	4.5	5.5	4.0	10.5	4.5	13.5	6.5
2			---	---	10.0	4.5	5.5	4.5	10.5	4.0	11.5	6.5
3			---	---	9.5	4.5	8.0	3.5	10.0	4.0	15.0	8.5
4			---	---	10.0	5.0	7.0	2.0	10.5	4.5	14.5	6.5
5			---	---	10.5	5.5	5.0	2.0	9.5	5.5	15.5	6.5
6			---	---	10.0	5.5	5.5	1.0	12.5	5.5	13.5	7.5
7			---	---	9.5	5.0	5.5	0.5	11.5	6.5	12.0	9.0
8			---	---	9.0	4.5	5.5	0.5	10.0	8.5	16.0	8.5
9			---	---	8.5	5.5	5.0	0.5	13.0	8.5	16.0	10.0
10			---	---	10.0	5.5	7.5	2.5	14.5	8.0	15.0	6.5
11			---	---	8.5	4.5	5.0	2.5	15.0	7.5	14.5	7.5
12			---	---	8.0	3.5	8.5	4.0	15.0	8.0	15.0	9.5
13			---	---	8.0	4.0	7.0	3.5	15.5	8.5	14.0	7.5
14			---	---	7.5	3.5	7.5	2.0	16.0	8.5	12.0	6.5
15			---	---	9.5	4.0	9.0	4.0	15.5	8.5	9.5	7.0
16			---	---	8.5	4.0	9.0	4.0	16.0	9.0	7.5	6.0
17			---	---	7.5	3.0	9.5	5.5	15.0	9.5	14.5	7.5
18			---	---	7.5	3.0	9.5	5.0	15.5	8.5	15.0	8.0
19			---	---	7.0	2.5	7.0	4.5	15.5	8.5	18.5	8.0
20			---	---	7.0	2.5	8.5	4.0	12.0	9.5	19.0	9.5
21			---	---	6.5	3.0	9.0	6.0	15.0	10.0	20.5	10.0
22			---	---	6.5	4.0	11.0	6.5	13.5	8.5	21.0	11.0
23			---	---	8.0	4.5	11.0	5.0	14.5	9.0	16.0	11.5
24			---	---	7.0	3.0	9.5	4.5	13.0	6.0	11.0	9.0
25			13.5	9.5	7.0	5.0	8.0	3.5	14.0	5.5	16.5	7.0
26			10.5	6.5	6.5	2.5	9.0	3.0	15.5	7.0	19.5	8.5
27			8.5	4.5	7.0	2.5	9.5	3.5	16.5	7.5	18.5	11.0
28			9.5	4.5	5.5	2.5	11.0	6.5	15.5	9.5	16.5	8.0
29			10.0	4.5	5.5	2.5	11.0	6.5	---	---	15.5	7.0
30			10.0	5.0	7.0	5.5	8.5	7.0	---	---	16.0	7.5
31			---	---	7.5	3.0	11.0	5.5	---	---	19.5	7.5
MONTH			---	---	10.5	2.5	11.0	0.5	16.5	4.0	21.0	6.0

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.5	11.0	18.5	15.5	30.0	20.0	31.5	22.5				
2	20.5	10.5	21.5	13.0	28.5	17.5	34.0	22.0				
3	22.0	11.0	21.5	15.0	28.0	19.0	30.0	24.0				
4	23.5	12.0	23.0	11.5	31.0	19.0	30.0	22.5				
5	24.5	13.5	21.5	12.0	33.0	21.0	31.5	21.0				
6	25.0	14.5	21.0	12.5	33.0	24.0	32.0	20.5				
7	23.5	15.0	19.5	11.5	34.0	23.5	32.0	19.0				
8	17.5	13.5	22.5	12.5	32.5	23.0	33.5	20.5				
9	21.0	12.0	18.0	14.5	27.5	22.0	32.0	20.5				
10	21.0	11.5	19.0	12.5	22.5	19.0	32.0	20.5				
11	22.5	13.0	18.0	13.5	28.5	18.0	33.5	21.5				
12	24.0	13.5	24.0	12.5	29.5	20.0	33.0	23.5				
13	24.0	15.0	25.5	14.0	28.0	20.5	---	---				
14	21.0	12.5	26.0	16.0	30.0	19.0	---	---				
15	25.0	13.0	22.5	14.0	31.5	20.0	---	---				
16	25.0	15.5	20.5	11.5	31.5	21.0	---	---				
17	22.5	13.5	23.5	11.5	28.5	21.0	---	---				
18	21.0	12.5	18.0	14.0	31.0	20.0	---	---				
19	22.5	11.5	25.5	13.0	32.0	20.5	---	---				
20	23.0	12.5	28.0	17.0	31.5	22.0	---	---				
21	23.0	13.5	27.5	17.5	32.5	22.0	---	---				
22	23.0	13.0	21.5	16.5	34.5	23.5	---	---				
23	24.0	13.5	20.5	14.5	34.0	23.5	---	---				
24	22.0	14.0	25.0	13.5	34.5	25.0	---	---				
25	21.0	14.5	23.0	16.0	35.5	26.0	---	---				
26	23.5	12.0	19.0	16.0	35.0	25.5	---	---				
27	25.0	13.5	25.5	13.0	35.5	26.0	---	---				
28	23.0	15.5	26.5	14.0	33.5	25.0	---	---				
29	22.0	15.5	28.0	16.0	35.5	23.5	---	---				
30	24.0	16.0	29.0	17.0	27.0	24.0	---	---				
31	---	---	31.0	19.0	---	---	---	---				
MONTH	25.0	10.5	31.0	11.5	35.5	17.5	---	---				

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	JANUARY			FEBRUARY			MARCH		
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		---	---	13	3	.11	22	17	1.0
2		---	---	13	3	.11	23	16	.99
3		---	---	12	3	.10	22	14	.83
4		---	---	12	3	.10	20	13	.70
5		---	---	12	3	.10	20	12	.65
6		---	---	12	3	.10	19	11	.56
7		---	---	12	3	.10	18	10	.49
8		---	---	14	4	.15	18	10	.49
9		---	---	15	4	.16	20	12	.65
10		---	---	17	4	.18	28	18	1.4
11		---	---	17	4	.18	34	19	1.7
12		---	---	16	5	.22	28	17	1.3
13		---	---	14	6	.23	25	17	1.1
14		---	---	14	5	.19	25	16	1.1
15		---	---	13	4	.14	31	18	1.5
16		---	---	13	4	.14	269	1220	1350
17		---	---	13	5	.18	270	970	865
18		---	---	13	4	.14	146	315	130
19		---	---	13	4	.14	91	140	34
20	16	5	.22	12	3	.10	75	131	27
21	17	5	.23	15	4	.16	67	134	24
22	18	5	.24	70	279	56	62	156	26
23	18	5	.24	58	106	17	73	228	45
24	18	5	.24	43	67	7.8	84	236	54
25	16	5	.22	37	46	4.6	77	159	33
26	15	4	.16	31	29	2.4	60	113	18
27	14	3	.11	26	20	1.4	54	112	16
28	14	3	.11	24	18	1.2	59	113	18
29	13	4	.14	---	---	---	55	104	15
30	13	4	.14	---	---	---	48	88	11
31	13	4	.14	---	---	---	43	74	8.6
TOTAL	---	---	---	574	---	93.43	1886	---	2689.06

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	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	38	69	7.1	37	40	4.3			
2	34	57	5.2	55	190	28			
3	32	47	4.1	48	670	87			
4	31	45	3.8	38	157	16			
5	35	57	5.4	32	74	6.4			
6	52	111	16	27	47	3.4			
7	58	121	19	26	34	2.4			
8	63	155	26	25	29	2.0			
9	71	170	33	27	31	2.3			
10	56	990	150	33	41	3.7			
11	45	255	31	51	70	7.9			
12	38	108	11	87	1030	263			
13	34	97	8.9	61	379	62			
14	32	95	8.2	48	250	32			
15	30	85	6.9	39	183	19			
16	27	71	5.2	34	131	12			
17	27	53	3.9	30	107	8.7			
18	27	40	2.9	28	111	8.4			
19	25	34	2.3	36	139	14			
20	24	30	1.9	38	144	15			
21	23	23	1.4	30	135	11			
22	21	23	1.3	28	123	9.3			
23	21	22	1.2	54	190	28			
24	22	19	1.1	44	880	105			
25	22	16	.95	33	400	36			
26	23	11	.68	31	210	18			
27	23	10	.62	33	195	17			
28	22	11	.65	31	226	19			
29	22	12	.71	26	236	17			
30	23	12	.75	23	166	10			
31	---	---	---	21	113	6.4			
TOTAL	1001	---	361.16	1154	---	874.2			
PERIOD	4800	---	4020						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
JAN							
03...	0850	5.0	109	376	111	41	60
FEB							
03...	1115	5.0	12	4	.13	--	--
MAR							
16...	1020	7.0	101	229	62	43	62
16...	1215	6.0	372	3410	3430	35	50
17...	1400	13.0	189	763	389	54	74
22...	0945	12.5	60	104	17	49	75
MAY							
11...	1305	16.5	56	80	12	--	--
JUN							
01...	1200	25.0	22	90	5.3	--	--

11375870 SOUTH FORK COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
JAN							
03...	81	96	99	99	100	--	--
FEB							
03...	--	--	--	87	--	--	--
MAR							
16...	80	93	98	99	100	--	--
16...	67	83	92	96	--	99	100
17...	92	98	98	100	--	--	--
22...	91	99	100	--	--	--	--
MAY							
11...	--	--	--	90	--	--	--
JUN							
01...	--	--	--	94	--	--	--

PARTICLE-SIZE DISTRIBUTION OF SEDIMENT IN TRANSIT WITHIN 0.25 FOOT OF BED SURFACE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (CFS)	STREAM WIDTH (FT)	SEDIMENT BEDLOAD DISCHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM
MAR								
16...	1045	7.0	17	151	87	.30	13	20
16...	1430	6.0	11	461	125	4.2	2	4
17...	1430	13.0	11	198	121	1.4	1	1

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
MAR								
16...	43	63	80	95	100	--	--	--
16...	9	35	56	71	84	94	99	100
17...	3	12	30	54	71	84	97	100

11375970 COTTONWOOD CREEK AT COTTONWOOD, CA

LOCATION.--Lat 40°22'35", long 122°16'57", in SW¼SE¼ sec.11, T.29 N., R.4 W., Shasta County, at bridge on U.S. Highway 99 business route, 0.7 mi (1.1 km) south of Cottonwood.

DRAINAGE AREA.--836 mi^2 (2,165 km^2).

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1951 to current year. Prior to 1975 water year published as station 11376000 Cottonwood Creek near Cottonwood.

REMARKS.--Records of discharge given for Cottonwood Creek near Cottonwood (station 11376000).

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	HARD-NESS (CA,MG) (MG/L)
OCT 18...	0815	103	113	7.2	13.0	4	9.7	54
NOV 12...	0910	118	175	8.1	13.0	3	10.1	--
DEC 14...	1100	54	304	8.2	7.0	2	12.1	--
JAN 17...	0925	74	328	7.7	7.0	3	12.7	--
FEB 10...	1315	71	338	8.2	12.5	2	13.5	145
MAR 17...	1015	576	364	7.7	9.0	520	10.7	134
APR 19...	0830	141	224	6.8	--	3	10.1	--
MAY 17...	0835	124	330	7.6	16.0	16	10.1	133
JUN 20...	0830	67	292	7.4	22.0	2	10.2	116
JUL 19...	0930	42	244	7.1	24.5	1	9.5	--
AUG 16...	1415	38	218	7.9	29.5	2	11.3	--
SEP 19...	0845	108	206	7.0	17.0	28	8.6	92

DATE	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT 18...	1	4.1	.2	64	0	52	4.0	0
NOV 12...	--	--	--	--	--	--	--	--
DEC 14...	--	--	--	--	--	--	--	--
JAN 17...	--	--	--	--	--	--	--	--
FEB 10...	25	15	.5	142	2	120	27	0
MAR 17...	40	21	.8	115	0	94	33	100
APR 19...	--	--	--	--	--	--	--	--
MAY 17...	11	15	.6	149	0	122	20	0
JUN 20...	2	12	.5	139	0	114	17	0
JUL 19...	--	--	--	--	--	--	--	--
AUG 16...	--	--	--	--	--	--	--	--
SEP 19...	0	10	.5	115	0	94	5.3	100

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE¼NE¼ sec.7, T.29 N., R.3 W., Shasta County, on left bank 2.2 mi (3.5 km) east of Cottonwood, and 2.5 mi (4.0 km) upstream from mouth.

DRAINAGE AREA.--927 mi^2 (2,401 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1345: 1943, 1944(M), 1946-47, 1949(M), 1951-52. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 364.0 ft (110.95 m) above mean sea level (levels by Corps of Engineers). Prior to July 26, 1963, at site 100 ft (30 m) downstream on right bank at datum 3.59 ft (1.094 m) higher. July 26, 1963, to Sept. 13, 1972, at site 350 ft (107 m) downstream on right bank. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,550 ft (472 m) downstream on right bank at datum 2.35 ft (0.716 m) higher.

REMARKS.--Records good. Small diversions for irrigation above station. At times during irrigation season, Cottonwood Creek receives water above station from Sacramento River by way of Anderson-Cottonwood Canal.

AVERAGE DISCHARGE.--37 years, 836 ft^3/s (23.68 m^3/s), 605,700 acre-ft/yr (747 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft^3/s (1,980 m^3/s) Jan. 16, 1974, gage height, 20.15 ft (6.142 m); minimum, 15 ft^3/s (0.42 m^3/s) for several days in September 1945.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,210 ft^3/s (62.6 m^3/s) Sept. 20, gage height, 8.52 ft (2.597 m), no peak above base of 7,100 ft^3/s (201 m^3/s); minimum daily, 36 ft^3/s (1.02 m^3/s) Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	124	103	58	68	60	80	135	150	91	54	36	47
2	114	101	58	150	58	77	117	237	98	54	37	49
3	106	96	57	288	58	76	106	312	92	48	42	48
4	169	79	57	204	58	72	108	256	84	49	38	52
5	178	84	57	145	57	68	110	205	82	55	40	58
6	118	115	56	115	57	67	151	188	81	57	41	73
7	92	84	56	104	56	61	208	185	80	52	42	62
8	90	66	56	95	62	60	155	152	77	57	45	50
9	90	84	55	88	68	67	172	161	80	68	48	60
10	87	110	54	85	71	68	157	195	98	63	50	77
11	84	118	54	86	71	90	139	320	102	52	51	57
12	70	118	54	88	75	88	128	328	96	49	48	67
13	59	132	54	87	85	79	119	255	89	49	41	65
14	63	190	54	83	83	77	117	197	84	49	38	68
15	83	214	55	79	81	82	150	165	78	50	40	76
16	76	159	55	76	73	314	175	138	73	55	38	118
17	85	123	55	74	60	576	162	124	69	48	48	267
18	103	105	55	74	57	304	144	116	69	45	46	90
19	101	95	55	72	55	218	141	115	71	42	44	108
20	96	89	54	72	54	178	143	119	67	60	45	517
21	76	85	54	72	60	164	153	111	63	48	51	103
22	83	83	54	73	94	150	150	101	64	50	52	87
23	107	79	55	74	153	166	128	119	64	43	47	84
24	94	76	54	75	132	195	110	128	57	42	50	72
25	89	69	54	75	121	205	107	115	58	43	63	60
26	113	63	53	74	103	171	109	111	56	45	82	57
27	85	61	53	71	91	148	113	123	60	43	68	55
28	80	58	53	68	84	143	117	118	52	44	49	52
29	105	58	55	65	---	158	121	102	49	44	48	55
30	127	58	77	63	---	170	138	90	50	41	43	77
31	119	---	70	61	---	150	---	82	---	39	41	---
TOTAL	3066	2955	1741	2904	2137	4522	4083	5118	2234	1538	1452	2711
MEAN	98.9	98.5	56.2	93.7	76.3	146	136	165	74.5	49.6	46.8	90.4
MAX	178	214	77	288	153	576	208	328	102	68	82	517
MIN	59	58	53	61	54	60	106	82	49	39	36	47
AC-FT	6080	5860	3450	5760	4240	8970	8100	10150	4430	3050	2880	5380

CAL YR 1976	TOTAL	68304	MEAN 187	MAX	2250	MIN 38	AC-FT	135500
WTR YR 1977	TOTAL	34461	MEAN 94.4	MAX	576	MIN 36	AC-FT	68350

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977.
WATER TEMPERATURES: Water years 1963-67, 1977
SEDIMENT RECORDS: Water years 1957-67, 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1962 to September 1967, December 1976 to September 1977.
SEDIMENT RECORDS: October 1962 to September 1967.

INSTRUMENTATION.--Temperature recorder June 1965 to June 1967, and since December 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 31.0°C June 27, 1977; minimum recorded, 3.5°C Jan. 24, 1967, Jan. 6, 1977.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--Water temperatures of 0.0°C were observed many days during 1963-64.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 31.0°C June 27; minimum recorded, 3.5°C Jan. 6.

TEMPERATURE (DEG. C) OF WATER, DECEMBER 1976 TO SEPTEMBER 1977

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

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, DECEMBER 1976 TO SEPTEMBER 1977

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

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	TURBIDITY (JTU)
APR						
08...	0930	154	14.5	43	18	20
MAY						
12...	1330	339	18.5	68	62	40
JUN						
01...	0845	77	20.5	38	7.9	15
01...	1530	101	26.5	29	7.9	15
JUL						
07...	1505	52	27.0	3	.42	2
14...	2010	46	27.0	6	.75	3
27...	1010	44	24.5	3	.36	3
AUG						
02...	1230	37	26.0	5	.50	2
02...	1630	38	27.5	3	.31	1
03...	1930	41	27.0	3	.33	2
22...	1800	52	26.0	4	.56	1
31...	0930	40	20.5	3	.32	1
SEP						
07...	1305	62	23.5	12	2.0	3
08...	1530	50	23.0	24	3.2	5
15...	1600	79	23.5	18	3.8	4
20...	1245	293	15.0	896	709	550

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
JAN							
03...	1445	7.0	330	252	225	41	65
FEB							
04...	1015	8.0	58	6	.94	--	--
MAR							
03...	1355	14.0	75	13	2.6	--	--
17...	1130	9.5	627	1050	1780	43	65
22...	0930	13.5	152	45	18	--	--
APR							
08...	0930	14.5	154	43	18	--	--
MAY							
12...	1330	18.5	339	68	62	--	--
JUN							
01...	0845	20.5	77	38	7.9	--	--
01...	1530	26.5	101	29	7.9	--	--
AUG							
02...	1230	26.0	37	5	.50	--	--
SEP							
07...	1305	23.5	62	12	2.0	--	--
20...	1245	15.0	293	896	709	72	90
21...	1500	22.0	95	130	33	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM
JAN						
03...	84	96	99	99	100	--
FEB						
04...	--	--	--	77	--	--
MAR						
03...	--	--	--	83	--	--
17...	87	97	98	99	100	--
22...	--	--	--	99	100	--
APR						
08...	--	--	--	99	100	--
MAY						
12...	--	--	--	95	--	--
JUN						
01...	--	--	--	85	--	--
01...	--	--	--	92	--	--
AUG						
02...	--	--	--	81	--	--
SEP						
07...	--	--	--	76	--	--
20...	98	99	99	100	--	--
21...	--	--	--	99	99	100

PARTICLE-SIZE DISTRIBUTION OF SEDIMENT IN TRANSIT WITHIN 0.25 FOOT OF BED SURFACE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (CFS)	STREAM WIDTH (FT)	SEDIMENT BEDLOAD DISCHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM
MAR							
17...	1200	9.5	17	607	182	7.7	1
22...	1015	14.0	16	152	68	3.1	--

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM
MAR							
17...	1	23	65	94	98	99	100
22...	0	7	38	79	91	97	100

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'54", long 122°08'43", in SW¼NE¼ sec.1, T.29 N., R.3 W., Shasta County, U.S. Fish and Wildlife service land, on right bank 3.7 mi (6.0 km) downstream from Spring Branch, 5.7 mi (9.2 km) upstream from mouth, and 7.0 mi (11.3 km) east of Cottonwood.

DRAINAGE AREA.--357 mi^2 (925 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year. October 1940 to September 1961 at site 0.6 mi (1.0 km) upstream published as "near Cottonwood"; low-flow records not equivalent owing to Coleman Fish Hatchery diversion.

GAGE.--Water-stage recorder. Altitude of gage is 415 ft (126 m), from topographic map.

REMARKS.--Records good. Flow regulated by four small powerplants, several small reservoirs, and Coleman Fish Hatchery. Coleman Fish Hatchery diverts 50 ft^3/s (1.42 m^3/s) to 90 ft^3/s (2.55 m^3/s) which is returned above the station. Ten ft^3/s (0.28 m^3/s) diverted at times above station for irrigation. Maximum flows considered equivalent to former station, Battle Creek near Cottonwood.

AVERAGE DISCHARGE.--16 years, 510 ft^3/s (14.44 m^3/s), 369,500 acre-ft/yr (456 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft^3/s (688 m^3/s) Jan. 24, 1970, gage height, 14.75 ft (4.496 m), from rating curve extended above 4,200 ft^3/s (119 m^3/s) on basis of slope-area measurement of peak flow; minimum since 1961, 52 ft^3/s (1.47 m^3/s) Aug. 8, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 15.8 ft (4.82 m) Dec. 11, 1937, from floodmarks at former site and datum, discharge, 35,000 ft^3/s (991 m^3/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 997 ft^3/s (28.2 m^3/s) Jan. 2, gage height, 2.83 ft (0.863 m), no peak above base of 2,500 ft^3/s (70.8 m^3/s); minimum daily, 180 ft^3/s (5.10 m^3/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	265	255	251	249	253	261	231	227	228	209	193	191
2	270	246	244	414	252	252	230	228	230	212	188	191
3	271	248	254	496	253	255	226	240	232	211	196	190
4	269	246	249	296	250	254	226	253	226	209	195	190
5	262	247	250	272	251	250	229	250	225	207	194	190
6	259	247	247	263	253	253	230	238	223	206	194	190
7	257	247	245	258	255	253	232	254	239	207	192	188
8	256	248	246	257	263	253	245	252	232	203	193	187
9	245	250	247	254	265	267	307	260	247	202	192	188
10	237	250	248	255	263	272	283	281	253	203	193	185
11	236	248	247	252	261	255	254	524	247	203	192	181
12	235	263	245	260	259	251	242	412	232	201	191	180
13	233	255	246	255	262	261	241	305	229	201	190	181
14	234	280	246	253	260	262	238	275	224	199	192	183
15	235	301	245	252	263	293	236	270	222	199	190	186
16	238	270	245	251	267	311	232	268	219	199	191	211
17	237	264	244	251	269	302	230	268	216	200	192	224
18	237	261	244	252	267	290	230	261	219	204	191	208
19	236	260	244	253	254	279	222	257	220	198	190	246
20	238	256	243	253	237	273	221	232	225	202	189	328
21	236	249	236	253	272	264	222	228	236	196	186	228
22	245	251	228	254	316	270	221	228	220	196	186	210
23	260	250	231	252	266	286	217	261	213	198	186	203
24	260	250	230	252	252	293	216	257	213	198	186	208
25	260	250	228	252	244	276	203	246	206	197	198	201
26	261	246	229	250	249	263	215	250	206	191	197	198
27	259	252	229	254	258	263	212	268	206	194	192	202
28	257	250	228	254	263	268	212	253	204	190	190	227
29	255	251	229	253	---	250	215	239	206	194	189	270
30	252	249	246	253	---	236	216	232	205	193	191	248
31	247	---	252	253	---	232	---	232	---	195	188	---
TOTAL	7742	7640	7496	8326	7277	8248	6934	8249	6703	6217	5927	6213
MEAN	250	255	242	269	260	266	231	266	223	201	191	207
MAX	271	301	254	496	316	311	307	524	253	212	198	328
MIN	233	246	228	249	237	232	203	227	204	190	186	180
AC-FT	15360	15150	14870	16510	14430	16360	13750	16360	13300	12330	11760	12320

CAL YR 1976 TOTAL 117937 MEAN 322 MAX 1860 MIN 228 AC-FT 233900
WTR YR 1977 TOTAL 86972 MEAN 238 MAX 524 MIN 180 AC-FT 172500

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962 to current year.
CHEMICAL ANALYSES: Water years 1962-66.
WATER TEMPERATURES: Water years 1966 to current year.
SEDIMENT RECORDS: Water years 1962-70.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1965 to current year.

INSTRUMENTATION.--Temperature recorder since December 1965.

COOPERATION.--Temperature record furnished by U.S. Fish and Wildlife Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 23.0°C July 20, 1971, July 23, 24, 1975; minimum recorded, 2.0°c Dec. 23, 24, 1968.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 21.5°C on several days during June; minimum recorded, 5.5°C Jan. 6-9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11376550 BATTLE CREEK BELOW COLEMAN FISH HATCHERY, NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA

LOCATION.--Lat 40°17'19", long 122°11'08", in NW¼NE¼ sec.15, T.28 N., R.3 W., Tehama County, on left bank 2.7 mi (4.3 km) upstream from Bend Bridge, and 8.1 mi (13.0 km) northeast of Red Bluff.

DRAINAGE AREA.--8,900 mi^2 (23,050 km^2), excluding Goose Lake basin.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1879-88 annual observed maximums only, published in WSP 1315-A. January 1892 to current year. Monthly discharges only for some periods and yearly estimates for some incomplete years, published in WSP 1315-A. Published as "at Red Bluff" 1894-96, as "at Jellys Ferry" 1895-1902, and as "near Red Bluff" 1903-68.

REVISED RECORDS.--WSP 861: 1904, 1907, 1909, 1914-15, 1927-28. WSP 1315-A: 1941(M), 1916(M), 1918(M). WSP 1931: Drainage area. WDR CA-69-2: 1965.

GAGE.--Water-stage recorder. Datum of gage is 285.77 ft (87.103 m) above mean sea level. See WSP 2131 for history of changes prior to September 1968.

REMARKS.--Records good. Flow regulated by Shasta Lake (station 11370000) since Dec. 30, 1943. Diversions, in addition to those on tributaries, for irrigation of 22,000 acres (8,900 hm^2) between stations at Keswick and above Bend Bridge. Transbasin diversions from Trinity River to Whiskeytown Lake via Judge Francis Carr powerplant (station 11525430) started in April 1963.

AVERAGE DISCHARGE (prior to transbasin diversion from Trinity River).--71 years (water years 1892-1962), 11,400 ft^3/s (323 m^3/s), 8,253,000 acre-ft/yr (10.2 km^3/yr); 15 years (water years 1963-77), 13,610 ft^3/s (385.4 m^3/s), 9,860,000 acre-ft/yr (12.2 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft^3/s (8,240 m^3/s) Feb. 28, 1940, gage height, 38.9 ft (11.86 m) site and datum then in use, from rating curve extended above 170,000 ft^3/s (4,810 m^3/s) on basis of velocity-area studies; minimum (water years 1892-1977), 2,000 ft^3/s (56.6 m^3/s) Mar. 29, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,700 ft^3/s (331 m^3/s) June 30, gage height, 5.15 ft (1.570 m); minimum daily, 3,860 ft^3/s (109 m^3/s) Dec. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4890	4510	4590	7020	6830	5180	6270	10200	7000	11600	10700	6420
2	4760	4510	4450	8360	6850	5170	6260	10200	7380	11500	10700	6410
3	4680	4530	4390	8920	6850	5520	6220	10300	7590	11200	10700	6350
4	4700	4450	4380	6770	6800	5840	6190	10200	8060	11100	10700	6220
5	4560	4340	4220	5740	6840	6430	6020	9640	8170	10800	10400	6140
6	4450	4340	4120	5260	6830	6870	6030	8550	8200	10700	10300	5920
7	4440	4310	4060	5230	6830	6860	6370	8520	8210	10700	10300	5400
8	4460	4260	3990	5240	6960	6830	6800	9400	8560	10700	10200	5360
9	4460	4300	4020	5710	6420	6860	7380	9700	8740	10700	9460	5150
10	4400	4380	4050	6120	6040	6840	7560	9230	8820	10700	9220	5220
11	4380	4420	3980	6140	6010	6830	7460	10400	8880	10700	8810	5250
12	4350	4420	3970	6580	5990	6940	7670	9610	8890	10400	8640	5260
13	4320	4450	3980	6900	5990	6930	8110	8340	9200	10300	8470	5070
14	4360	4650	3940	6910	5970	6930	8610	7760	9440	10400	8440	5110
15	4440	4830	3950	6890	5950	7000	8760	7560	9450	10700	8080	5090
16	4420	4810	3980	6850	5940	7140	9300	7460	9760	10600	7980	5240
17	4430	4750	3960	6840	5900	7400	9850	7410	9900	10700	7910	6050
18	4440	4650	3960	6830	5880	7160	10000	7390	10200	10700	7900	5240
19	4410	4620	3930	6850	5880	6520	9700	7420	10400	10800	7960	5360
20	4390	4610	3940	6880	5880	6030	9490	7400	10400	11200	7920	7180
21	4370	4610	3860	6880	5960	6020	9460	7390	10400	11200	7940	5080
22	4340	4600	3880	6890	6030	5980	9770	7360	10400	11100	8160	4840
23	4380	4590	3880	6840	6020	6030	9970	7490	10400	11100	7860	4770
24	4400	4640	3880	6820	5710	6210	9940	7420	10900	11100	7540	4750
25	4420	4630	3870	6840	5300	6380	9980	7410	11200	11100	7330	4570
26	4430	4570	3870	6880	5250	6190	9990	7460	11200	11000	7220	4490
27	4480	4610	3870	6910	5190	6090	10000	7610	11100	10700	7090	4350
28	4430	4630	4370	6910	5180	6000	9990	7490	11100	10600	6900	4330
29	4460	4640	5900	6850	---	5890	10000	7400	11100	10600	6810	4580
30	4490	4650	6930	6830	---	5910	10100	7330	11500	10700	6700	4480
31	4550	---	7000	6780	---	6100	---	7190	---	10600	6460	---
TOTAL	138490	136310	133170	207470	171280	198080	253250	258240	286550	336000	264800	159680
MEAN	4467	4544	4296	6693	6117	6390	8442	8330	9552	10840	8542	5323
MAX	4890	4830	7000	8920	6960	7400	10100	10400	11500	11600	10700	7180
MIN	4320	4260	3860	5230	5180	5170	6020	7190	7000	10300	6460	4330
AC-FT	274700	270400	264100	411500	339700	392900	502300	512200	568400	666500	525200	316700

CAL YR 1976 TOTAL 3325830 MEAN 9087 MAX 22700 MIN 3860 AC-FT 6597000
WTR YR 1977 TOTAL 2543320 MEAN 6968 MAX 11600 MIN 3860 AC-FT 5045000

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 2.7 mi (4.3 km) downstream from gaging station.

PERIOD OF RECORD.--Water years 1955 to current year.
CHEMICAL ANALYSES: Water years 1955 to current year. Reported as "Sacramento River at Bend" during period May 1955 to September 1973; as Sacramento River at Bend Bridge (sta 11377200) for period October 1973 to September 1976.
WATER TEMPERATURES: Water years 1955 to current year. Prior to October 1970, reported as station 11377200.
SEDIMENT RECORDS: Water years 1958-70 (reported as station 11377200), January to June 1977.

PERIOD OF DAILY RECORD:
CHEMICAL ANALYSES: May 1955 to September 1963.
SPECIFIC CONDUCTANCE: May 1955 to September 1963.
WATER TEMPERATURES: May 1955 to current year.
SEDIMENT RECORDS: October 1957 to September 1970, January to June 1977.

INSTRUMENTATION.--Temperature recorder since March 1970.

REMARKS.--Unpublished records of specific conductance available in files of district office.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 19.0°C on several days in 1976; minimum recorded, 4.0°C Dec. 17, 1972, Jan. 9, 10, 1973.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,470 mg/L Jan. 24, 1970; minimum daily mean, 1 mg/L on many days in 1974 and 1967.
SEDIMENT DISCHARGE (1957-70): Maximum daily, 1,200,000 tons (1,090,000 tonnes) Jan. 24, 1970; minimum daily, 12 tons (11 tonnes) Dec. 8-10, 15, 1964.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 21.5°C Sept. 4-7; minimum recorded, 7.5°C Jan. 10-12, 31.
SEDIMENT CONCENTRATIONS (January to June): Maximum daily mean, 112 mg/L Mar. 17; minimum daily mean, 5 mg/L Feb. 21.
SEDIMENT DISCHARGE (January to June): Maximum daily, 2,240 tons (2,030 tonnes) Mar. 17; minimum daily, 80 tons (73 tonnes) Feb. 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
OCT										
25...	1430	4440	111	7.8	14.0	2	10.6	--	--	--
NOV										
17...	1300	4690	142	7.5	14.0	3	10.0	50	0	8.3
DEC										
20...	1615	3930	136	8.4	9.5	1	12.7	50	0	9.3
JAN										
25...	1015	6840	147	7.6	8.0	4	11.6	--	--	--
FEB										
22...	1100	6090	150	7.8	10.0	2	12.0	54	0	9.0
MAR										
22...	0835	6000	156	7.8	--	2	11.9	56	0	8.8
APR										
26...	1200	10100	149	8.2	12.0	4	11.6	51	0	9.8
MAY										
24...	0945	7440	138	7.4	14.0	2	10.6	50	0	7.6
JUN										
27...	1045	11200	--	7.3	18.0	--	9.8	--	--	--
JUL										
25...	0930	11200	137	7.1	18.0	4	9.6	--	--	--
AUG										
23...	1130	7920	--	7.4	20.0	--	8.9	--	--	--
SEP										
26...	0945	4470	141	7.4	19.0	8	8.7	54	0	9.8

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	SUSPENDED SOLIDS (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)
OCT									
25...	--	--	--	--	--	6	--	--	--
NOV									
17...	.5	73	0	60	4.4	4	.14	.02	100
DEC									
20...	.6	73	0	60	4.1	2	--	--	0
JAN									
25...	--	--	--	--	--	6	--	--	--
FEB									
22...	.5	76	0	62	4.7	7	.17	.02	0
MAR									
22...	.5	79	0	65	4.5	6	.09	.01	100
APR									
26...	.6	79	0	65	3.3	6	.12	.00	100
MAY									
24...	.5	72	0	59	3.9	7	.07	.01	0
JUN									
27...	--	--	--	--	--	4	--	--	--
JUL									
25...	--	--	--	--	--	5	--	--	--
AUG									
23...	--	--	--	--	--	7	--	--	--
SEP									
26...	.6	71	0	58	4.2	21	.15	--	0

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JUNE 1977

	JANUARY			FEBRUARY			MARCH		
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	---	---	---	6830	6	111	5180	7	98
2	---	---	---	6850	6	111	5170	8	112
3	---	---	---	6850	6	111	5520	12	179
4	---	---	---	6800	7	129	5840	5	79
5	5740	10	155	6840	8	148	6430	8	139
6	5260	6	85	6830	9	166	6870	11	204
7	5230	6	85	6830	9	166	6860	10	185
8	5240	6	85	6960	10	188	6830	10	184
9	5710	6	93	6420	10	173	6860	11	204
10	6120	6	99	6040	11	179	6840	12	222
11	6140	6	99	6010	11	178	6830	12	221
12	6580	7	124	5990	12	194	6940	13	244
13	6900	7	130	5990	12	194	6930	12	225
14	6910	8	149	5970	12	193	6930	12	225
15	6890	8	149	5950	12	193	7000	12	227
16	6850	8	148	5940	11	176	7140	16	309
17	6840	7	129	5900	10	159	7400	112	2240
18	6830	7	129	5880	9	143	7160	48	924
19	6850	9	166	5880	7	111	6520	19	334
20	6880	10	186	5880	6	95	6030	15	244
21	6880	6	111	5960	5	80	6020	16	260
22	6890	6	112	6030	6	98	5980	16	258
23	6840	6	111	6020	8	130	6030	16	260
24	6820	6	110	5710	9	139	6210	15	252
25	6840	6	111	5300	9	129	6380	15	258
26	6880	6	111	5250	8	113	6190	14	234
27	6910	6	112	5190	7	98	6090	14	230
28	6910	6	112	5180	7	98	6000	13	211
29	6850	6	111	---	---	---	5890	13	207
30	6830	6	111	---	---	---	5910	12	191
31	6780	6	110	---	---	---	6100	11	181
TOTAL	176400	---	3233	171280	---	4003	198080	---	9341

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JUNE 1977

	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	6270	10	169	10200	11	303	7000	7	132
2	6260	10	169	10200	11	303	7380	7	139
3	6220	9	151	10300	11	306	7590	8	164
4	6190	9	150	10200	11	303	8060	11	239
5	6020	9	146	9640	10	260	8170	12	265
6	6030	9	147	8550	6	139	8200	9	199
7	6370	9	155	8520	8	184	8210	9	200
8	6800	9	165	9400	15	381	8560	13	300
9	7380	16	319	9700	17	445	8740	11	260
10	7560	16	327	9230	12	299	8820	10	238
11	7460	12	242	10400	72	2120	8880	8	192
12	7670	12	249	9610	76	2020	8890	8	192
13	8110	13	285	8340	35	788	9200	13	323
14	8610	14	325	7760	23	482	9440	13	331
15	8760	14	331	7560	19	388	9450	10	255
16	9300	16	402	7460	17	342	9760	11	290
17	9850	16	426	7410	15	300	9900	11	294
18	10000	14	378	7390	14	279	10200	13	358
19	9700	12	314	7420	13	260	10400	12	337
20	9490	10	256	7400	13	260	10400	12	337
21	9460	10	255	7390	13	259	10400	11	309
22	9770	13	343	7360	14	278	10400	11	309
23	9970	16	431	7490	16	324	10400	10	281
24	9940	15	403	7420	15	301	10900	14	412
25	9980	14	377	7410	15	300	11200	15	454
26	9990	14	378	7460	16	322	11200	14	423
27	10000	13	351	7610	16	329	11100	14	420
28	9990	13	351	7490	16	324	11100	14	420
29	10000	12	324	7400	15	300	11100	13	390
30	10100	12	327	7330	13	257	11500	16	497
31	---	---	---	7190	11	214	---	---	---
TOTAL	253250	---	8646	258240	---	13370	286550	---	8960

TOTAL MEAN DISCHARGE (CFS) FOR PERIOD JAN. 4 TO JUNE 30, 1977.....1343800
TOTAL SEDIMENT DISCHARGE (TONS/DAY) FOR PERIOD..... 47553

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
MAY										
05...	1145	11.0	9760	5	132	74	75	83	97	100
06...	1318	11.0	8430	6	137	81	83	92	100	--

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, JANUARY TO JUNE 1977

DATE	TIME	TEMPER-ATURE (DEG C)	NUMBER OF SAM-PLING POINTS	INSTAN-TANEOUS DIS-CHARGE (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM
JAN							
05...	1420	8.0	5	5760	0	2	3
05...	1430	--	--	--	0	1	4
05...	1440	--	--	--	--	--	0
05...	1450	--	--	--	--	--	0
05...	1500	--	--	--	--	--	--
MAY							
04...	1145	11.0	5	10200	--	0	1

DATE	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
JAN						
05...	4	6	8	13	100	--
05...	5	5	8	100	--	--
05...	2	2	3	7	100	--
05...	2	4	4	4	4	100
05...	--	0	3	38	100	--
MAY						
04...	2	3	5	18	66	100

PARTICLE-SIZE DISTRIBUTION OF SEDIMENT IN TRANSIT WITHIN 0.25 FOOT OF BED SURFACE, JANUARY TO JUNE 1977

DATE	TIME	TEMPER-ATURE (DEG C)	NUMBER OF SAM-PLING POINTS	INSTAN-TANEOUS DIS-CHARGE (CFS)	STREAM WIDTH (FT)	SEDI-MENT BEDLOAD DIS-CHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
JAN								
05...	1615	8.0	5	5760	350	9.5	0	1
FEB								
02...	1315	8.0	20	6860	357	4.5	0	3
APR								
07...	1300	12.0	19	6350	356	19	--	0
MAY								
04...	1230	11.0	22	10300	365	40	0	2

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM
JAN							
05...	12	39	68	81	87	91	100
FEB							
02...	24	67	90	97	98	100	--
APR							
07...	5	27	47	65	80	90	100
MAY							
04...	27	75	95	98	100	--	--

11378800 RED BANK CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°05'25", long 122°24'45", in NE¼SE¼ sec.22, T.26 N., R.5 W., Tehama County, on road bridge near left bank 0.1 mi (0.2 km) downstream from unnamed tributary, 1.8 mi (2.9 km) southeast of town of Red Bank, and 11 mi (18 km) southwest of Red Bluff.

DRAINAGE AREA.--89.6 mi^2 (232.1 km^2), revised.

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 470 ft (143 m), from topographic map.

REMARKS.--Some small storage ponds and possibly some diversions for irrigation upstream.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--18 years, 44.3 ft^3/s (1.255 m^3/s), 32,100 acre-ft/yr (39.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft^3/s (276 m^3/s) Jan. 5, 1965, gage height, 10.06 ft (3.066 m); no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft^3/s (39.6 m^3/s) May 11, gage height, 6.25 ft (1.905 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						0	1.3	0				0
2						0	1.0	.10				0
3						0	.80	.20				0
4						0	.70	.20				0
5						0	.70	.10				0
6						0	.60	0				0
7						0	.60	0				0
8						0	.60	0				0
9						0	.90	.10				0
10						0	1.2	.30				0
11						0	.90	164				0
12						0	.70	49				0
13						0	.60	17				0
14						0	.50	9.2				0
15						0	.40	4.8				0
16						95	.30	2.9				3.2
17						54	.20	1.9				0
18						20	.20	1.5				0
19						11	.10	1.3				11
20						7.6	.10	1.0				.10
21						5.3	0	.80				0
22						4.3	0	.60				0
23						4.2	0	.80				0
24						4.3	0	.40				0
25						4.4	0	.30				0
26						3.9	0	.30				0
27						2.9	0	.20				0
28						2.0	0	.20				0
29					---	1.8	0	.10				0
30					---	1.6	0	.10				0
31		---			---	1.4	---	.10	---			---
TOTAL	0	0	0	0	0	223.7	12.40	257.50	0	0	0	14.30
MEAN	0	0	0	0	0	7.22	.41	8.31	0	0	0	.48
MAX	0	0	0	0	0	95	1.3	164	0	0	0	11
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	444	25	511	0	0	0	28

CAL YR 1976 TOTAL 503.50 MEAN 1.38 MAX 92 MIN 0 AC-FT 999
WTR YR 1977 TOTAL 507.90 MEAN 1.39 MAX 164 MIN 0 AC-FT 1010

11379000 ANTELOPE CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°12'14", long 122°07'02", in Rio De Los Berrendos Grant, Tehama County, on right bank 1.8 mi (2.9 km) upstream from diversion dam of Los Molinos Mutual Water Co., 6.5 mi (10.5 km) east of Red Bluff, and 9.7 mi (15.6 km) upstream from mouth.

DRAINAGE AREA.--123 mi^2 (319 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1315-A: 1949(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 360 ft (110 m), from topographic map. Prior to Sept. 18, 1954, at site 0.6 mi (1.0 km) downstream at different datum. Sept. 18, 1954, to July 9, 1969, at datum 2.00 ft (0.610 m) higher.

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

AVERAGE DISCHARGE.--37 years, 149 ft^3/s (4.220 m^3/s), 108,000 acre-ft/yr (133 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft^3/s (487 m^3/s) Jan. 23, 1970, gage height, 17.95 ft (5.471 m) from rating curve extended above 6,000 ft^3/s (170 m^3/s) on basis of slope-area measurement at gage height 15.96 ft (4.865 m), present datum; minimum, 8.2 ft^3/s (0.23 m^3/s) Oct. 27, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1937 reached a stage of about 22 ft (6.7 m) from floodmarks, at former site and datum.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 967 ft^3/s (27.4 m^3/s) Jan. 2, gage height, 7.38 ft (2.249 m), no peak above base of 2,200 ft^3/s (62.3 m^3/s); minimum daily, 27 ft^3/s (0.76 m^3/s) on several days during July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	39	42	45	42	49	42	45	38	31	27	29
2	39	39	42	256	42	45	41	47	37	32	27	29
3	39	38	42	183	42	43	40	42	37	31	27	29
4	39	38	42	73	41	43	40	44	37	30	27	29
5	39	38	42	55	42	43	40	41	35	30	27	29
6	39	38	42	49	42	43	40	41	35	30	28	28
7	39	38	42	47	42	43	40	44	34	30	28	28
8	39	38	42	46	46	43	43	42	34	29	28	28
9	39	38	43	45	48	47	69	47	40	29	27	28
10	39	38	43	45	44	47	64	55	37	29	28	28
11	39	40	42	46	43	42	52	71	37	29	27	28
12	39	41	42	49	42	42	47	78	36	28	27	28
13	39	40	42	48	42	44	45	59	35	28	27	29
14	39	55	42	46	42	43	43	50	34	28	27	29
15	39	52	42	46	41	49	43	46	33	28	28	30
16	39	44	42	45	40	56	42	43	32	28	28	34
17	39	42	42	45	40	52	42	44	32	27	28	42
18	39	42	42	45	40	49	41	43	32	27	30	35
19	39	42	42	45	40	46	40	44	32	28	30	43
20	39	42	42	46	41	45	40	43	32	28	29	50
21	39	42	42	46	50	44	40	40	32	28	29	36
22	39	42	42	45	55	43	40	40	31	28	29	34
23	39	41	42	45	48	44	39	57	30	28	28	33
24	39	41	42	44	49	53	38	50	30	28	29	33
25	39	41	42	43	45	64	39	43	29	28	34	33
26	39	41	42	43	44	57	40	42	29	28	34	33
27	39	41	42	43	43	49	39	46	29	27	32	33
28	39	41	42	43	44	46	38	43	28	27	31	39
29	39	42	43	42	---	44	38	42	28	27	30	64
30	39	42	49	42	---	43	39	41	29	27	29	46
31	39	---	47	42	---	42	---	40	---	27	29	---
TOTAL	1209	1236	1317	1783	1220	1443	1284	1453	994	883	889	1017
MEAN	39.0	41.2	42.5	57.5	43.6	46.5	42.8	46.9	33.1	28.5	28.7	33.9
MAX	39	55	49	256	55	64	69	78	40	32	34	64
MIN	39	38	42	42	40	42	38	40	28	27	27	28
AC-FT	2400	2450	2610	3540	2420	2860	2550	2880	1970	1750	1760	2020

CAL YR 1976	TOTAL	19273	MEAN 52.7	MAX 429	MIN 31	AC-FT	38230
WTR YR 1977	TOTAL	14728	MEAN 40.4	MAX 256	MIN 27	AC-FT	29210

11379000 ANTELOPE CREEK NEAR RED BLUFF, CA--Continued

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1959-66, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
JUL 13...	1300	28	166	8.3	26.0	6	9.4	13
AUG 15...	0900	28	165	8.0	22.0	1	8.4	12
SEP 12...	1015	29	167	8.1	20.5	1	9.9	12

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
JUL 13...	7.5	13	1.6	91	0	75	3.1	9.4	.1
AUG 15...	7.6	12	1.8	91	0	79	.9	9.4	.1
SEP 12...	8.1	12	1.6	94	--	77	1.3	9.3	.0

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
JUL 13...	38	119	131	.16	9.00	.04	.00	.04
AUG 15...	37	110	126	.15	8.32	.01	.00	.01
SEP 12...	38	129	129	.18	10.1	--	--	--

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE¼NW¼ sec.14, T.25 N., R.6 W., Tehama County, on left bank 2.5 mi (4.0 km) downstream from South Fork Elder Creek, 8.2 mi (13.2 km) northwest of Flournoy, and 10 mi (19 km) north of Paskenta.

DRAINAGE AREA.--92.9 mi^2 (241 km^2).

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1515: 1956. WSP 1931: Drainage area. WDR CA-70-2: 1967(P). WDR CA-75-4: 1966-67(P), 1969-71(P), 1973(P).

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft (218.88 m) above mean sea level. Prior to Aug. 13, 1965, water-stage recorder at site 300 ft (91 m) downstream at datum 5.13 ft (1.564 m) lower.

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

AVERAGE DISCHARGE.--29 years, 97.9 ft^3/s (2.773 m^3/s), 70,930 acre-ft/yr (87.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft^3/s (331 m^3/s) Feb. 24, 1958, gage height, 13.90 ft (4.237 m) site and datum then in use, from rating curve extended above 3,500 ft^3/s (99.1 m^3/s) on basis of slope-area measurements at gage heights 10.97 ft (3.344 m) and 13.90 ft (4.237 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 394 ft^3/s (11.2 m^3/s) Mar. 16, gage height, 3.13 ft (0.954 m), no peak above base of 1,200 ft^3/s (34.0 m^3/s); no flow Aug. 17 to Sept. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.1	4.2	5.9	4.8	6.6	13	14	5.9	2.1	.01	0
2	4.1	2.1	4.2	30	4.7	6.3	14	16	5.3	3.2	.01	0
3	4.5	2.1	4.2	22	4.7	6.2	14	11	5.0	.78	.01	0
4	3.2	2.2	4.1	10	4.7	5.8	16	9.7	4.8	.58	.01	0
5	2.7	2.2	3.9	7.4	4.7	5.5	25	8.5	3.8	.49	.01	0
6	2.4	2.2	4.0	6.2	4.8	5.4	29	8.1	3.4	.39	.01	0
7	2.1	2.2	4.0	5.4	4.8	5.5	30	7.9	3.2	.33	.01	0
8	2.0	2.2	4.2	5.3	7.1	5.7	31	7.4	3.6	.25	.01	0
9	2.0	2.2	4.1	5.0	8.3	6.5	26	14	3.9	.21	.01	0
10	1.9	2.3	3.8	5.2	6.2	8.7	19	18	3.9	.18	.01	0
11	1.8	3.8	3.9	5.3	5.6	6.8	16	42	4.0	.15	.01	0
12	1.7	6.5	4.0	6.9	5.2	6.3	14	37	3.7	.12	.01	0
13	1.6	5.4	4.2	6.5	5.1	6.2	14	23	3.2	.11	.01	0
14	1.7	15	4.2	5.8	4.8	6.3	14	18	2.8	.09	.01	0
15	1.7	12	4.1	5.6	4.7	28	13	15	2.5	.08	.01	0
16	1.7	8.2	4.2	5.4	4.7	214	12	12	2.2	.09	.01	0
17	1.7	6.6	4.2	5.3	4.6	66	12	11	2.1	.08	0	0
18	1.7	5.8	4.1	5.3	4.5	32	11	11	2.0	.06	0	2.2
19	1.7	5.0	4.0	5.7	4.4	24	9.8	12	1.9	.05	0	11
20	1.7	4.7	4.0	6.2	4.6	26	9.1	10	1.7	.05	0	6.3
21	1.7	4.5	4.0	6.6	20	26	8.5	9.7	1.5	.04	0	2.4
22	1.7	4.5	4.0	7.0	19	34	8.1	9.6	1.2	.04	0	1.2
23	1.9	4.5	4.1	6.7	13	39	7.7	11	.95	.08	0	.78
24	2.0	4.5	4.0	6.2	11	29	7.3	12	.74	.06	0	.62
25	2.0	4.3	3.9	5.8	8.6	22	7.2	11	.58	.05	0	.62
26	1.9	4.0	4.0	5.6	7.5	19	7.1	12	.48	.04	0	.67
27	1.9	3.7	4.0	5.4	7.0	22	6.8	12	.39	.03	0	.78
28	1.9	3.8	3.9	5.3	6.8	22	6.7	9.7	.30	.02	0	2.1
29	2.0	4.0	4.1	5.1	---	18	6.8	8.3	.24	.02	0	3.0
30	2.0	4.2	6.5	5.0	---	15	7.1	7.5	.21	.02	0	3.0
31	2.1	---	6.4	4.9	---	14	---	6.7	---	.01	0	---
TOTAL	65.1	136.8	130.5	224.0	195.9	737.8	415.2	415.1	75.49	9.80	.16	34.67
MEAN	2.10	4.56	4.21	7.23	7.00	23.8	13.8	13.4	2.52	.32	.005	1.16
MAX	4.5	15	6.5	30	20	214	31	42	5.9	3.2	.01	11
MIN	1.6	2.1	3.8	4.9	4.4	5.4	6.7	6.7	.21	.01	0	0
AC-FT	129	271	259	444	389	1460	824	823	150	19	.3	69

CAL YR 1976 TOTAL 4329.30 MEAN 11.8 MAX 200 MIN .32 AC-FT 8590
WTR YR 1977 TOTAL 2440.52 MEAN 6.69 MAX 214 MIN 0 AC-FT 4840

11380500 ELDER CREEK AT GERBER, CA

LOCATION.--Lat 40°03'05", long 122°09'53", in Saucos Grant, Tehama County, 1.0 mi (1.6 km) west of Gerber, and 3.5 mi (5.6 km) upstream from mouth.

DRAINAGE AREA.--136 mi^2 (352 km^2).

PERIOD OF RECORD.--Water years 1959-66, 1977.
CHEMICAL ANALYSES: Water years 1959-66.
WATER TEMPERATURES: Water year 1977.
SEDIMENT RECORDS.--Water year 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February to May 1977.
SEDIMENT RECORDS.--March to May 1977.

REMARKS.--Streamflow data obtained from a water-stage recorder on right bank.

EXTREMES FOR MARCH TO MAY.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 418 mg/L Mar. 16; minimum daily mean, 2 mg/l Mar. 28, Apr. 3, May 9.
SEDIMENT DISCHARGE: Maximum daily, 391 tons (356 tonnes) Mar. 16; minimum daily, 0 ton (0 tonne) May 9.

TEMPERATURE (DEG. C) OF WATER, FEBRUARY TO MAY 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	---	17.0	---				
2					---	---	---	18.0				
3					---	---	---	---				
4					---	---	21.5	---				
5					---	---	---	---				
6					---	---	15.5	---				
7					---	---	---	---				
8					---	---	13.0	---				
9					---	---	12.0	15.5				
10					---	---	---	17.0				
11					---	---	---	16.5				
12					---	---	---	---				
13					---	---	---	---				
14					---	---	16.5	---				
15					---	---	20.5	---				
16					---	8.0	---	---				
17					---	9.0	---	---				
18					---	15.0	---	---				
19					---	---	---	---				
20					---	---	---	---				
21					---	---	---	---				
22					---	---	---	---				
23					---	---	---	---				
24					---	---	---	---				
25					---	17.5	---	---				
26					---	18.0	---	---				
27					---	---	---	---				
28					15.0	11.0	---	---				
29					---	---	---	---				
30					---	---	---	---				
31					---	---	---	---				
MONTH					---	---	---	---				

11380500 ELDER CREEK AT GERBER, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), MARCH TO MAY 1977

DAY	JANUARY MEAN DISCHARGE (CFS)	JANUARY MEAN CONCEN-TRATION (MG/L)	JANUARY SEDIMENT DISCHARGE (TONS/DAY)	FEBRUARY MEAN DISCHARGE (CFS)	FEBRUARY MEAN CONCEN-TRATION (MG/L)	FEBRUARY SEDIMENT DISCHARGE (TONS/DAY)	MARCH MEAN DISCHARGE (CFS)	MARCH MEAN CONCEN-TRATION (MG/L)	MARCH SEDIMENT DISCHARGE (TONS/DAY)
1							---	---	---
2							---	---	---
3							---	---	---
4							---	---	---
5							---	---	---
6							---	---	---
7							---	---	---
8							---	---	---
9							---	---	---
10							---	---	---
11							---	---	---
12							---	---	---
13							---	---	---
14							---	---	---
15							---	---	---
16							155	418	391
17							116	84	35
18							38	12	1.2
19							23	7	.43
20							18	6	.29
21							18	6	.29
22							22	8	.48
23							25	7	.47
24							26	9	.63
25							20	7	.38
26							14	5	.19
27							10	3	.08
28							10	2	.05
29							13	3	.11
30							10	3	.08
31							10	3	.08
TOTAL							---	---	---

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	6.8	4	.07	---	---	---			
2	6.8	4	.07	13	7	.25			
3	6.4	2	.03	---	---	---			
4	6.1	6	.10	---	---	---			
5	10	11	.30	---	---	---			
6	15	13	.53	---	---	---			
7	15	5	.20	---	---	---			
8	21	7	.40	---	---	---			
9	25	6	.41	.41	2	0			
10	16	7	.30	5.5	14	.21			
11	10	12	.32	51	32	6.0			
12	8.0	18	.39	100	45	16			
13	7.0	19	.36	26	15	1.1			
14	6.4	18	.31	15	6	.24			
15	6.1	13	.21	10	4	.11			
16	---	---	---	---	---	---			
17	---	---	---	---	---	---			
18	---	---	---	---	---	---			
19	---	---	---	---	---	---			
20	---	---	---	---	---	---			
21	---	---	---	---	---	---			
22	---	---	---	---	---	---			
23	---	---	---	---	---	---			
24	---	---	---	---	---	---			
25	---	---	---	---	---	---			
26	---	---	---	---	---	---			
27	---	---	---	---	---	---			
28	---	---	---	---	---	---			
29	---	---	---	---	---	---			
30	---	---	---	---	---	---			
31	---	---	---	---	---	---			
TOTAL	---	---	---	---	---	---			

11380500 ELDER CREEK AT GERBER, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
MAR								
16...	0945	7.5	68	170	31	--	--	--
16...	0955	7.5	68	147	27	--	--	--
16...	1150	8.0	77	101	21	40	55	70
16...	1220	8.0	145	243	95	40	55	70
17...	0830	8.0	123	56	19	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
MAR							
16...	--	--	--	97	99	100	--
16...	--	--	--	98	100	--	--
16...	82	90	93	93	98	99	100
16...	85	93	95	95	99	100	--
17...	--	--	--	97	100	--	--

11381500 MILL CREEK NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°03'17", long 122°01'23", in NE¼NW¼ sec.6, T.25 N., R.1 W., Tehama County, on right bank 4.5 mi (7.2 km) northeast of Los Molinos, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--131 mi^2 (339 km^2).

PERIOD OF RECORD.--September 1909 to August 1913 (fragmentary), October 1928 to current year.

REVISED RECORDS.--WSP 1315-A: 1929(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 385 ft (117 m), from topographic map. Prior to September 1913, nonrecording gage at site 0.3 mi (0.5 km) downstream at different datum.

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

AVERAGE DISCHARGE.--49 years (water years 1929-77), 299 ft^3/s (8.468 m^3/s), 216,600 acre-ft/yr (267 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1929-77): Maximum discharge, 36,400 ft^3/s (1,030 m^3/s) Dec. 11, 1937, gage height, 23.4 ft (7.13 m) from floodmarks, from rating curve extended above 14,000 ft^3/s (396 m^3/s) on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft^3/s (1.39 m^3/s) Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 436 ft^3/s (12.3 m^3/s) Sept. 29, gage height, 3.03 ft (0.924 m), no peak above base of 2,400 ft^3/s (68.0 m^3/s); minimum daily, 62 ft^3/s (1.76 m^3/s) Aug. 11-13, Sept. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	87	88	89	89	103	99	118	122	79	64	68
2	90	87	87	167	88	96	98	118	121	81	66	68
3	96	86	88	171	88	96	97	109	115	78	66	68
4	90	86	88	108	88	95	100	113	113	76	65	67
5	90	86	88	97	88	93	107	104	111	76	63	66
6	90	86	87	92	88	94	114	105	112	75	64	66
7	88	86	87	91	89	94	117	105	107	76	65	65
8	88	85	88	91	96	96	132	101	107	75	64	64
9	87	85	88	90	102	111	158	112	127	74	63	64
10	87	86	88	92	95	120	135	146	112	74	63	62
11	87	87	87	92	94	102	119	156	109	73	62	62
12	86	88	88	97	94	102	113	155	104	73	62	64
13	85	87	88	94	94	103	115	135	100	73	62	64
14	85	118	88	91	94	98	116	128	97	72	63	66
15	86	107	88	90	95	108	114	128	95	72	63	66
16	86	98	87	90	95	115	117	123	92	72	63	73
17	86	95	88	90	95	108	121	119	90	71	64	113
18	86	93	87	91	94	103	114	114	90	71	66	104
19	86	92	87	92	93	100	109	117	97	71	65	128
20	86	90	86	93	94	101	107	112	112	71	65	147
21	86	90	86	93	143	102	107	116	102	71	65	99
22	87	90	86	93	148	103	105	120	91	68	65	86
23	90	88	87	93	116	111	106	137	88	68	64	82
24	88	88	87	92	107	138	106	131	86	67	65	82
25	88	88	86	90	99	146	106	121	83	67	74	80
26	87	88	86	90	96	120	106	123	79	66	94	80
27	86	86	86	89	96	119	102	138	78	67	80	78
28	86	85	86	88	102	118	102	130	76	67	74	90
29	86	87	86	88	---	109	101	123	76	65	73	220
30	87	87	93	88	---	104	102	120	75	66	71	126
31	86	---	90	88	---	100	---	120	---	65	70	---
TOTAL	2710	2692	2710	3000	2760	3308	3345	3797	2967	2220	2073	2568
MEAN	87.4	89.7	87.4	96.8	98.6	107	112	122	98.9	71.6	66.9	85.6
MAX	96	118	93	171	148	146	158	156	127	81	94	220
MIN	85	85	86	88	88	93	97	101	75	65	62	62
AC-FT	5380	5340	5380	5950	5470	6560	6630	7530	5890	4400	4110	5090

CAL YR 1976 TOTAL 53620 MEAN 147 MAX 1230 MIN 85 AC-FT 106400
WTR YR 1977 TOTAL 34150 MEAN 93.6 MAX 220 MIN 62 AC-FT 67740

11381595 MILL CREEK AT SHERWOOD BRIDGE, NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°02'44", long 122°05'39", in Rio De Los Molinos Grant, T.25 N., R.2 W., Tehama County, at Sherwood Bridge on Mill Creek 1.6 mi (2.6 km) south of Los Molinos.

DRAINAGE AREA.--133 mi^2 (344 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January to May 1977.
SEDIMENT RECORDS: January to May 1977.

REMARKS.--Streamflow data obtained from once-daily staff-gage readings.

EXTREMES FOR JANUARY TO MAY.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 60 mg/L Jan. 2, May 10; minimum daily mean, 1 mg/L Feb. 19.
SEDIMENT DISCHARGE: Maximum daily, 26 tons (24 tonnes) Jan. 2; minimum daily, 0.01 ton (0.009 tonne) on many days during February to May.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO MAY 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	9.0	9.0	---	---	---			
2				---	---	---	---	19.0	24.0			
3				---	9.0	12.0	---	---	---			
4				---	---	---	19.0	---	---			
5				---	---	---	15.5	19.0	---			
6				3.0	---	---	---	---	---			
7				---	11.5	10.5	18.0	---	---			
8				---	---	---	---	---	---			
9				---	---	---	---	15.0	---			
10				7.0	12.5	13.0	---	17.0	---			
11				---	---	---	21.0	14.5	---			
12				5.5	---	---	---	15.0	---			
13				7.0	---	---	---	---	---			
14				---	15.0	11.5	18.0	---	---			
15				---	---	---	---	---	---			
16				---	---	---	---	19.0	---			
17				6.0	14.0	13.5	---	---	---			
18				---	---	---	17.0	---	---			
19				---	---	---	---	18.5	---			
20				8.0	---	---	---	---	---			
21				---	13.5	18.0	19.5	---	---			
22				---	---	---	---	---	---			
23				---	---	---	---	17.5	---			
24				10.0	11.0	11.0	---	---	---			
25				---	---	---	18.5	---	---			
26				---	---	---	---	18.0	---			
27				9.0	---	---	---	---	---			
28				---	12.5	14.0	21.0	---	---			
29				---	---	---	---	---	---			
30				---	---	---	---	23.0	---			
31				9.0	---	14.0	---	---	---			
MONTH				---	---	---	---	---	---			

11381595 MILL CREEK AT SHERWOOD BRIDGE, NEAR LOS MOLINOS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	JANUARY			FEBRUARY			MARCH		
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	87	4	.94	86	3	.70	8.0	2	.04
2	160	60	26	82	3	.66	6.0	2	.03
3	140	20	7.6	77	4	.83	3.0	2	.02
4	99	6	1.6	77	4	.83	3.0	2	.02
5	90	5	1.2	77	3	.62	3.0	2	.02
6	88	4	.95	77	3	.62	2.0	2	.01
7	88	4	.95	77	3	.62	2.0	3	.02
8	88	4	.95	77	3	.62	3.0	3	.02
9	90	4	.97	77	3	.62	17	4	.18
10	93	4	1.0	77	3	.62	27	3	.22
11	94	5	1.3	77	3	.62	27	3	.22
12	97	6	1.6	77	3	.62	26	2	.14
13	93	4	1.0	68	2	.37	26	2	.14
14	90	4	.97	64	2	.35	26	2	.14
15	89	3	.72	59	2	.32	32	3	.26
16	87	3	.70	30	2	.16	40	4	.43
17	86	3	.70	3.0	2	.02	37	3	.30
18	87	3	.70	3.0	2	.02	36	3	.29
19	88	3	.71	3.0	1	.01	35	3	.28
20	88	3	.71	10	2	.05	34	2	.18
21	88	3	.71	31	3	.25	33	2	.18
22	88	3	.71	33	3	.27	34	2	.18
23	88	3	.71	23	2	.12	37	3	.30
24	88	3	.71	16	2	.09	45	3	.36
25	87	3	.70	13	2	.07	50	4	.54
26	87	3	.70	11	2	.06	44	4	.48
27	87	3	.70	8.0	2	.04	41	3	.33
28	87	3	.70	3.0	2	.02	40	3	.32
29	87	3	.70	---	---	---	35	3	.28
30	86	3	.70	---	---	---	23	2	.12
31	86	3	.70	---	---	---	16	2	.09
TOTAL	2881	---	59.01	1316.0	---	10.20	791.0	---	6.14

	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	13	2	.07	16	12	.52			
2	11	2	.06	16	10	.43			
3	6.0	2	.03	12	8	.26			
4	2.0	2	.01	5.0	5	.07			
5	1.0	2	.01	1.0	3	.01			
6	2.0	3	.02	1.0	2	.01			
7	3.0	5	.04	1.0	2	.01			
8	10	7	.19	1.0	3	.01			
9	30	8	.65	11	9	.27			
10	18	6	.29	65	60	11			
11	14	5	.19	75	36	7.3			
12	11	5	.15	74	32	6.4			
13	7.0	4	.08	62	25	4.2			
14	4.0	4	.04	45	15	1.8			
15	4.0	4	.04	32	9	.78			
16	5.0	4	.05	28	4	.30			
17	3.0	4	.03	26	5	.35			
18	2.0	4	.02	24	6	.39			
19	2.0	3	.02	22	7	.42			
20	1.0	4	.01	20	8	.43			
21	1.0	5	.01	23	9	.56			
22	1.0	5	.01	28	10	.76			
23	1.0	4	.01	40	12	1.3			
24	1.0	3	.01	28	10	.76			
25	1.0	3	.01	21	7	.40			
26	1.0	3	.01	21	4	.23			
27	1.0	4	.01	30	10	.81			
28	1.0	4	.01	25	9	.61			
29	1.0	3	.01	23	8	.50			
30	1.0	2	.01	21	7	.40			
31	---	---	---	20	6	.32			
TOTAL	159.0	---	2.10	817.0	---	41.61			
PERIOD	5964.0		119.06						

11382000 THOMES CREEK AT PASKENTA, CA

LOCATION.--Lat 39°53'16", long 122°31'41", in SE¼SW¼ sec.34, T.24 N., R.6 W., Tehama County, on left bank 1.2 mi (1.9 km) downstream from Digger Creek, and 1.0 mi (1.6 km) downstream from highway bridge at Paskenta.

DRAINAGE AREA.--194 mi^2 (502 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to 1943, published as Thomas Creek at Paskenta.

REVISED RECORDS.--WSP 1345: 1923, 1924-28(M), 1938, 1940(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 720 ft (219 m), from topographic map. Prior to June 20, 1942, nonrecording gage and water-stage recorder at several sites about 1.5 mi (2.4 km) upstream at different datums, June 21, 1942, to Sept. 30, 1959, water-stage recorder at site 1.4 mi (2.3 km) upstream at datum 732.85 ft (223.373 m) and Oct. 1, 1959, to Oct. 9, 1974, at datum 731.10 ft (222.839 m) above mean sea level.

REMARKS.--Records good. No storage or large diversions above station.

AVERAGE DISCHARGE.--57 years, 284 ft^3/s (8.043 m^3/s), 205,800 acre-ft/yr (254 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft^3/s (1,070 m^3/s) Dec. 22, 1964, gage height, 11.4 ft (3.47 m) from floodmarks, present site and datum, from rating curve extended above 6,000 ft^3/s (170 m^3/s) on basis of slope-area measurement of peak flow; no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 315 ft^3/s (8.92 m^3/s) Mar. 16, gage height, 3.55 ft (1.082 m), no peak above base of 1,800 ft^3/s (51.0 m^3/s); no flow Sept. 7-19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	4.3	8.8	9.5	13	36	58	49	31	4.1	.09	.02
2	6.9	4.3	8.8	20	13	31	58	60	30	4.8	.08	.03
3	11	4.3	8.4	25	13	28	60	54	28	4.3	.08	.03
4	9.6	4.3	8.1	19	12	25	70	54	27	3.9	.07	.04
5	7.3	4.3	8.1	15	12	23	115	47	26	3.8	.06	.03
6	6.1	4.3	7.8	13	12	23	133	45	24	3.7	.05	.02
7	5.5	4.3	7.5	10	12	25	134	44	22	3.5	.06	0
8	5.0	4.3	7.5	10	13	27	138	40	28	3.2	.05	0
9	4.9	4.3	7.5	10	17	36	113	45	29	2.8	.05	0
10	4.8	4.3	7.5	11	19	60	90	52	25	2.5	.05	0
11	4.6	6.5	7.5	11	17	39	78	53	22	2.5	.05	0
12	4.2	8.3	7.5	13	16	34	74	56	21	2.2	.04	0
13	4.1	7.1	7.5	15	16	32	75	51	19	2.0	.04	0
14	4.1	17	7.5	15	16	30	73	48	18	1.6	.05	0
15	4.1	51	7.5	15	16	47	66	46	17	.84	.05	0
16	4.1	43	7.5	15	16	164	68	43	14	.69	.04	0
17	4.1	31	7.5	15	16	78	65	40	12	.70	.04	0
18	4.1	24	7.5	15	16	63	57	39	11	.65	.03	0
19	4.1	20	7.5	15	15	58	52	38	11	.63	.04	0
20	4.1	18	7.5	19	14	68	46	39	14	.65	.04	3.9
21	4.1	16	7.3	24	46	76	43	37	13	.56	.04	1.8
22	4.1	15	6.9	24	92	106	40	37	11	.48	.04	1.5
23	4.1	13	6.9	24	51	118	39	39	9.0	.67	.03	9.4
24	4.1	12	6.9	22	44	99	38	38	7.2	.60	.02	8.7
25	4.1	9.5	6.9	19	34	87	37	36	6.2	.46	.03	8.1
26	4.1	9.9	6.9	17	30	83	36	35	5.6	.34	.03	7.6
27	4.1	9.5	6.9	16	28	105	36	43	4.9	.31	.04	7.6
28	4.1	9.5	6.9	14	30	99	34	42	4.6	.21	.04	7.6
29	4.1	8.8	6.9	14	---	84	34	37	4.3	.18	.02	11
30	4.1	8.2	8.3	13	---	73	33	34	4.1	.14	.01	28
31	4.1	---	9.5	13	---	63	---	32	---	.13	.02	---
TOTAL	156.8	380.3	235.3	490.5	649	1920	1993	1353	498.9	53.14	1.38	95.37
MEAN	5.06	12.7	7.59	15.8	23.2	61.9	66.4	43.6	16.6	1.71	.045	3.18
MAX	11	51	9.5	25	92	164	138	60	31	4.8	.09	28
MIN	4.1	4.3	6.9	9.5	12	23	33	32	4.1	.13	.01	0
AC-FT	311	754	467	973	1290	3810	3950	2680	990	105	2.7	189

CAL YR 1976 TOTAL 26506.10 MEAN 72.4 MAX 1150 MIN 3.5 AC-FT 52570
WTR YR 1977 TOTAL 7826.69 MEAN 21.4 MAX 164 MIN 0 AC-FT 15520

11382000 THOMES CREEK AT PASKENTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.
CHEMICAL ANALYSES: Water years 1959 to current year.
WATER TEMPERATURES: Water years 1962 to current year.
SEDIMENT RECORDS: Water years 1963-73.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1961 to current year.
SEDIMENT RECORDS: October 1962 to September 1973.

INSTRUMENTATION.--Temperature recorder since October 1961.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 36.5°C Aug. 2, 4, 1974; minimum recorded, 0.0°C on several days during most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 35.0°C June 25-27; minimum recorded, 3.5°C Jan. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
OCT									
19...	0940	4.1	385	8.1	17.0	1	10.4	--	--
NOV									
16...	0945	43	370	8.1	13.0	2	10.7	--	--
DEC									
15...	1015	7.5	422	8.1	9.0	0	12.1	179	45
JAN									
18...	0930	15	418	8.3	7.0	0	13.4	181	53
FEB									
11...	0945	17	379	8.3	12.5	0	12.8	166	45
MAR									
16...	0940	234	222	8.4	--	205	12.6	--	--
APR									
20...	1035	46	215	8.4	17.0	3	11.7	--	--
MAY									
18...	0840	39	252	8.2	14.0	1	10.2	110	15
JUN									
21...	0830	14	293	8.1	24.0	1	9.4	123	21
JUL									
18...	0815	.63	353	7.9	25.0	1	7.6	--	--
AUG									
16...	0930	.05	383	7.9	29.0	0	8.9	--	--
SEP									
22...	1110	16	485	8.1	22.0	1	9.5	206	98

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)
OCT									
19...	--	--	--	--	--	--	--	--	--
NOV									
16...	--	--	--	--	--	--	--	--	--
DEC									
15...	51	13	16	16	.5	.9	163	0	134
JAN									
18...	--	--	16	--	.5	--	156	0	128
FEB									
11...	--	--	15	--	.5	--	145	1	121
MAR									
16...	--	--	--	--	--	--	--	--	--
APR									
20...	--	--	--	--	--	--	--	--	--
MAY									
18...	--	--	8.2	--	.3	--	116	0	95
JUN									
21...	--	--	11	--	.4	--	124	0	102
JUL									
18...	--	--	--	--	--	--	--	--	--
AUG									
16...	--	--	--	--	--	--	--	--	--
SEP									
22...	--	--	24	--	.7	--	132	0	108

11382000 THOMES CREEK AT PASKENTA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT 19...	--	--	--	--	--	--	--	.01	--
NOV 16...	--	--	--	--	--	--	--	--	--
DEC 15...	44	23	290	.39	5.87	.18	--	--	100
JAN 18...	--	24	--	--	--	--	.05	.00	200
FEB 11...	--	19	--	--	--	--	.03	.00	100
MAR 16...	--	--	--	--	--	--	--	--	--
APR 20...	--	--	--	--	--	--	--	--	--
MAY 18...	--	7.8	--	--	--	--	.01	.00	100
JUN 21...	--	11	--	--	--	--	.01	.00	200
JUL 18...	--	--	--	--	--	--	--	--	--
AUG 16...	--	--	--	--	--	--	--	--	--
SEP 22...	--	56	--	--	--	--	.03	.00	200

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.5	19.0	19.5	12.5	9.5	6.0	6.5	5.5	10.5	6.5	13.0	9.5
2	19.0	17.5	20.5	13.5	9.0	6.0	7.0	6.5	10.5	6.5	12.0	9.5
3	22.0	15.5	20.5	13.0	9.5	6.0	8.0	6.0	10.0	6.5	13.5	10.0
4	22.5	15.5	19.5	12.5	9.5	6.0	7.5	5.5	10.5	7.0	14.0	9.5
5	24.0	16.0	18.0	12.5	10.0	6.5	6.0	4.5	9.5	7.0	15.5	10.0
6	25.0	17.0	18.0	12.5	10.0	6.0	6.0	3.5	12.5	7.5	14.5	10.5
7	25.5	17.5	18.5	12.0	9.5	6.0	6.5	4.0	11.5	8.0	12.5	11.0
8	26.0	17.5	17.0	11.5	9.0	6.0	6.0	4.5	11.0	9.0	16.0	11.0
9	25.5	17.5	17.0	11.5	8.5	6.0	6.0	4.0	12.0	9.0	16.0	12.0
10	24.0	16.5	16.5	12.0	9.0	5.5	7.0	5.0	13.5	9.0	13.5	9.5
11	24.0	16.5	15.0	13.5	8.5	5.5	6.5	5.0	14.0	9.0	13.0	9.5
12	23.5	16.0	16.5	12.0	8.5	5.5	8.5	6.0	14.5	9.0	14.5	10.5
13	24.0	15.5	14.0	13.0	8.5	5.5	7.5	5.5	15.0	9.5	11.5	9.5
14	23.5	15.0	14.5	12.5	8.5	5.5	7.5	5.0	15.5	9.5	11.5	9.5
15	23.0	15.0	15.0	12.0	9.5	5.5	8.5	5.5	15.0	10.0	10.5	8.5
16	23.0	15.5	15.5	11.5	8.5	5.5	8.5	5.5	15.5	10.0	10.5	8.0
17	22.5	15.0	15.5	12.0	8.0	5.5	8.5	6.0	---	---	14.0	9.5
18	22.0	14.0	16.0	12.0	8.0	5.0	8.0	6.0	---	---	13.0	10.0
19	22.0	14.0	15.0	11.0	8.0	5.0	8.5	5.5	---	---	16.0	10.5
20	22.0	13.5	14.0	10.5	8.0	5.0	8.5	7.0	---	---	16.0	11.0
21	22.0	14.0	13.5	10.5	7.5	5.0	9.0	7.5	---	---	17.0	11.0
22	22.0	15.5	14.0	10.5	7.5	5.5	10.0	8.0	---	---	17.0	11.5
23	21.5	14.5	14.0	10.5	8.0	5.5	10.0	7.5	---	---	14.0	11.5
24	19.0	14.5	13.0	9.0	7.5	5.0	9.5	7.0	---	---	12.0	10.0
25	19.0	13.0	12.5	9.0	8.0	5.5	9.0	6.5	---	---	14.5	9.5
26	18.5	12.0	10.0	7.0	7.0	5.0	---	---	---	---	16.0	10.0
27	19.0	11.5	7.5	5.5	8.0	5.0	---	---	---	---	15.5	11.0
28	18.5	11.5	8.5	5.0	7.0	4.5	---	---	---	---	14.0	9.5
29	16.5	12.0	9.5	5.5	7.5	5.0	---	---	---	---	12.5	9.5
30	18.0	11.5	9.0	6.0	7.0	6.5	---	---	---	---	14.0	9.0
31	18.5	12.0	---	---	7.5	5.5	---	---	---	---	15.5	9.5
MONTH	26.0	11.5	20.5	5.0	10.0	4.5	10.0	3.5	---	---	17.0	8.0

11382000 THOMES CREEK AT PASKENTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.0	11.0	17.5	14.5	28.0	21.5	31.0	24.5				
2	17.0	11.5	18.5	13.0	28.0	19.5	32.5	23.5				
3	18.5	11.5	18.5	13.5	26.5	20.5	---	---				
4	20.0	13.0	20.0	12.0	30.0	20.0	30.5	21.0				
5	20.0	13.5	15.0	12.5	32.0	22.0	31.0	21.0				
6	20.0	13.5	15.5	11.0	30.5	24.5	32.0	21.0				
7	20.0	14.0	17.0	11.5	30.5	24.5	32.5	21.5				
8	16.0	13.0	19.5	12.0	30.5	23.0	32.0	21.5				
9	18.0	12.0	16.0	13.5	27.0	22.5	32.5	22.5				
10	17.5	11.5	14.5	13.0	23.5	20.5	33.5	22.0				
11	19.5	12.0	15.5	13.0	27.5	20.0	34.0	22.5				
12	21.0	13.0	20.0	12.5	29.0	20.5	33.0	23.0				
13	20.5	15.0	22.0	13.5	28.5	21.0	33.5	22.0				
14	19.0	12.5	22.0	15.0	30.0	20.5	---	---				
15	22.0	13.5	19.0	15.0	30.5	21.0	---	---				
16	21.5	15.0	18.5	13.0	31.0	22.0	---	---				
17	19.5	13.5	20.5	12.5	30.0	22.0	---	---				
18	19.0	12.0	16.5	14.0	30.0	22.0	---	---				
19	20.0	12.5	22.0	13.5	31.0	22.0	---	---				
20	21.0	13.0	25.5	16.5	31.0	23.0	---	---				
21	20.5	13.0	24.5	17.5	30.5	22.0	---	---				
22	20.0	13.0	21.0	17.0	33.0	23.0	---	---				
23	21.0	13.5	19.0	15.5	34.0	24.0	---	---				
24	19.5	14.0	23.0	14.5	34.5	24.5	---	---				
25	20.0	14.5	21.5	16.0	35.0	26.5	---	---				
26	21.0	13.0	21.5	16.0	35.0	24.5	---	---				
27	22.0	14.0	23.5	15.0	35.0	25.0	---	---				
28	21.5	15.0	24.5	15.5	33.5	24.5	---	---				
29	20.5	15.0	26.0	17.0	34.5	25.0	---	---				
30	20.5	15.5	28.0	18.5	28.5	25.0	---	---				
31	---	---	29.0	20.5	---	---	---	---				
MONTH	22.0	11.0	29.0	11.0	35.0	19.5	---	---				

11383500 DEER CREEK NEAR VINA, CA

LOCATION.--Lat 40°00'51", long 121°56'50", in NW¼NE¼ sec.23, T.25 N., R.1 W., Tehama County, on left bank 0.5 mi (0.8 km) upstream from diversion dam, and 7.9 mi (12.7 km) northeast of Vina.

DRAINAGE AREA.--208 mi^2 (539 km^2).

PERIOD OF RECORD.--October 1911 to December 1915, March 1920 to December 1937, January 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1940-42(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 479.5 ft (146.15 m) above mean sea level (river-profile survey). Prior to Oct. 9, 1928, nonrecording gage at site 0.8 mi (1.3 km) downstream at different datum. Oct. 9, 1928, to Jan. 19, 1939, water-stage recorder at present site at datum 2.64 ft (0.805 m) higher.

REMARKS.--Records excellent. No storage or large diversions above station.

AVERAGE DISCHARGE.--59 years, 314 ft^3/s (8.892 m^3/s), 227,500 acre-ft/yr (281 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft^3/s (674 m^3/s) Dec. 10, 1937, gage height, 19.2 ft (5.85 m) present datum, from floodmarks, from rating curve extended above 9,200 ft^3/s (261 m^3/s) on basis of velocity-area studies; minimum, 43 ft^3/s (1.22 m^3/s) Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 395 ft^3/s (11.2 m^3/s) Jan. 2, gage height, 3.36 ft (1.024 m), no peak above base of 2,500 ft^3/s (70.8 m^3/s); minimum daily, 58 ft^3/s (1.64 m^3/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	88	90	92	81	107	101	101	85	68	62	60
2	89	88	89	166	81	99	102	104	83	73	63	60
3	94	88	90	173	80	99	102	96	82	69	64	59
4	90	88	90	103	80	98	105	104	82	64	63	60
5	88	88	90	88	81	95	109	97	81	64	62	60
6	87	88	90	85	81	96	109	96	80	64	63	59
7	87	87	89	83	82	97	109	100	77	63	64	59
8	87	87	90	83	90	100	110	96	79	62	64	59
9	87	88	90	82	98	111	129	104	87	62	63	58
10	87	89	90	82	89	134	126	126	85	62	63	59
11	87	90	89	83	89	106	111	145	83	62	62	59
12	86	90	90	87	90	103	105	134	81	63	62	59
13	85	90	90	85	90	106	103	117	78	62	61	59
14	86	109	89	83	88	102	102	107	77	62	60	61
15	87	118	89	82	89	113	100	101	76	62	60	62
16	87	99	89	82	89	123	98	98	74	60	59	70
17	87	94	89	81	89	114	97	100	72	60	60	102
18	87	92	89	82	88	110	94	99	72	60	61	83
19	87	91	88	83	86	107	93	99	73	62	62	96
20	87	91	88	84	88	106	92	96	81	62	60	104
21	87	91	88	84	126	106	91	92	79	61	60	79
22	88	91	89	85	173	107	90	90	73	61	60	71
23	90	90	89	85	125	114	89	96	71	60	59	69
24	89	90	89	84	111	124	88	100	69	61	60	69
25	88	90	88	82	102	125	89	95	67	62	67	69
26	88	90	89	81	99	117	90	93	66	62	71	69
27	87	89	88	81	100	121	89	105	66	62	68	69
28	87	87	88	81	104	122	88	97	65	62	64	80
29	88	89	89	81	---	111	87	91	65	61	63	106
30	88	90	96	80	---	106	88	89	64	61	62	96
31	88	---	92	80	---	102	---	86	---	61	61	---
TOTAL	2717	2740	2773	2773	2669	3381	2986	3154	2273	1940	1933	2125
MEAN	87.6	91.3	89.5	89.5	95.3	109	99.5	102	75.8	62.6	62.4	70.8
MAX	94	118	96	173	173	134	129	145	87	73	71	106
MIN	85	87	88	80	80	95	87	86	64	60	59	58
AC-FT	5390	5430	5500	5500	5290	6710	5920	6260	4510	3850	3830	4210

CAL YR 1976 TOTAL 45980 MEAN 126 MAX 1150 MIN 82 AC-FT 91200
WTR YR 1977 TOTAL 31464 MEAN 86.2 MAX 173 MIN 58 AC-FT 62410

11383600 DEER CREEK AT RED BRIDGE, NEAR VINA, CA

LOCATION.--Lat 39°58'12", long 122°00'48", in NE¼NE¼ sec.6, T.24 N., R.1 W., Tehama County, at Red Bridge on Deer Creek 3.3 mi (5.3 km) northeast of Vina.

DRAINAGE AREA.--210 mi^2 (544 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January to May 1977.
SEDIMENT RECORDS: January to May 1977.

REMARKS.--Streamflow data obtained from once-daily staff-gage readings.

EXTREMES FOR JANUARY TO MAY.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 30 mg/L Jan. 2, Feb. 21; minimum daily mean, 2 mg/L Jan. 26-29.
SEDIMENT DISCHARGE: Maximum daily 11 tons (10 tonnes) Jan. 2; minimum daily, 0.37 ton (0.34 tonne) on several days during January and April.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO MAY 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	5.0	5.5	10.5	---				
2				---	---	---	---	---				
3				---	---	---	---	19.5				
4				---	6.0	11.0	---	---				
5				---	---	---	14.0	---				
6				---	---	---	---	16.5				
7				2.5	---	---	---	---				
8				---	10.0	13.5	---	---				
9				---	---	---	17.5	---				
10				---	---	---	---	13.0				
11				4.0	13.0	8.5	---	---				
12				5.5	---	---	16.0	---				
13				---	---	---	---	20.0				
14				5.0	---	---	---	---				
15				---	9.0	9.0	16.0	---				
16				---	---	---	---	---				
17				---	---	---	---	19.0				
18				---	---	8.5	---	---				
19				---	9.0	---	15.0	---				
20				---	---	---	---	17.0				
21				7.0	---	---	---	---				
22				---	9.0	12.5	---	---				
23				---	---	---	---	---				
24				---	---	---	---	17.0				
25				9.5	8.0	9.5	15.5	---				
26				---	---	---	---	---				
27				5.0	---	---	15.5	19.0				
28				---	---	---	---	---				
29				---	---	9.5	15.5	---				
30				---	---	---	---	---				
31				---	---	---	---	22.0				
MONTH				---	---	---	---	---				

11383600 DEER CREEK AT RED BRIDGE, NEAR VINA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO MAY 1977

	JANUARY			FEBRUARY			MARCH		
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	70	5	.94	68	3	.55	70	6	1.1
2	138	30	11	67	3	.54	68	6	1.1
3	130	20	7.0	66	4	.71	64	5	.86
4	85	10	2.3	65	4	.70	60	5	.81
5	75	8	1.6	65	4	.70	62	5	.84
6	72	7	1.4	66	4	.71	62	5	.84
7	70	6	1.1	68	4	.73	64	5	.86
8	70	6	1.1	76	4	.82	68	5	.92
9	70	5	.94	82	7	1.5	75	6	1.2
10	70	5	.94	73	5	.99	84	8	1.8
11	74	5	1.0	71	4	.77	65	5	.88
12	77	4	.83	71	4	.77	67	5	.90
13	76	5	1.0	72	4	.78	70	5	.94
14	74	6	1.2	71	4	.77	69	5	.93
15	72	6	1.2	70	4	.76	84	6	1.4
16	70	5	.94	70	4	.76	94	7	1.8
17	69	4	.75	70	4	.76	86	6	1.4
18	68	3	.55	70	4	.76	80	6	1.3
19	70	3	.57	68	4	.73	80	6	1.3
20	72	3	.58	70	4	.76	80	5	1.1
21	74	3	.60	90	30	7.3	80	4	.86
22	74	3	.60	129	25	8.7	80	4	.86
23	73	3	.59	90	10	2.4	83	5	1.1
24	71	3	.58	74	7	1.4	84	7	1.6
25	68	3	.55	68	4	.73	76	10	2.1
26	68	2	.37	67	4	.72	76	6	1.2
27	68	2	.37	68	4	.73	73	4	.79
28	68	2	.37	69	5	.93	70	4	.76
29	68	2	.37	---	---	---	65	3	.53
30	68	3	.55	---	---	---	65	3	.53
31	68	3	.55	---	---	---	66	4	.71
TOTAL	2340	---	42.44	2054	---	38.48	2270	---	33.32

	APRIL			MAY		
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	68	5	.92	49	3	.40
2	69	5	.93	56	4	.60
3	69	5	.93	64	4	.69
4	67	5	.90	71	4	.77
5	65	4	.70	78	5	1.1
6	64	4	.69	84	5	1.1
7	64	4	.69	84	5	1.1
8	65	4	.70	82	5	1.1
9	91	10	2.5	79	4	.85
10	86	7	1.6	77	4	.83
11	64	5	.86	72	4	.78
12	60	4	.65	68	3	.55
13	59	4	.64	65	3	.53
14	59	4	.64	64	3	.52
15	60	5	.81	64	3	.52
16	60	5	.81	65	3	.53
17	59	5	.80	65	3	.53
18	55	4	.59	64	3	.52
19	53	4	.57	62	3	.50
20	50	4	.54	60	3	.49
21	48	5	.65	60	3	.49
22	46	5	.62	60	3	.49
23	46	4	.50	60	3	.49
24	46	4	.50	60	3	.49
25	46	3	.37	60	3	.49
26	46	3	.37	60	5	.81
27	46	3	.37	60	6	.97
28	46	3	.37	60	7	1.1
29	46	3	.37	60	8	1.3
30	46	3	.37	60	9	1.5
31	---	---	---	60	11	1.8
TOTAL	1749	---	21.96	2033	---	23.94
PERIOD	10446.0		160.14			

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA

LOCATION (revised).--Lat 39°45'06", long 121°59'43", in NE¼NE¼ sec.20, R.1 W., T.22 N., Butte County, on left bank upstream end of Gianella Bridge on the Sacramento River, 1.3 mi (2.1 km) northeast of Hamilton City, and 2.4 mi (3.9 km) upstream from Pine Creek.

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951 to current year.
WATER TEMPERATURES: Water year 1977.
SEDIMENT RECORDS: Water year 1977.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1976 to June 1977.
SEDIMENT RECORDS: January to June 1977.

COOPERATION.--Discharge and chemical-quality records furnished by California Department of Water Resources.

EXTREMES FOR PERIOD JANUARY TO JUNE.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 39 mg/L May 12.
SEDIMENT DISCHARGE: Maximum daily, 1,050 tons (953 tonnes) May 12.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
OCT									
26...	0805	4010	123	7.5	13.0	3	10.4	--	--
NOV									
13...	0350	4500	--	7.6	14.0	--	10.0	--	--
18...	0850	4980	150	7.6	14.0	1	10.0	58	0
DEC									
20...	1505	4460	147	8.3	10.0	2	13.4	54	0
JAN									
25...	1325	6930	154	7.8	10.0	4	11.7	--	--
FEB									
22...	1400	5840	155	7.8	11.0	2	12.3	58	0
MAR									
22...	1345	5890	158	8.0	15.0	3	12.1	60	0
APR									
27...	0615	7150	152	7.5	13.0	3	10.7	52	0
MAY									
24...	1330	6160	141	8.0	17.0	3	10.9	52	0
JUN									
27...	1045	8620	135	7.3	18.0	3	9.8	--	--
28...	0645	8300	140	7.6	20.0	4	9.5	50	0
JUL									
25...	1430	--	135	8.0	22.0	6	10.0	--	--
AUG									
24...	0615	--	130	7.2	21.0	3	8.4	66	6
SEP									
26...	1400	--	150	7.6	21.0	9	9.3	56	0

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	SUS-PENDED SOLIDS (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT								
26...	--	--	--	--	--	--	6	--
NOV								
13...	--	--	--	--	--	--	5	--
18...	8.6	.5	78	0	64	5.2	5	100
DEC								
20...	10	.6	78	0	64	5.4	2	100
JAN								
25...	--	--	--	--	--	--	21	--
FEB								
22...	9.5	.5	78	0	64	5.1	8	0
MAR								
22...	9.9	.6	80	0	66	4.8	9	0
APR								
27...	10	.6	81	0	66	3.5	8	100
MAY								
24...	8.0	.5	73	0	60	5.1	13	0
JUN								
27...	--	--	--	--	--	--	--	--
28...	8.3	.5	74	0	61	4.9	7	0
JUL								
25...	--	--	--	--	--	--	12	--
AUG								
24...	7.6	.4	73	0	60	3.9	12	0
SEP								
26...	9.3	.5	74	0	61	4.3	20	100

DATE	TIME	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)
MAR												
22...	1345	--	2.1	.08	.00	.20	.20	.05	.01	0	0	0
JUL												
25...	1430	--	--	.02	.02	.10	.12	.03	--	--	--	--
SEP												
26...	1400	2	1.9	.15	.04	.10	--	.10	.01	0	0	0

DATE	TOTAL CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
MAR											
22...	0	--	10	30	0	0	.0	--	0	2.2	.00
JUL											
25...	--	--	--	--	--	--	--	--	--	--	--
SEP											
26...	--	0	10	150	0	20	.4	10	0	2.7	.00

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, DECEMBER TO JUNE 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	---	---	---	14.5	---	21.0			
2			---	---	11.0	---	---	15.0	---			
3			---	---	---	12.0	---	---	---			
4			---	---	10.5	---	16.0	13.5	---			
5			---	---	---	12.0	---	---	---			
6			---	---	---	---	18.0	14.5	22.0			
7			---	---	11.0	10.5	---	---	---			
8			---	---	---	---	---	---	19.5			
9			---	---	11.5	11.5	---	---	---			
10			---	---	---	---	13.5	13.5	---			
11			---	---	---	---	---	13.0	---			
12			---	---	12.0	---	17.0	13.0	---			
13			---	---	---	---	---	13.5	20.0			
14			---	---	13.5	11.0	14.5	---	---			
15			---	---	---	---	---	---	20.0			
16			---	---	13.0	9.5	---	16.5	---			
17			---	---	---	---	---	---	---			
18			---	---	13.0	12.5	14.5	15.5	---			
19			---	---	---	---	---	---	---			
20			---	---	---	---	15.0	---	20.0			
21			8.5	---	11.5	12.5	---	---	---			
22			---	---	10.0	---	15.0	---	22.5			
23			---	---	11.5	---	---	16.5	---			
24			---	---	---	11.5	---	---	22.5			
25			---	9.0	11.0	---	---	17.5	---			
26			---	---	---	13.5	15.5	---	---			
27			---	---	---	---	---	---	---			
28			---	---	12.0	12.5	15.0	18.0	22.5			
29			---	---	---	---	---	---	---			
30			---	---	---	13.0	---	---	---			
31			---	---	---	---	---	21.0	---			
MONTH			---	---	---	---	---	---	---			

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JUNE 1977

	JANUARY			FEBRUARY			MARCH		
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				6730	12	218	4710	9	114
2				6760	12	219	4620	9	112
3				6750	12	219	4550	9	111
4				6760	12	219	5080	9	123
5				6700	12	217	5210	9	127
6				6750	12	219	5820	12	189
7				6600	12	214	5910	14	223
8				6620	13	232	5880	14	222
9				6600	14	249	5860	14	222
10				5920	12	192	5860	13	206
11				5730	10	155	5790	13	203
12				5650	10	153	5800	12	188
13				5650	9	137	5890	11	175
14				5660	9	138	5860	10	158
15				5530	8	119	6030	13	212
16				5460	8	118	6650	16	287
17				5440	8	118	7060	18	343
18				5370	8	116	7050	17	324
19				5350	8	116	6770	15	274
20				5400	8	117	6000	14	227
21				5540	8	120	5850	14	221
22				5670	8	122	5710	14	216
23				5710	10	154	5710	14	216
24				5670	11	168	5740	19	294
25	6890	10	186	5220	11	155	5990	33	534
26	6940	10	187	4980	10	134	5860	32	506
27	6890	10	186	4950	10	134	5680	26	399
28	6940	11	206	4810	9	117	5490	21	311
29	6890	11	205	---	---	---	5290	19	271
30	6820	11	203	---	---	---	5380	18	261
31	6810	12	221	---	---	---	5440	19	279
TOTAL	48180	---	1394	163980	---	4589	178540	---	7548

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JUNE 1977

	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	5750	24	373	8000	19	410	5440	12	176
2	5730	23	356	8280	23	514	5310	12	172
3	5720	20	309	8430	32	728	5410	12	175
4	5630	16	243	8570	31	717	5730	14	217
5	5450	17	250	8300	24	538	6050	14	229
6	5260	18	256	7710	17	354	6210	14	235
7	5150	18	250	7080	16	306	6120	14	231
8	5310	18	258	7500	16	324	6120	12	198
9	5790	20	313	8440	15	342	6600	16	285
10	6110	21	346	8400	15	340	6630	18	322
11	5930	20	320	8710	15	353	6730	17	309
12	5710	20	308	9950	39	1050	6870	16	297
13	5800	21	329	8120	28	614	6830	14	258
14	6000	23	373	7340	19	377	7260	15	294
15	6260	25	423	6890	14	260	7280	16	314
16	6370	28	482	6650	11	198	7360	16	318
17	6850	29	536	6520	14	246	7700	17	353
18	7100	30	575	6340	20	342	7820	18	380
19	7250	27	529	6310	19	324	8210	18	399
20	6870	21	390	6260	17	287	8210	18	399
21	6870	18	334	6280	15	254	8110	16	350
22	6910	19	354	6250	13	219	8030	13	282
23	7260	20	392	6380	12	207	8010	13	281
24	7200	20	389	6260	11	186	8150	15	330
25	7240	19	371	6160	10	166	8640	16	373
26	7220	19	370	6260	12	203	8790	16	380
27	7340	18	357	6420	13	225	8650	17	397
28	7400	17	340	6420	15	260	8570	17	393
29	7450	17	342	6270	15	254	8630	18	419
30	7630	18	371	6030	13	212	8770	18	426
31	---	---	---	5830	10	157	---	---	---
TOTAL	192560	---	10839	222360	---	10967	218240	---	9192
PERIOD	1023860	---	44529						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
MAY								
11...	1345	13.0	8600	10	232	--	--	--
12...	1845	13.0	9700	34	890	--	--	--
JUN								
08...	1400	20.0	5890	12	191	35	54	65

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM
MAY							
11...	--	--	71	81	94	99	100
12...	--	--	68	75	87	100	--
JUN							
08...	76	85	91	94	100	--	--

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SEDIMENT IN TRANSIT WITHIN 0.25 FOOT OF BED SURFACE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (CFS)	STREAM WIDTH (FT)	SEDIMENT BEDLOAD DISCHARGE (T/DAY)	SED. BEDLOAD SIEVE DIAM. % FINER THAN .062 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .125 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN .250 MM
DEC 21...	1330	8.5	5	4280	640	.60	0	1	17
JAN 25...	1530	9.0	21	7190	641	86	--	0	2
FEB 22...	1500	10.0	22	5900	642	25	--	0	4
MAR 21...	1240	12.5	24	5640	643	40	--	0	4
MAY 11...	1430	13.0	25	8430	646	104	--	0	4
JUN 08...	1230	19.5	25	5850	642	15	1	1	7

DATE	SED. BEDLOAD SIEVE DIAM. % FINER THAN .500 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 1.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 2.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 4.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 8.00 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 16.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 32.0 MM	SED. BEDLOAD SIEVE DIAM. % FINER THAN 64.0 MM
DEC 21...	89	94	98	100	--	--	--	--
JAN 25...	48	91	93	94	94	94	95	100
FEB 22...	60	74	76	77	77	79	100	--
MAR 21...	79	93	96	97	97	98	100	--
MAY 11...	65	96	98	99	100	--	--	--
JUN 08...	71	96	99	100	--	--	--	--

11384000 BIG CHICO CREEK NEAR CHICO, CA

LOCATION.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, Butte County, on right bank 1.8 mi (2.9 km) upstream from golf clubhouse in Bidwell Park, 2.6 mi (4.2 km) upstream from Lindo Channel, and 7 mi (11 km) northeast of Chico.

DRAINAGE AREA.--72.4 mi^2 (187.5 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1952, published as Chico Creek near Chico.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 300 ft (91 m), from topographic map. Prior to Oct. 1, 1955, at site 0.6 mi (1.0 km) downstream at different datum.

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

AVERAGE DISCHARGE.--47 years, 144 ft^3/s (4.078 m^3/s), 104,300 acre-ft/yr (129 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,580 ft^3/s (271 m^3/s) Jan. 5, 1965, gage height, 15.36 ft (4.682 m); minimum, 10 ft^3/s (0.28 m^3/s) Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 254 ft^3/s (7.19 m^3/s) Jan. 3, gage height, 2.85 ft (0.869 m), no peak above base of 1,600 ft^3/s (45.3 m^3/s); minimum daily, 14 ft^3/s (0.40 m^3/s) July 31, Aug. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	23	25	31	24	33	30	24	21	21	14	17
2	23	24	25	91	25	31	28	24	21	21	14	18
3	23	22	25	119	25	30	28	24	21	21	16	18
4	23	22	25	44	26	30	27	26	21	19	16	19
5	23	22	25	34	26	29	27	26	20	20	16	19
6	23	23	25	30	26	29	25	27	20	19	16	19
7	22	23	25	27	26	28	24	27	20	16	16	19
8	23	23	25	27	28	29	25	27	19	16	16	19
9	23	23	26	27	32	32	30	32	19	17	16	19
10	23	23	26	27	29	38	30	41	20	18	16	20
11	23	25	26	25	27	34	26	51	20	18	16	20
12	23	26	25	27	26	33	25	56	20	16	16	21
13	23	27	25	27	26	32	23	49	22	17	16	20
14	23	46	25	25	26	32	22	39	22	17	16	21
15	23	37	25	25	25	37	22	35	22	18	16	22
16	23	27	25	25	25	56	21	34	21	17	16	25
17	23	24	25	25	25	46	21	32	20	17	15	37
18	22	24	25	25	25	45	20	31	19	16	20	29
19	23	24	25	25	25	44	19	30	19	16	22	42
20	23	24	25	24	28	41	19	30	20	17	16	43
21	22	24	25	24	50	39	19	27	21	16	15	24
22	21	24	25	24	58	37	19	27	20	15	15	21
23	22	24	25	24	46	39	18	28	19	16	15	19
24	22	24	25	23	53	50	18	28	18	16	15	19
25	22	24	25	22	40	64	18	28	18	16	15	20
26	23	25	25	22	34	48	18	28	18	16	15	19
27	23	25	25	22	32	45	18	27	18	15	15	19
28	23	24	25	22	32	41	17	24	18	15	15	27
29	23	25	25	23	---	37	17	23	19	14	15	46
30	23	25	36	23	---	33	17	23	19	15	15	33
31	23	---	33	23	---	31	---	21	---	14	15	---
TOTAL	704	756	797	962	870	1173	671	949	595	525	490	714
MEAN	22.7	25.2	25.7	31.0	31.1	37.8	22.4	30.6	19.8	16.9	15.8	23.8
MAX	23	46	36	119	58	64	30	56	22	21	22	46
MIN	21	22	25	22	24	28	17	21	18	14	14	17
AC-FT	1400	1500	1580	1910	1730	2330	1330	1880	1180	1040	972	1420

CAL YR 1976 TOTAL 12896 MEAN 35.2 MAX 376 MIN 17 AC-FT 25580
WTR YR 1977 TOTAL 9206 MEAN 25.2 MAX 119 MIN 14 AC-FT 18260

11384000 BIG CHICO CREEK NEAR CHICO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1953-69, 1975 to current year.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)
NOV 16...	1345	25	211	8.0	13.0	1	10.8	--
JAN 20...	1030	24	233	8.0	6.0	0	13.2	76
MAR 16...	1200	45	206	8.0	7.0	1	12.6	74
JUL 18...	1145	16	252	8.4	25.0	1	9.1	82
SEP 23...	0830	20	208	8.0	17.0	1	10.0	--

DATE	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED BORON (B) (UG/L)
NOV 16...	--	--	--	--	--	--	--	--
JAN 20...	0	16	.8	111	0	91	14	200
MAR 16...	0	14	.7	104	0	85	11	200
JUL 18...	0	20	1.0	120	0	98	16	200
SEP 23...	--	--	--	--	--	--	--	--

11384600 LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CA

LOCATION.--Lat 39°17'48", long 122°32'22", in NE¼SW¼ sec.28, T.17 N., R.6 W., Colusa County, on left bank 1.1 mi (1.8 km) upstream from county bridge on Lodoga-Stonyford Road, 1.4 mi (2.3 km) downstream from Frenzel Creek, and 2.8 mi (4.5 km) southwest of Lodoga.

DRAINAGE AREA.--45.6 mi^2 (118.1 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (396 m), from topographic map.

REMARKS.--Records good. No known storage or diversions above station.

AVERAGE DISCHARGE.--11 years, 56.8 ft^3/s (1.609 m^3/s), 41,150 acre-ft/yr (50.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft^3/s (113 m^3/s) Jan. 23, 1970, gage height, 11.39 ft (3.472 m), from rating curve extended above 1,500 ft^3/s (42.5 m^3/s); no flow at times in 1972, 1976, and 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 44 ft^3/s (1.25 m^3/s) Jan. 2, gage height, 3.27 ft (0.997 m), no peak above base of 1,000 ft^3/s (28.3 m^3/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	.45	1.1	2.6	1.8	3.2	3.5	2.2	.74			
2	.71	.46	1.1	20	1.8	3.0	3.3	2.9	.59			
3	1.0	.44	1.1	14	1.8	2.8	3.2	2.4	.53			
4	.76	.44	1.1	6.2	1.8	2.6	3.1	2.5	.48			
5	.53	.43	1.1	4.0	1.8	2.5	3.2	2.2	.33			
6	.40	.43	1.1	3.1	1.8	2.4	3.3	2.3	.23			
7	.31	.43	1.1	2.6	1.8	2.3	3.2	2.6	.18			
8	.23	.44	1.1	2.3	2.6	2.3	3.0	2.8	.11			
9	.21	.50	1.2	2.1	3.6	3.2	3.0	4.3	.08			
10	.17	.55	1.2	2.2	2.7	3.4	2.9	4.1	.17			
11	.15	.89	1.2	2.1	2.4	2.9	2.6	3.5	.36			
12	.12	1.2	1.3	2.8	2.3	2.7	2.5	3.5	.33			
13	.07	1.1	1.3	2.6	2.1	2.7	2.4	3.2	.21			
14	.05	2.6	1.3	2.4	2.0	2.6	2.3	2.7	.14			
15	.04	2.6	1.3	2.3	1.9	5.1	2.2	2.4	.07			
16	.05	1.6	1.4	2.1	1.9	12	2.1	2.1	0			
17	.07	1.2	1.4	2.1	1.9	12	1.9	2.0	0			
18	.07	1.0	1.4	2.0	1.8	11	1.8	2.0	0			
19	.10	.94	1.4	2.1	1.8	10	1.7	2.3	0			
20	.13	.91	1.4	2.1	2.0	10	1.6	2.1	0			
21	.15	.91	1.5	2.1	17	9.2	1.6	1.7	0			
22	.18	.90	1.5	2.1	15	8.3	1.5	1.7	0			
23	.19	.89	1.5	2.1	7.8	7.0	1.4	1.7	0			
24	.22	.91	1.5	2.1	6.2	6.3	1.3	2.3	0			
25	.27	.92	1.5	2.1	4.7	6.0	1.3	1.9	0			
26	.27	.95	1.5	2.0	3.9	5.4	1.5	1.7	0			
27	.28	.95	1.5	1.9	3.5	5.0	1.4	1.8	0			
28	.30	1.0	1.5	2.0	3.3	4.6	1.3	1.6	0			
29	.33	1.0	1.8	1.9	---	4.2	1.4	1.3	0			
30	.37	1.1	5.0	1.9	---	4.1	1.5	1.1	0			
31	.40	---	3.8	1.8	---	3.7	---	.93	---			---
TOTAL	8.88	28.14	47.2	103.7	103.0	162.5	67.0	71.83	4.55	0	0	0
MEAN	.29	.94	1.52	3.35	3.68	5.24	2.23	2.32	.15	0	0	0
MAX	1.0	2.6	5.0	20	17	12	3.5	4.3	.74	0	0	0
MIN	.04	.43	1.1	1.8	1.8	2.3	1.3	.93	0	0	0	0
AC-FT	18	56	94	206	204	322	133	142	9.0	0	0	0

CAL YR 1976 TOTAL 1790.63 MEAN 4.89 MAX 51 MIN 0 AC-FT 3550
WTR YR 1977 TOTAL 596.80 MEAN 1.64 MAX 20 MIN 0 AC-FT 1180

11384600 LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1967 to current year.
INSTRUMENTATION.--Temperature recorder since May 1967.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 33.5°C July 15, 1972; minimum recorded, 0.0°C Dec. 21-23, 1968, Jan. 28 to Feb. 1, 1975.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 27.5°C June 5, 7; minimum recorded, 0.5°C Jan. 7-9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

RESERVOIRS IN STONY CREEK BASIN, CA

11385100 EAST PARK RESERVOIR NEAR STONYFORD.--Lat 39°21'24", long 122°30'53", in SW¼NE¼ sec.3, T.17 N., R.6 W., Colusa County, near south side of spillway section on East Park Dam on Little Stony Creek, 1.9 mi (3.1 km) southeast of Stonyford. DRAINAGE AREA, 98.2 mi^2 (254.3 km^2). PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Reservoir is formed by a concrete arch-type dam. Storage began in 1910. Capacity, 48,211 acre-ft (59.4 hm^3) between elevations 1,131.68 ft (344.936 m), invert of sluice pipe and 1,198.18 ft (365.205 m), crest of spillway. Capacity increased to 50,889 acre-ft (62.7 hm^3) with the addition of flashboards to an elevation of 1,199.68 ft (365.662 m). Dead storage, 279 acre-ft (344,000 m^3). Records of contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft (66.0 hm^3) Mar. 30, 1974, elevation, 1,201.10 ft (366.095 m); minimum, 280 acre-ft (345,000 m^3) Aug. 8 to Oct. 31, 1972, Apr. 30 to Sept. 30, 1977, elevation, 1,131.68 ft (344.936 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 9,490 acre-ft (11.7 hm^3) Apr. 2, elevation, 1,164.66 ft (354.988 m); minimum, 280 acre-ft (345,000 hm^3) Apr. 30 to Sept. 30, elevation, 1,131.68 ft (344.936 m).

11386100 STONY GORGE RESERVOIR NEAR ELK CREEK.--Lat 39°35'09", long 122°31'54", in NE¼SE¼ sec.16, T.20 N., R.6 W., Glenn County, on south end of Stony Gorge Dam on Stony Creek, 1.3 mi (2.1 km) southeast of Elk Creek. DRAINAGE AREA, 301 mi^2 (780 km^2). PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

Reservoir is formed by slab and buttress-type dam. Storage began in 1928. Capacity, 50,383 acre-ft (62.1 hm^3) between elevations, 728.0 ft (221.89 m), top of low intake and 841.0 ft (256.34 m), crest of spillway. No dead storage. Records of contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 54,630 acre-ft (67.4 hm^3) Mar. 26, 1971, elevation, 844.20 ft (257.312 m); minimum, 3,810 acre-ft (4.70 hm^3) Nov. 6, 1971, elevation, 779.20 ft (237.500 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 11,420 acre-ft (14.1 hm^3) Apr. 4, elevation, 798.31 ft (243.325 m); minimum, 3,990 acre-ft (4.92 hm^3) Sept. 16, elevation, 779.84 ft (237.695 m).

MONTHEND ELEVATION AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11381500 EAST PARK RESERVOIR			11386100 STONY GORGE RESERVOIR		
Sept. 30.....	1145.06	1800	--	790.54	7700	--
Oct. 31.....	1144.70	1730	--	791.00	7890	--
Nov. 30.....	1148.60	2610	+800	792.69	8630	+740
Dec. 31.....	1150.89	3250	+640	793.74	9110	+480
CAL YR 1975.....	--	--	-1690	--	--	-15840
Jan. 31.....	1155.47	4850	+1600	795.06	9740	+630
Feb. 28.....	1158.96	6380	+1530	796.22	10320	+580
Mar. 31.....	1164.46	9370	+2990	797.68	11080	+760
Apr. 30.....	1131.68	280	-9090	786.71	6210	-4870
May 31.....	1131.68	280	0	781.75	4550	-1660
June 30.....	1131.68	280	0	782.53	4790	+240
July 31.....	1131.68	280	0	781.55	4490	-300
Aug. 31.....	1131.68	280	0	780.51	4180	-310
Sept. 30.....	1131.68	280	0	780.20	4090	-90
WTR YR 1976.....	--	--	-1520	--	--	-3610

11387000 STONY CREEK NEAR FRUTO, CA

LOCATION.--Lat 39°40'18", long 122°31'01", in SW¼SE¼ sec.15, T.21 N., R.6 W., Glenn County, on right bank 0.3 mi (0.5 km) downstream from Grindstone Creek, and 6.5 mi (10.5 km) northwest of Fruto.

DRAINAGE AREA.--597 mi^2 (1,546 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1901 to October 1912, October 1960 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 600 ft (183 m), from topographic map. Prior to Oct. 6, 1912, nonrecording gage at site 1.0 mi (1.6 km) downstream at different datum.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow regulated by Stony Gorge Reservoir (station 11386100) 6.9 mi (11.1 km) upstream since 1928, and by East Park Reservoir (station 11385100) since 1910, combined usable capacity, 100,700 acre-ft (124 hm^3).

AVERAGE DISCHARGE (unadjusted).--28 years, 639 ft^3/s (18.10 m^3/s), 463,000 acre-ft/yr (571 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,200 ft^3/s (1,140 m^3/s) Dec. 23, 1964, gage height, 15.94 ft (4.858 m) in gage well, 16.1 ft (4.91 m), from floodmarks; no flow at times in 1901 and 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 390 ft^3/s (11.0 m^3/s) Apr. 6, 7, May 1, gage height, 4.34 ft (1.323 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.2	3.4	8.0	6.5	14	23	329	13	.63	0	0
2	2.5	1.4	3.8	22	6.4	15	20	304	11	.75	0	0
3	3.3	1.6	3.6	34	6.4	14	20	208	10	.69	0	0
4	2.7	1.6	3.6	21	6.4	13	168	138	9.4	.47	0	0
5	2.1	1.6	3.6	16	6.4	11	350	33	8.1	.62	0	0
6	2.0	1.6	3.6	12	6.1	11	380	25	7.1	.77	0	0
7	1.9	1.6	3.6	10	5.2	11	372	22	8.4	.29	.15	0
8	1.6	1.6	3.6	8.5	6.7	11	338	20	8.1	.02	.28	0
9	1.1	1.6	3.6	7.7	10	18	298	24	6.9	0	.06	0
10	.58	1.8	3.8	7.0	11	40	323	30	6.5	0	0	0
11	.52	2.9	4.2	7.0	10	23	347	35	6.3	0	0	0
12	.57	3.4	4.6	7.6	8.9	19	338	38	6.3	0	0	0
13	.51	4.7	4.6	10	8.2	17	334	35	5.5	.02	0	0
14	.52	8.5	4.6	11	8.2	16	333	29	5.1	0	0	0
15	.19	24	4.5	9.6	7.7	31	329	27	4.7	0	0	0
16	.17	16	4.0	8.8	7.6	192	320	26	4.4	0	0	0
17	.10	10	3.9	8.2	7.6	83	317	23	4.0	0	0	0
18	.10	7.5	3.6	8.2	7.6	50	237	22	3.5	0	0	0
19	.08	5.2	3.6	8.7	7.0	41	161	23	3.3	0	.06	.21
20	.10	4.6	3.6	10	7.0	41	161	22	3.1	0	0	.47
21	.10	4.4	3.6	12	23	41	187	21	2.9	.06	0	.47
22	.20	3.7	3.6	12	48	51	213	21	2.3	.16	0	.47
23	.40	3.3	3.8	12	27	57	213	22	1.8	.16	0	.47
24	.40	3.2	4.0	11	23	56	218	21	1.3	.22	0	.47
25	.40	3.1	4.0	11	19	53	219	20	1.3	.03	0	.47
26	.40	3.2	4.0	9.0	15	41	221	23	1.1	.07	0	.43
27	.56	3.2	4.0	8.0	14	45	222	27	1.1	.16	0	.25
28	.80	3.2	4.0	7.6	14	43	272	20	.98	.02	0	0
29	.80	3.2	4.0	7.5	---	37	316	17	.84	0	0	0
30	1.2	3.2	6.3	7.0	---	31	315	15	.55	0	0	.30
31	1.2	---	8.2	7.0	---	27	---	14	---	0	0	---
TOTAL	29.50	136.1	126.9	339.4	333.9	1153	7565	1634	148.87	5.14	.55	4.01
MEAN	.95	4.54	4.09	10.9	11.9	37.2	252	52.7	4.96	.17	.018	.13
MAX	3.3	24	8.2	34	48	192	380	329	13	.77	.28	.47
MIN	.08	1.2	3.4	7.0	5.2	11	20	14	.55	0	0	0
AC-FT	59	270	252	673	662	2290	15010	3240	295	10	1.1	8.0

CAL YR 1976 TOTAL 36781.89 MEAN 100 MAX 782 MIN .08 AC-FT 72960
WTR YR 1977 TOTAL 11476.37 MEAN 31.4 MAX 380 MIN 0 AC-FT 22760

11387000 STONY CREEK NEAR FRUTO, 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: December 1970 to current year.

INSTRUMENTATION.--Temperature recorder since Dec. 1, 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 33.5°C Aug. 9, 1972; minimum recorded, 0.0°C on several days in 1972 and 1973.

EXTREMES FOR CURRENT YEAR:
WATER TEMPERATURES: Maximum recorded, 32.0°C July 21, 23; minimum recorded, 2.0°C Jan. 8, 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.0	18.5	13.5	10.0	10.5	5.0	7.5	5.5	12.0	5.5	13.0	6.5
2	19.5	18.0	14.5	11.0	11.0	4.5	8.0	6.5	11.5	5.0	13.5	6.0
3	23.0	16.0	14.0	10.0	12.0	5.5	9.5	5.5	11.0	4.5	14.5	7.5
4	22.5	15.5	12.5	8.5	11.0	6.0	8.0	4.0	11.5	5.0	15.0	7.0
5	23.5	15.0	14.0	9.0	11.5	7.5	6.0	3.5	10.5	6.0	16.5	7.0
6	23.0	15.5	14.5	10.0	11.5	6.5	7.0	2.5	13.0	6.0	15.5	8.0
7	23.0	16.5	13.0	9.5	11.0	5.5	7.5	2.5	12.5	6.5	12.5	9.5
8	23.0	16.0	13.5	8.5	10.5	6.0	7.0	2.0	12.5	8.5	18.0	9.0
9	22.0	15.5	14.0	9.0	9.5	7.0	7.0	2.0	13.5	8.5	16.0	8.5
10	21.5	15.0	14.5	10.5	10.5	6.5	9.0	4.5	15.0	8.5	14.5	6.5
11	20.0	15.0	15.0	12.5	10.5	5.5	7.0	4.0	15.0	8.0	15.0	7.0
12	19.5	13.5	15.5	11.5	6.5	5.0	10.0	5.5	15.5	8.5	15.5	8.5
13	18.5	12.5	14.5	12.5	9.5	5.0	7.5	4.5	15.5	8.5	15.0	7.5
14	18.0	12.5	16.0	12.5	9.5	5.5	9.0	3.5	16.5	8.5	13.5	6.0
15	18.0	12.0	17.0	13.0	10.5	5.0	9.0	3.5	16.0	8.5	9.5	4.0
16	18.5	13.0	18.0	12.5	10.0	4.5	10.0	4.5	16.5	8.5	8.0	4.0
17	16.5	12.0	17.5	12.5	9.5	5.0	10.0	5.5	16.5	9.5	15.5	6.0
18	16.5	11.0	17.5	12.0	9.0	4.0	10.0	4.0	17.0	9.0	16.0	7.5
19	16.0	11.0	16.0	11.0	8.5	5.0	10.0	4.0	16.5	9.0	19.0	8.5
20	16.0	10.5	15.5	10.0	9.0	3.5	10.0	6.0	12.0	10.0	18.0	9.5
21	16.0	11.0	15.5	11.0	9.0	4.0	10.0	7.5	14.5	9.0	20.0	9.5
22	16.5	13.0	15.0	11.5	9.0	5.0	12.5	8.0	13.5	7.0	20.0	10.5
23	16.5	12.0	15.0	11.0	9.0	5.5	12.0	6.5	14.5	9.0	17.5	11.0
24	16.0	11.5	14.0	9.0	9.0	3.0	11.0	5.5	14.0	6.5	12.5	9.0
25	14.0	11.0	14.0	8.5	10.0	5.5	10.5	5.0	13.5	6.5	17.0	7.5
26	13.5	11.0	10.5	6.0	8.0	3.0	11.0	4.5	15.5	7.5	19.5	8.5
27	13.0	9.0	8.5	4.5	9.0	3.5	11.0	5.0	16.5	7.5	19.0	10.0
28	12.5	8.5	10.0	5.0	8.5	3.0	11.5	6.0	15.5	9.0	16.5	8.5
29	14.0	9.0	11.0	4.5	8.5	4.0	12.0	6.5	---	---	15.0	7.5
30	13.0	9.0	10.5	5.0	7.5	5.5	10.5	7.0	---	---	17.0	7.0
31	14.0	10.0	---	---	9.0	4.0	12.0	6.0	---	---	19.5	7.5
MONTH	23.5	8.5	18.0	4.5	12.0	3.0	12.5	2.0	17.0	4.5	20.0	4.0

11387000 STONY CREEK NEAR FRUTO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	20.0	10.0	---	---	27.5	22.5	---	---	---	---	---	---
2	19.0	10.5	---	---	---	---	---	---	---	---	---	---
3	21.0	10.5	---	---	---	---	---	---	---	---	---	---
4	20.5	11.5	---	---	---	---	---	---	---	---	---	---
5	19.5	11.5	---	---	---	---	---	---	---	---	---	---
6	20.0	12.0	17.5	10.0	---	---	19.5	19.5	---	---	---	---
7	19.5	12.0	19.5	10.5	---	---	29.5	19.5	30.5	18.5	---	---
8	18.0	12.0	22.5	12.5	---	---	30.0	17.0	30.5	18.5	---	---
9	19.5	11.5	17.5	14.5	---	---	---	---	30.0	19.0	---	---
10	18.5	11.5	19.0	12.5	---	---	---	---	---	---	---	---
11	20.0	12.5	15.0	8.5	---	---	---	---	---	---	---	---
12	21.5	14.0	18.0	7.5	---	---	---	---	---	---	---	---
13	22.0	15.5	21.0	9.0	---	---	---	---	---	---	---	---
14	21.0	14.5	22.0	12.0	---	---	---	---	---	---	---	---
15	24.0	15.5	22.0	12.0	---	---	---	---	---	---	---	---
16	24.0	16.5	18.5	10.0	---	---	---	---	---	---	---	---
17	22.0	15.5	21.0	11.5	---	---	---	---	---	---	---	---
18	22.0	15.0	18.5	13.5	---	---	---	---	---	---	---	---
19	---	---	16.5	13.5	---	---	---	---	---	---	---	---
20	---	---	16.0	13.5	---	---	---	---	---	---	20.0	18.0
21	---	---	25.0	16.0	---	---	32.0	18.5	---	---	19.5	16.0
22	---	---	22.5	17.0	---	---	31.5	19.0	---	---	19.0	14.5
23	---	---	17.0	15.5	---	---	32.0	18.0	---	---	19.5	14.5
24	---	---	25.0	15.5	---	---	29.0	17.5	---	---	19.5	15.5
25	---	---	25.0	16.5	---	---	29.5	17.5	---	---	19.5	14.5
26	---	---	17.0	17.0	---	---	---	---	---	---	19.5	16.5
27	---	---	20.0	17.0	---	---	---	---	---	---	20.0	16.5
28	---	---	26.0	19.0	---	---	---	---	---	---	---	---
29	---	---	27.5	16.5	---	---	---	---	---	---	---	---
30	---	---	29.5	15.5	---	---	---	---	---	---	17.5	12.5
31	---	---	27.5	18.5	---	---	---	---	---	---	---	---
MONTH	---	---	29.5	7.5	---	---	---	---	---	---	---	---

11387990 SOUTH DIVERSION CANAL NEAR ORLAND, CA

LOCATION.--Lat 39°48'36", long 122°19'45", in SE¼NE¼ sec.32, T.23 N., R.4 W., Tehama County, on left bank 0.4 mi (0.6 km) downstream from Black Butte Dam, and 8.2 mi (13.2 km) northwest of Orland.

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1961, published as an adjustment to Stony Creek at Black Butte damsite, near Orland.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 372.64 ft (113.581 m) above mean sea level. Prior to Oct. 23, 1956, at site 0.5 mi (0.8 km) upstream at different datum. Oct. 23, 1956, to Sept. 30, 1960, at present site and datum. Oct. 1, 1960, to Sept. 30, 1961, at datum 1.00 ft (0.305 m) lower.

REMARKS.--Records good. Canal diverts from Black Butte Lake at right end of Black Butte Dam; water is used for irrigation. A pump with a capacity of 6 ft^3/s (0.17 m^3/s) diverted water at times above station and was included in the canal record prior to Mar. 1, 1970. Total diverted during the current year was 466 acre-ft (0.575 hm^3).

AVERAGE DISCHARGE.--22 years, 103 ft^3/s (2.917 m^3/s), 74,620 acre-ft/yr (92.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 320 ft^3/s (9.06 m^3/s) May 8, 1969; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	67	9.8	.30	.80	.60	.90	34	1.5	45	45	57
2	62	75	9.2	.50	.80	.60	1.4	14	1.1	39	46	46
3	59	74	2.8	.60	.80	.60	1.2	12	18	32	43	27
4	57	88	2.1	.40	.80	.60	.10	2.3	44	24	52	8.5
5	73	66	1.7	.40	1.0	.70	.10	1.8	67	33	55	2.0
6	81	16	2.2	1.2	1.0	.70	85	4.4	72	41	51	14
7	112	.10	15	1.6	1.0	.70	141	3.2	79	67	32	29
8	106	32	16	1.7	1.0	.70	145	1.3	87	84	24	34
9	82	31	16	1.6	1.1	.70	152	1.3	92	82	22	33
10	94	15	13	2.5	1.0	.70	152	1.4	73	53	22	36
11	87	4.2	2.4	1.9	1.1	.70	137	1.6	46	28	16	30
12	84	0	2.3	1.9	1.8	.70	116	1.6	33	24	9.2	20
13	79	3.1	2.8	1.9	.80	.70	108	1.3	27	13	14	20
14	86	3.6	1.9	2.4	.80	.70	89	1.2	22	30	36	16
15	84	1.7	2.0	2.3	1.0	.70	59	1.1	21	46	48	18
16	110	.90	2.3	2.0	1.0	.70	56	1.0	42	57	40	19
17	96	1.2	2.3	1.6	.80	.70	52	31	60	59	36	19
18	68	1.1	1.8	1.6	.30	.70	40	57	60	59	38	8.2
19	64	1.0	1.1	1.8	.40	.70	30	59	54	43	27	2.2
20	68	1.1	.80	1.4	.20	.70	86	46	54	68	23	1.8
21	65	1.2	1.1	1.2	.90	.80	113	41	49	74	36	1.6
22	51	1.8	.80	1.2	.80	.60	124	39	62	65	37	12
23	59	1.4	.40	1.4	.70	1.0	142	33	67	48	27	19
24	63	.40	1.8	1.3	.80	.70	125	33	59	35	20	19
25	40	1.8	1.9	1.3	.80	.70	80	31	61	58	29	24
26	12	1.5	1.1	1.2	.70	2.2	82	23	60	64	41	29
27	.50	.90	.70	1.0	.70	2.8	87	0	45	31	40	32
28	22	1.3	.40	1.0	.70	2.5	77	.20	30	15	27	34
29	31	1.3	.60	1.5	---	2.5	23	0	26	41	18	33
30	34	.70	.40	1.0	---	1.7	48	0	48	46	13	22
31	38	---	.40	.80	---	1.0	---	.30	---	45	35	---
TOTAL	2016.50	494.30	117.10	42.50	23.60	30.10	2352.70	477.00	1460.6	1449	1002.2	666.3
MEAN	65.0	16.5	3.78	1.37	.84	.97	78.4	15.4	48.7	46.7	32.3	22.2
MAX	112	88	16	2.5	1.8	2.8	152	59	92	84	55	57
MIN	.50	0	.40	.30	.20	.60	.10	0	1.1	13	9.2	1.6
AC-FT	4000	980	232	84	47	60	4670	946	2900	2870	1990	1320

CAL YR 1976 TOTAL 20454.90 MEAN 55.9 MAX 199 MIN 0 AC-FT 40570
WTR YR 1977 TOTAL 10131.90 MEAN 27.8 MAX 152 MIN 0 AC-FT 20100

11387995 BLACK BUTTE LAKE NEAR ORLAND, CA

LOCATION.--Lat 39°48'50", long 122°20'12", in SE¼SW¼ sec.29, T.23 N., R.4 W., Tehama County, in control tower in right abutment of main dam on Stony Creek, 8 mi (13 km) northwest of Orland.

DRAINAGE AREA.--738 mi^2 (1,911 km^2), revised.

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1971, published as Black Butte Reservoir near Orland.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by seven earthfill dams. Storage began Oct. 28, 1963. Usable capacity, 143,607 acre-ft (177 hm^3) between elevations 414.6 ft (126.37 m) minimum operating level, and 473.5 ft (144.32 m) spillway crest, above mean sea level. Additional storage of 10,000 acre-ft (12.3 hm^3) is not available for release. South Diversion Canal (station 11397990) diverts at right end of dam. Water is released down Stony Creek for irrigation. Records, including extremes, represent total contents at 2400 hours.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 149,700 acre-ft (185 hm^3) June 8, 9, 1967, elevation, 471.19 ft (143.619 m); minimum since initial season of operation, 1,351 acre-ft (1.67 hm^3) Sept. 30, 1977, elevation, 399.40 ft (121.737 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 20,891 acre-ft (25.8 hm^3) May 14, 16, elevation, 428.34 ft (130.558 m); minimum, 1,351 acre-ft (1.67 hm^3) Sept. 30, elevation, 399.40 ft (121.737 m).

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

399	1282	420	11500
400	1462	430	23222
403	2135	440	40852
406	3040	450	65126
409	4218	460	96558
412	5709	470	135472
415	7551	480	182008

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20487	13007	11564	11310	11802	12054	14083	18972	19254	12385	6565	3040
2	20300	12722	11555	11518	11812	12054	13979	19538	19228	12233	6402	2885
3	20167	12462	11555	11545	11821	12044	13896	19982	19151	12101	6247	2882
4	20035	12157	11555	11545	11821	12035	13906	20260	18985	11988	6077	2878
5	19825	11960	11564	11536	11821	12044	14429	20420	18770	11812	5899	2806
6	19551	11886	11564	11564	11839	12044	14760	20473	18556	11591	5726	2710
7	19241	11858	11536	11573	11849	12044	14901	20500	18281	11319	5621	2527
8	18871	11747	11500	11564	11895	12054	15031	20527	17972	10990	5518	2497
9	18493	11591	11455	11582	11914	12044	15031	20602	17643	10720	5421	2409
10	18095	11527	11446	11582	11923	12035	15009	20661	17246	10539	5315	2297
11	17631	11482	11455	11609	11923	12035	15118	20783	16973	10412	5221	2228
12	17210	11455	11464	11628	11932	12044	15261	20837	16737	10268	5170	2162
13	16819	11473	11473	11637	11932	12044	15438	20864	16551	10151	5124	2122
14	16458	11464	11427	11646	11941	12054	15762	20891	16377	10010	5032	2084
15	16124	11464	11346	11655	11941	12167	16090	20877	16204	9789	4912	2033
16	15784	11473	11275	11664	11951	12567	16435	20891	16010	9548	4785	1986
17	15504	11491	11185	11673	11960	12879	16749	20810	15784	9310	4659	1940
18	15305	11491	11105	11683	11969	12997	16973	20675	15560	9077	4537	1940
19	15097	11509	11079	11692	11979	13096	17103	20527	15360	8871	4462	1959
20	14825	11527	11088	11701	11988	13155	17091	20340	15184	8645	4375	1935
21	14557	11536	11105	11719	12026	13235	17032	20114	14944	8417	4227	1935
22	14355	11545	11105	11729	12044	13325	17055	19930	14653	8228	4087	1887
23	14229	11564	11114	11738	12044	13426	17044	19759	14345	8035	3980	1841
24	14020	11582	11123	11747	12054	13578	17079	19577	14041	7867	3879	1790
25	13824	11582	11141	11747	12054	13690	17222	19383	13741	7687	3772	1663
26	13700	11555	11150	11765	12044	13772	17377	19318	13446	7484	3668	1601
27	13700	11555	11158	11756	12054	13854	17510	19318	13215	7330	3546	1520
28	13619	11555	11176	11775	12082	13916	17691	19331	12997	7192	3457	1462
29	13517	11564	11194	11784	---	13979	18103	19331	12800	7004	3382	1406
30	13376	11573	11266	11793	---	14041	18468	19318	12567	6814	3322	1351
31	13215	---	11275	11802	---	14114	---	19279	---	6683	3206	---
MAX	20487	13007	11564	11802	12082	14114	18468	20891	19254	12385	6565	3040
MIN	13215	11455	11079	11310	11802	12035	13896	18972	12567	6683	3206	1351
†	421.80	420.08	419.75	420.33	420.63	422.68	426.48	427.12	421.14	413.66	406.47	399.40
‡	-7473	-1642	-298	+527	+280	+2032	+4354	+811	-6712	-5884	-3447	-1855
††	626	224	222	110	193	334	650	548	911	754	431	168

CAL YR 1976 ‡ -14010
WTR YR 1977 ‡ -19337

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

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA

LOCATION.--Lat 39°49'07", long 122°19'26", in NW¼SW¼ sec.28, T.23 N., R.4 W., Tehama County, on left bank 200 ft (61 m) downstream from road bridge, 0.6 mi (1.0 km) downstream from Black Butte Dam, 8.1 mi (13.0 km) northwest of Orland.

DRAINAGE AREA.--738 mi^2 (1,911 km^2), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1955 to current year. Prior to October 1962, published as Stony Creek at Black Butte damsite, near Orland.

GAGE.--Water-stage recorder and grouted rock control. Datum of gage is 366.02 ft (111.563 m) above mean sea level (levels by Corps of Engineers). Prior to Dec. 12, 1960, water-stage recorder at site 0.6 mi (1.0 km) upstream at different datum. Dec. 12, 1960, to Nov. 30, 1963, nonrecording gage at bridge 200 ft (61 m) upstream at datum 4.04 ft (1.231 m) higher.

REMARKS.--Records good. Many diversions above station for irrigation. Flow regulated by Black Butte Lake (station 11387995), East Park Reservoir (station 11385100), usable capacity, 50,900 acre-ft (62.8 hm^3), and Stony Gorge Reservoir (station 11386100), usable capacity, 50,400 acre-ft (62.1 hm^3). Prior to October 1956, figures of daily discharge included water diverted to South Diversion Canal, which diverts 0.6 mi (1.0 km) above station.

AVERAGE DISCHARGE (adjusted for diversion to South Diversion Canal since 1956 and for change in contents in and evaporation from Black Butte Lake since 1964).--22 years, 614 ft^3/s (17.39 m^3/s), 444,800 acre-ft/yr (548 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft^3/s (1,030 m^3/s) Feb. 24, 1958, gage height, 11.82 ft (3.603 m) site and datum then in use, from rating curve extended above 7,500 ft^3/s (212 m^3/s) on basis of slope-area measurement of maximum flow; no flow many days in 1956, 1957, 1962. Maximum discharge since construction of Black Butte Dam in 1964, 19,400 ft^3/s (549 m^3/s) Dec. 25, 1964, gage height, 10.41 ft (3.174 m); no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 112 ft^3/s (3.14 m^3/s) Oct. 11, 12, gage height, 3.12 ft (0.951 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	36	0				11	36	7.9	31	6.8	13
2	25	41	0				59	13	6.6	18	24	14
3	11	44	0				49	7.4	10	16	31	20
4	9.4	42	0				32	6.3	18	13	25	24
5	21	32	0				39	4.8	19	30	26	13
6	29	16	0				63	2.0	19	45	25	5.3
7	44	16	0				93	2.6	31	44	23	17
8	63	17	0				100	9.8	40	46	20	16
9	72	34	0				100	8.0	60	38	21	9.3
10	98	23	0				98	6.0	79	22	26	12
11	112	24	0				102	5.4	68	21	29	13
12	107	18	0				103	5.3	53	29	18	12
13	92	6.0	0				87	4.6	47	31	9.3	9.9
14	78	5.8	10				65	4.6	45	25	6.0	11
15	56	4.6	34				69	4.3	37	43	9.7	9.1
16	43	.80	35				67	5.4	32	45	17	8.3
17	30	0	35				64	7.8	25	42	24	8.3
18	18	0	37				73	10	22	39	21	7.4
19	29	0	15				70	6.2	18	44	10	6.2
20	44	0	.90				58	33	9.2	32	17	6.0
21	54	0	0				58	53	28	20	29	6.0
22	32	0	0				57	53	47	16	27	11
23	17	0	0				52	45	53	30	21	12
24	13	0	0				49	46	53	34	26	11
25	46	0	0				48	46	53	21	20	19
26	39	0	0				42	36	55	22	7.0	20
27	.10	0	0				46	9.3	50	31	11	14
28	15	0	0				54	7.5	44	38	15	9.3
29	20	0	0		---		50	7.1	44	36	12	7.9
30	21	0	0		---		54	6.5	39	31	11	8.5
31	28	---	0		---		---	5.2	---	17	13	---
TOTAL	1297.50	360.20	166.90	0	0	0	1912	497.1	1112.7	950	580.8	353.5
MEAN	41.9	12.0	5.38	0	0	0	63.7	16.0	37.1	30.6	18.7	11.8
MAX	112	44	37	0	0	0	103	53	79	46	31	24
MIN	.10	0	0	0	0	0	11	2.0	6.6	13	6.0	5.3
AC-FT	2570	714	331	0	0	0	3790	986	2210	1880	1150	701

CAL YR 1976 TOTAL 17383.00 MEAN 47.5 MAX 131 MIN 0 AC-FT 34480 MEAN ‡ 101 AC-FT ‡ 73020
WTR YR 1977 TOTAL 7230.70 MEAN 19.8 MAX 112 MIN 0 AC-FT 14340 MEAN ‡28.0 AC-FT ‡ 20270

‡ Adjusted for diversion to South Diversion Canal near Orland and for change in contents in and evaporation from Black Butte Lake.

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1958 to current year.
CHEMICAL ANALYSES: Water years 1958 to current year. Published as "at damsite" in 1959-64.
WATER TEMPERATURES: Water years 1969 to current year.
SEDIMENT RECORDS: Water years 1958-59, 1961-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1969 to current year.

INSTRUMENTATION.--Temperature recorder since June 1969.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 15, 1977; minimum recorded, 3.5°C Jan. 3, 4, Feb. 2, Dec. 9, 1972, Jan. 10, 1974.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 31.5°C Aug. 15; minimum recorded, 5.5°C Dec. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)
NOV									
16...	1145	1.2	425	8.2	15.0	42	9.5	--	--
MAY									
18...	1045	8.4	544	8.2	15.0	42	9.7	214	29
JUL									
18...	1000	37	579	7.9	25.0	30	8.5	220	27
SEP									
23...	0700	15	616	8.1	17.0	60	9.1	278	25

DATE	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)
NOV									
16...	--	--	--	--	--	--	--	--	--
MAY									
18...	--	--	30	--	.9	--	225	0	185
JUL									
18...	49	24	32	24	.9	1.5	235	0	193
SEP									
23...	--	--	37	--	1.0	--	309	0	253

DATE	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	TOTAL NITRATE (N) (MG/L)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)
NOV									
16...	--	--	--	--	--	--	--	--	--
MAY									
18...	--	45	--	--	--	--	.10	.00	600
JUL									
18...	31	47	340	.46	34.0	.00	--	.01	600
SEP									
23...	--	50	--	--	--	--	.14	.01	500

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA

LOCATION.--Lat 39°27'28", long 121°59'35", in SE¼NE¼ sec.32, T.19 N., R.1 W., Glenn County, on left bank 100 ft (30 m) upstream from highway bridge, 0.5 mi (0.8 km) south of Butte City, and at mile 115.8 (186.3 km) upstream from Sacramento.

DRAINAGE AREA.--12,075 mi^2 (31,274 km^2), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1921 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 2.92 ft (0.890 m) below mean sea level. Prior to December 1930, at site 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Records good. Natural flow affected by storage reservoirs, power developments, diversions for irrigation and return flow from irrigated areas. During floods, overbank flow into Butte basin occurs upstream from left (east) bank levee. The combined overbank flow and tributary runoff then flows south on the east bank floodplain into the Butte Sink and Sutter Bypass. Maximum overbank flood flows at the latitude of Butte City are as follows: CURRENT YEAR (Butte Creek at State Highway 162): Maximum discharge, 700 ft^3/s (19.8 m^3/s) Jan. 3, gage height, unknown. PERIOD OF RECORD (water years 1970-77): Maximum discharge, 17,200 ft^3/s (487 m^3/s) Jan. 24, 1970, gage height, 82.0 ft (24.99 m). CURRENT YEAR (combined overbank flow): Maximum discharge, 1,260 ft^3/s (35.7 m^3/s) Mar. 3. PERIOD OF RECORD (water years 1970-77): Maximum discharge, 74,300 ft^3/s (2,100 m^3/s) Jan. 25, 1970. Records do not include overbank flow into the Butte basin.

AVERAGE DISCHARGE.--39 years (water years 1939-77), 13,220 ft^3/s (374.4 m^3/s), 9,578,000 acre-ft/yr (11.8 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-77), 170,000 ft^3/s (4,810 m^3/s) Feb. 7, 1942 gage height, 96.87 ft (29.526 m); minimum recorded, 1,050 ft^3/s (29.7 m^3/s) July 15, 25, 26, 1931, gage height, 67.49 ft (20.571 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,700 ft^3/s (388 m^3/s) Jan. 3, gage height, 73.33 ft (22.351 m); minimum daily, 3,780 ft^3/s (107 m^3/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4620	4150	4860	6660	6730	4600	5400	7390	5080	8740	8310	4620
2	4470	4130	4820	7050	6760	4500	5580	7870	4700	8930	8310	4560
3	4230	4130	4560	11000	6750	4390	5540	8090	4700	8860	8290	4600
4	4230	4230	4470	9750	6790	4580	5460	8320	4860	8570	7980	4580
5	4200	4020	4470	7380	6730	4950	5290	8290	5190	8860	7730	4540
6	4210	4040	4370	6240	6730	5280	5020	7860	5400	8330	7550	4550
7	4130	4040	4360	5490	6720	5660	4830	7110	5450	8090	7490	4460
8	4010	4010	4230	5280	6600	5710	4760	7040	5350	8100	7610	4400
9	4020	4010	4020	5180	6720	5660	5000	7780	5680	8060	7520	4300
10	3960	4000	4060	5520	6270	5700	5430	8240	5930	8150	6960	4130
11	4000	4080	3960	6030	5880	5640	5460	8090	6070	8170	6710	4180
12	3960	4150	3960	6170	5700	5560	5110	9340	6280	8130	6390	4260
13	3940	4160	4010	6510	5660	5670	4990	8890	6340	7810	6220	4260
14	3920	4290	4000	6880	5650	5660	5070	7600	6540	7570	6100	4120
15	3900	4560	4000	6970	5620	5720	5320	6890	6820	7580	6100	4200
16	3830	4620	3980	6990	5490	6210	5490	6590	6640	7800	5820	4130
17	3840	4590	3950	6960	5410	6780	5860	6330	7110	7750	5630	4290
18	3920	4690	3950	6940	5370	7050	6410	6130	7330	7850	5550	4950
19	3940	4540	3920	6920	5300	6790	6700	6040	7920	7800	5620	4660
20	3960	4560	3920	6920	5270	6290	6690	5950	7860	7810	5610	4840
21	3960	4540	4010	6990	5390	5780	6430	5920	7700	8200	5640	6160
22	3900	4590	3950	6960	5590	5640	6390	5840	7790	8190	5730	4650
23	3980	4470	3920	6990	5670	5480	6650	5890	7680	8160	5970	4290
24	3960	4560	3900	6930	5670	5530	6800	5940	7600	8250	5680	4150
25	3950	4800	3890	6870	5380	5710	6820	5760	8160	8350	5360	4080
26	3960	4660	3950	6860	4980	5830	6770	5810	8360	8330	5260	3930
27	3980	4710	3950	6860	4830	5630	6840	5950	8310	8320	5260	3840
28	4010	4710	3900	6900	4720	5430	6910	6090	8210	8330	5190	3790
29	4000	4760	4120	6890	---	5210	6880	5960	8290	8330	5050	3780
30	4000	5170	5580	6780	---	5100	7060	5750	8210	8330	4940	4040
31	4120	---	6420	6800	---	5180	---	5430	---	8310	4810	---
TOTAL	125110	131970	131460	212670	164380	172920	176960	214180	201560	254060	196390	131340
MEAN	4036	4399	4241	6860	5871	5578	5899	6909	6719	8195	6335	4378
MAX	4620	5170	6420	11000	6790	7050	7060	9340	8360	8930	8310	6160
MIN	3830	4000	3890	5180	4720	4390	4760	5430	4700	7570	4810	3780
AC-FT	248200	261800	260800	421800	326000	343000	351000	424800	399800	503900	389500	260500

CAL YR 1976 TOTAL 2919200 MEAN 7976 MAX 24700 MIN 3830 AC-FT 5790000
WTR YR 1977 TOTAL 2113000 MEAN 5789 MAX 11000 MIN 3780 AC-FT 4191000

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-67, 1969 to current year.
CHEMICAL ANALYSES: Water years 1955-66.
WATER TEMPERATURES: Water years 1955-58, 1960-67, 1969 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1955 to June 1963.
WATER TEMPERATURES: May 1955 to September 1958, October 1959 to September 1967, July 1969 to current year.

INSTRUMENTATION.--Temperature recorder May 1955 to September 1958, October 1959 to September 1967, and since July 1969.

REMARKS.--Clock stopped Dec. 31 to Jan. 20; range in temperature, 7.5°C to 8.5°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 24.5°C Sept. 6-8, 1977; minimum recorded, 0.0°C Jan. 2-5, 1960.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.5°C Sept. 6-8; minimum recorded, 7.0°C Dec. 28-30.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11389470 COLUSA WEIR SPILL TO BUTTE BASIN NEAR COLUSA, CA

LOCATION.--Lat 39°14'11", long 121°59'33", in NW¼SE¼ sec.17, T.16 N., R.1 W., Colusa County, on left bank downstream end of Colusa weir 1.7 mi (2.7 km) northeast of Colusa Post Office.

PERIOD OF DAILY RECORD.--
SEDIMENT RECORDS.--December 1972 to current year (flood periods only).

REMARKS.--Colusa weir diverts flood flows from the Sacramento River into Butte Basin to reduce downstream flooding.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,020 mg/L Jan. 17, 1974.
TOTAL-SEDIMENT DISCHARGE: Maximum daily, 414,000 tons (376,000 tonnes) Jan. 17, 1974.

EXTREMES FOR CURRENT YEAR.--No flow over weir entire year.

11389500 SACRAMENTO RIVER AT COLUSA, CA

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, on right bank just downstream from highway bridge at Colusa, and at mile 89.4 (143.8 km) upstream from Sacramento.

DRAINAGE AREA.--12,090 mi^2 (31,313 km^2), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year.

REVISED RECORDS.--WSP 1345: 1952.

GAGE.--Water-stage recorder. Datum of gage is 2.95 ft (0.899 m) below mean sea level. Prior to December 1930, water-stage recorder in center fender pier 50 ft (15 m) upstream from bridge at same datum.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--37 years (water years 1941-77), 11,450 ft^3/s (324.3 m^3/s), 8,296,000 acre-ft/yr (10.2 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-77), 49,000 ft^3/s (1,390 m^3/s) Feb. 8, 1942, gage height, 69.20 ft (21.092 m); minimum discharge recorded, 820 ft^3/s (23.2 m^3/s) July 25, 26, 1931, gage height, 34.79 ft (10.604 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 10,700 ft^3/s (303 m^3/s) Jan. 4; minimum daily, 3,690 ft^3/s (105 m^3/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4770	3990	4890	6370	6980	4940	5560	6770	5060	7840	7520	4610
2	4670	4030	4780	6700	6910	4820	5840	7180	4610	8170	7480	4460
3	4550	4040	4620	7730	6950	4710	5870	7490	4420	8230	7510	4520
4	4470	4070	4510	10700	6940	4680	5830	7630	4510	8010	7520	4550
5	4460	4070	4460	7930	6940	5120	5640	7780	4830	7980	7520	4490
6	4450	3970	4350	6820	6920	5320	5410	7530	5130	7900	7430	4520
7	4280	3970	4280	5800	6950	5800	5190	6970	5200	7570	7300	4450
8	4160	3950	4180	5460	6870	5850	4990	6570	5110	7530	7360	4360
9	4070	3940	4100	5330	6910	5830	5080	6970	5170	7520	7410	4230
10	4050	3900	3980	5320	6720	5820	5450	7610	5490	7570	7010	4120
11	4040	3930	3940	5930	6190	5850	5660	7650	5580	7610	6640	4070
12	4020	3970	3930	6120	6000	5760	5400	8200	5770	7600	6460	4150
13	3980	4020	3900	6290	5920	5790	5050	8930	5930	7410	6170	4190
14	3940	4100	3900	6770	5890	5890	5040	7630	5970	7160	6030	4100
15	3910	4280	3890	6900	5850	5890	5180	6900	6350	7060	5950	4090
16	3900	4530	3880	6980	5730	6280	5400	6460	6410	7270	5820	4080
17	3960	4590	3890	7000	5630	6850	5570	6190	6520	7340	5550	4170
18	3980	4650	3890	6920	5610	7250	5990	5950	6740	7380	5410	4670
19	3960	4640	3890	6900	5510	7200	6170	5740	6990	7370	5450	4840
20	3960	4490	3840	6980	5490	6920	6280	5650	7210	7320	5440	4560
21	3920	4460	3830	7020	5610	6280	5950	5630	7260	7590	5510	5840
22	3900	4450	3840	7080	5740	6070	5920	5620	7230	7710	5570	5040
23	3890	4440	3790	7130	5900	5890	5980	5540	7130	7720	5730	4310
24	3920	4400	3780	7130	5930	5910	6280	5660	7110	7790	5690	4130
25	3920	4430	3850	7110	5780	5990	6310	5530	7300	7890	5370	4060
26	3920	4650	3870	7090	5340	6200	6310	5500	7640	7910	5250	3930
27	3920	4680	3870	7100	5150	6110	6350	5580	7770	7900	5150	3810
28	3920	4560	3840	7100	5090	5880	6420	5760	7650	7730	5150	3750
29	3930	4530	3880	7110	---	5610	6400	5790	7590	7450	5030	3690
30	3930	4650	4810	7020	---	5440	6480	5600	7630	7400	4860	3880
31	3940	---	5910	7000	---	5460	---	5350	---	7500	4770	---
TOTAL	126690	128380	128370	212840	171450	181410	173000	203360	187310	236430	191060	129670
MEAN	4087	4279	4141	6866	6123	5852	5767	6560	6244	7627	6163	4322
MAX	4770	4680	5910	10700	6980	7250	6480	8930	7770	8230	7520	5840
MIN	3890	3900	3780	5320	5090	4680	4990	5350	4420	7060	4770	3690
AC-FT	251300	254600	254600	422200	340100	359800	343100	403400	371500	469000	379000	257200

CAL YR 1976 TOTAL 2826830 MEAN 7724 MAX 21700 MIN 3780 AC-FT 5607000
WTR YR 1977 TOTAL 2069970 MEAN 5671 MAX 10700 MIN 3690 AC-FT 4106000

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-66, 1972 to current year.
CHEMICAL ANALYSES: Water years 1959-66, 1972.
WATER TEMPERATURES: Water year 1977.
SEDIMENT RECORDS: Water years 1973-76 (flood periods only), water year 1977 (winter period only).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1976 to July 1977.
SEDIMENT RECORDS: December 1972 to September 1976 (flood periods only), January to July 1977 (winter period only).

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS (water years 1973, 1975-77): Maximum daily mean, 1,040 mg/L Mar. 8, 1975.
SEDIMENT DISCHARGE (water years 1973, 1975-77): Maximum daily, 103,000 tons (93,400 tonnes) Feb. 14, 1975.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 87 mg/L May 2.
SEDIMENT DISCHARGE: Maximum daily, 1,930 tons (1,750 tonnes) May 13.

TEMPERATURE (DEG. C) OF WATER, JANUARY TO JULY 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	11.0	---	16.0	---	---		---
2	---	---	---	---	8.5	---	13.0	---	---	20.0		---
3	---	---	---	---	8.5	---	---	---	---	---		---
4	---	---	---	---	---	---	---	---	23.0	---		---
5	---	---	---	---	9.5	12.0	17.0	---	24.0	---		---
6	18.0	---	---	---	---	---	18.0	15.0	---	---		---
7	---	---	---	---	---	---	---	15.0	---	21.0		---
8	---	---	---	---	---	---	---	15.0	---	---		24.0
9	---	14.0	---	---	---	---	---	15.0	22.0	---		---
10	---	---	---	---	10.5	---	---	---	20.0	---		---
11	---	---	---	---	11.0	---	---	---	20.0	---		---
12	---	---	---	---	10.5	---	16.0	---	20.0	---		---
13	---	---	---	---	---	---	---	14.5	---	---		---
14	---	---	---	---	---	---	15.0	19.0	---	---		---
15	---	---	---	---	13.0	---	---	19.0	---	---		---
16	---	---	---	---	---	---	---	---	---	---		---
17	---	---	---	---	---	11.0	16.0	---	21.0	---		---
18	---	---	---	---	---	---	---	---	22.0	---		---
19	---	---	---	---	---	12.0	---	---	20.0	---		---
20	---	---	14.0	7.5	---	12.0	15.0	19.0	---	---		---
21	---	---	---	---	---	14.0	---	18.0	---	---		---
22	---	---	---	---	---	14.0	---	---	23.0	---		---
23	---	---	---	---	11.5	14.0	17.0	---	---	---		---
24	---	---	---	---	---	---	16.0	---	25.0	---		---
25	---	---	---	---	---	12.0	---	---	---	---		---
26	---	---	---	9.0	11.0	---	16.0	---	---	---		---
27	---	---	---	---	---	---	17.0	18.0	24.0	---		---
28	---	---	---	9.0	12.0	14.0	---	18.0	---	---		---
29	---	---	---	---	---	---	---	19.0	---	---		---
30	---	---	---	---	---	---	17.0	---	23.0	---		---
31	---	---	---	---	---	13.0	---	21.0	---	---		---
MONTH	---	---	---	---	---	---	---	---	---	---		---

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JULY 1977

	JANUARY			FEBRUARY			MARCH		
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	---	---	---	6980	49	923	4940	26	347
2	---	---	---	6910	51	952	4820	18	234
3	---	---	---	6950	51	957	4710	14	178
4	---	---	---	6940	51	956	4680	12	152
5	---	---	---	6940	49	918	5120	10	138
6	---	---	---	6920	48	897	5320	11	158
7	---	---	---	6950	46	863	5800	16	251
8	---	---	---	6870	46	853	5850	26	411
9	---	---	---	6910	43	802	5830	39	614
10	---	---	---	6720	49	889	5820	47	739
11	---	---	---	6190	35	585	5850	52	821
12	---	---	---	6000	32	518	5760	54	840
13	---	---	---	5920	32	511	5790	55	860
14	---	---	---	5890	33	525	5890	57	906
15	---	---	---	5850	34	537	5890	58	922
16	---	---	---	5730	34	526	6280	59	1000
17	---	---	---	5630	28	426	6850	61	1130
18	---	---	---	5610	23	348	7250	65	1270
19	---	---	---	5510	22	327	7200	72	1400
20	6980	47	1390	5490	23	341	6920	78	1460
21	7020	47	1420	5610	27	409	6280	60	1020
22	7080	47	1430	5740	30	465	6070	53	869
23	7130	47	1420	5900	26	414	5890	55	875
24	7130	45	1390	5930	15	240	5910	61	973
25	7110	44	845	5780	14	218	5990	68	1100
26	7090	43	823	5340	25	360	6200	71	1190
27	7100	45	863	5150	33	459	6110	66	1090
28	7100	45	863	5090	34	467	5880	51	810
29	7110	45	864	---	---	---	5610	46	697
30	7020	45	853	---	---	---	5440	44	646
31	7000	45	850	---	---	---	5460	44	649
TOTAL	84870	---	13011	171450	---	16686	181410	---	23750

	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	5560	52	781	6770	74	1350	5060	11	150
2	5840	66	1040	7180	87	1690	4610	12	149
3	5870	58	919	7490	86	1740	4420	13	155
4	5830	46	724	7630	78	1610	4510	14	170
5	5640	41	624	7780	70	1470	4830	15	196
6	5410	38	555	7530	68	1380	5130	18	249
7	5190	38	532	6970	71	1340	5200	26	365
8	4990	38	512	6570	76	1350	5110	33	455
9	5080	38	521	6970	79	1490	5170	35	489
10	5450	42	618	7610	82	1680	5490	29	430
11	5660	47	718	7650	85	1760	5580	16	241
12	5400	57	831	8200	86	1900	5770	14	218
13	5050	54	736	8930	80	1930	5930	14	224
14	5040	53	721	7630	38	783	5970	14	226
15	5180	56	783	6900	22	410	6350	14	240
16	5400	60	875	6460	20	349	6410	14	242
17	5570	64	962	6190	18	301	6520	13	229
18	5990	62	1000	5950	17	273	6740	17	309
19	6170	59	983	5740	15	232	6990	16	302
20	6280	58	983	5650	14	214	7210	15	292
21	5950	56	900	5630	13	198	7260	14	274
22	5920	56	895	5620	14	212	7230	14	273
23	5980	55	888	5540	14	209	7130	15	289
24	6280	47	797	5660	14	214	7110	15	288
25	6310	43	733	5530	14	209	7300	18	355
26	6310	45	767	5500	14	208	7640	24	495
27	6350	54	926	5580	13	196	7770	34	713
28	6420	56	971	5760	11	171	7650	41	847
29	6400	53	916	5790	10	156	7590	42	861
30	6480	55	962	5600	10	151	7630	42	865
31	---	---	---	5350	10	144	---	---	---
TOTAL	173000	---	24173	203360	---	25320	187310	---	10591

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), JANUARY TO JULY 1977

	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	7840	46	974						
2	8170	52	1150						
3	8230	52	1160						
4	8010	52	1120						
5	7980	49	1060						
6	7900	49	1050						
7	7570	48	981						
8	---	---	---						
9	---	---	---						
10	---	---	---						
11	---	---	---						
12	---	---	---						
13	---	---	---						
14	---	---	---						
15	---	---	---						
16	---	---	---						
17	---	---	---						
18	---	---	---						
19	---	---	---						
20	---	---	---						
21	---	---	---						
22	---	---	---						
23	---	---	---						
24	---	---	---						
25	---	---	---						
26	---	---	---						
27	---	---	---						
28	---	---	---						
29	---	---	---						
30	---	---	---						
31	---	---	---						
TOTAL	55700	---	7495						
PERIOD	1057100		121026						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM
JAN								
20...	1025	7.5	6920	38	710	--	--	--
26...	1409	9.0	7080	33	631	--	--	--
FEB								
23...	1614	11.5	5890	24	382	--	--	--
MAR								
20...	1020	12.0	7000	101	1910	--	--	--
22...	1623	14.0	6060	33	540	--	--	--
APR								
26...	1615	16.0	6300	35	595	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
JAN								
20...	--	--	45	60	88	99	100	--
26...	--	--	41	53	85	98	100	--
FEB								
23...	--	--	39	55	81	100	--	--
MAR								
20...	--	--	64	69	87	100	--	--
22...	--	--	68	79	92	100	--	--
APR								
26...	--	--	63	76	92	100	--	--

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	NUMBER OF SAM-PLING POINTS	INSTAN-TANEOUS DIS-CHARGE (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
NOV 09...	1535	14.0	5	3960	0	1	21
DEC 20...	1510	14.0	5	3840	1	3	17
MAY 13...	1435	14.5	5	8690	0	2	15
JUN 10...	1200	20.0	5	5520	0	2	17

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	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
NOV 09...	61	81	92	98	100	--	--
DEC 20...	56	75	81	87	96	100	--
MAY 13...	71	76	79	84	90	98	100
JUN 10...	75	85	88	90	95	99	100

11389950 LITTLE BUTTE CREEK AT MAGALIA, CA

LOCATION.--Lat 39°48'38", long 121°35'00", in NW¼NE¼ sec.36, T.23 N., R.3 E., Butte County, on left bank 1,000 ft (305 m) downstream from Magalia Dam, and 0.4 mi (0.6 km) northwest of Magalia.

DRAINAGE AREA.--11.4 mi^2 (29.5 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,160 ft (658 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Paradise Reservoir, usable capacity, 11,500 acre-ft (14.180 hm^3), revised, and Magalia Reservoir, usable capacity, 2,640 acre-ft (3.26 hm^3), revised. Diversion occurs above Magalia Reservoir through a pipeline into Pacific Gas and Electric Co.'s Toadtown Canal when Paradise and Magalia Reservoirs are spilling. Diversion is made from Magalia Reservoir for the municipal supply of Paradise.

AVERAGE DISCHARGE (unadjusted).--9 years, 15.4 ft^3/s (0.436 m^3/s), 11,160 acre-ft/yr (13.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft^3/s (33.4 m^3/s) Jan. 24, 1970, gage height, 6.47 ft (1.972 m); minimum daily, 0.01 ft^3/s (<0.001 m^3/s) Sept. 25, 1974, and many days in 1976 and 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21 ft^3/s (0.59 m^3/s) May 26, gage height, 2.61 ft (0.796 m); minimum daily, 0.01 ft^3/s (<0.001 m^3/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.01	.12	.27	.19	.19	.26	.48	.35	.38	.38	.33
2	.05	.01	.06	3.0	.19	.19	.27	.38	.35	.39	.37	.32
3	.07	.01	.05	.72	.19	.18	.30	.41	.35	.37	.36	.32
4	.08	.01	.06	.32	.19	.19	.34	.38	.33	.38	.36	.31
5	.09	.01	.07	.28	.20	.19	.35	.39	.36	.39	.37	.31
6	.09	.01	.06	.27	.21	.19	.33	.47	.35	.39	.38	.31
7	.10	.01	.06	.26	.21	.20	.33	.39	.37	.39	.41	.30
8	.12	.02	.07	.26	.30	.21	.33	.38	.40	.39	.40	.33
9	.15	.01	.08	.25	.26	.20	.38	.65	.40	.41	.41	.33
10	.16	.02	.05	.24	.27	.20	.30	.69	.36	.41	.40	.32
11	.18	.02	.05	.24	.25	.22	.30	.48	.40	.40	.40	.32
12	.19	.03	.05	.25	.24	.25	.30	.43	.46	.39	.40	.32
13	.19	.11	.05	.24	.26	.26	.32	.41	.51	.40	.38	.31
14	.18	.36	.06	.24	.25	.27	.30	.41	.49	.40	.38	.33
15	.19	.14	.07	.24	.26	.36	.33	.40	.47	.40	.38	.31
16	.15	.15	.06	.24	.24	.28	.37	.41	.60	.39	.38	.34
17	.17	.12	.07	.24	.19	.33	.40	.41	.60	.41	.38	.34
18	.17	.11	.08	.22	.20	.33	.39	.43	.55	.43	.39	.32
19	.14	.10	.09	.22	.21	.35	.33	.40	.55	.42	.38	1.1
20	.14	.08	.07	.21	.29	.35	.37	.41	.46	.40	.38	.33
21	.15	.08	.10	.22	1.0	.33	.41	.43	.28	.41	.38	.32
22	.15	.08	.13	.23	.22	.37	.43	.47	.28	.41	.38	.31
23	.16	.05	.12	.23	.47	.40	.42	.38	.26	.40	.38	.30
24	.10	.04	.15	.22	.23	.61	.28	.41	.27	.41	.39	.30
25	.09	.06	.13	.24	.21	.59	.35	.43	.29	.39	.41	.30
26	.08	.10	.13	.23	.21	.55	.39	.38	.31	.39	.40	.33
27	.11	.12	.17	.25	.19	.49	.36	.47	.32	.39	.39	.33
28	.09	.07	.15	.27	.20	.47	.35	.42	.32	.39	.39	.87
29	.10	.05	.10	.26	---	.38	.35	.38	.36	.39	.34	.38
30	.04	.05	.14	.23	---	.26	.35	.38	.36	.39	.33	.35
31	.02	---	.15	.19	---	.26	---	.37	---	.39	.33	---
TOTAL	3.75	2.04	2.80	10.78	7.33	9.65	10.29	13.33	11.76	12.30	11.81	10.99
MEAN	.12	.068	.090	.35	.26	.31	.34	.43	.39	.40	.38	.37
MAX	.19	.36	.17	3.0	1.0	.61	.43	.69	.60	.43	.41	1.1
MIN	.02	.01	.05	.19	.19	.18	.26	.37	.26	.37	.33	.30
AC-FT	7.4	4.0	5.6	21	15	19	20	26	23	24	23	22
‡	402	333	202	159	130	121	126	113	253	270	266	194

CAL YR 1976 TOTAL 35.68 MEAN .098 MAX 2.2 MIN .01 AC-FT 71
WTR YR 1977 TOTAL 106.83 MEAN .29 MAX 3.0 MIN .01 AC-FT 212

‡ Diversion, in acre-feet, from Magaliz Reservoir, furnished by Paradise Irrigation District.

11390000 BUTTE CREEK NEAR CHICO, CA

LOCATION.--Lat 39°43'34", long 121°42'28", in NW¼NW¼ sec.36, T.22 N., R.2 E., Butte County, on right bank 0.7 mi (1.1 km) downstream from Little Butte Creek, and 7.5 mi (12.1 km) east of Chico.

DRAINAGE AREA.--147 mi^2 (381 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1445: 1953(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 320 ft (98 m), from topographic map. Prior to Aug. 13, 1944, water-stage recorder at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Records good. Flow slightly regulated by storage in Magalia Reservoir, capacity, 3,540 acre-ft (4.36 hm^3) and since 1957 by Paradise Reservoir, capacity, 6,430 acre-ft (7.93 hm^3). Diversions above station for irrigation and domestic use of about 7,000 acre-ft (8.63 hm^3) annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal.

AVERAGE DISCHARGE (unadjusted).--47 years, 402 ft^3/s (11.38 m^3/s), 291,200 acre-ft/yr (359 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft^3/s (600 m^3/s) Dec. 22, 1964, gage height, 14.12 ft (3.304 m), from rating curve extended above 8,900 ft^3/s (252 m^3/s) on basis of slope-area measurement at gage height 13.35 ft (4.069 m); minimum, 10 ft^3/s (0.28 m^3/s) Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 522 ft^3/s (14.8 m^3/s) Jan. 1, 2, gage height, 2.16 ft (0.658 m), no peak above base of 2,700 ft^3/s (76.5 m^3/s); minimum daily, 44 ft^3/s (1.25 m^3/s) Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	83	95	101	99	117	111	138	104	71	49	50
2	117	86	94	226	96	109	110	148	102	65	50	51
3	152	86	94	307	103	108	108	122	100	62	50	53
4	123	85	93	145	99	104	109	138	99	59	49	53
5	64	85	93	124	100	103	113	122	97	58	49	54
6	66	88	92	120	100	103	118	127	96	57	50	54
7	68	87	96	111	100	103	118	126	94	55	51	48
8	74	85	98	107	111	104	129	121	82	55	50	46
9	77	85	107	104	119	126	153	138	83	55	50	48
10	84	86	95	107	107	141	144	184	84	55	50	47
11	80	85	94	103	104	115	128	195	87	54	49	46
12	78	86	98	108	102	115	118	183	83	54	49	46
13	79	85	97	105	102	118	119	163	83	54	48	46
14	81	158	95	103	101	112	120	151	81	57	49	44
15	83	137	96	98	103	131	115	144	82	57	49	44
16	80	99	96	92	102	142	115	137	80	53	49	47
17	77	94	96	93	101	129	115	131	77	52	49	85
18	77	97	94	110	99	120	108	129	73	52	50	71
19	78	95	94	126	98	119	113	126	73	52	50	101
20	81	95	95	121	103	119	103	121	80	53	50	106
21	84	94	96	127	192	119	102	111	71	52	50	71
22	86	95	96	115	209	118	102	112	67	51	51	64
23	87	95	95	110	154	130	107	116	65	51	49	61
24	84	94	95	85	137	159	106	117	62	51	49	71
25	82	94	96	83	122	164	110	110	62	51	53	76
26	80	94	94	85	114	148	113	113	59	52	63	74
27	82	94	95	84	110	146	107	171	61	51	57	71
28	83	93	96	95	113	137	105	129	67	48	54	76
29	84	94	101	97	---	127	103	114	64	49	52	197
30	85	94	116	99	---	119	105	112	65	50	49	134
31	83	---	105	99	---	113	---	106	---	50	50	---
TOTAL	2632	2828	2997	3590	3200	3818	3427	4155	2383	1686	1567	2035
MEAN	84.9	94.3	96.7	116	114	123	114	134	79.4	54.4	50.5	67.8
MAX	152	158	116	307	209	164	153	195	104	71	63	197
MIN	64	83	92	83	96	103	102	106	59	48	48	44
AC-FT	5220	5610	5940	7120	6350	7570	6800	8240	4730	3340	3110	4040
‡	985	1330	1640	1530	1770	1950	2240	2690	1400	678	493	449

GAL YR 1976 TOTAL 58394 MEAN 160 MAX 768 MIN 64 AC-FT 115800
WTR YR 1977 TOTAL 34318 MEAN 94.0 MAX 307 MIN 44 AC-FT 68070

‡ Toadtown Canal diversion, in acre-feet, from West Branch Feather River, furnished by Pacific Gas and Electric Co.

11390000 BUTTE CREEK NEAR CHICO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1953 to current year.
CHEMICAL ANALYSES: Water years 1953 to current year.
WATER TEMPERATURES: Water years 1962 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1961 to current year.

INSTRUMENTATION.--Temperature recorder since November 1961.

REMARKS.--Clock stopped Mar. 24 to Apr. 4; range in temperature, 7.5°C to 14.0°C.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 26.0°C July 21, 22, 1966 and on several days in 1977; minimum recorded, 1.0°C Dec. 14, 15, 1967.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 26.0°C on several days during June; minimum recorded, 2.0°C Jan. 8, 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)
NOV								
16...	1300	101	125	8.0	12.0	2	11.2	--
JAN								
20...	1120	120	128	7.6	5.0	0	13.3	54
MAR								
16...	1350	134	123	7.6	5.5	1	13.0	55
MAY								
18...	1310	130	114	8.2	12.0	1	11.1	50
JUL								
18...	1215	51	138	7.8	23.5	0	9.6	56
SEP								
23...	0930	61	135	7.7	15.0	0	10.3	59

DATE	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED BORON (B) (UG/L)
NOV								
16...	--	--	--	--	--	--	--	--
JAN								
20...	0	4.8	.3	74	0	61	1.5	0
MAR								
16...	0	4.5	.3	70	0	57	.3	0
MAY								
18...	0	4.0	.2	67	0	55	.0	0
JUL								
18...	0	5.1	.3	79	0	65	2.8	0
SEP								
23...	0	6.0	.3	78	0	64	.4	0

11390000 BUTTE CREEK NEAR CHICO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA

LOCATION.--Lat 39°00'36", long 121°49'25", in NW¼NE¼ sec.2, T.13 N., R.1 E., Colusa County, on right bank 1,200 ft (366 m) downstream from Wilkins Slough, 5.8 mi (9.3 km) southeast of Grimes, and at mile 62.9 (101.2 km) upstream from Sacramento.

DRAINAGE AREA.--12,926 mi^2 (33,478 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1931 to September 1938 (low-water periods only), October 1938 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1965, published as "below Wilkins Slough."

GAGE.--Water-stage recorder. Datum of gage is 3.00 ft (0.914 m) below mean sea level.

REMARKS.--Records excellent. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--39 years (water years 1939-77), 10,100 ft^3/s (286.0 m^3/s), 7,317,000 acre-ft/yr (9.02 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-77), 29,400 ft^3/s (833 m^3/s) Jan. 19, 1974, gage height, 50.08 ft (15.264 m); maximum gage height, 52.75 ft (16.078 m) Mar. 1, 1940; minimum discharge, 100 ft^3/s (2.83 m^3/s) Aug. 1, 1931, gage height, 14.20 ft (4.328 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,900 ft^3/s (309 m^3/s) Jan. 4, gage height, 33.84 ft (10.314 m); minimum daily, 3,400 ft^3/s (96.3 m^3/s) June 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5070	4180	4990	6060	6560	4580	4680	5240	4130	6210	6400	3990
2	4980	4220	4910	6450	6460	4430	4970	5770	3750	6590	6340	3850
3	4880	4230	4790	7280	6450	4260	5150	6250	3420	6760	6320	3850
4	4850	4250	4630	10500	6400	4030	5160	6540	3400	6760	6350	3950
5	4910	4260	4550	9200	6390	4350	5050	6710	3610	6610	6340	4020
6	4830	4190	4470	7510	6390	4640	4720	6620	3910	6610	6380	3980
7	4670	4190	4300	6370	6540	4950	4460	6340	3990	6380	6280	3940
8	4580	4150	4220	5760	6620	5170	4210	5850	3990	6280	6270	3890
9	4240	4100	4150	5510	6560	5200	4170	5940	3930	6290	6350	3860
10	4180	4070	4020	5350	6460	5120	4420	6620	4210	6360	6160	3860
11	4240	4080	4010	5540	6030	5070	4760	6900	4390	6420	5640	3760
12	4230	4140	3950	5940	5750	5000	4580	7090	4580	6420	5440	3780
13	4150	4190	3770	6120	5590	4950	4160	8030	4750	6360	5180	3820
14	4110	4260	3780	6530	5570	4960	3850	7460	4720	6090	5090	3840
15	4070	4410	3770	6790	5500	4930	3710	6560	4940	5870	4970	3780
16	4000	4630	3730	6890	5410	5330	3890	5910	5140	5930	4870	3850
17	4030	4750	3720	6920	5250	6000	3890	5570	5180	6130	4640	3900
18	4140	4780	3770	6810	5130	6490	4230	5310	5370	6140	4520	4110
19	4100	4790	3800	6750	5030	6670	4430	5150	5660	6100	4520	4710
20	4080	4660	3780	6690	4950	6500	4260	5060	5970	6060	4540	4530
21	4050	4600	3710	6730	5120	5920	4120	4950	6060	6140	4560	4980
22	4040	4600	3790	6860	5330	5440	3960	4900	6000	6370	4630	5560
23	4010	4590	3830	6870	5500	5230	3980	4750	5860	6410	4690	4490
24	4030	4560	3800	6850	5600	5150	4190	4720	5730	6480	4860	4170
25	4040	4610	3890	6820	5600	5270	4350	4690	5770	6600	4670	4120
26	4050	4830	3940	6860	5210	5430	4450	4680	6130	6660	4500	4050
27	4040	4800	3880	6850	4850	5470	4550	4740	6300	6660	4430	3920
28	4060	4690	3850	6770	4730	5230	4660	4850	6290	6610	4420	3820
29	4120	4740	3750	6750	---	4850	4730	5170	6140	6370	4360	3750
30	4090	4810	4230	6750	---	4570	4830	4940	6100	6270	4180	3810
31	4130	---	5410	6660	---	4530	---	4500	---	6280	4060	---
TOTAL	133000	133360	127190	209740	160980	159720	132570	177810	149420	197220	161960	121940
MEAN	4290	4445	4103	6766	5749	5152	4419	5736	4981	6362	5225	4065
MAX	5070	4830	5410	10500	6620	6670	5160	8030	6300	6760	6400	5560
MIN	4000	4070	3710	5350	4730	4030	3710	4500	3400	5870	4060	3750
AC-FT	263800	264500	252300	416000	319300	316800	263000	352700	296400	391200	321200	241900

CAL YR 1976 TOTAL 2673390 MEAN 7304 MAX 20500 MIN 3710 AC-FT 5303000
WTR YR 1977 TOTAL 1864910 MEAN 5109 MAX 10500 MIN 3400 AC-FT 3699000

11390500 SACRAMENTO RIVER BELOW WILKINS SLOUGH, NEAR GRIMES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1966 to current year.
INSTRUMENTATION.--Temperature recorder since October 1966.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 25.5°C Sept. 6-8, 1977; minimum recorded, 4.0°C Dec. 26, 1968.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 25.5°C Sept. 6-8; minimum recorded, 6.5°C Jan. 6-10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11390650 SACRAMENTO RIVER ABOVE COLUSA TROUGH, AT KNIGHTS LANDING, CA

LOCATION.--Lat 38°48'18", long 121°43'22", in NW¼ sec.14, T.11 N., R.2 E., Yolo County, on right bank, 0.25 mi (0.40 km) upstream from Colusa Drain, 0.35 mi (0.56 km) upstream from State Highway 24 bridge at Knights Landing, and approximately 0.3 mi (0.5 km) upstream from gaging station.

PERIOD OF RECORD.--
CHEMICAL ANALYSES: July 1960 to current year.

REMARKS.--Records of discharge given for Sacramento River at Knights Landing (station 11391000).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)
OCT 26...	1310	--	4210	141	7.6	15.0	5
NOV 18...	1415	--	5440	154	7.7	15.0	5
DEC 21...	1455	3850	--	169	8.2	8.5	4
JAN 26...	1500	--	6720	156	7.6	10.0	7
FEB 23...	1340	--	5870	164	7.8	12.0	7
MAR 23...	1625	--	5620	156	8.1	15.0	10
APR 27...	1300	--	4210	160	7.8	17.0	10
MAY 25...	1240	--	4900	159	8.0	18.0	8
JUN 28...	1245	--	6130	142	8.0	24.0	10
JUL 26...	1245	--	6600	142	7.8	24.0	10
AUG 24...	1345	--	5560	140	8.0	24.0	5
SEP 28...	1245	--	4120	156	7.6	20.0	10

DATE	DIS-SOLVED OXYGEN (MG/L)	SUS-PENDED SOLIDS (MG/L)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)
OCT 26...	10.2	15	--	.09	.10	.07	.01
NOV 18...	10.0	15	--	.18	.20	.04	.01
DEC 21...	13.2	8	.18	.14	.20	.01	.01
JAN 26...	11.3	27	--	.16	.10	.08	.01
FEB 23...	11.3	21	--	.13	.10	.06	.01
MAR 23...	12.0	40	--	.07	.20	.06	.01
APR 27...	10.6	26	--	.02	.20	.06	.00
MAY 25...	10.1	18	--	.01	.20	.06	.00
JUN 28...	9.4	29	--	.02	.25	.10	.01
JUL 26...	8.7	35	--	.01	.20	.10	.02
AUG 24...	8.2	28	--	.01	.20	.07	.02
SEP 28...	8.6	--	--	.21	.20	.08	.01

11390650 SACRAMENTO RIVER ABOVE COLUSA TROUGH, AT KNIGHTS LANDING, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	HARDNESS (CA,MG) (MG/L)	NON-CARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
DEC 21...	1455	70	0	13	9.1	12	27	.6
AUG 24...	1345	70	6	--	--	8.8	--	.5

DATE	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)
DEC 21...	1.6	86	0	71	7.1	7.1	112	.15	1160
AUG 24...	--	78	0	64	--	4.6	--	--	--

DATE	DISSOLVED BORON (B) (UG/L)	TOTAL CADMIUM (CD) (UG/L)	TOTAL COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	TOTAL MANGANESE (MN) (UG/L)	TOTAL ZINC (ZN) (UG/L)
DEC 21...	100	--	--	--	--	--	--
AUG 24...	0	0	10	1200	10	40	10

11390655 SOUTH FORK WILLOW CREEK NEAR FRUTO, CA

LOCATION.--Lat 39°32'28", long 122°23'19", in SW¼SE¼ sec.35, T.20 N., R.5 W., Glenn County, on right bank 150 ft (46 m) downstream from county road bridge, and 4.5 mi (7.2 km) southeast of Fruto.

DRAINAGE AREA.--38.9 mi^2 (100.8 km^2).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 375 ft (114 m), from topographic map.

REMARKS.--No flow since July 16, 1975, revised. No known regulation or diversion above station.

AVERAGE DISCHARGE.--14 years, 4.98 ft^3/s (0.141 m^3/s), 3,610 acre-ft/yr (4.45 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,620 ft^3/s (103 m^3/s) Feb. 7, 1973, gage height, 12.58 ft (3.834 m), from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement of peak flow; no flow for several months in most years.

EXTREMES FOR CURRENT YEAR: No flow since July 16, 1975.

11390660 WALKER CREEK AT ARTOIS, CA

LOCATION.--Lat 39°37'32", long 122°11'45", in SW¼SW¼ sec.34, T.21 N., R.3 W., Glenn County, on left bank 500 ft (152 m) upstream from county road bridge, and 0.3 mi (0.5 km) north of Artois.

DRAINAGE AREA.--60.4 mi^2 (156.4 km^2).

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 156.4 ft (47.67 m) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records good. Several small storage ponds above station for irrigation.

AVERAGE DISCHARGE.--12 years, 19.3 ft^3/s (0.547 m^3/s), 13,980 acre-ft/yr (17.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,660 ft^3/s (160 m^3/s) Feb. 7, 1973, gage height, 11.69 ft (3.563 m), from rating curve extended above 1,800 ft^3/s (51.0 m^3/s) on basis of contracted-opening measurement at gage height 11.69 ft (3.563 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 39 ft^3/s (1.10 m^3/s) Jan. 3, gage height, 3.44 ft (1.049 m), no peak above base of 600 ft^3/s (16.9 m^3/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0		0						
2				1.4		0						
3				28		0						
4				13		0						
5				5.3		0						
6				2.2		0						
7				.87		0						
8				.36		0						
9				.08		0						
10				0		0						
11				0		0						
12				0		0						
13				0		0						
14				0		0						
15				0		0						
16				0		1.7						
17				0		.12						
18				0		0						
19				0		0						
20				0		0						
21				0		0						
22				0		0						
23				0		0						
24				0		0						
25				0		0						
26				0		0						
27				0		0						
28				0		0						
29				0	---	0						
30				0	---	0						
31		---		0	---	0	---		---			---
TOTAL	0	0	0	51.21	0	1.82	0	0	0	0	0	0
MEAN	0	0	0	1.65	0	.059	0	0	0	0	0	0
MAX	0	0	0	28	0	1.7	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	102	0	3.6	0	0	0	0	0	0

CAL YR 1976	TOTAL 61.03	MEAN .17	MAX 5.9	MIN 0	AC-FT 121		
WTR YR 1977	TOTAL 53.03	MEAN .15	MAX 28	MIN 0	AC-FT 105		

11390672 STONE CORRAL CREEK NEAR SITES, CA

LOCATION.--Lat 39°17'18", long 122°18'00", in NW¼NW¼ sec.34, T.17 N., R.4 W., Colusa County, on left bank at road bridge, 2.4 mi (3.9 km) southeast of Sites.

DRAINAGE AREA.--38.2 mi^2 (98.9 km^2).

PERIOD OF RECORD.--March 1958 to September 1964, October 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 180 ft (55 m), from topographic map.

REMARKS.--No flow since June 1, 1975. No known diversion or regulation above station.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--18 years (water years 1959-64, 1966-77), 5.70 ft^3/s (0.161 m^3/s), 4,130 acre-ft/yr (5.09 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft^3/s (154 m^3/s) Feb. 6, 1973, gage height, 16.45 ft (5.014 m), from rating curve extended above 1,200 ft^3/s (34.0 m^3/s) on basis of slope-conveyance study at gage height 13.0 ft (3.96 m) and a slope-area measurement at 16.45 ft (5.014 m); no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 13.0 ft (3.96 m) from floodmarks, discharge, 1,940 ft^3/s (54.9 m^3/s) from slope-conveyance study.

EXTREMES FOR CURRENT YEAR.--No flow since June 1, 1975.

11390700 COLUSA TROUGH NEAR COLUSA, CA

LOCATION.--Lat 39°11'43", long 122°03'34", in SE¼NE¼ sec.34, T.15 N., R.2 W., Colusa County, at gaging station 3 mi (5 km) west of Colusa, on State Highway 20, and 6 mi (10 km) northeast of Williams.

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1953 to current year.

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	SUSPENDED SOLIDS (MG/L)
OCT 26...	0905	796	8.1	13.5	25	9.6	58
NOV 18...	1000	692	7.9	14.5	23	8.9	78
DEC 21...	0925	784	8.1	6.1	17	10.2	27
JAN 26...	0940	911	8.0	8.0	45	10.3	101
FEB 23...	0815	820	8.0	11.0	90	10.2	210
MAR 23...	0910	778	8.3	15.0	46	9.7	132
APR 27...	0715	684	7.8	16.0	35	8.0	63
MAY 25...	0730	829	8.4	17.0	22	8.4	56
JUN 28...	0745	1280	7.8	25.0	35	4.8	103
JUL 26...	0715	896	7.6	23.0	26	7.0	54
AUG 24...	0715	606	7.6	22.0	25	6.8	70
SEP 28...	0715	704	8.0	19.5	40	7.3	104

DATE	TIME	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED BORON (B) (UG/L)
JUN 28...	0745	264	0	185	5.0	337	9	291	100	600
JUL 26...	0715	226	0	110	3.2	281	8	244	66	400
AUG 24...	0715	224	0	71	2.1	275	0	226	30	300

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA

LOCATION.--Lat 38°48'11", long 121°42'55", in NW¼NE¼ sec.14, T.11 N., R.2 E., Sutter County, on left bank 1,000 ft (305 m) downstream from State Highway 24 bridge at Knights Landing, 13.1 mi (21.1 km) upstream from Feather River, and at mile 34.0 (54.7 km) upstream from Sacramento.

DRAINAGE AREA.--14,535 mi^2 (37,646 km^2), revised.

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 2.93 ft (0.893 m) below mean sea level. April 1921 to Dec. 9, 1930, in fender pier of railroad bridge at same datum. Water-stage recorder for station at Verona was used as auxiliary gage for this station January 1941 to June 1945. Since Aug. 16, 1945, auxiliary water-stage recorder 6.0 mi (9.7 km) downstream from base gage.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas.

AVERAGE DISCHARGE.--37 years (water years 1941-77), 10,810 ft^3/s (306.1 m^3/s), 7,832,000 acre-ft/yr (9.66 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-77), 30,800 ft^3/s (872 m^3/s) Jan. 26, 1970, gage height, 40.86 ft (12.454 m); maximum gage height, 41.83 ft (12,750 m) Feb. 8, 1942, backwater from Feather River and Sutter Bypass; minimum discharge recorded, 250 ft^3/s (7.08 m^3/s) July 23, 1931, gage height, 7.80 ft (2.377 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 10,600 ft^3/s (300 m^3/s) Jan. 5; minimum daily, 3,360 ft^3/s (95.2 m^3/s) June 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5620	4440	5370	5000	7210	5230	5120	4810	4390	5850	6580	5030
2	5590	4480	5320	5910	7100	4980	5350	5350	3990	6260	6560	4910
3	5440	4520	5140	6320	6970	4770	5580	6630	3540	6590	6490	4890
4	5280	4550	4980	7910	6880	4680	5550	7420	3360	6690	6510	5220
5	5320	4580	4880	10600	6910	4580	5480	7510	3410	6550	6450	5220
6	5310	4530	4770	9160	6810	4920	5160	6810	3640	6550	6530	4980
7	5170	4460	4580	7830	6810	5120	4810	6520	3830	6500	6530	4830
8	4970	4450	4420	6830	6690	5440	4560	6370	3930	6250	6470	4950
9	4750	4410	4350	6340	6800	5510	4350	6280	3840	6250	6590	4940
10	4570	4450	4250	6140	6910	5650	4210	6820	4010	6250	6650	4900
11	4590	4470	4150	5890	6910	5550	4560	7400	4160	6650	6250	4930
12	4570	4560	4150	6130	6530	5470	4840	7440	4350	6470	5890	4560
13	4530	4640	4000	6350	6360	5390	4580	8310	4620	6440	5620	4680
14	4420	4750	3950	6500	6220	5450	4360	8170	4650	6160	5560	4770
15	4380	4930	3900	6770	6070	5440	4060	7090	4670	5930	5440	4690
16	4520	5160	3900	6930	6100	5980	3640	6410	5000	5800	5390	4650
17	4570	5250	3900	7020	6040	7010	3670	5910	5110	5940	5280	4660
18	4560	5340	3950	7170	5900	7400	3680	5530	5390	6180	5130	4770
19	4580	5470	4000	7210	5680	7430	3830	5440	5790	6170	5180	5180
20	4640	5120	3900	7210	5690	7190	4250	5460	5890	6050	5290	5300
21	4490	4970	3850	7160	5750	6580	4200	5420	5990	6050	5380	5210
22	4280	4980	3900	6940	5690	5830	4100	5510	5910	6230	5300	6050
23	4160	5050	3950	6810	5870	5670	3840	5170	5790	6270	5320	5230
24	4260	4990	4000	6840	6550	5610	3620	4840	5650	6320	5370	4620
25	4220	5100	4050	6750	6360	5780	3510	4850	5620	6530	5450	4500
26	4200	5160	4100	6690	6100	5820	3700	4960	5950	6640	5580	4390
27	4220	5370	4050	7070	5550	5850	4130	5070	6020	6760	5550	4290
28	4200	5210	4000	7330	5350	5810	4250	5230	6120	6660	5490	4130
29	4220	5140	4000	7580	---	5450	4310	5210	5970	6640	5410	4110
30	4240	5190	4400	7500	---	5170	4380	5120	5880	6450	5370	4120
31	4380	---	4600	7450	---	5040	---	4530	---	6450	5060	---
TOTAL	144250	145720	132760	217340	177810	175800	131680	187590	146470	196530	179670	144710
MEAN	4653	4857	4283	7011	6350	5671	4389	6051	4882	6340	5796	4824
MAX	5620	5470	5370	10600	7210	7430	5580	8310	6120	6760	6650	6050
MIN	4160	4410	3850	5000	5350	4580	3510	4530	3360	5800	5060	4110
AC-FT	286100	289000	263300	431100	352700	348700	261200	372100	290500	389800	356400	287000

CAL YR 1976 TOTAL 2817670 MEAN 7699 MAX 22000 MIN 3850 AC-FT 5589000
WTR YR 1977 TOTAL 1980330 MEAN 5426 MAX 10600 MIN 3360 AC-FT 3928000

RESERVOIRS IN FEATHER RIVER BASIN, CA

11391370 FRENCHMAN LAKE.--Lat 39°53'36", long 120°11'17", in NW¼NE¼ sec.33, T.24 N., R.16 E., Plumas County, in valve chamber at center of toe of Frenchman Dam on Little Last Chance Creek, 5.4 mi (8.7 km) upstream from the confluence with Middle Fork Feather River, and 7.1 mi (11.4 km) north of Chilcoot. DRAINAGE AREA, 81.1 mi^2 (210.0 km^2). PERIOD OF RECORD, October 1966 to current year in reports of Geological Survey. November 1961 to September 1966 published in reports of California Department of Water Resources. GAGE, water-stage recorder in valve house at center of toe of Frenchman Dam. Datum of gage is at mean sea level.

Reservoir is formed by rockfill dam completed in 1961. Capacity, 53,626 acre-ft (66.1 hm^3), between elevations 5,517 ft (1,681.6 m), invert of intake and 5,588 ft (1,703.2 m), crest of spillway. Dead storage, 1,840 acre-ft (2.27 hm^3). Records, including extremes, represent total contents at 2400 hours. Records of contents furnished by California Department of Water Resources.

EXTREMES FOR PERIOD 1966 TO CURRENT YEAR.--Maximum contents, 59,093 acre-ft (72.9 hm^3) May 22, 1967, elevation, 5,590.28 ft (1,703.917 m); minimum, 7,715 acre-ft (9.51 hm^3) Sept. 29, 30, 1977, elevation, 5,538.87 ft (1,688.248 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,046 acre-ft (18.6 hm^3) May 24, elevation, 5,551.89 ft (1,692.216 m); minimum, 7,715 acre-ft (9.51 hm^3) Sept. 29, 30, elevation, 5,538.87 ft (1,688.248 m).

11391490 LAKE DAVIS.--Lat 39°53'03", long 120°28'31", in NW¼SW¼ sec.1, T.23 N., R.13 E., Plumas County, in control house on left abutment of Grizzly Valley Dam on Big Grizzly Creek, 5.3 mi (8.5 km) north of Portola. DRAINAGE AREA, 44.0 mi^2 (114.0 km^2). PERIOD OF RECORD, November 1966 to current year. GAGE, water-stage recorder in control house on Grizzly Valley Dam. Datum of gage is at mean sea level.

Reservoir is formed by earth- and rockfill dam completed in 1967. Capacity, 84,040 acre-ft (104 hm^3) between elevations, 5,700 ft (1,737.4 m), top of low-level intake and 5,775 ft (1,760.2 m), crest of spillway. Dead storage, 108 acre-ft (133,000 m^3). Records, including extremes, represent total contents at 2400 hours. Records of contents furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 92,818 acre-ft (114 hm^3) May 13, 14, 1969, elevation, 5,777.05 ft (1,760.845 m); minimum since reservoir first filled, 34,603 acre-ft (42.7 hm^3) Sept. 27-30, 1977, elevation, 5,759.56 ft (1,755.514 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 60,574 acre-ft (74.7 hm^3) Oct. 1, elevation, 5,768.56 ft (1,758.257 m); minimum, 34,603 acre-ft (42.7 hm^3) Sept. 27-30, elevation, 5,759.56 ft (1,755.514 m).

11401120 ANTELOPE LAKE.--Lat 40°10'48", long 120°36'25", in SE¼SE¼ sec.22, T.27 N., R.12 E., Plumas County, on right bank at spillway of Antelope Dam on Indian Creek, 1.3 mi (2.1 km) south of Boulder Creek Guard Station, 12.3 mi (19.8 km) northeast of Genesee, and 14.3 mi (23.0 km) northeast of Taylorsville. DRAINAGE AREA, 68.6 mi^2 (177.7 km^2). PERIOD OF RECORD, October 1966 to current year in reports of Geological Survey, November 1963 to September 1966 published in reports of California Department of Water Resources. GAGE, water-stage recorder in control house at toe of Antelope Dam. Datum of gage is at mean sea level.

Reservoir is formed by a rockfill dam. Storage began November 1963. Capacity, 22,566 acre-ft (27.8 hm^3) between elevations 4,950 ft (1,508.8 m), lip of intake tower and 5,002 ft (1,524.6 m), crest of spillway. Records, including extremes, represent contents at 2400 hours. Records of contents furnished by California Department of Water Resources.

EXTREMES FOR PERIOD 1966 TO CURRENT YEAR.--Maximum contents, 25,010 acre-ft (30.8 hm^3) Jan. 23, 1970, elevation, 5,004.55 ft (1,525.387 m); minimum since reservoir first filled, 372 acre-ft (0.46 hm^3) Oct. 12, 13, 1976, elevation, 4,951.10 ft (1,509.095 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,638 acre-ft (4.49 hm^3) June 19, elevation, 4,970.34 ft (1,514.960 m); minimum, 372 acre-ft (0.46 hm^3) Oct. 12, 13, elevation, 4,951.10 ft (1,509.095 m).

MONTHEND ELEVATION AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
	11391370 FRENCHMAN LAKE			11391490 LAKE DAVIS			11401120 ANTELOPE LAKE		
Sept. 30.....	a5551.20	14566	--	5768.55	60541	--	a4960.50	1418	--
Oct. 31.....	5550.82	14306	-260	5768.23	59471	-1070	a4953.20	533	-885
Nov. 30.....	a5550.72	14238	-68	5768.04	-58841	-630	a4956.03	815	+282
Dec. 31.....	5550.77	14272	+34	5767.88	58314	-527	a4958.04	1062	+247
CAL YR 1976....	--	--	-11538	--	--	-12595	--	--	-19445
Jan. 31.....	a5551.07	14477	+205	5768.00	58709	+395	a4960.19	1370	+308
Feb. 28.....	5551.53	14794	+317	5768.14	59172	+463	a4963.62	1969	+599
Mar. 31.....	5551.82	14997	+203	5768.18	59305	+133	4966.56	2604	+635
Apr. 30.....	5551.74	14941	-56	5768.00	58709	-596	4969.53	3395	+791
May 31.....	5551.00	14429	-512	5767.74	57855	-854	4969.80	3475	+80
June 30.....	5546.52	11594	-2835	5765.67	51306	-6549	4969.88	3499	+24
July 31.....	a5542.83	9594	-2000	5762.35	41747	-9559	a4969.27	3320	-179
Aug. 31.....	5539.60	8041	-1553	5760.12	35972	-5775	a4968.67	3150	-170
Sept. 30.....	a5538.87	7715	-326	5759.56	34603	-1369	a4968.23	3030	-120
WTR YR 1977....	--	--	-6851	--	--	-25938	--	--	+1612

a Estimated.

11391400 LITTLE LAST CHANCE CREEK BELOW FRENCHMAN DAM, NEAR CHILCOOT, CA

LOCATION.--Lat 39°53'36", long 120°11'17", in SW¼NE¼ sec.33, T.24 N., R.16 E., Plumas County, Plumas National Forest, in valve house at toe of Frenchman Dam, 7.1 mi (11.4 km) northwest of Chilcoot.

DRAINAGE AREA.--81.1 mi^2 (210.0 km^2).

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1969, published as Little Last Chance Creek near Chilcoot.

GAGE.--Water-stage recorder and steel-lipped Cipolletti weir. Datum of release gage is 5,480.00 ft (1,670.304 m). October 1958 to September 1967, at site 1.9 mi (3.1 km) downstream at different datum.

REMARKS.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961, usable capacity, 53,580 acre-ft (66.1 hm^3). Records since October 1967 are combined flow of release from Frenchman Dam and flow over spillway.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE (unadjusted).--19 years, 28.0 ft^3/s (0.793 m^3/s), 20,290 acre-ft/yr (25.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft^3/s (22.2 m^3/s) Feb. 8, 1960, gage height, 5.56 ft (1.695 m), previous site and datum, from rating curve extended above 310 ft^3/s (8.78 m^3/s); no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961. Maximum discharge since construction of Frenchman Dam in 1961, 544 ft^3/s (15.4 m^3/s) May 23, 1967; no flow Apr. 10, 1973, many days in 1976, and Sept. 28, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 139 ft^3/s (3.94 m^3/s) June 1; no flow Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	1.7	2.4	2.3	3.4	3.4	5.0	8.2	139	19	44	7.8
2	3.2	2.4	2.4	2.3	3.4	1.3	5.0	5.9	138	11	44	4.9
3	3.2	2.6	2.4	2.3	3.4	2.8	5.0	5.0	104	4.4	44	.60
4	3.2	2.6	2.4	2.2	3.4	4.8	5.0	5.0	90	4.4	44	.60
5	3.2	2.6	2.4	2.2	3.2	4.8	5.0	5.0	80	4.4	44	.60
6	4.1	2.6	2.4	2.0	3.4	4.8	5.0	3.6	52	4.4	34	.50
7	4.8	2.6	2.4	2.0	3.4	4.9	5.0	2.3	47	4.4	26	1.9
8	4.8	2.6	2.6	2.0	3.4	5.0	3.4	1.4	47	4.4	26	3.2
9	4.8	2.6	2.6	2.0	3.4	5.0	2.0	1.8	43	13	26	3.2
10	4.8	2.6	2.6	2.0	3.4	5.0	2.0	2.0	38	16	22	3.2
11	4.8	2.6	2.6	2.2	3.4	5.0	2.0	2.0	37	18	22	3.2
12	4.8	2.3	2.6	2.2	3.4	5.0	2.0	2.0	32	19	22	3.2
13	4.8	2.3	2.4	2.2	3.4	5.0	2.0	2.0	30	19	22	3.2
14	4.8	2.3	2.3	2.2	3.4	5.0	2.0	2.0	28	19	22	3.2
15	4.8	2.4	2.3	2.2	3.4	5.0	2.0	2.0	28	19	22	3.2
16	4.8	2.6	2.3	2.2	3.4	5.0	2.0	2.0	28	19	22	3.2
17	4.8	2.6	2.3	2.2	3.4	5.0	2.0	2.0	28	19	22	3.2
18	4.8	2.6	2.3	2.2	3.4	5.0	2.0	2.0	28	22	22	3.2
19	4.8	2.6	2.3	2.2	3.4	5.0	2.0	2.0	28	42	16	3.2
20	3.4	2.3	2.2	2.0	3.4	5.0	2.0	2.0	55	45	7.0	3.2
21	2.6	2.6	2.2	1.6	3.4	5.0	2.0	2.0	47	32	3.1	3.2
22	4.8	2.6	2.2	1.5	3.2	5.0	2.0	2.0	39	32	1.1	3.2
23	4.8	2.6	2.2	1.1	3.2	5.0	2.0	2.0	35	45	1.8	3.4
24	4.8	2.4	2.3	.80	3.2	5.0	2.0	2.0	33	49	2.2	3.4
25	4.8	2.4	2.3	.60	3.4	5.0	2.0	7.4	33	49	6.2	3.4
26	3.2	2.4	2.3	.40	3.4	5.0	2.0	11	28	41	8.4	4.0
27	1.8	2.4	2.3	.40	3.4	5.0	2.0	26	16	38	8.7	.40
28	1.3	2.4	2.3	.40	3.4	5.0	2.0	37	6.6	38	9.0	0
29	1.2	2.4	2.2	.40	---	5.0	7.0	38	22	42	8.7	.20
30	1.2	2.4	2.3	.40	---	5.0	8.7	62	26	44	7.8	.40
31	1.0	---	2.3	2.2	---	5.0	---	123	---	44	7.8	---
TOTAL	117.4	74.1	73.1	52.90	94.4	146.8	94.1	372.6	1385.6	780.4	617.8	80.10
MEAN	3.79	2.47	2.36	1.71	3.37	4.74	3.14	12.0	46.2	25.2	19.9	2.67
MAX	4.8	2.6	2.6	2.3	3.4	5.0	8.7	123	139	49	44	7.8
MIN	1.0	1.7	2.2	.40	3.2	1.3	2.0	1.4	6.6	4.4	1.1	0
AC-FT	233	147	145	105	187	291	187	739	2750	1550	1230	159

CAL YR 1976 TOTAL 6265.30 MEAN 17.1 MAX 117 MIN 0 AC-FT 12430
WTR YR 1977 TOTAL 3889.30 MEAN 10.7 MAX 139 MIN 0 AC-FT 7710

11391460 BERRY CREEK NEAR SATTLEY, CA

LOCATION.--Lat 39°36'04", long 120°25'23", in SW¼NE¼ sec.9, T.20 N., R.14 E., Sierra County, on right bank 1.0 mi (1.6 km) south of Sattley, and 3.2 mi (5.1 km) northwest of Sierraville.

DRAINAGE AREA.--7.54 mi^2 (19.53 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,000 ft (1,520 m), from topographic map.

REMARKS.--Records fair. Some minor diversions at times upstream. Data for period 1954-67 at same site published by California Department of Water Resources as Miller Creek near Sattley.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125 ft^3/s (3.54 m^3/s) Nov. 12, 1973, gage height, 3.80 ft (1.158 m); minimum daily, 2.0 ft^3/s (0.057 m^3/s) on several days in 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12 ft^3/s (0.34 m^3/s) Apr. 16, gage height, 2.13 ft (0.649 m), maximum gage height, 2.43 ft (0.741 m) Nov. 28, Jan. 30 (backwater from ice); no peak above base of 80 ft^3/s (2.27 m^3/s); minimum daily discharge, 2.0 ft^3/s (0.057 m^3/s), on several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.3	2.9	2.7	3.1	3.3	3.3	6.7	5.0	2.9	2.2	2.2
2	4.3	3.3	2.9	2.8	3.1	3.3	3.3	5.5	4.9	2.8	2.3	2.2
3	3.4	3.3	2.9	2.8	3.0	3.2	3.3	5.2	4.7	2.8	2.4	2.1
4	3.3	3.3	2.9	2.8	3.0	3.2	3.7	5.2	4.5	2.8	2.3	2.1
5	3.3	3.3	2.9	2.8	3.0	3.2	4.6	4.9	4.5	2.7	2.3	2.0
6	3.2	3.3	2.8	2.8	3.0	3.3	5.2	4.7	4.5	2.7	2.3	2.0
7	3.1	3.2	2.8	2.8	3.0	3.3	6.0	4.5	4.5	2.7	2.3	2.0
8	3.1	3.1	2.8	2.9	3.1	3.4	5.9	4.6	4.5	2.7	2.3	2.1
9	3.1	3.1	2.8	2.9	3.1	3.4	4.8	4.8	4.5	2.8	2.2	2.1
10	3.1	3.1	2.9	2.9	3.0	3.3	4.4	4.5	4.8	3.1	2.1	2.1
11	3.1	3.1	2.8	2.9	3.0	3.2	4.7	4.4	4.3	2.8	2.1	2.2
12	3.1	3.1	2.8	3.0	3.0	3.2	5.2	4.8	4.1	2.8	2.1	2.2
13	3.1	3.2	2.8	3.0	3.1	3.3	5.5	5.7	4.0	2.8	2.1	2.1
14	3.1	4.0	2.8	3.0	3.1	3.3	5.4	6.3	3.9	2.7	2.2	2.0
15	3.1	3.8	2.8	3.0	3.0	3.2	5.6	5.5	3.9	2.6	2.1	2.0
16	3.1	3.6	2.8	3.0	3.2	3.2	6.7	5.3	3.7	2.6	2.1	2.1
17	3.2	3.4	2.8	3.1	3.2	3.2	6.2	4.9	3.9	2.6	2.1	2.3
18	3.3	3.3	2.7	3.1	3.1	3.2	5.6	5.1	3.7	2.6	2.3	2.3
19	3.3	3.3	2.7	3.1	3.1	3.3	5.2	5.6	3.6	2.6	2.2	2.3
20	3.3	3.2	2.7	3.2	3.2	3.5	5.4	5.8	3.4	2.6	2.2	2.3
21	3.3	3.2	2.8	3.1	3.8	4.1	5.4	5.8	3.4	2.6	2.2	2.2
22	3.3	3.1	2.9	3.1	3.4	4.7	6.0	5.6	3.3	2.5	2.2	2.2
23	3.3	3.1	2.8	3.1	3.3	4.5	6.0	5.7	3.2	2.5	2.1	2.2
24	3.3	3.1	2.7	3.1	3.2	4.2	6.0	5.5	3.2	2.4	2.2	2.2
25	3.3	3.1	2.7	3.1	3.2	3.6	5.8	5.3	3.2	2.4	2.1	2.2
26	3.3	2.9	2.7	3.1	3.2	3.6	5.6	5.9	2.9	2.4	2.5	2.0
27	3.3	2.9	2.6	3.1	3.2	3.6	5.6	6.2	2.9	2.4	2.3	2.0
28	3.4	2.9	2.7	3.1	3.3	3.6	5.4	5.3	2.9	2.4	2.2	2.1
29	3.4	2.9	2.7	3.1	---	4.4	5.2	5.2	2.8	2.4	2.2	2.8
30	3.4	2.9	2.7	3.1	---	3.9	5.6	5.1	2.8	2.4	2.2	2.5
31	3.3	---	2.7	3.1	---	3.7	---	5.1	---	2.4	2.2	---
TOTAL	102.2	96.5	86.3	92.7	88.0	109.4	156.6	164.7	115.5	81.5	68.6	65.1
MEAN	3.30	3.22	2.78	2.99	3.14	3.53	5.22	5.31	3.85	2.63	2.21	2.17
MAX	4.3	4.0	2.9	3.2	3.8	4.7	6.7	6.7	5.0	3.1	2.5	2.8
MIN	3.1	2.9	2.6	2.7	3.0	3.2	3.3	4.4	2.8	2.4	2.1	2.0
AC-FT	203	191	171	184	175	217	311	327	229	162	136	129

CAL YR 1976 TOTAL 1785.5 MEAN 4.88 MAX 15 MIN 2.6 AC-FT 3540
WTR YR 1977 TOTAL 1227.1 MEAN 3.36 MAX 6.7 MIN 2.0 AC-FT 2430

11391500 BIG GRIZZLY CREEK AT GRIZZLY VALLEY DAM, NEAR PORTOLA, CA

LOCATION.--Lat 39°53'00", long 120°28'29", in NW¼SW¼ sec.1, T.23 N., R.13 E., Plumas County, at Grizzly Valley Dam on Big Grizzly Creek, 5.3 mi (8.5 km) north of Portola.

DRAINAGE AREA.--44.0 mi^2 (114.0 km^2).

PERIOD OF RECORD.--October 1925 to September 1932, October 1950 to September 1953, June 1954 to September 1967, October 1968 to current year. Prior to October 1952, published as Grizzly Creek near Portola, October 1952 to September 1953, June 1954 to September 1967, published as Big Grizzly Creek near Portola.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area at former site.

GAGE.--Water-stage recorder and Cipolletti weir. Altitude of gage is 5,700 ft (1,740 m), from topographic map. Supplementary water-stage recorder in control house on Grizzly Valley Dam and concrete spillway. Prior to October 1968 at site 1.4 mi (2.3 km) downstream at different datum.

REMARKS.--Flow regulated by Lake Davis (station 11391490) completed in December 1966. Diversions for irrigation of about 400 acres (162 hm^2) above station and domestic water supply via Grizzly Valley pipeline.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE (prior to regulation by Lake Davis).--22 years (water years 1926-32, 1951-53, 1955-66), 38.2 ft^3/s (1.082 m^3/s), 27,680 acre-ft/yr (34.1 hm^3/yr); 10 years (water years 1967, 1969-77), 31.7 ft^3/s (0.898 m^3/s) 22,970 acre-ft/yr (28.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,080 ft^3/s (116 m^3/s) Feb. 1, 1963, gage height, 8.03 ft (2.448 m) site and datum then in use, from rating curve extended above 600 ft^3/s (17 m^3/s) on basis of slope-area measurement of peak flow; maximum gage height, 9.54 ft (2.908 m) former site and datum, Mar. 26, 1928; no flow Jan. 22 or 23, 1962. Maximum discharge since construction of Grizzly Valley Dam in 1966, 253 ft^3/s (7.16 m^3/s) May 13, 1969 (includes flow through spillway); no flow many days in September and October 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 119 ft^3/s (3.37 m^3/s) June 20 to July 5; minimum daily, 3.3 ft^3/s (0.094 m^3/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	119	106	11
2	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	119	106	11
3	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	119	106	11
4	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	119	106	11
5	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	119	106	11
6	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	118	106	11
7	5.0	5.0	5.0	5.0	5.0	5.0	14	14	14	118	106	9.1
8	5.0	5.0	5.0	5.0	5.0	5.0	14	14	62	118	106	5.0
9	5.0	5.0	5.0	5.0	5.0	5.0	14	14	118	118	106	5.0
10	5.0	5.0	5.0	5.0	5.0	5.0	14	14	118	117	106	5.0
11	5.0	5.0	5.0	5.0	5.0	5.0	14	14	118	117	106	5.0
12	5.0	5.0	5.0	5.0	5.0	5.0	14	14	118	117	106	5.0
13	5.2	5.0	5.0	5.0	5.0	5.0	14	14	118	117	106	4.7
14	5.2	5.0	5.0	5.0	5.0	5.0	14	14	118	116	106	4.5
15	5.2	5.0	5.0	5.0	5.0	5.0	14	14	118	116	106	4.5
16	5.2	5.0	5.0	5.0	5.0	11	14	14	118	116	106	4.5
17	5.2	5.0	5.0	5.0	5.0	14	14	14	118	116	105	4.7
18	5.0	5.0	5.0	5.0	5.0	14	14	14	118	115	105	4.7
19	4.5	5.0	5.0	5.0	5.0	14	14	14	118	115	53	4.5
20	3.3	5.0	5.0	5.0	5.0	14	14	14	119	115	11	4.5
21	5.0	5.0	5.0	5.0	5.0	14	14	14	119	115	11	4.7
22	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
23	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
24	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
25	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
26	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
27	5.0	5.0	5.2	5.0	5.0	14	14	14	119	115	11	5.0
28	5.0	5.0	5.2	5.0	5.0	14	14	14	119	110	11	5.0
29	5.0	5.0	5.2	5.0	---	14	14	14	119	106	11	5.0
30	5.0	5.0	5.2	5.0	---	14	14	14	119	106	11	5.0
31	5.2	---	5.2	5.0	---	14	---	14	---	106	11	---
TOTAL	154.0	150.0	157.0	155.0	140.0	296.0	420	434	2767	3577	2091	186.4
MEAN	4.97	5.00	5.06	5.00	5.00	9.55	14.0	14.0	92.2	115	67.5	6.21
MAX	5.2	5.0	5.2	5.0	5.0	14	14	14	119	119	106	11
MIN	3.3	5.0	5.0	5.0	5.0	5.0	14	14	14	106	11	4.5
AC-FT	305	298	311	307	278	587	833	861	5490	7090	4150	370
‡	23	21	26	6	3	2	28	13	68	59	60	32

CAL YR 1976 TOTAL 3389.0 MEAN 9.26 MAX 43 MIN 3.3 AC-FT 6720
WTR YR 1977 TOTAL 10527.4 MEAN 28.8 MAX 119 MIN 3.3 AC-FT 20880

‡ Diversions, in acre-feet, to Grizzly Valley pipeline.

11392500 MIDDLE FORK FEATHER RIVER NEAR CLIO, CA

LOCATION.--Lat 39°45'14", long 120°35'42", in NW¼SE¼ sec.23, T.22 N., R.12 E., Plumas County, on left bank 0.6 mi (1.0 km) upstream from Frazier Creek, 1.0 mi (1.6 km) northwest of Clio, and 2.2 mi (3.5 km) southeast of Blairsden.

DRAINAGE AREA.--686 mi² (1,777 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1925 to current year.

REVISED RECORDS.--WSP 1445: 1928, 1930, 1932. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,380 ft (1,335 m), from topographic map. Prior to July 29, 1953, at site 0.5 mi (0.8 km) downstream at different datum.

REMARKS.--Records good except those for December and January, which are fair. Diversions for irrigation of about 40,000 acres (162 km²) above station, of which 14,500 acres (58.7 km²) receive supplemental water of about 7,000 acre-ft (8.63 hm³) annually from Little Truckee River. Flow partly regulated by Lake Davis (station 11391490) beginning in November 1966, and by Frenchman Lake (station 11391370) beginning in November 1961.

AVERAGE DISCHARGE.--52 years, 287 ft³/s (8.128 m³/s), 207,900 acre-ft/yr (256 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,500 ft³/s (411 m³/s) Feb. 1, 1963, gage height, 16.19 ft (4.935 m); minimum, 4.3 ft³/s (0.12 m³/s) Sept. 5, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 440 ft³/s (12.5 m³/s) Feb. 21, gage height, 5.30 ft (1.615 m); minimum daily, 7.1 ft³/s (0.20 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	38	46	60	63	76	45	34	40	145	115	9.5
2	26	38	45	86	68	71	44	32	36	143	115	9.4
3	26	38	44	72	70	75	44	32	35	143	116	9.5
4	25	39	43	48	70	75	47	34	35	141	115	9.8
5	25	39	45	47	70	70	49	34	33	139	113	11
6	25	40	46	47	72	74	48	40	33	139	114	11
7	25	41	47	47	76	71	112	39	40	139	113	8.8
8	25	42	48	47	104	70	52	46	39	138	113	12
9	25	43	48	47	96	91	51	65	105	137	113	11
10	25	44	48	47	96	77	47	58	163	137	113	9.6
11	25	44	48	46	104	70	45	62	158	136	115	7.9
12	26	45	48	46	102	72	44	67	155	134	115	7.2
13	27	45	48	46	96	77	43	78	154	135	119	7.1
14	27	63	49	46	91	74	42	77	151	134	113	7.5
15	27	56	49	46	88	75	38	71	145	133	113	7.9
16	29	55	49	46	86	74	38	77	145	132	113	8.1
17	31	57	49	46	85	77	37	76	150	132	113	10
18	30	57	48	46	83	78	36	76	150	131	115	10
19	30	57	48	46	79	78	35	73	164	131	117	10
20	31	55	48	46	75	80	35	75	192	131	50	11
21	31	55	48	51	175	79	33	83	177	130	18	11
22	32	54	48	71	100	77	34	86	162	130	14	9.8
23	33	53	48	64	109	77	34	82	156	129	12	10
24	34	55	48	61	159	84	36	87	152	129	12	10
25	34	54	48	60	162	82	32	52	150	129	14	11
26	34	54	48	62	130	72	28	50	145	128	14	11
27	34	53	48	63	106	53	26	49	148	128	12	12
28	35	48	48	63	100	48	24	45	147	126	11	12
29	35	46	48	63	---	45	25	44	145	119	10	13
30	35	46	48	64	---	45	28	45	144	119	9.9	13
31	37	---	49	62	---	45	---	43	---	118	9.5	---
TOTAL	907	1454	1473	1692	2715	2212	1232	1732	3649	4115	2359.4	301.1
MEAN	29.3	48.5	47.5	54.6	97.0	71.4	41.1	55.9	122	133	76.1	10.0
MAX	37	63	49	86	175	91	112	78	192	145	119	13
MIN	23	38	43	46	63	45	24	32	33	118	9.5	7.1
AC-FT	1800	2880	2920	3360	5390	4390	2440	3440	7240	8160	4680	597

CAL YR 1976 TOTAL 23978.0 MEAN 65.5 MAX 415 MIN 13 AC-FT 47560
WTR YR 1977 TOTAL 23841.5 MEAN 65.3 MAX 192 MIN 7.1 AC-FT 47290

11392500 MIDDLE FORK FEATHER RIVER NEAR CLIO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1963 to current year.

INSTRUMENTATION.--Temperature recorder since October 1963.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.5°C July 26, 1976; minimum recorded, 0.0°C on many days in 1963, 1969, 1971-73, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 25.5°C June 28; minimum recorded, 0.0°C Dec. 8, 15, 16.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11392500 MIDDLE FORK FEATHER RIVER NEAR CLIO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	10.0	5.5	14.5	11.0	22.0	16.0	24.0	20.0	23.0	20.0	22.0	14.0
2	11.0	5.0	15.5	10.0	21.5	15.0	23.0	20.0	---	---	22.0	15.0
3	12.5	5.0	13.5	9.5	20.5	15.0	22.5	19.5	---	---	22.0	14.5
4	14.0	6.0	15.5	8.5	24.0	15.5	21.5	18.0	---	---	21.5	14.5
5	15.0	7.5	11.5	8.5	24.0	17.0	20.0	16.0	20.5	18.5	22.0	15.0
6	15.5	8.0	12.5	7.0	23.5	18.5	20.5	16.0	19.5	17.5	22.0	15.0
7	15.0	9.5	12.5	8.5	22.0	17.5	21.5	17.0	20.5	17.0	22.0	14.5
8	13.5	9.0	12.0	8.0	23.5	17.0	21.5	17.5	20.5	16.5	22.0	15.0
9	13.0	8.0	10.0	8.5	20.5	17.0	21.5	17.5	21.0	17.0	22.0	15.5
10	14.0	7.0	11.0	8.0	17.5	15.5	21.5	17.0	21.5	17.5	21.5	15.0
11	14.0	7.5	10.5	8.5	20.0	15.0	23.0	18.5	21.5	18.0	21.0	14.5
12	15.5	7.5	12.0	8.5	19.0	16.0	22.5	18.5	22.0	18.5	20.5	13.5
13	15.5	9.5	16.0	9.0	19.0	16.0	22.0	18.0	22.5	19.5	18.5	14.0
14	15.0	8.5	16.5	11.0	21.0	16.0	22.5	18.0	22.0	19.0	20.5	14.0
15	15.5	8.5	14.5	11.0	20.0	16.5	23.0	18.5	21.0	17.5	19.5	13.5
16	16.5	10.0	13.0	9.5	21.0	16.5	23.0	19.0	21.0	17.0	16.0	13.5
17	16.5	10.0	14.0	9.0	19.5	17.5	22.5	19.5	20.0	18.5	15.0	12.5
18	15.0	8.5	13.0	9.0	20.0	15.5	22.5	19.0	21.0	18.0	17.5	11.5
19	15.0	8.5	16.5	9.5	20.0	17.0	22.5	18.5	22.0	18.0	17.5	13.5
20	15.5	8.5	18.5	11.0	19.0	17.0	22.5	18.5	23.5	19.0	14.5	12.0
21	12.5	9.5	18.5	12.5	21.5	17.0	23.0	19.0	25.0	18.5	15.5	10.0
22	16.5	9.5	16.0	13.0	23.5	18.5	23.0	19.0	24.5	17.5	16.0	10.0
23	17.0	10.0	13.5	11.0	23.5	19.0	22.5	19.0	24.5	17.0	16.0	10.0
24	17.0	10.5	15.5	10.5	24.5	20.0	22.0	18.5	21.5	17.0	17.5	12.0
25	15.0	11.0	14.0	10.5	25.0	20.5	21.5	17.5	21.5	16.0	17.5	11.5
26	16.0	9.0	16.0	11.0	24.5	20.5	21.5	17.5	21.0	16.5	17.5	13.0
27	17.0	10.5	17.5	10.0	24.5	20.5	22.0	18.0	21.5	14.5	15.5	13.0
28	17.5	10.5	19.0	10.5	25.5	21.0	22.0	18.0	22.5	15.0	16.5	13.5
29	16.5	11.5	19.5	11.5	25.0	20.5	22.0	17.5	23.0	16.0	16.0	13.5
30	14.5	11.5	21.0	13.0	23.0	21.0	23.0	18.5	23.0	15.5	15.5	11.0
31	---	---	22.5	14.5	---	---	23.5	19.5	22.0	15.0	---	---
MONTH	17.5	5.0	22.5	7.0	25.5	15.0	24.0	16.0	25.0	14.5	22.0	10.0

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA

LOCATION.--Lat 39°42'30", long 121°16'10", in NW¼NE¼ sec.2, T.21 N., R.6 E., Butte County, Plumas National Forest, on left bank 400 ft (122 m) downstream from bridge on Milsap Bar Road, 500 ft (152 m) downstream from Little North Fork, 4.5 mi (7.2 km) southeast of Merrimac, and 20 mi (32 km) northeast of Oroville.

DRAINAGE AREA.--1,062 mi^2 (2,751 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1931: 1960, drainage area. WDR CA-68-2: 1956(M), 1963(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,560 ft (475 m), from topographic map. Prior to Jan. 21, 1965, on right bank at same site and datum.

REMARKS.--Records good. Diversions above station for irrigation of about 1,000 acres (4.05 km^2) between stations near Clio and near Merrimac. Flow partly regulated by Antelope Lake (station 11401120) beginning in 1963, Lake Davis (station 11391490) beginning in 1966, and Frenchman Lake (station 11391370) beginning in 1961.

AVERAGE DISCHARGE.--26 years, 1,388 ft^3/s (39.31 m^3/s), 1,006,000 acre-ft/yr (1.24 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,200 ft^3/s (2,440 m^3/s) Dec. 22, 1964, gage height, 26.5 ft (8.08 m) from floodmarks, present site, from rating curve extended above 19,000 ft^3/s (538 m^3/s) on basis of slope-area measurement of maximum flow; minimum daily, 51 ft^3/s (1.44 m^3/s) Sept. 14, 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 10, 1937, reached a stage of 19.4 ft (5.91 m) from floodmarks, discharge, 46,100 ft^3/s (1,310 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 872 ft^3/s (24.7 m^3/s) Feb. 22, gage height, 6.99 ft (2.131 m), no peak above base of 7,000 ft^3/s (198 m^3/s); minimum daily, 51 ft^3/s (1.44 m^3/s) Sept. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	131	141	159	171	177	271	219	322	289	223	173	61
2	131	142	163	322	174	240	218	340	282	234	171	59
3	146	144	162	432	176	228	215	292	265	224	170	59
4	149	144	166	312	177	224	219	321	251	217	170	59
5	139	144	164	224	176	221	252	295	237	210	168	59
6	132	144	162	201	180	219	295	305	234	209	168	59
7	124	144	160	166	183	221	321	296	230	206	169	58
8	122	146	160	159	223	222	422	285	223	206	170	59
9	122	149	174	158	293	282	404	336	216	203	168	59
10	122	150	172	180	241	309	344	503	244	200	168	54
11	119	153	174	209	227	258	311	450	309	201	167	59
12	118	154	161	200	232	246	304	419	298	199	166	58
13	118	158	164	188	234	251	314	410	289	194	166	56
14	118	341	161	173	232	239	326	460	282	192	169	51
15	118	288	162	171	228	244	314	476	272	192	166	51
16	118	217	162	171	221	242	310	442	265	191	163	58
17	120	198	156	166	220	241	325	410	263	189	163	125
18	125	193	144	172	220	235	312	385	262	186	167	115
19	128	187	147	178	214	236	284	368	260	186	170	140
20	130	181	144	180	212	237	269	353	345	186	169	144
21	131	180	144	181	508	242	262	351	312	186	146	113
22	133	176	156	199	589	249	258	351	285	185	105	100
23	145	173	184	235	373	278	259	342	263	186	83	95
24	147	173	165	219	321	306	258	334	253	186	77	93
25	144	174	148	197	331	290	259	314	245	184	77	90
26	141	172	166	187	326	285	257	335	238	184	82	89
27	139	168	142	184	295	282	240	502	230	184	84	88
28	141	152	130	180	281	268	228	385	226	182	84	94
29	141	158	168	178	---	248	222	335	224	179	79	160
30	141	160	193	177	---	233	222	312	220	176	71	150
31	141	---	189	181	---	223	---	300	---	173	64	---
TOTAL	4074	5204	5002	6251	7264	7770	8443	11329	7812	6053	4313	2515
MEAN	131	173	161	202	259	251	281	365	260	195	139	83.8
MAX	149	341	193	432	589	309	422	503	345	234	173	160
MIN	118	141	130	158	174	219	215	285	216	173	64	51
AC-FT	8080	10320	9920	12400	14410	15410	16750	22470	15500	12010	8550	4990

CAL YR 1976 TOTAL 139698 MEAN 382 MAX 2580 MIN 100 AC-FT 277100
WTR YR 1977 TOTAL 76030 MEAN 208 MAX 589 MIN 51 AC-FT 150800

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.
CHEMICAL ANALYSES: Water years 1963-66, 1970-72, 1977.
WATER TEMPERATURES: Water years 1963 to current year.
SEDIMENT RECORDS: Water years 1970-72.

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

INSTRUMENTATION.--Temperature recorder since October 1962.

REMARKS.--Clock stopped Sept. 16-30; range in temperature, 12.5°C to 17.0°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 3, 1966, July 17, 18, 1972, July 26, 27, 1976, Aug. 3, 4, 1977; minimum recorded, 0.0°C Jan. 31, Feb. 1, 1975.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.0°C Aug. 3, 4; minimum recorded, 1.0°C Jan. 8-10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
JUL 27...	1100	184	133	8.3	20.5	1	8.9	16
AUG 15...	1200	163	137	8.3	21.0	1	9.0	15
SEP 14...	1045	51	182	8.3	17.5	0	9.5	22

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
JUL 27...	4.1	6.8	1.2	76	0	62	5.8	2.4	.0
AUG 15...	4.4	6.5	1.3	56	0	46	5.2	2.6	.1
SEP 14...	5.4	9.4	1.4	93	0	76	10	5.7	.1

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
JUL 27...	9.5	80	83	.11	39.7	.02	.00	.02
AUG 15...	10	90	73	.12	39.6	.01	.00	.01
SEP 14...	13	104	113	.14	14.3	.01	.00	.01

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRIMAC, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11394620 FALL RIVER NEAR FEATHER FALLS, CA

LOCATION.--Lat 39°40'00", long 121°08'01", in SW¼NW¼ sec.19, T.21 N., R.8 E., Plumas County, on right bank 0.5 mi (0.8 km) downstream from Coyote Creek, and 8 mi (13 km) northeast of Feather Falls.

DRAINAGE AREA.--9.89 mi^2 (25.62 km^2).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,000 ft (1,219 m), from topographic map.

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

AVERAGE DISCHARGE.--14 years, 41.3 ft^3/s (1.170 m^3/s), 29,920 acre-ft/yr (36.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) Dec. 22, 1964, gage height, 10.00 ft (3.048 m), from rating curve extended above 200 ft^3/s (5.66 m^3/s) on basis of slope-area measurement of maximum flow; minimum daily, 0.76 ft^3/s (0.022 m^3/s) Aug. 23, Sept. 8-10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31 ft^3/s (0.88 m^3/s) Feb. 21, gage height, 2.00 ft (0.610 m), no peak above base of 180 ft^3/s (5.10 m^3/s); minimum daily, 0.76 ft^3/s (0.022 m^3/s) Aug. 23, Sept. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.2	2.1	2.0	2.3	3.9	5.8	9.0	6.2	2.4	1.1	.83
2	2.2	2.2	2.1	3.9	2.3	3.6	5.7	7.1	6.0	2.6	1.0	.83
3	2.4	2.2	2.1	5.0	2.3	3.5	5.8	6.8	5.7	2.1	1.0	.83
4	2.0	2.2	2.1	3.9	2.3	3.4	6.6	7.1	5.6	2.0	1.0	.83
5	1.9	2.2	2.1	3.0	2.3	3.4	8.3	7.3	5.2	2.0	1.0	.81
6	1.8	2.2	2.0	2.5	2.3	3.5	9.3	7.9	5.0	2.0	1.0	.79
7	1.7	2.2	2.0	2.4	2.4	3.6	9.7	7.7	4.7	1.9	1.0	.77
8	1.7	2.2	1.9	2.3	4.1	3.5	11	8.0	4.5	1.8	1.0	.76
9	1.9	2.2	2.0	2.3	3.7	7.4	12	12	4.5	1.8	1.0	.76
10	2.2	2.2	2.0	2.3	3.2	6.3	10	16	4.4	1.8	1.0	.76
11	2.2	2.3	1.9	2.2	3.1	5.3	9.7	16	4.2	1.7	1.0	.77
12	2.1	2.4	1.9	2.3	3.1	5.5	9.5	15	4.1	1.7	1.0	.80
13	2.1	2.4	1.9	2.2	3.1	5.2	9.5	15	4.0	1.6	.93	.83
14	2.1	8.7	1.9	2.2	3.2	4.5	9.2	16	3.8	1.5	.92	.83
15	2.1	4.5	1.9	2.2	3.3	4.7	8.7	15	3.6	1.5	.91	.91
16	2.1	2.8	1.9	2.2	3.2	4.3	8.5	14	3.4	1.5	.91	1.2
17	2.1	2.5	1.9	2.2	3.2	4.3	8.3	13	3.4	1.4	.94	2.3
18	2.1	2.4	1.8	2.4	3.2	4.3	7.7	12	3.2	1.4	1.0	1.5
19	2.1	2.2	1.8	2.5	3.1	4.7	7.2	11	3.2	1.4	.88	3.1
20	2.1	2.2	1.8	2.5	3.3	4.6	6.9	10	3.3	1.4	.83	2.5
21	2.1	2.2	1.8	2.6	16	4.7	6.6	9.6	3.1	1.4	.82	1.7
22	2.2	2.1	1.9	3.1	9.1	5.1	6.3	9.2	2.9	1.3	.77	1.5
23	2.2	2.1	1.9	3.0	6.3	6.6	6.1	8.9	2.7	1.2	.76	1.4
24	2.2	2.1	1.8	2.8	5.0	7.0	5.8	8.5	2.6	1.2	.83	1.3
25	2.2	2.1	1.9	2.6	4.5	6.2	5.7	8.1	2.5	1.2	1.0	1.3
26	2.2	2.1	1.8	2.5	4.1	6.5	5.6	9.9	2.4	1.2	1.2	1.3
27	2.2	2.0	1.8	2.4	4.2	7.2	5.2	9.2	2.3	1.2	1.1	1.3
28	2.2	2.1	1.8	2.3	4.4	7.0	5.0	8.0	2.2	1.1	.93	2.1
29	2.2	2.1	1.8	2.3	---	6.8	4.7	7.4	2.2	1.1	.88	6.2
30	2.2	2.1	2.1	2.3	---	6.3	5.1	7.0	2.2	1.1	.83	2.8
31	2.2	---	2.0	2.3	---	5.9	---	6.4	---	1.1	.83	---
TOTAL	64.8	75.4	59.7	80.7	112.6	158.8	225.5	318.1	113.1	48.6	29.37	43.61
MEAN	2.09	2.51	1.93	2.60	4.02	5.12	7.52	10.3	3.77	1.57	.95	1.45
MAX	2.4	8.7	2.1	5.0	16	7.4	12	16	6.2	2.6	1.2	6.2
MIN	1.7	2.0	1.8	2.0	2.3	3.4	4.7	6.4	2.2	1.1	.76	.76
AC-FT	129	150	118	160	223	315	447	631	224	96	58	87

CAL YR 1976 TOTAL 3957.00 MEAN 10.8 MAX 100 MIN 1.6 AC-FT 7850
WTR YR 1977 TOTAL 1330.28 MEAN 3.64 MAX 16 MIN .76 AC-FT 2640

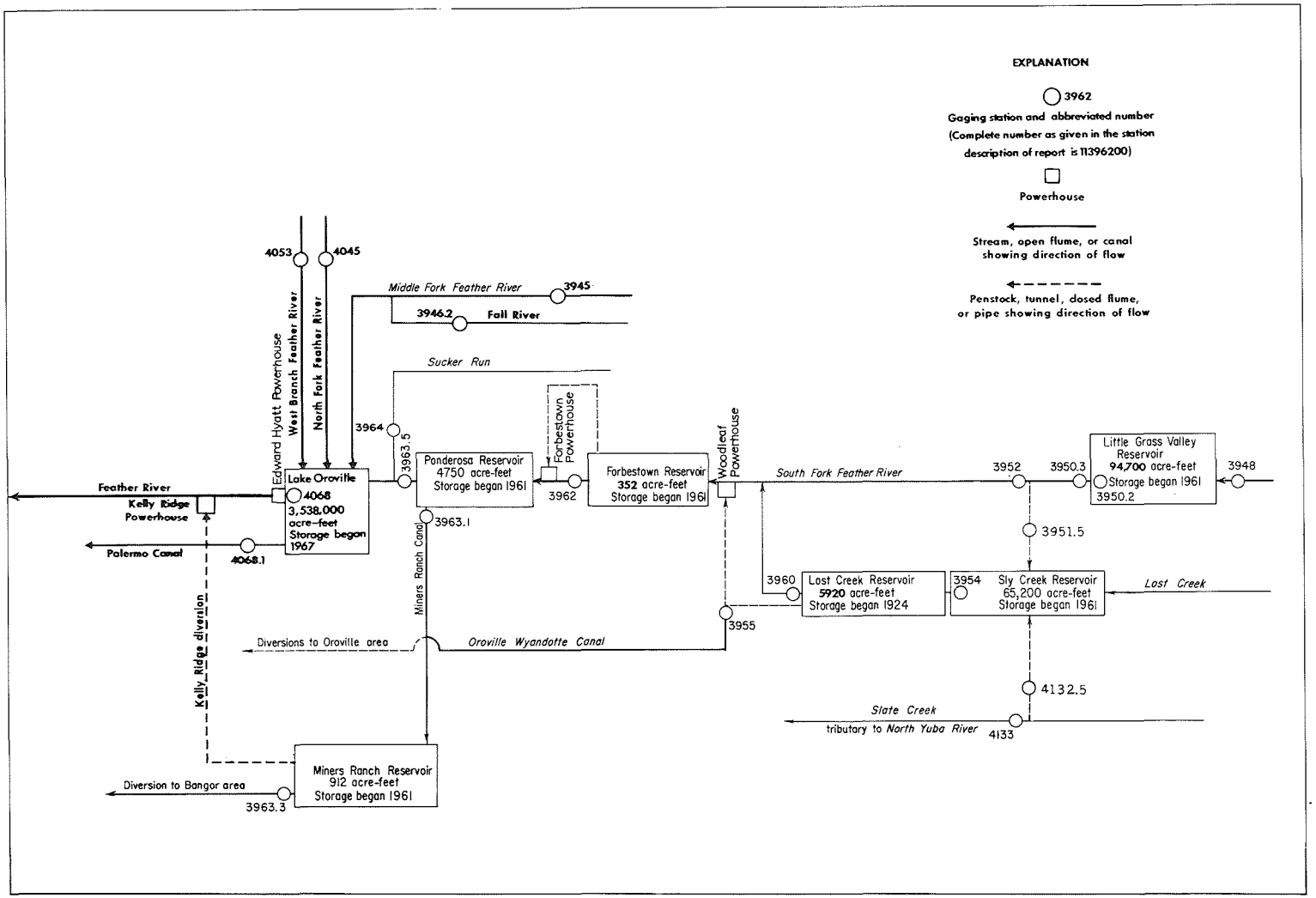

FIGURE 5.--Schematic diagram showing diversions and storage in South Fork Feather River basin.

11394800 SOUTH FORK FEATHER RIVER ABOVE LITTLE GRASS VALLEY RESERVOIR, CA

LOCATION.--Lat 39°45'07", long 120°57'26", in NW¼SE¼ sec.22, T.22 N., R.9 E., Plumas County, Plumas National Forest, on right bank 0.5 mi (0.8 km) downstream from unnamed tributary, 4.5 mi (7.2 km) upstream from Little Grass Valley Dam, and 5 mi (8 km) north of La Porte.

DRAINAGE AREA.--8.09 mi^2 (20.95 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,080 ft (1,548 m), from topographic map.

REMARKS.--Records good. No storage or diversion above station. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--17 years, 28.9 ft^3/s (0.818 m^3/s), 20,940 acre-ft/yr (25.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,160 ft^3/s (118 m^3/s) Jan. 31, 1963, gage height, 7.12 ft (2.170 m), from rating curve extended above 140 ft^3/s (3.96 m^3/s) on basis of slope-area measurement at gage height 5.47 ft (1.667 m); no flow Dec. 29, 1976, to Jan. 1, 1977, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21 ft^3/s (0.59 m^3/s) May 26, gage height, 2.32 ft (0.707 m), no peak above base of 140 ft^3/s (3.96 m^3/s); no flow Dec. 29 to Jan. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.47	.29	.27	0	.55	1.9	2.4	10	9.9	1.1	.09	.11
2	.46	.29	.28	.20	.59	1.6	2.4	8.1	8.9	1.5	.09	.12
3	.41	.29	.28	.56	.53	1.4	2.6	7.7	7.8	.81	.07	.11
4	.35	.29	.30	.07	.53	1.3	4.0	8.4	7.1	.63	.08	.12
5	.41	.29	.32	.03	.53	1.1	5.8	8.4	6.5	.51	.10	.15
6	.30	.28	.29	.05	.53	1.4	7.0	7.9	5.8	.45	.06	.07
7	.25	.24	.28	.14	.55	1.5	8.9	7.4	5.3	.39	.08	.07
8	.24	.24	.28	.14	1.2	1.6	8.6	8.2	4.8	.36	.08	.07
9	.23	.24	.30	.14	1.2	2.4	7.1	11	4.3	.31	.07	.08
10	.21	.24	.28	.14	.98	2.1	6.4	11	4.2	.29	.05	.08
11	.24	.24	.27	.14	.96	1.9	6.8	10	3.9	.27	.05	.08
12	.26	.26	.26	.16	.92	2.0	7.6	10	3.6	.25	.06	.09
13	.24	.19	.26	.20	.99	1.8	8.9	13	3.3	.25	.08	.08
14	.24	1.3	.26	.17	1.1	1.7	9.1	16	3.0	.25	.08	.08
15	.24	.90	.25	.17	1.5	1.6	9.7	16	2.8	.23	.08	.08
16	.24	.83	.22	.19	1.7	1.4	11	15	2.6	.20	.08	.11
17	.24	.63	.20	.21	2.3	1.3	10	13	2.4	.19	.09	.11
18	.24	.59	.17	.21	2.0	1.4	8.6	12	2.3	.16	.10	.10
19	.20	.46	.15	.22	1.9	1.6	7.6	12	3.1	.16	.09	.35
20	.17	.39	.14	.27	2.0	1.8	7.4	14	4.3	.15	.09	1.1
21	.17	.33	.14	.36	5.3	2.4	7.5	16	2.9	.14	.08	.42
22	.17	.30	.12	.54	3.9	3.3	7.7	15	2.4	.14	.08	.28
23	.22	.29	.10	.59	2.7	3.8	7.6	14	2.0	.12	.09	.24
24	.20	.24	.10	.55	2.2	3.0	7.5	13	1.8	.12	.09	.25
25	.25	.24	.10	.55	1.9	2.7	7.0	12	1.4	.10	.10	.21
26	.33	.92	.10	.55	1.7	2.5	6.3	16	1.2	.09	.11	.18
27	.33	1.8	.01	.54	1.7	3.0	6.1	17	1.0	.12	.11	.20
28	.33	.29	.01	.55	1.9	3.4	5.9	14	.87	.12	.12	.41
29	.33	.29	0	.55	---	2.8	5.6	12	.76	.10	.12	3.3
30	.32	.27	0	.55	---	2.6	6.2	11	.70	.11	.12	1.9
31	.29	---	0	.55	---	2.3	---	11	---	.10	.13	---
TOTAL	8.58	13.45	5.74	9.29	43.86	64.6	209.3	370.1	110.93	9.72	2.72	10.55
MEAN	.28	.45	.19	.30	1.57	2.08	6.98	11.9	3.70	.31	.088	.35
MAX	.47	1.8	.32	.59	5.3	3.8	11	17	9.9	1.5	.13	3.3
MIN	.17	.19	0	0	.53	1.1	2.4	7.4	.70	.09	.05	.07
AC-FT	17	27	11	18	87	128	415	734	220	19	5.4	21

CAL YR 1976 TOTAL 2922.34 MEAN 7.98 MAX 57 MIN 0 AC-FT 5800
WTR YR 1977 TOTAL 858.84 MEAN 2.35 MAX 17 MIN 0 AC-FT 1700

11395020 LITTLE GRASS VALLEY RESERVOIR NEAR LA PORTE, CA

LOCATION.--Lat 39°43'25", long 121°01'10", in SE¼NW¼ sec.31, T.22 N., R.9 E., Plumas County, Plumas National Forest, on right bank 300 ft (91 m) upstream from dam on South Fork Feather River, 3.3 mi (5.3 km) northwest of La Porte.

DRAINAGE AREA.--25.8 mi^2 (66.8 km^2).

PERIOD OF RECORD.--October 1961 to current year. Monthend elevation and contents only October 1961 to October 1962.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Nov. 1, 1962, in valve chamber in dam at same datum.

REMARKS.--Reservoir is formed by rockfill dam. Storage began in October 1961. Total capacity, 93,000 acre-ft (115 hm^3) between elevations, 4,876 ft (1,486.2 m) invert of release valve, and 5,047 ft (1,538.3 m) top of spillway gates, all of which is available for release. Water is released down South Fork Feather River for power development and irrigation downstream. Records, including extremes, represent contents at 2400 hours. See schematic diagram of South Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 96,100 acre-ft (118 hm^3) Apr. 29, 1965, elevation, 5,047.9 ft (1,538.60 m); minimum since reservoir first filled, 31,400 acre-ft (38.7 hm^3) Sept. 30, 1977, elevation, 4,996.2 ft (1,522.84 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 49,800 acre-ft (61.4 hm^3) June 1-25, elevation, 5,014.7 ft (1,528.48 m); minimum, 31,400 acre-ft (38.7 hm^3) Sept. 30, elevation, 4,996.2 ft (1,522.84 m).

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

4990	26260
5000	34600
5010	44400
5020	55900
5030	68900
5040	83500
5048	96300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47900	44600	44600	44200	44600	45400	46000	47400	49800	49700	48900	39900
2	47500	44600	44400	44100	44600	45400	46000	47400	49800	49700	48900	39600
3	47200	44600	44400	44600	44600	45400	46000	47500	49800	49700	48900	39300
4	46700	44600	44400	44700	44600	45400	46200	47500	49800	49600	48700	39000
5	46300	44600	44400	44700	44600	45400	46200	47600	49800	49600	48300	38600
6	45800	44600	44400	44700	44600	45400	46200	47800	49800	49600	48000	38300
7	45200	44600	44400	44700	44600	45400	46300	47800	49800	49600	47600	38000
8	44900	44400	44400	44600	44700	45400	46300	47900	49800	49500	47300	37700
9	44900	44400	44300	44600	44700	45500	46400	48000	49800	49500	47000	37300
10	44900	44400	44300	44600	44700	45600	46500	48100	49800	49500	46600	37000
11	44900	44400	44300	44600	44700	45600	46600	48300	49800	49500	46300	36700
12	44900	44400	44300	44600	44700	45600	46600	48400	49800	49400	45900	36400
13	44800	44400	44300	44600	44700	45600	46700	48400	49800	49400	45600	36100
14	44800	44400	44300	44600	44700	45600	46700	48600	49800	49400	45200	35800
15	44800	44700	44300	44600	44700	45700	46700	48700	49800	49400	44900	35400
16	44800	44700	44300	44600	44800	45700	46800	48800	49800	49400	44600	35100
17	44800	44800	44300	44600	44800	45700	46800	48900	49800	49200	44200	34800
18	44800	44700	44300	44600	44800	45700	47000	48900	49800	49200	44000	34500
19	44800	44700	44300	44600	44800	45700	47000	49000	49800	49200	43800	34200
20	44800	44700	44200	44600	44800	45700	47000	49100	49800	49200	43400	34100
21	44800	44700	44200	44600	44800	45700	47000	49100	49800	49100	43100	33800
22	44800	44700	44200	44600	45100	45800	47000	49200	49800	49100	42800	33500
23	44700	44700	44200	44700	45200	45800	47100	49200	49800	49100	42500	33200
24	44700	44700	44200	44700	45400	45900	47100	49200	49800	49100	42200	32900
25	44700	44600	44200	44700	45400	46000	47100	49400	49800	49000	41900	32700
26	44700	44700	44200	44700	45400	46000	47100	49400	49700	49000	41600	32400
27	44700	44600	44200	44700	45400	46000	47100	49500	49700	49000	41200	32100
28	44700	44600	44200	44600	45400	46000	47200	49500	49700	49000	40900	31800
29	44700	44600	44200	44600	---	46000	47200	49600	49700	49000	40600	31600
30	44700	44600	44200	44600	---	46000	47300	49600	49700	48900	40300	31400
31	44700	---	44200	44600	---	46000	---	49700	---	48900	40000	---
MAX	47900	44800	44600	44700	45400	46000	47300	49700	49800	49700	48900	39900
MIN	44700	44400	44200	44100	44600	45400	46000	47400	49700	48900	40000	31400
†	5010.2	5010.1	5009.8	5010.1	5010.8	5011.4	5012.5	5014.6	5014.6	5013.9	5005.5	4996.2
‡	-3600	-100	-400	+400	+800	+600	+1300	+2400	0	-800	-8900	-8600

CAL YR 1976 ‡ -7000
WTR YR 1977 ‡-16900

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

11395030 SOUTH FORK FEATHER RIVER BELOW LITTLE GRASS VALLEY DAM, CA

LOCATION.--Lat 39°43'26", long 121°01'16", in SW¼NW¼ sec.31, T.22 N., R.9 E., Plumas County, Plumas National Forest, on left bank 0.1 mi (0.2 km) downstream from Little Grass Valley Dam, 0.7 mi (1.1 km) downstream from Ice Creek, and 3.5 mi (5.6 km) northwest of La Porte.

DRAINAGE AREA.--25.9 mi^2 (67.1 km^2).

PERIOD OF RECORD.--October 1927 to September 1933 (published as "near La Porte"), October 1960 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 4,809.0 ft (1,465.78 m) above mean sea level. Prior to Oct. 1, 1960, at site 0.4 mi (0.6 km) upstream at different datum. Oct. 1, 1960, to Oct. 30, 1962, at present site and datum. Nov. 1, 1962, to May 31, 1966, at site on outlet works at base of Little Grass Valley Dam 0.1 mi (0.2 km) upstream at datum 4,850.00 ft (1,478.280 m) above mean sea level.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (station 11395020) beginning in October 1961. No diversion above station. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Little Grass Valley Reservoir).--23 years, 92.5 ft^3/s (2.620 m^3/s), 67,020 acre-ft/yr (82.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s (120 m^3/s) Feb. 1, 1963; minimum, 0.2 ft^3/s (0.006 m^3/s) Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 196 ft^3/s (5.55 m^3/s) Oct. 1, gage height, 9.09 ft (2.771 m); minimum daily, 3.2 ft^3/s (0.091 m^3/s) July 30 to Aug. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	194	4.3	4.5	4.8	5.0	4.8	4.8	4.7	4.0	4.2	3.2	152
2	194	4.3	4.5	5.0	4.8	4.8	4.8	4.5	4.0	4.2	3.2	152
3	194	4.3	4.5	4.8	4.8	4.8	4.8	4.5	4.0	4.2	3.2	152
4	194	4.3	4.5	4.8	4.8	4.8	4.8	4.5	4.0	4.2	56	152
5	194	4.3	4.7	4.8	4.8	4.8	5.0	4.5	4.0	4.0	146	152
6	194	4.3	4.7	4.8	4.8	4.8	5.0	4.5	4.0	4.0	152	152
7	194	4.3	4.7	4.8	4.8	4.8	5.0	4.5	4.0	4.0	152	152
8	121	4.3	4.7	4.8	5.2	4.8	5.2	4.5	4.0	4.0	152	152
9	4.5	4.3	4.7	4.8	5.0	5.0	5.0	4.3	4.0	3.9	152	152
10	4.5	4.3	4.7	4.8	5.0	4.8	5.0	4.5	4.0	3.9	152	150
11	4.5	4.3	4.7	4.8	5.0	4.8	5.0	4.5	4.0	3.9	152	148
12	4.5	4.3	4.7	4.8	5.0	4.8	5.0	4.5	4.0	3.9	152	148
13	4.5	4.7	4.7	4.8	5.0	4.8	5.0	4.7	4.0	3.8	152	148
14	4.5	4.8	4.7	5.0	4.8	4.8	5.0	4.7	4.0	3.8	152	148
15	4.5	4.7	4.7	5.0	4.8	4.7	4.8	4.7	4.0	3.8	152	148
16	4.5	4.5	4.7	5.0	4.8	4.7	4.8	4.7	3.9	3.6	152	146
17	4.5	4.5	4.7	4.8	4.8	4.7	4.8	4.5	3.9	3.6	152	146
18	4.5	4.5	4.7	4.8	4.8	4.7	4.8	4.5	3.9	3.6	152	146
19	4.5	4.5	4.7	4.8	4.8	4.7	4.8	4.2	4.0	3.6	152	146
20	4.5	4.5	4.7	4.8	4.8	4.8	5.0	4.2	4.0	3.6	152	146
21	4.5	4.5	4.7	4.8	5.7	4.8	4.8	4.2	4.0	3.5	152	146
22	4.7	4.5	4.7	4.8	5.2	4.8	4.8	4.2	4.0	3.4	152	146
23	4.7	4.5	4.7	4.8	5.0	4.8	4.8	4.2	4.0	3.4	152	146
24	4.7	4.5	4.7	4.8	4.8	4.8	4.8	4.2	4.0	3.4	152	144
25	4.5	4.5	4.7	4.8	4.8	4.8	4.8	4.2	4.0	3.4	152	144
26	4.3	4.5	4.7	4.8	4.8	4.8	4.8	4.2	4.0	3.4	152	144
27	4.3	4.5	4.8	5.0	4.8	4.8	4.7	4.3	4.0	3.4	152	144
28	4.3	4.5	4.8	5.0	4.8	4.8	4.7	4.2	4.0	3.4	152	144
29	4.3	4.5	4.8	5.0	---	4.7	4.5	4.0	4.0	3.4	152	144
30	4.3	4.5	4.8	5.0	---	4.7	4.5	4.0	4.0	3.2	152	144
31	4.3	---	4.8	5.0	---	4.7	---	4.0	---	3.2	152	---
TOTAL	1581.9	133.3	145.4	150.6	137.5	148.2	145.6	135.9	119.7	114.9	4163.6	4434
MEAN	51.0	4.44	4.69	4.86	4.91	4.78	4.85	4.38	3.99	3.71	134	148
MAX	194	4.8	4.8	5.0	5.7	5.0	5.2	4.7	4.0	4.2	152	152
MIN	4.3	4.3	4.5	4.8	4.8	4.7	4.5	4.0	3.9	3.2	3.2	144
AC-FT	3140	264	288	299	273	294	289	270	237	228	8260	8790

CAL YR 1976 TOTAL 12509.1 MEAN 34.2 MAX 194 MIN 1.8 AC-FT 24810 MEAN ‡ 24.5 AC-FT ‡ 17810
WTR YR 1977 TOTAL 11410.6 MEAN 31.3 MAX 194 MIN 3.2 AC-FT 22630 MEAN ‡ 7.91 AC-FT ‡ 5730

‡ Adjusted for change in contents in Little Grass Valley Reservoir.

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'51", long 121°07'04", in NE¼SE¼ sec.30, T.21 N., R.8 E., Plumas County, Plumas National Forest, on right bank 0.1 mi (0.2 km) downstream from diversion dam, 3.1 mi (5.0 km) upstream from Rock Creek, and 5.8 mi (9.3 km) north of Strawberry Valley.

DRAINAGE AREA.--37.7 mi^2 (97.6 km^2).

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

GAGE.--Water-stage recorder and since Nov. 7, 1962, concrete control. Datum of gage is 3,535.02 ft (1,077.474 m) above mean sea level (levels by Oroville-Wyandotte Irrigation District).

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (station 11395020). South Fork diversion tunnel, maximum capacity, about 600 ft^3/s (17.0 m^3/s) 500 ft (152 m) upstream, diverts to Sly Creek Reservoir (station 11395400); diversion began in November 1961. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for diversion to South Fork tunnel).--17 years, 147 ft^3/s (4.163 m^3/s), 106,500 acre-ft/yr (131 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,330 ft^3/s (179 m^3/s) Jan. 31, 1963, gage height, 13.21 ft (4.026 m), from rating curve extended above 700 ft^3/s (19.8 m^3/s) on basis of computation of peak flow over diversion dam; minimum daily, 0.3 ft^3/s (0.008 m^3/s) Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft^3/s (0.40 m^3/s) May 23, gage height, 2.36 ft (0.719 m); minimum daily, 1.6 ft^3/s (0.045 m^3/s) June 6-8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	4.3	4.3	4.1	4.1	4.3	4.1	4.1	1.7	2.7	2.7	3.6
2	5.5	4.3	4.3	4.3	4.1	4.3	4.1	4.1	1.7	2.8	2.7	3.4
3	5.5	4.3	4.3	4.1	4.1	4.3	4.1	4.1	1.7	2.7	2.7	3.4
4	5.5	4.3	4.3	4.1	4.1	4.3	4.1	4.1	1.7	2.7	2.7	3.4
5	5.5	4.3	4.1	4.1	4.1	4.3	4.1	4.1	1.7	2.7	2.8	3.4
6	5.5	4.3	4.1	4.1	4.1	4.3	4.1	4.1	1.6	2.7	2.9	3.4
7	5.5	4.3	4.1	4.1	4.1	4.3	4.1	4.1	1.6	2.7	2.9	3.4
8	5.3	4.3	4.1	4.1	4.3	4.3	4.1	4.1	1.6	2.7	2.9	3.4
9	4.7	4.1	4.0	4.1	4.3	4.3	4.1	4.1	1.7	2.6	2.9	3.4
10	4.5	4.1	4.0	4.1	4.3	4.3	4.1	4.3	1.7	2.5	2.9	3.4
11	4.5	4.3	4.0	4.1	4.3	4.3	4.1	4.3	1.7	2.5	2.9	3.4
12	4.1	4.3	4.0	4.1	4.3	4.3	4.1	4.3	1.7	2.5	3.1	3.4
13	4.1	4.3	4.0	4.1	4.3	4.3	4.1	4.3	1.7	2.4	3.1	3.4
14	4.1	4.3	4.0	4.1	4.3	4.3	4.0	4.5	1.7	2.4	3.1	3.4
15	4.1	4.1	4.0	4.1	4.3	4.3	4.0	4.5	1.7	2.4	3.4	3.4
16	4.1	4.1	4.0	4.1	4.3	4.3	4.0	4.5	2.4	2.4	3.6	3.4
17	4.1	4.1	4.0	4.1	4.3	4.3	4.0	4.5	2.7	2.4	3.6	3.6
18	4.3	4.1	4.0	4.1	4.3	4.3	4.0	4.5	2.8	2.4	3.6	3.6
19	4.3	4.1	3.8	4.1	4.3	4.3	4.0	4.5	2.8	2.5	3.8	3.8
20	4.3	4.1	3.8	4.3	4.3	4.3	4.0	4.3	2.8	2.5	3.8	3.4
21	4.3	4.1	3.8	4.3	4.5	4.1	4.1	4.3	2.8	2.5	3.8	3.4
22	4.3	4.1	3.8	4.3	4.5	4.1	4.1	4.3	2.8	2.5	3.8	3.4
23	4.3	4.1	3.8	4.3	4.3	4.3	4.3	3.5	2.8	2.5	3.8	3.4
24	4.3	4.1	3.8	4.3	4.3	4.3	4.3	1.9	2.7	2.5	3.8	3.4
25	4.3	4.1	3.8	4.3	4.3	4.3	4.3	1.9	2.7	2.5	3.8	3.4
26	4.3	4.1	3.8	4.1	4.3	4.3	4.3	1.9	2.7	2.5	3.8	3.4
27	4.3	4.1	3.8	4.1	4.3	4.1	4.3	1.8	2.7	2.6	3.6	3.4
28	4.3	4.1	4.0	4.1	4.3	4.1	4.3	1.7	2.7	2.7	3.6	3.8
29	4.3	4.3	4.0	4.1	---	4.1	4.1	1.7	2.7	2.7	3.6	3.6
30	4.3	4.3	4.0	4.1	---	4.1	4.1	1.7	2.7	2.7	3.6	3.4
31	4.3	---	4.0	4.1	---	4.1	---	1.7	---	2.7	3.6	---
TOTAL	142.3	125.8	123.8	128.5	119.4	131.9	123.5	111.8	66.0	79.6	102.9	103.6
MEAN	4.59	4.19	3.99	4.15	4.26	4.25	4.12	3.61	2.20	2.57	3.32	3.45
MAX	5.5	4.3	4.3	4.3	4.5	4.3	4.3	4.5	2.8	2.8	3.8	3.8
MIN	4.1	4.1	3.8	4.1	4.1	4.1	4.0	1.7	1.6	2.4	2.7	3.4
AC-FT	282	250	246	255	237	262	245	222	131	158	204	205
MEAN ‡	56.9	8.34	7.37	10.1	12.8	14.0	12.8	20.0	9.43	6.99	146	159
AC-FT ‡	3500	496	453	623	709	859	761	1230	561	430	8950	9460
†	3220	246	207	368	472	597	516	1010	430	272	8750	9260

CAL YR 1976 TOTAL 1923.3 MEAN 5.25 MAX 7.4 MIN 3.2 AC-FT 3810 MEAN ‡ 51.7 AC-FT ‡ 37520
WTR YR 1977 TOTAL 1359.1 MEAN 3.72 MAX 5.5 MIN 1.6 AC-FT 2700 MEAN ‡ 38.7 AC-FT ‡ 28050

‡ Adjusted for diversion to South Fork tunnel.
† Diversion, in acre-feet, from South Fork Feather River to South Fork diversion tunnel.

11395400 SLY CREEK RESERVOIR NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°35'01", long 121°06'45", in NW¼NW¼ sec.20, T.20 N., R.8 E., Butte County, Plumas National Forest, on right bank 100 ft (30 m) upstream from dam on Lost Creek, 1.4 mi (2.3 km) northwest of Strawberry Valley.

DRAINAGE AREA.--24.0 mi^2 (62.2 km^2).

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1966, water-stage recorder in valve chamber inside dam at same datum. Oct. 1, 1966, to December 1974, nonrecording gage read once day.

REMARKS.--Reservoir is formed by earthfill dam. Storage began in November 1961. Total capacity, 65,000 acre-ft (80.1 hm^3) between elevations 3,285 ft (1,001.3 m), invert of outlet and 3,531 ft (1,076.2 m), top of spillway gate, all of which is available for release. Water is diverted into reservoir from South Fork Feather River through South Fork diversion tunnel and from North Yuba River basin through Slate Creek tunnel (station 11413250). Records, including extremes, show contents at 2400 hours. See schematic diagram of South Fork Feather River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,500 acre-ft (80.8 hm^3) June 2-5, 11, 12, 1962, Apr. 7, 1963, elevation, 3,531.5 ft (1,076.40 m); minimum, 860 acre-ft (1.06 hm^3) Feb. 11, 1976, elevation, 3,320.0 ft (1,011.94 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,800 acre-ft (29.3 hm^3) Oct. 1-3, elevation, 3,442.9 ft (1,049.40 m); minimum, 6,350 acre-ft (7.83 hm^3), Aug. 4, elevation, 3,373.9 ft (1,028.36 m).

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

3320	860	3420	16600
3340	2150	3450	26300
3360	4300	3480	38500
3380	7360	3510	53400
3400	11500	3532	66200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23800	16400	9980	9320	9740	10600	11400	11300	12400	8540	6800	9540
2	23800	16400	9670	9480	9760	10600	11400	11300	12300	8640	6560	9760
3	23800	16500	9370	9590	9760	10600	11400	11400	12300	8660	6530	10000
4	23600	16500	9670	9610	9740	10600	11400	11400	12300	8660	6350	10000
5	23300	16500	9650	9610	9760	10700	11500	11400	12300	8640	6550	10500
6	22900	16500	9610	9610	9760	10600	11500	11500	12300	8620	6680	10300
7	22500	16500	9590	9560	9800	10600	11600	11500	12300	8600	6650	10100
8	22400	16500	9590	9560	9830	10600	11600	11500	12300	8580	7210	10000
9	22000	16500	9540	9590	9870	10700	11600	11700	12300	8520	6730	10100
10	21700	16600	9520	9560	9890	10700	11600	11800	12200	8500	6480	10500
11	21200	16600	9540	9540	9920	10800	11600	12000	12200	8450	6510	10700
12	20700	16400	9500	9590	9920	10800	11700	12100	12200	8430	6780	11000
13	20200	15400	9520	9560	9940	10800	11600	12200	12200	8410	7000	11200
14	19800	14400	9520	9540	9960	10800	11600	12300	12200	8330	7180	11400
15	19400	13800	9450	9560	9960	10900	11100	12400	12200	8290	7420	11700
16	19000	13600	9430	9610	10000	10900	11100	12400	12200	8230	7550	11900
17	19100	13100	9450	9590	9980	10900	11000	12500	12200	8230	7280	12200
18	18700	12700	9370	9590	10000	10800	11000	12200	12200	8230	7590	12400
19	18400	12400	9370	9610	9980	10900	11000	12200	12100	8230	7830	12500
20	18100	12400	9430	9610	10000	10900	11100	12200	12100	8230	8080	12600
21	17800	12200	9390	9590	10200	10900	11100	12200	12100	8210	8310	12600
22	17600	11700	9340	9630	10300	11000	11100	12200	11600	8210	8540	12700
23	17400	11600	9370	9670	10400	11000	11100	12200	11600	7880	8720	12800
24	17300	11300	9320	9670	10400	11000	11100	12300	11500	7810	8930	13100
25	17200	11300	9340	9700	10500	11100	11100	12200	11500	7750	8680	13300
26	16700	11000	9320	9670	10500	11200	11100	12300	11500	7570	8660	13200
27	16500	11000	9300	9720	10600	11200	11200	12300	11500	7690	8890	12900
28	16400	10800	9300	9700	10600	11300	11200	12300	11500	7690	9120	12900
29	16400	10600	9260	9720	---	11300	11200	12300	11000	7710	8990	13200
30	16400	10200	9300	9760	---	11300	11200	12300	9980	7590	9090	13500
31	16400	---	9280	9740	---	11300	---	12400	---	6940	9320	---
MAX	23800	16600	9980	9760	10600	11300	11700	12500	12400	8660	9320	13500
MIN	16400	10200	9260	9320	9740	10600	11000	11300	9980	6940	6350	9540
†	3419.2	3394.1	3389.9	3392.0	3395.8	3399.3	3398.5	3403.6	3393.1	3376.8	3390.1	3408.1
‡	-7400	-6200	-920	+460	+860	+700	-100	+1200	-2420	-3040	+2380	+4180

CAL YR 1976 ‡ +5760
WTR YR 1977 ‡ -10300

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

11395500 OROVILLE-WYANDOTTE CANAL NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°33'15", long 121°11'31", in NW¼NE¼ sec.33, T.20 N., R.7 E., Butte County, in concrete valve house at head of canal, 2.5 mi (4.0 km) north of Clipper Mills.

PERIOD OF RECORD.--October 1927 to September 1941 (published as Forbestown ditch), October 1953 to current year. Monthly discharge only for October 1953 to September 1961, published with records for Lost Creek near Clipper Mills.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 3,166.0 ft (965.00 m) above mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, nonrecording gages and Oct. 1, 1941, to Nov. 16, 1962, water-stage recorder at sites at different datums 4 mi (6 km) upstream in abandoned portion of canal, 0.3 mi (0.5 km) downstream from Lost Creek Dam.

REMARKS.--Records good. Water is discharged to canal through valve in Woodleaf penstock. Prior to Nov. 16, 1962, canal diverted from Lost Creek Dam. Water is used for irrigation and domestic supply. Demand for water reduced when a large lumber mill closed at Woodleaf in 1962. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (prior to closure of lumber mill).--23 years (water years 1928-41, 1954-62), 21.0 ft^3/s (0.595 m^3/s), 15,200 acre-ft/yr (18.7 hm^3/yr); 15 years (water years 1963-77), 8.86 ft^3/s (0.251 m^3/s), 6,420 acre-ft/yr (7.92 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s (1.22 m^3/s) Aug. 9 to Sept. 9, 1937, Aug. 13-15, 1977; no flow at times in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	7.8	8.3	8.9	5.0	5.9	5.8	14	25	24	41	40
2	20	7.2	8.3	9.0	5.0	5.9	5.6	14	26	26	39	40
3	19	6.8	8.3	9.0	5.0	5.9	5.6	16	26	26	33	40
4	19	6.0	8.3	9.0	5.0	5.9	5.6	17	26	26	29	40
5	19	6.5	8.3	9.2	5.0	5.9	7.5	18	26	26	30	40
6	19	6.6	8.3	9.4	5.0	6.2	9.8	18	26	26	32	37
7	19	6.6	8.3	9.4	5.0	5.4	11	17	26	26	32	37
8	19	6.6	8.3	9.0	5.0	4.9	11	17	26	28	32	38
9	17	10	8.3	9.0	5.0	5.4	11	17	26	29	32	39
10	17	12	8.4	9.0	4.9	5.6	11	17	26	29	32	37
11	17	12	8.8	9.0	4.9	5.6	11	17	26	29	32	37
12	18	10	8.6	8.2	4.9	5.6	11	17	26	29	38	37
13	18	9.2	8.6	7.4	4.9	5.6	11	17	26	29	43	34
14	18	9.4	8.6	7.2	4.9	5.6	12	17	26	29	43	29
15	14	9.2	8.6	7.0	4.9	5.6	13	20	26	29	43	28
16	7.8	9.2	8.8	7.0	4.9	5.6	13	22	26	29	37	26
17	7.8	8.8	8.8	7.0	5.0	5.6	13	23	26	30	42	26
18	8.0	8.2	8.8	6.0	5.7	5.6	13	23	26	31	40	24
19	8.2	8.3	8.8	5.0	5.9	5.6	13	22	26	30	40	19
20	7.8	8.3	8.8	4.6	5.9	5.6	13	22	26	30	40	16
21	9.5	8.3	8.8	4.9	6.0	5.6	13	23	26	30	40	15
22	12	8.3	8.8	4.9	6.0	5.6	13	23	26	30	40	20
23	12	8.3	8.8	4.9	6.0	5.6	13	24	26	30	40	26
24	12	8.3	8.8	4.9	6.0	5.6	13	24	26	30	39	26
25	12	8.3	8.8	4.9	6.0	5.6	13	24	26	23	36	26
26	12	8.3	8.9	4.9	6.0	5.6	13	24	26	12	39	27
27	11	8.3	8.9	4.9	5.9	5.6	13	24	24	11	40	30
28	9.5	8.3	8.9	4.9	5.8	5.6	14	24	22	11	40	32
29	9.5	8.3	8.9	4.9	---	5.6	15	24	22	12	37	33
30	8.8	8.3	8.9	4.9	---	5.6	15	24	22	18	39	28
31	8.4	---	8.9	5.0	---	5.8	---	24	---	35	40	---
TOTAL	430.3	251.7	267.7	213.3	149.5	174.8	341.9	627	765	803	1160	927
MEAN	13.9	8.39	8.64	6.88	5.34	5.64	11.4	20.2	25.5	25.9	37.4	30.9
MAX	21	12	8.9	9.4	6.0	6.2	15	24	26	35	43	40
MIN	7.8	6.0	8.3	4.6	4.9	4.9	5.6	14	22	11	29	15
AC-FT	853	499	531	423	297	347	678	1240	1520	1590	2300	1840

CAL YR 1976 TOTAL 5018.60 MEAN 13.7 MAX 36 MIN 0 AC-FT 9950
WTR YR 1977 TOTAL 6111.20 MEAN 16.7 MAX 43 MIN 4.6 AC-FT 12120

11396000 LOST CREEK NEAR CLIPPER MILLS, CA

LOCATION.--Lat 39°34'25", long 121°08'26", in SE¼SW¼ sec.24, T.20 N., R.7 E., Butte County, Plumas National Forest, on left bank 0.3 mi (0.5 km) downstream from Lost Creek Reservoir, and 2.8 mi (4.5 km) north of Clipper Mills.

DRAINAGE AREA.--30.0 mi^2 (77.7 km^2).

PERIOD OF RECORD.--October 1927 to September 1941, October 1948 to current year. Records for Woodleaf powerplant from February 1963 to September 1966 in files of Geological Survey.

REVISED RECORDS.--WSP 1395: 1954. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 3,170 ft (966 m), from topographic map.

REMARKS.--Records fair. Flow regulated by Sly Creek Reservoir 1.5 mi (2.4 km) upstream (station 11395400) and Lost Creek Reservoir 0.3 mi (0.5 km) upstream, usable capacity, 5,920 acre-ft (7.30 hm^3) with flashboards. Water is diverted into Sly Creek Reservoir through South Fork diversion tunnel from South Fork Feather River and through Slate Creek tunnel from North Yuba River basin. Woodleaf tunnel diverts from Lost Creek Reservoir to Woodleaf powerhouse. Oroville-Wyandotte Canal (station 11395500) diverts from Woodleaf penstock for irrigation and domestic use. Records represent seepage, release, or spill from Lost Creek Dam to Lost Creek. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--27 years (water years 1928-41, 1949-61, prior to regulation by Sly Creek Reservoir), 73.0 ft^3/s (2.07 m^3/s), 52,850 acre-ft/yr (65.2 hm^3/yr); 16 years (water years 1962-77), 21.7 ft^3/s (0.615 m^3/s), 15,720 acre-ft/yr (19.4 hm^3/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft^3/s (142 m^3/s) Dec. 22, 1955, gage height, 6.90 ft (2.103 m); no flow at times in some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 818 ft^3/s (23.2 m^3/s) July 1, gage height, 3.73 ft (1.137 m); minimum daily, 0.70 ft^3/s (0.020 m^3/s) Feb. 1-7, 9-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	.90	.90	.82	.70	.90	.90	1.5	1.6	170	.98	.94
2	.90	.86	.90	1.1	.70	.90	.90	1.4	1.5	2.1	1.0	.94
3	.94	.86	.90	.86	.70	.90	.90	1.4	1.5	1.4	1.0	.94
4	.94	.86	.90	.82	.70	.90	.90	1.4	1.5	1.2	1.0	.90
5	.98	.86	.90	.82	.70	.90	.90	1.4	1.5	1.1	1.1	.90
6	1.0	.86	.90	.82	.70	.90	.90	1.4	1.6	1.2	1.2	.90
7	1.1	.90	.90	.78	.70	.90	.90	1.4	1.6	1.2	1.1	.90
8	1.1	.90	.90	.78	.74	.90	.94	1.4	1.5	1.1	1.2	.94
9	1.1	.90	.90	.78	.70	1.0	.94	1.4	1.5	1.2	1.2	.94
10	1.1	.90	.94	.78	.70	.98	.90	1.5	1.5	1.2	1.2	.94
11	1.1	.90	.94	.78	.70	.94	.90	1.4	1.5	1.1	1.2	.94
12	1.1	.90	.94	.78	.70	.94	.90	1.4	1.5	1.1	1.2	.94
13	1.1	.94	.94	.78	.70	.94	.90	1.3	1.5	1.1	1.2	.94
14	1.1	1.1	.94	.78	.70	.94	.90	1.3	1.4	1.1	1.1	.98
15	1.2	.90	.94	.74	.70	.94	12	1.3	1.4	1.2	1.1	.98
16	1.2	.90	.94	.74	.70	.94	42	1.2	1.4	1.2	1.1	1.0
17	1.2	.90	.94	.74	.70	.94	34	1.2	1.4	1.2	1.2	1.2
18	1.2	.90	.90	.74	.70	.94	13	1.2	1.4	1.2	1.2	1.1
19	1.2	.90	.90	.74	.70	.94	1.3	1.9	1.4	1.3	1.2	1.2
20	1.2	.90	.90	.74	.70	.94	1.3	1.9	1.4	1.3	1.1	1.1
21	1.2	.90	.90	.74	.98	.94	1.3	1.9	1.4	1.3	1.1	1.1
22	1.1	.90	.90	.74	.94	.94	1.3	1.8	1.4	1.3	1.1	1.1
23	1.0	.90	.90	.74	.94	1.1	1.3	1.8	1.4	1.3	1.1	1.0
24	1.0	.90	.90	.74	.90	1.0	1.3	1.8	1.3	1.3	1.2	1.0
25	.98	.90	.86	.74	.90	1.0	1.3	1.7	1.3	1.3	1.2	1.0
26	.98	.90	.86	.74	.90	1.0	1.3	1.7	1.3	1.2	1.2	1.0
27	.94	.90	.86	.74	.90	.98	1.3	1.7	1.3	1.3	1.2	.98
28	.94	.90	.82	.74	.90	.94	1.3	1.7	1.3	1.3	1.0	1.1
29	.94	.90	.82	.74	---	.94	1.3	1.6	1.3	1.2	.98	1.0
30	.94	.90	.86	.74	---	.90	1.4	1.6	1.3	1.3	.94	1.0
31	.90	---	.82	.74	---	.90	---	1.6	---	1.3	.94	---
TOTAL	32.58	27.04	27.82	24.06	21.40	29.22	129.38	47.2	42.9	207.6	34.54	29.90
MEAN	1.05	.90	.90	.78	.76	.94	4.31	1.52	1.43	6.70	1.11	1.00
MAX	1.2	1.1	.94	1.1	.98	1.1	42	1.9	1.6	170	1.2	1.2
MIN	.90	.86	.82	.74	.70	.90	.90	1.2	1.3	1.1	.94	.90
AC-FT	65	54	55	48	42	58	257	94	85	412	69	59
‡	11101	7430	1430	655	494	655	325	0	2570	1600	3860	3370

CAL YR 1976 TOTAL 443.55 MEAN 1.21 MAX 26 MIN .08 AC-FT 880
WTR YR 1977 TOTAL 653.64 MEAN 1.79 MAX 170 MIN .70 AC-FT 1300

‡ Diversion, in acre-feet, to Woodleaf powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA

LOCATION.--Lat 39°33'05", long 121°12'30", in SE¼NE¼ sec.32, T.20 N., R.7 E., Butte County, Plumas National Forest, on right bank 500 ft (152 m) downstream from Forbestown Dam, 0.4 mi (0.6 km) upstream from Oroleve Creek, and 4.0 mi (6.4 km) northeast of Forbestown.

DRAINAGE AREA.--87.5 mi^2 (226.6 km^2).

PERIOD OF RECORD.--July 1962 to current year. Records for Forbestown powerplant from February 1963 to September 1966 in files of Geological Survey.

GAGE.--Water-stage recorder. Altitude of gage is 1,690 ft (515 m), from topographic map.

REMARKS.--Records good. Flow regulated by Little Grass Valley Reservoir (station 11395020), Sly Creek Reservoir, (station 11395400), and smaller reservoirs. Water from North Yuba River basin is imported through Slate Creek tunnel (station 11413250) to Sly Creek Reservoir. Oroville-Wyandotte Canal (station 11395500) diverts above station. Tunnel 600 ft (183 m) above station diverts most flow through Forbestown powerplant except fish-water releases and uncontrolled spill over Forbestown Dam. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--15 years, 56.6 ft^3/s (1.603 m^3/s), 41,010 acre-ft/yr (50.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft^3/s (213 m^3/s) Jan. 31, 1963, gage height, 13.85 ft (4.221 m) in gage well, 15.3 ft (4.66 m) from floodmarks; minimum daily, 0.6 ft^3/s (0.017 m^3/s) Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 379 ft^3/s (10.73 m^3/s) July 1, gage height, 5.84 ft (1.780 m); minimum daily, 2.1 ft^3/s (0.060 m^3/s) June 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.2	4.8	4.5	5.2	5.2	4.9	4.7	4.5	2.3	25	3.1	3.7
2	5.2	4.9	4.5	5.4	5.1	4.9	4.7	4.3	2.2	3.3	3.1	3.7
3	5.1	4.9	4.4	5.3	5.1	4.9	4.7	4.5	2.2	3.4	3.1	3.7
4	5.1	4.9	4.3	5.1	5.2	4.9	4.7	4.5	2.2	3.4	3.1	3.7
5	5.1	4.9	4.3	5.2	5.1	4.9	4.7	4.6	2.2	3.4	3.1	3.7
6	5.1	4.8	4.4	5.0	5.1	4.9	4.7	4.7	2.2	3.4	3.1	3.7
7	5.1	4.6	4.5	5.1	5.0	5.0	4.7	4.6	2.2	3.4	3.1	3.7
8	5.1	4.8	4.3	5.2	5.0	5.0	4.7	4.6	2.2	3.6	3.2	3.7
9	5.1	4.8	4.4	5.2	5.2	5.0	4.7	4.7	2.2	3.6	3.3	3.6
10	5.1	4.8	4.6	5.2	5.2	5.0	4.7	4.8	2.2	3.4	3.4	3.6
11	5.2	4.8	4.6	5.2	5.1	4.9	4.7	4.6	2.3	3.4	3.3	3.6
12	5.2	4.8	4.5	5.1	5.1	4.9	4.6	4.7	2.2	3.3	3.3	3.7
13	5.2	4.7	4.7	5.2	5.0	4.9	4.6	4.7	2.1	3.3	3.4	3.7
14	5.0	4.7	4.7	5.3	5.0	4.8	4.6	4.8	2.1	3.3	3.4	3.8
15	5.0	4.7	4.7	5.2	5.0	4.9	4.7	4.7	2.1	3.4	3.4	3.8
16	5.0	4.8	4.6	5.2	5.0	4.9	4.7	4.7	2.9	3.3	3.4	3.9
17	4.9	4.8	4.7	5.2	5.0	4.9	4.7	4.6	3.5	3.3	3.4	3.9
18	4.9	4.9	4.8	5.2	5.0	4.9	4.8	4.7	3.4	3.3	3.4	3.9
19	5.0	4.6	4.9	5.2	5.0	4.9	4.7	4.7	3.6	3.3	3.4	3.9
20	5.0	4.5	4.8	5.2	5.0	4.8	4.6	4.8	3.6	3.3	3.4	3.9
21	5.0	4.6	4.8	5.2	5.2	4.7	4.5	4.8	3.6	3.4	3.4	3.9
22	5.0	4.6	4.9	5.2	5.2	4.8	4.4	4.7	3.6	3.4	3.4	4.0
23	4.9	4.6	4.9	5.2	5.1	4.8	4.3	4.0	3.7	3.2	3.4	4.0
24	4.9	4.6	4.9	5.2	5.0	4.9	4.3	2.4	3.7	3.3	3.3	3.9
25	4.9	4.5	5.0	5.2	5.0	4.9	4.3	2.3	3.7	3.3	3.5	3.9
26	4.8	4.6	5.0	5.2	4.9	4.8	4.4	2.3	3.7	3.3	3.7	3.9
27	4.8	4.7	5.0	5.2	4.9	4.7	4.5	2.3	3.7	3.3	3.7	4.0
28	4.8	4.7	5.0	5.2	4.9	4.7	4.5	2.2	3.7	3.3	3.7	4.2
29	4.8	4.7	5.0	5.2	---	4.7	4.6	2.2	3.9	3.2	3.7	4.2
30	4.7	4.7	5.1	5.1	---	4.7	4.7	2.3	3.8	3.2	3.7	4.2
31	4.7	---	5.1	5.2	---	4.8	---	2.3	---	3.1	3.7	---
TOTAL	154.9	141.8	145.9	161.0	141.6	150.7	138.2	124.6	87.0	125.1	104.6	115.1
MEAN	5.00	4.73	4.71	5.19	5.06	4.86	4.61	4.02	2.90	4.04	3.37	3.84
MAX	5.2	4.9	5.1	5.4	5.2	5.0	4.8	4.8	3.9	25	3.7	4.2
MIN	4.7	4.5	4.3	5.0	4.9	4.7	4.3	2.2	2.1	3.1	3.1	3.6
AC-FT	307	281	289	319	281	299	274	247	173	248	207	228
‡	10140	6590	500	161	0	117	0	605	2460	1730	3490	3250

CAL YR 1976 TOTAL 1851.2 MEAN 5.06 MAX 6.2 MIN 3.5 AC-FT 3670
WTR YR 1977 TOTAL 1590.5 MEAN 4.36 MAX 25 MIN 2.1 AC-FT 3150

‡ Diversion, in acre-feet, to Forbestown powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396310 MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'00", long 121°18'20", in SE¼NW¼ sec.33, T.20 N., R.6 E., Butte County, on right bank 800 ft (244 m) downstream from Ponderosa Dam, and 3 mi (5 km) northwest of Forbestown.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 975 ft (297 m), from topographic map.

REMARKS.--Records good. Canal diverts from South Fork Feather River at Ponderosa Dam. Water is used for power development and irrigation. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--15 years, 207 ft^3/s (5.862 m^3/s), 150,000 acre-ft/yr (185 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 289 ft^3/s (8.184 m^3/s) Sept. 10, 1976; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	276	152	148	0	3.0	77	0	98	0	104	69	0
2	265	211	52	0	0	95	0	15	0	0	38	103
3	273	211	.79	0	0	0	0	0	106	0	0	50
4	272	208	.79	0	0	0	0	0	112	163	0	0
5	273	138	.30	134	0	0	0	0	0	49	0	0
6	273	.79	0	0	0	0	0	105	0	0	0	85
7	272	.79	0	0	0	57	0	94	0	38	42	151
8	272	137	0	0	21	62	44	0	0	0	95	125
9	272	212	0	0	68	0	49	0	0	0	174	0
10	267	212	0	0	162	0	0	0	132	0	88	0
11	260	212	0	100	40	0	78	0	153	132	0	0
12	260	139	0	0	0	0	6.4	0	21	148	0	0
13	260	1.3	0	0	0	0	0	125	0	0	0	0
14	258	1.3	0	0	0	0	0	0	0	0	0	0
15	207	90	85	0	0	0	0	0	0	147	0	0
16	153	150	48	0	0	0	0	0	0	16	158	64
17	152	151	0	0	0	0	58	0	121	56	193	42
18	151	150	0	97	0	0	0	135	76	76	54	0
19	151	150	0	88	0	122	54	0	35	0	0	51
20	151	150	0	0	0	0	35	0	19	0	0	91
21	151	150	0	0	0	0	0	0	11	0	0	98
22	151	150	0	0	0	0	50	0	56	82	0	85
23	151	150	77	0	0	0	0	0	84	111	0	22
24	151	150	31	0	0	12	0	49	47	30	62	0
25	151	150	0	0	0	47	62	0	36	0	85	0
26	151	149	0	0	0	0	0	0	18	0	126	93
27	151	149	0	0	0	48	0	0	20	.02	0	157
28	152	149	0	0	0	0	0	0	57	0	0	56
29	114	149	53	0	---	0	0	68	220	77	71	0
30	43	149	65	0	---	0	0	0	233	141	79	0
31	87	---	0	95	---	0	---	0	---	157	0	---
TOTAL	6171	4172.18	560.88	514	294.0	520	436.4	689	1557	1527.02	1334	1273
MEAN	199	139	18.1	16.6	10.5	16.8	14.5	22.2	51.9	49.3	43.0	42.4
MAX	276	212	148	134	162	122	78	135	233	163	193	157
MIN	43	.79	0	0	0	0	0	0	0	0	0	0
AC-FT	12240	8280	1110	1020	583	1030	866	1370	3090	3030	2650	2520
‡	10470	6620	520	0	0	0	60	0	647	186	0	341

GAL YR 1976 TOTAL 42456.76 MEAN 116 MAX 289 MIN 0 AC-FT 84210
WTR YR 1977 TOTAL 19048.48 MEAN 52.2 MAX 276 MIN 0 AC-FT 37780

‡ Diversion, in acre-feet, to Kelly Ridge powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396330 BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'15", long 121°27'16", in NE¼SW¼ sec.18, T.19 N., R.5 E., Butte County, on left bank 400 ft (122 m) downstream from outlet at Miners Ranch Dam, and 5 mi (8 km) east of Oroville.

PERIOD OF RECORD.--January 1963 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 815 ft (248 m), from topographic map.

REMARKS.--Records excellent. Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft (1.12 hm^3). Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--14 years, 15.8 ft^3/s (0.447 m^3/s), 11,450 acre-ft/yr (14.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft^3/s (1.84 m^3/s) Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	15	7.0	7.1	7.5	5.3	5.5	13	13	37	39	30
2	16	15	7.0	7.3	6.7	6.8	5.4	20	13	36	41	31
3	16	15	7.0	7.1	6.6	5.9	5.4	24	17	35	41	32
4	16	15	6.9	6.8	6.6	5.1	5.4	26	21	36	40	29
5	16	15	6.7	6.9	6.6	5.1	6.7	31	20	38	38	28
6	16	15	6.8	7.6	6.7	5.1	7.6	27	20	36	38	27
7	17	15	7.0	6.8	6.3	5.0	7.5	26	22	36	37	29
8	18	14	6.8	7.0	6.4	5.4	7.3	25	24	36	38	29
9	18	15	6.7	7.5	6.9	5.1	7.7	22	24	36	40	29
10	18	15	6.0	7.2	7.9	5.1	7.3	19	25	37	44	28
11	18	15	5.6	7.3	5.8	5.7	7.6	19	27	40	39	28
12	18	15	5.4	7.4	6.1	6.4	8.6	17	30	41	38	28
13	18	13	5.5	7.1	6.4	6.2	8.1	16	33	40	39	28
14	18	12	5.7	7.3	6.4	6.0	8.0	16	34	38	39	28
15	17	11	5.5	7.1	6.4	5.9	8.4	15	34	38	37	28
16	16	10	6.4	6.9	6.4	5.3	9.4	15	34	40	40	26
17	16	9.3	6.6	6.6	6.4	4.4	10	15	35	39	45	29
18	16	9.3	6.4	6.6	6.4	4.4	10	15	36	39	42	28
19	16	9.3	6.2	7.4	6.3	4.5	11	15	34	38	39	27
20	16	8.1	5.4	6.6	6.5	4.1	11	15	34	38	40	27
21	16	7.0	5.9	7.0	6.2	3.7	11	15	33	38	38	25
22	16	7.0	6.7	6.8	5.8	3.8	11	14	32	36	38	25
23	16	7.0	6.0	6.7	5.6	3.9	13	15	35	40	38	26
24	16	7.0	7.1	6.4	5.4	3.9	14	22	36	42	36	25
25	16	7.0	7.2	6.7	5.2	3.9	15	29	37	39	40	24
26	16	7.0	7.0	7.2	5.1	3.9	15	30	36	40	44	24
27	16	7.0	6.7	6.6	5.2	4.0	14	29	36	40	38	23
28	16	7.0	6.8	6.3	5.3	4.5	14	22	35	38	37	24
29	16	7.0	7.0	6.1	---	5.1	13	20	35	34	37	23
30	16	7.0	6.2	5.9	---	5.4	13	18	37	43	35	23
31	16	---	6.8	6.3	---	5.6	---	15	---	40	32	---
TOTAL	512	331.0	200.0	213.6	175.1	154.5	290.9	620	882	1184	1207	811
MEAN	16.5	11.0	6.45	6.89	6.25	4.98	9.70	20.0	29.4	38.2	38.9	27.0
MAX	18	15	7.2	7.6	7.9	6.8	15	31	37	43	45	32
MIN	16	7.0	5.4	5.9	5.1	3.7	5.4	13	13	34	32	23
AC-FT	1020	657	397	424	347	306	577	1230	1750	2350	2390	1610

CAL YR 1976 TOTAL 6142.0 MEAN 16.8 MAX 47 MIN 5.2 AC-FT 12180
WTR YR 1977 TOTAL 6581.1 MEAN 18.0 MAX 45 MIN 3.7 AC-FT 13050

11396350 SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CA

LOCATION.--Lat 39°32'52", long 121°18'11", in NW¼SE¼ sec.33, T.20 N., R.6 E., Butte County, at entrance to Miners Ranch Canal on the left end of Ponderosa Dam, 2,800 ft (853 m) upstream from Sucker Run, and 2.6 mi (4.2 km) northwest of Forbestown.

DRAINAGE AREA.--108 mi^2 (280 km^2).

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

GAGE.--Water-stage recorder, high level sluice gate, and concrete spillway of Ponderosa Dam. Datum of gage is at mean sea level (levels by Oroville-Wyandotte Irrigation District). Prior to Oct. 1, 1967, at site 1,800 ft (550 m) downstream at different datum.

REMARKS.--Records good. Records are combined flow through sluice gate and flow over spillway. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek tunnel (station 11413250). Miners Ranch Canal (station 11396310) diverts at Ponderosa Dam for power development and irrigation; diversion began in October 1962. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for diversion to Miners Ranch Canal).--15 years, 441 ft^3/s (12.49 m^3/s), 319,500 acre-ft/yr (394 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft^3/s (312 m^3/s) Dec. 22, 1964, gage height, 11.52 ft (3.511 m) in gage well, 12.7 ft (3.87 m) outside from floodmarks, site and datum then in use; no flow for several months most years.

EXTREMES FOR CURRENT YEAR: Maximum daily discharge, 33 ft^3/s (0.93 m^3/s) Aug. 11; no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	12	12	13	19		0	27		0	28
2		0	11	13	13	17		0	10		0	25
3		0	12	14	13	16		0	0		0	20
4		0	12	14	13	16		0	0		14	19
5		0	12	14	13	17		0	0		24	19
6		0	12	13	13	17		0	0		24	20
7		13	13	13	13	17		0	0		23	24
8		13	13	14	18	15		0	0		20	25
9		13	13	14	18	15		0	0		26	26
10		13	13	14	15	16		0	0		31	26
11		13	13	13	13	16		0	0		33	25
12		12	13	13	13	16		0	0		32	25
13		13	14	13	14	17		0	0		32	24
14		13	14	13	14	17		0	0		31	24
15		13	14	13	14	17		0	0		30	23
16		11	13	12	15	18		0	0		30	21
17		12	13	14	15	8.8		0	0		31	16
18		13	13	13	15	0		0	0		25	14
19		14	13	11	16	0		0	0		24	17
20		14	13	11	16	0		0	0		24	20
21		12	13	12	17	0		0	0		23	20
22		13	14	12	17	0		0	0		23	19
23		14	13	12	17	0		0	0		23	20
24		13	13	12	18	0		0	0		23	22
25		13	13	13	18	0		12	0		23	22
26		11	13	12	18	0		29	0		26	15
27		11	13	13	19	0		29	0		26	11
28		11	13	13	19	0		29	0		25	14
29		11	13	13	---	0		28	0		27	14
30		12	13	13	---	0		28	0		29	14
31		---	11	13	---	0	---	27	---		29	---
TOTAL	0	301	398	399	430	274.8	0	182	37	0	731	612
MEAN	0	10.0	12.8	12.9	15.4	8.86	0	5.87	1.23	0	23.6	20.4
MAX	0	14	14	14	19	19	0	29	27	0	33	28
MIN	0	0	11	11	13	0	0	0	0	0	0	11
AC-FT	0	597	789	791	853	545	0	361	73	0	1450	1210
MEAN ‡	199	149	30.9	29.4	25.9	25.7	14.6	28.1	53.1	49.3	66.7	62.7
AC-FT ‡	12240	8880	1900	1810	1440	1580	866	1730	3160	3030	4100	3730

CAL YR 1976 TOTAL 935.83 MEAN 2.56 MAX 124 MIN 0 AC-FT 1860 MEAN ‡ 90.1 AC-FT ‡ 65440
WTR YR 1977 TOTAL 3364.80 MEAN 9.22 MAX 33 MIN 0 AC-FT 6670 MEAN ‡ 61.4 AC-FT ‡ 44450

‡ Adjusted for diversion to Miners Ranch Canal.

11396400 SUCKER RUN NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'12", long 121°18'04", in NW¼NE¼ sec.33, T.20 N., R.6 E., Butte County, on left bank at upstream side of road bridge, 0.7 mi (1.1 km) upstream from confluence with South Fork Feather River, and 2.8 mi (4.5 km) northwest of Forbestown.

DRAINAGE AREA.--18.7 mi^2 (48.4 km^2).

PERIOD OF RECORD.--June 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (292 m), from topographic map.

REMARKS.--Records good. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--12 years, 24.5 ft^3/s (0.694 m^3/s), 17,750 acre-ft/yr (21.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft^3/s (37.4 m^3/s) Jan. 21, 1967, gage height, 6.03 ft (1.838 m), from rating curve extended as explained below; minimum daily, 0.40 ft^3/s (0.011 m^3/s) Oct. 7, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 7.4 ft (2.26 m) from floodmarks, discharge, 2,190 ft^3/s (62 m^3/s) from rating curve extended above 600 ft^3/s (17.0 m^3/s) on basis of computation of maximum flow over rock control.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36 ft^3/s (1.02 m^3/s) Jan. 2, gage height, 2.21 ft (0.674 m), no peak above base of 300 ft^3/s (8.50 m^3/s); minimum daily, 0.56 ft^3/s (0.016 m^3/s) Aug. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.0	4.0	4.2	4.5	4.9	4.9	5.5	2.3	1.7	.58	.74
2	3.9	3.0	4.0	17	4.4	4.7	4.8	4.8	2.3	1.8	.80	.89
3	4.1	2.9	4.0	14	4.4	4.5	4.7	3.6	2.3	1.7	.81	.91
4	3.9	3.0	4.0	7.2	4.4	4.5	4.6	3.4	2.2	1.6	.82	.91
5	3.7	2.9	4.0	5.8	4.3	4.4	4.6	3.1	2.1	1.5	.77	.68
6	3.5	2.7	4.0	5.2	4.3	4.4	4.8	4.0	2.0	1.5	.94	.65
7	3.4	2.8	4.0	5.0	4.3	4.4	4.6	3.8	2.0	1.3	1.0	.58
8	3.3	3.0	4.0	4.8	4.9	4.3	4.7	3.5	2.0	1.2	.95	.77
9	3.2	3.0	4.0	4.8	5.0	4.6	6.0	3.9	2.1	1.2	1.1	.79
10	3.2	3.1	4.0	4.8	4.4	4.4	5.3	6.7	2.4	1.1	1.1	.84
11	3.1	3.1	4.0	4.8	4.3	4.3	4.8	4.7	2.4	1.0	.88	.86
12	3.0	3.3	4.0	5.3	4.3	4.2	4.7	4.2	2.2	1.0	.89	1.0
13	3.0	3.5	4.0	5.2	4.2	4.4	4.5	3.9	2.2	.99	.93	1.0
14	3.0	6.7	4.0	4.9	4.2	4.5	4.4	3.6	2.1	.96	.87	1.0
15	3.0	4.7	4.1	4.9	4.2	4.6	4.4	3.5	2.1	.87	.84	1.2
16	3.0	4.0	3.9	4.9	4.2	4.7	4.4	3.3	2.1	.88	.81	1.7
17	3.1	3.9	3.9	4.8	4.1	5.2	4.2	3.4	2.1	1.2	.78	2.3
18	3.0	3.8	4.0	4.9	4.1	5.0	3.5	3.4	2.1	1.1	.95	2.1
19	3.0	3.9	4.0	4.9	4.1	4.7	3.6	3.3	2.2	1.1	.78	3.4
20	3.1	3.8	3.8	5.1	4.2	4.6	3.2	3.1	2.2	1.2	.74	3.0
21	2.9	3.9	3.8	5.0	14	4.4	3.3	3.0	2.1	1.2	.63	2.5
22	2.8	3.8	3.9	5.1	7.5	4.3	3.2	3.0	2.1	1.0	.60	2.3
23	3.0	3.8	4.0	5.0	7.5	5.3	3.3	3.1	2.0	1.1	.56	2.2
24	3.1	3.8	3.9	4.9	6.9	7.3	3.6	3.2	1.9	.98	.56	2.1
25	3.1	3.8	3.9	4.6	5.8	8.0	3.4	3.1	1.7	.93	1.2	2.1
26	3.0	3.8	4.0	4.5	5.3	7.4	3.5	3.4	1.6	.99	1.5	2.1
27	3.0	3.8	4.0	4.5	5.1	6.4	3.3	3.5	1.6	.91	1.4	2.1
28	3.0	4.0	4.0	4.5	4.9	5.9	3.6	3.1	1.5	.87	1.0	2.3
29	3.0	4.0	3.9	4.4	---	5.6	3.4	3.1	1.5	.88	.78	3.3
30	3.0	3.9	4.9	4.5	---	5.5	3.3	2.9	1.6	.87	.76	2.6
31	3.0	---	4.3	4.5	---	5.3	---	2.6	---	.72	.76	---
TOTAL	99.0	108.7	124.3	174.0	143.8	156.7	124.6	112.7	61.0	35.35	27.09	48.92
MEAN	3.19	3.62	4.01	5.61	5.14	5.05	4.15	3.64	2.03	1.14	.87	1.63
MAX	4.1	6.7	4.9	17	14	8.0	6.0	6.7	2.4	1.8	1.5	3.4
MIN	2.8	2.7	3.8	4.2	4.1	4.2	3.2	2.6	1.5	.72	.56	.58
AC-FT	196	216	247	345	285	311	247	224	121	70	54	97

CAL YR 1976 TOTAL 2448.50 MEAN 6.69 MAX 55 MIN 2.5 AC-FT 4860
WTR YR 1977 TOTAL 1216.16 MEAN 3.33 MAX 17 MIN .56 AC-FT 2410

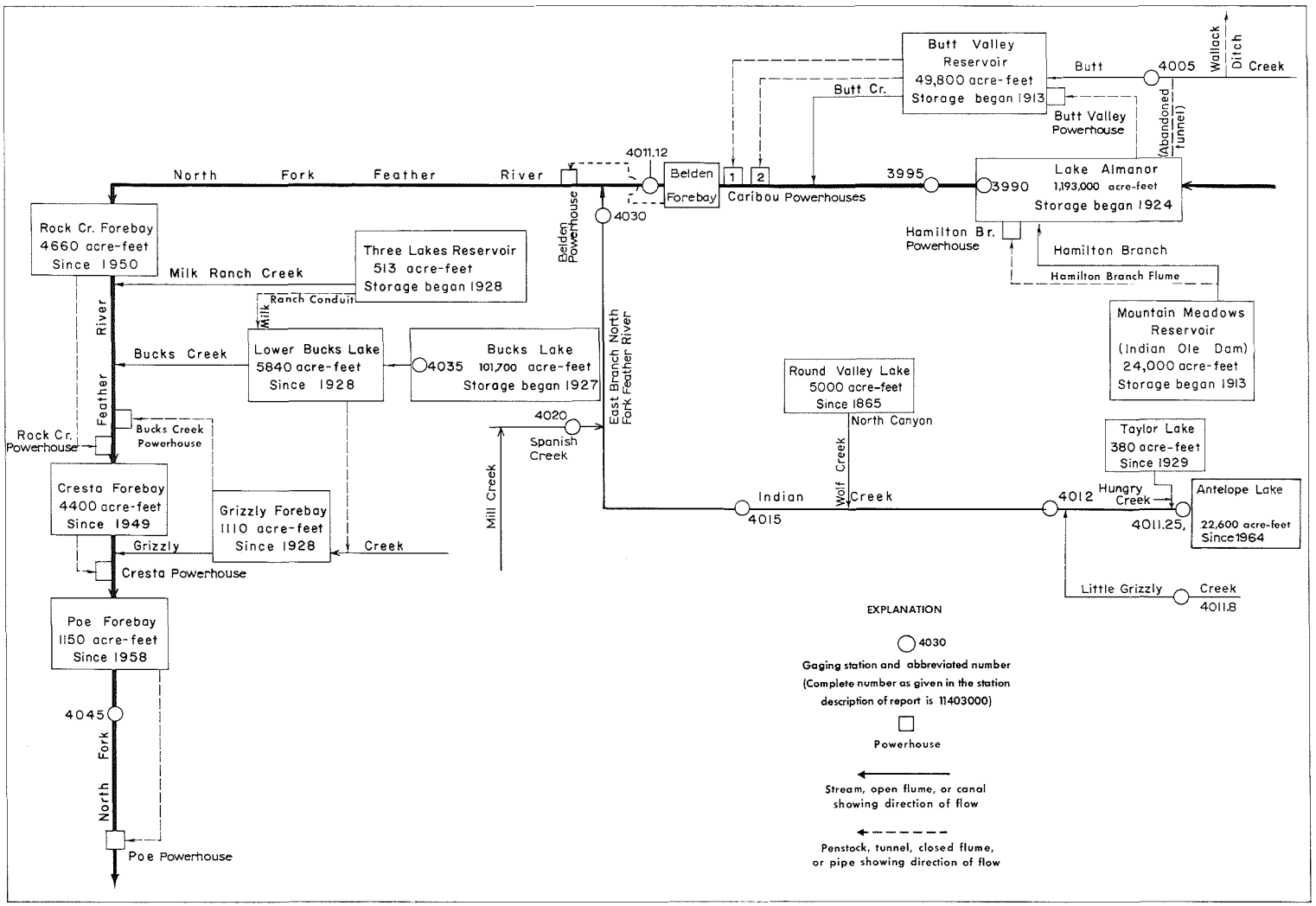

FIGURE 6.--Schematic diagram showing diversions and storage in North Fork Feather River basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11, T.27 N., R.7 E., Plumas County, Plumas National Forest, at outlet tower to No. 2 tunnel on North Fork Feather River at Prattville, 4.7 mi (7.6 km) northwest of Lake Almanor Dam, and 5.6 mi (9.0 km) northwest of Canyondam.

DRAINAGE AREA.--491 mi^2 (1,272 km^2).

PERIOD OF RECORD.--July 1913 to current year. Monthly contents only for some periods, published in WSP 1315-A. Published as "near Prattville" 1937-60. Prior to October 1964, records published as usable contents.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Nonrecording gage monitored once daily. Datum of gage is 10.23 ft (3.118 m) below mean sea level (levels by Pacific Gas and Electric Co.). Prior to June 1, 1965, nonrecording gage at site 4.7 mi (7.6 km) southeast at same datum.

REMARKS.--Lake is formed by earthfill dam; storage began in July 1913; dam raised to gage height 4,455 ft (1,357.9 m) in 1917 and 4,515 ft (1,376.2 m) in 1927. Capacity, 1,184,000 acre-ft (1.46 km^3) between gage heights 4,495.5 ft (1,370.23 m), upper storage limit and 4,422 ft (1,347.8 m), bottom of lowest outlet, of which 8,950 acre-ft (11.0 hm^3) is not available for release. Water is diverted by tunnel and penstock to Butt Valley Reservoir and powerhouse for use in Caribou powerplants; some water also released down North Fork Feather River (station 11399500). Figures given herein represent total contents at 2400 hours. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES (AT 2400) FOR PERIOD OF RECORD.--Maximum contents, 1,142,000 acre-ft (1.41 km^3) June 4, 5, 10, 11, 1974, gage height, 4,493.96 ft (1,369.759 m); minimum, 5,230 acre-ft (6.45 hm^3) Feb. 5, 1918, gage height, 4.416.1 ft (1,346.03 m).

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents observed, 675,600 acre-ft (833 hm^3) June 23, gage height, 4,475.13 ft (1,364.020 m); minimum observed, 541,700 acre-ft (668 hm^3) Sept. 30, gage height, 4,468.83 ft (1,362.099 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4422	8950	4432	34200	4450	220800	4475	672700
4424	10100	4434	49500	4455	294500	4480	787300
4426	11300	4437	74200	4460	376700	4485	908500
4428	13500	4440	101900	4465	467000	4490	1036000
4430	21200	4445	156400	4470	565500	4495.5	1184000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	578330	575634	574598	583948	600741	622072	631576	643983	664225	672438	653632	594625
2	578538	576878	573977	588123	601164	622503	632227	643765	664668	672661	651214	590636
3	578538	577293	573357	589170	601799	623364	632877	645077	664889	672661	648361	587287
4	576256	577708	573564	589588	602645	624011	632010	645733	665775	672661	647047	583739
5	574598	577293	573357	589170	603493	624873	630926	646609	666662	672883	647047	580200
6	572943	576463	572116	588123	604129	625520	630276	647266	666219	672883	646171	576671
7	571703	577085	572530	587078	604765	626168	630926	648142	665997	672661	646609	573150
8	569845	576049	572736	586451	605189	627032	630709	649238	667328	672661	646171	569638
9	570464	574806	573150	586660	605402	628112	632227	648800	668215	673106	646390	565930
10	571083	573771	572736	585825	604765	629194	633094	649458	668881	673551	646609	563670
11	568607	572530	572943	586451	604977	630060	632660	650555	669547	673551	646171	559774
12	566136	570464	573771	587078	605614	630926	633745	651433	669992	673551	646609	556094
13	564080	571290	573771	586660	606251	631793	634614	652312	670436	674219	646171	552832
14	564902	572736	574391	587287	606888	632444	635266	652972	671103	673551	646390	548970
15	565725	573564	575220	588333	607952	633745	635918	653632	671103	671771	646171	545929
16	566136	574184	575427	588960	608377	633311	636788	654292	671771	669103	646609	544108
17	566959	574184	576256	590007	608803	631143	637440	654512	672216	667549	646390	544917
18	567577	575013	576463	590636	609441	630493	637440	655392	672661	665997	645733	545524
19	568401	575634	577085	591475	610507	630709	637876	656273	673328	664889	641799	545929
20	569020	576463	577915	592314	611787	631576	638529	656934	674665	665332	638529	545322
21	569638	577085	578330	592944	614778	630709	638965	657596	674442	664225	635048	544513
22	570464	575841	578538	593995	615634	631360	638965	658037	674888	664003	631360	543502
23	571290	576049	579369	594625	616919	631576	638311	658699	675556	663118	627032	542088
24	571910	576878	579784	595467	617776	632877	638965	659582	674888	663561	623364	543098
25	571703	577915	580408	596099	618205	631793	639182	660244	674888	663782	619922	543906
26	572116	577915	580824	596941	619063	632010	639400	661349	673551	662233	616490	543098
27	572530	579634	581240	597574	619922	632877	640272	661791	673551	662675	612640	542492
28	573150	575841	580824	597996	620997	632010	640926	662454	672216	661791	609229	542896
29	573771	574806	581240	598629	---	632660	641581	663118	671993	660907	605189	542088
30	574598	575427	581864	599473	---	631576	643109	664003	671771	658919	601799	541685
31	575427	---	582906	599896	---	631143	---	663339	---	656494	598207	---
MAX	578538	579634	582906	599896	620997	633745	643109	664003	675556	674219	653632	594625
MIN	564080	570464	572116	583948	600741	622072	630276	643765	664225	656494	598207	541685
(†)	4470.48	4470.48	4470.84	4471.65	4472.64	4473.11	4473.66	4474.58	4474.96	4474.27	4471.57	4468.83
(‡)	-3320	0	+7480	+17000	+21100	+10100	+12000	+20200	+8430	-15300	-58300	-56500

CAL YR 1976 ‡ -157000
WTR YR 1977 ‡ -37100

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'10", long 121°05'29", in NE¼SW¼ sec.28, T.27 N., R.8 E., Plumas County, Plumas National Forest, on left bank 0.5 mi (0.8 km) downstream from Almanor Dam, 4.5 mi (7.2 km) southeast of Prattville, and 9 mi (14 km) upstream from Butt Creek.

DRAINAGE AREA.--493 mi^2 (1,277 km^2).

PERIOD OF RECORD.--June 1905 to current year (daily discharges for July 1921 to September 1936 include water diverted through Almanor-Butt Creek tunnel). Records for water year 1911 incomplete, yearly estimate published in WSP 1315-A. Published as "below Prattville" prior to 1911. Supplemental records for Almanor-Butt Creek tunnel diversion computed November 1924 to Dec. 30, 1958, as difference of flow between Butt Creek above Almanor-Butt Creek tunnel (unpublished prior to 1936 and since 1964), and Butt Creek below Almanor-Butt Creek tunnel (unpublished prior to 1936 and 1960-64).

REVISED RECORDS.--WSP 1245: 1951 (yearly summaries). WSP 1285: 1952 (yearly summaries).

GAGE.--Water-stage recorder and broad-crested weir. Altitude of gage is 4,380 ft (1,335 m), from topographic map. Prior to Oct. 1, 1936, nonrecording gages or water-stage recorders at several sites within 0.5 mi (0.8 km) of present site at various datums.

REMARKS.--Flow regulated by Lake Almanor (station 11399000) 0.5 mi (0.8 km) upstream and Mountain Meadows Reservoir since 1924, capacity, 24,000 acre-ft (29.6 hm^3). Water diverted for power from Lake Almanor through old Almanor-Butt Creek tunnel to Butt Creek until Dec. 30, 1958. Diversion through new tunnel and Butt Valley powerhouse began Dec. 31, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for diversion and leakage).--72 years, 912 ft^3/s (25.83 m^3/s), 660,700 acre-ft/yr (815 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft^3/s (283 m^3/s) Mar. 19, 1907, before construction of dam, gage height, 16.2 ft (4.94 m) at former site, from rating curve extended above 3,700 ft^3/s (105 m^3/s); no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 47 ft^3/s (1.33 m^3/s) Mar. 25, Mar. 27 to Apr. 4; minimum daily, 13 ft^3/s (0.37 m^3/s) Aug. 22, 23, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	36	36	37	40	44	47	16	16	15	14	18
2	36	36	35	37	40	44	47	16	16	15	17	18
3	36	36	35	38	40	43	47	16	16	15	20	17
4	36	36	35	38	40	43	47	16	16	16	17	17
5	36	36	35	38	40	43	39	16	16	16	14	17
6	35	36	35	38	40	43	35	16	16	16	14	17
7	35	36	35	38	40	44	34	16	16	16	14	16
8	35	36	35	38	40	44	35	16	15	16	14	16
9	34	36	35	38	41	44	35	16	16	16	14	16
10	35	35	35	38	41	45	35	16	16	16	14	16
11	35	35	35	37	41	45	35	16	16	16	14	15
12	34	35	35	37	41	45	35	16	16	16	14	15
13	34	35	35	38	41	45	35	16	16	16	14	15
14	34	35	35	37	41	45	35	16	16	16	14	14
15	34	35	35	38	41	46	35	16	16	15	14	14
16	34	35	35	38	41	46	35	15	16	15	14	14
17	34	35	36	38	41	45	35	15	16	15	14	14
18	34	35	36	38	41	45	35	15	16	15	14	14
19	34	36	36	38	41	45	35	15	16	15	14	14
20	34	36	36	38	41	45	35	15	16	15	14	14
21	34	36	36	38	42	45	36	15	16	15	14	14
22	35	36	36	38	42	45	36	15	16	15	13	14
23	35	36	36	39	42	46	36	15	16	15	13	14
24	35	36	36	39	42	46	36	16	16	15	15	14
25	35	36	36	39	42	47	36	16	16	15	16	14
26	35	36	36	39	43	46	36	16	16	15	15	14
27	35	36	36	39	43	47	23	16	16	15	15	14
28	35	36	36	39	43	47	16	16	16	15	15	14
29	35	36	36	39	---	47	16	16	16	15	17	14
30	35	35	36	39	---	47	16	16	16	15	18	13
31	35	---	37	39	---	47	---	16	---	15	18	---
TOTAL	1079	1070	1102	1182	1151	1399	1038	488	479	476	461	450
MEAN	34.8	35.7	35.5	38.1	41.1	45.1	34.6	15.7	16.0	15.4	14.9	15.0
MAX	36	36	37	39	43	47	47	16	16	16	20	18
MIN	34	35	35	37	40	43	16	15	15	15	13	13
AC-FT	2140	2120	2190	2340	2280	2770	2060	968	950	944	914	893
MEAN †	443	432	301	228	162	197	230	100	224	428	1158	1337
AC-FT †	27270	25720	18510	14030	9020	12100	13670	6160	13350	26300	71200	79560

CAL YR 1976 TOTAL 13776 MEAN 37.6 MAX 58 MIN 30 AC-FT 27320 MEAN † 752 AC-FT † 545700
WTR YR 1977 TOTAL 10375 MEAN 28.4 MAX 47 MIN 13 AC-FT 20580 MEAN † 438 AC-FT † 316900

† Adjusted for diversion through Butt Valley powerhouse and leakage from Almanor-Butt Creek tunnel No. 1.

11400500 BUTT CREEK BELOW ALMANOR-BUTT CREEK TUNNEL, NEAR PRATTVILLE, CA

LOCATION.--Lat 40°11'12", long 121°11'11", in NW¼NW¼ sec.22, T.27 N., R.7 E., Plumas County, on right bank 400 ft (122 m) downstream from outlet of old tunnel from Lake Almanor to Butt Creek, and 2.2 mi (3.5 km) southwest of Prattville.

DRAINAGE AREA.--69.3 mi^2 (179.5 km^2).

PERIOD OF RECORD.--October 1936 to September 1959, October 1964 to current year. Published as "below tunnel No. 1" 1938-40. Records for water years 1937-38, published in WSP 1515.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,400 ft (1,341 m), from topographic map. Prior to Oct. 5, 1937, at site 200 ft (61 m) downstream at datum 4 ft (1.2 m) lower.

REMARKS.--No regulation above station. Howell-Bunger valve in conduit from Lake Almanor to Butt Valley powerhouse is opened for short periods several times a year causing sharp peaks. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 was 5,930 acre-ft (7.31 hm^3) during the current year. See schematic diagram of North Fork Feather 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 (natural flow of Butt Creek, adjusted for leakage from Almanor-Butt Creek tunnel No. 1).--41 years (including records for station 11400000 Butt Creek above Almanor-Butt Creek tunnel, near Prattville for water years 1960-64), 82.2 ft^3/s (2.328 m^3/s), 59,550 acre-ft/yr (73.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft^3/s (108 m^3/s) Dec. 23, 1964, gage height, 5.87 ft (1.789 m), from rating curve extended above 1,400 ft^3/s (39.6 m^3/s); minimum daily, 26 ft^3/s (0.74 m^3/s) May 26-28, June 1-5, 13-15, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 96 ft^3/s (2.72 m^3/s) Feb. 21, gage height, 0.94 ft (0.287 m); minimum daily, 27 ft^3/s (0.76 m^3/s) several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	41	42	44	45	45	46	45	37	32	27	27
2	39	41	42	47	45	45	47	41	36	32	27	27
3	41	41	42	47	45	45	48	49	35	31	28	27
4	40	41	43	46	45	45	52	44	35	30	27	27
5	40	41	42	46	45	46	53	44	34	30	28	27
6	41	41	42	46	45	47	54	46	35	29	28	27
7	41	41	42	46	45	47	55	43	40	29	28	27
8	41	41	43	46	51	48	57	45	42	29	28	28
9	41	41	43	46	48	60	56	53	50	29	28	28
10	41	42	42	46	47	49	51	51	39	29	28	28
11	41	42	43	45	47	47	50	47	37	29	28	28
12	40	42	43	45	47	48	51	45	36	28	28	28
13	40	43	43	45	47	46	52	44	36	29	28	28
14	40	53	42	45	49	45	50	43	35	28	28	28
15	40	46	43	45	50	46	50	43	35	28	28	28
16	41	44	43	45	50	46	51	44	35	28	27	31
17	41	44	43	45	49	45	48	42	34	28	27	39
18	41	43	44	45	49	45	46	42	35	28	28	32
19	41	43	44	45	49	48	46	41	35	28	28	42
20	41	42	45	45	54	49	45	41	37	28	27	38
21	41	43	44	45	74	49	44	39	35	28	27	34
22	43	42	45	45	57	51	44	40	34	28	27	34
23	42	43	44	45	51	52	44	42	33	28	27	33
24	41	43	43	45	47	49	42	42	31	28	28	33
25	41	43	45	45	46	49	41	41	31	28	29	33
26	41	42	44	45	46	51	40	42	30	28	30	33
27	41	39	43	45	47	53	39	43	30	28	29	33
28	41	41	45	45	48	49	39	39	30	28	28	36
29	41	42	45	45	---	47	39	39	30	27	28	46
30	41	42	46	45	---	46	46	38	30	28	28	39
31	41	---	42	45	---	45	---	37	---	28	27	---
TOTAL	1263	1273	1342	1405	1368	1483	1426	1335	1052	889	862	949
MEAN	40.7	42.4	43.3	45.3	48.9	47.8	47.5	43.1	35.1	28.7	27.8	31.6
MAX	43	53	46	47	74	60	57	53	50	32	30	46
MIN	38	39	42	44	45	45	39	37	30	27	27	27
AC-FT	2510	2520	2660	2790	2710	2940	2830	2650	2090	1760	1710	1880

CAL YR 1976 TOTAL 18107 MEAN 49.5 MAX 162 MIN 26 AC-FT 35920
WTR YR 1977 TOTAL 14647 MEAN 40.1 MAX 74 MIN 27 AC-FT 29050

NOTE.--No gage-height record Jan. 3 to Feb. 6.

11401112 NORTH FORK FEATHER RIVER BELOW BELDEN DAM, CA

LOCATION.--Lat 40°04'18", long 121°09'46", in SE¼SW¼ sec.26, T.26 N., R.7 E., Plumas County, Plumas National Forest, on left bank 0.2 mi (0.3 km) downstream from Belden Dam, 0.4 mi (0.6 km) upstream from Deadwood Canyon, and 6.2 mi (10.0 km) northeast of Belden.

DRAINAGE AREA.--612 mi^2 (1,585 km^2).

PERIOD OF RECORD.--October 1969 to current year. July 1959 to September 1969 in files of Pacific Gas and Electric Co.

GAGE.--Water-stage recorder. Datum of gage is 2,811.00 ft (856.793 m) above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Belden Reservoir 0.2 mi (0.3 km) upstream, Lake Almanor (station 11399000), Butt Valley Reservoir, and Mountain Meadows Reservoir, combined capacity, 1,267,000 acre-ft (1.56 km^3). Diversion through tunnel to Belden powerhouse began on Aug. 27, 1969. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records were 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 (including diversion to Belden powerhouse).--8 years, 1,221 ft^3/s (34.58 m^3/s), 884,600 acre-ft/yr (1.09 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft^3/s (86.1 m^3/s) Nov. 18, 1974, gage height, 8.89 ft (2.710 m); minimum daily, 11 ft^3/s (0.31 m^3/s) Dec. 4-9, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 132 ft^3/s (3.74 m^3/s) July 28, gage height, 3.45 ft (1.052 m); minimum daily, 56 ft^3/s (1.59 m^3/s) Oct. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	58	60	59	60	70	77	104	105	103	101	61
2	57	58	60	59	61	72	79	106	102	102	103	61
3	59	58	60	59	61	73	79	104	100	103	103	60
4	61	59	60	59	62	74	73	101	100	102	104	60
5	58	59	60	59	63	73	68	101	100	102	105	60
6	56	59	60	61	63	64	67	102	100	105	103	61
7	59	58	60	62	61	65	66	102	101	105	104	61
8	59	59	60	63	59	66	66	103	99	107	104	61
9	59	59	60	63	64	67	65	102	100	107	107	60
10	59	59	60	61	66	68	66	101	102	105	105	60
11	59	59	60	60	71	69	66	103	102	104	105	60
12	59	59	60	58	72	70	64	103	101	105	104	60
13	59	60	60	59	72	71	66	101	100	102	107	61
14	59	61	60	59	72	71	65	103	101	103	105	61
15	59	60	60	58	72	74	65	102	101	106	104	61
16	59	59	60	59	71	68	65	102	100	105	107	62
17	59	59	60	59	70	60	64	102	100	107	106	62
18	59	59	60	58	69	59	64	100	100	105	107	63
19	59	59	60	59	69	60	63	100	100	104	105	64
20	59	59	60	58	69	61	63	101	100	104	103	69
21	59	59	60	58	68	62	65	101	99	106	103	69
22	59	59	60	58	68	60	65	101	98	104	103	68
23	59	59	60	59	67	59	65	100	99	107	102	69
24	59	59	60	59	66	61	65	103	101	105	101	68
25	59	59	60	59	63	59	64	103	99	104	100	68
26	59	59	60	60	68	59	65	101	97	104	100	68
27	59	59	60	59	67	65	64	103	98	105	100	67
28	59	59	60	59	69	76	64	101	101	106	100	67
29	59	59	60	60	---	76	95	99	104	105	101	67
30	59	60	60	59	---	76	104	103	104	104	101	67
31	59	---	60	59	---	75	---	105	---	101	101	---
TOTAL	1823	1771	1860	1841	1863	2083	2067	3163	3014	3237	3204	1906
MEAN	58.8	59.0	60.0	59.4	66.5	67.2	68.9	102	100	104	103	63.5
MAX	61	61	60	63	72	76	104	106	105	107	107	69
MIN	56	58	60	58	59	59	63	99	97	101	100	60
AC-FT	3620	3510	3690	3650	3700	4130	4100	6270	5980	6420	6360	3780
MEAN †	558	623	476	420	351	409	384	173	341	555	1417	1332
AC-FT †	34320	37090	29290	25840	19480	25180	22850	10660	20310	34130	87110	79240

CAL YR 1976	TOTAL	30910	MEAN 84.5	MAX 145	MIN 37	AC-FT	61310	MEAN †	912	AC-FT †	661800	
WTR YR 1977	TOTAL	27832	MEAN 76.3	MAX 107	MIN 56	AC-FT	55200	MEAN †	588	AC-FT †	425500	

† Adjusted for diversion through Belden powerhouse.

11401125 INDIAN CREEK NEAR BOULDER CREEK GUARD STATION, NEAR TAYLORSVILLE, CA

LOCATION.--Lat 40°10'47", long 120°36'27", in SE¼SE¼ sec.22, T.27 N., R.12 E., Plumas County, on left bank 150 ft (46 m) downstream from Antelope Dam, 1.8 mi (2.9 km) upstream from Cold Stream, 1.3 mi (2.1 km) south of Boulder Creek Guard Station, 12.3 mi (19.8 km) northeast of Genesee, and 14.3 mi (23.0 km) northeast of Taylorsville.

DRAINAGE AREA.--68.6 mi^2 (177.7 km^2).

PERIOD OF RECORD.--October 1965 to current year. June 1961 to September 1965 in reports of California Department of Water Resources.

GAGE.--Water-stage recorder and steel-lipped concrete control. Supplementary water-stage recorder on dam and concrete spillway. Altitude of gage is 4,930 ft (1,502 m), from topographic map. October 1965 to September 1968, at site 0.9 mi (1.4 km) downstream at different datum.

REMARKS.--Flow regulated since Nov. 25, 1963 by Antelope Lake, capacity, 22,500 acre-ft (27.7 hm^3). See schematic diagram of North Fork Feather River basin. Records since October 1968 are combined flow of release from Antelope Dam and flow over spillway.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--12 years, 60.6 ft^3/s (1.716 m^3/s), 43,900 acre-ft/yr (54.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 828 ft^3/s (23.4 m^3/s) May 24, 1967, gage height, 6.31 ft (1.923 m) previous site and datum, and Jan. 24, 1970 (includes flow over spillway); no flow for several months in 1971-72, 1977 (caused by draining of Antelope Lake).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 100 ft^3/s (2.83 m^3/s) Oct. 2; no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73						0	10	7.0	2.6	1.0	1.0
2	100						0	10	5.0	2.6	1.0	1.0
3	98						0	10	5.0	2.6	1.0	1.0
4	97						0	10	5.0	2.6	1.0	1.0
5	81						0	10	5.0	2.0	1.0	1.0
6	26						0	10	5.0	1.3	1.0	1.0
7	13						0	10	4.0	1.3	1.0	1.0
8	10						0	10	3.3	1.3	1.0	1.0
9	7.5						0	10	3.3	1.3	1.0	1.0
10	6.2						0	10	3.3	1.3	1.0	1.0
11	5.6						0	10	3.3	1.3	1.0	1.0
12	5.0						0	10	3.3	1.2	1.0	1.0
13	2.3						0	10	3.3	1.0	1.0	1.0
14	0						0	10	3.3	1.0	1.0	1.0
15	0						0	10	3.3	1.0	1.0	1.0
16	0						0	10	3.3	1.0	1.0	1.0
17	0						0	10	3.3	1.0	1.0	1.0
18	0						0	10	3.3	1.0	1.0	1.0
19	0						0	10	3.3	1.0	1.0	1.0
20	0						0	10	6.0	1.0	1.0	1.0
21	0						0	10	10	1.0	1.0	1.0
22	0						0	10	10	1.0	1.0	1.0
23	0						0	10	10	1.0	1.0	1.0
24	0						0	10	10	1.0	1.0	1.0
25	0						0	10	10	1.0	1.0	1.0
26	0						0	10	10	1.0	1.0	1.0
27	0						3.5	10	5.7	1.0	1.0	1.0
28	0						10	10	2.6	1.0	1.0	1.0
29	0				---		10	10	2.6	1.0	1.0	1.0
30	0				---		10	10	2.6	1.0	1.0	1.0
31	0	---			---		---	10	---	1.0	1.0	---
TOTAL	524.6	0	0	0	0	0	33.5	310	155.1	40.4	31.0	30.0
MEAN	16.9	0	0	0	0	0	1.12	10.0	5.17	1.30	1.00	1.00
MAX	100	0	0	0	0	0	10	10	10	2.6	1.0	1.0
MIN	0	0	0	0	0	0	0	10	2.6	1.0	1.0	1.0
AC-FT	1040	0	0	0	0	0	66	615	308	80	61	60

CAL YR 1976 TOTAL 12645.6 MEAN 34.6 MAX 141 MIN 0 AC-FT 25080
WTR YR 1977 TOTAL 1124.6 MEAN 3.08 MAX 100 MIN 0 AC-FT 2230

11401180 LITTLE GRIZZLY CREEK NEAR GENESEE, CA

LOCATION.--Lat 40°00'50", long 120°45'11", in NE¼SW¼ sec.21, T.25 N., R.11 E., Plumas County, Plumas National Forest, on right bank 2 mi (3 km) south of Genesee, and 2.5 mi (4.0 km) upstream from Indian Creek.

DRAINAGE AREA.--29.6 mi^2 (76.7 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,180 ft (1,274 m), from topographic map.

REMARKS.--Records good. No known diversion or regulation above station. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--13 years, 49.7 ft^3/s (1.408 m^3/s), 36,010 acre-ft/yr (44.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,800 ft^3/s (51.0 m^3/s) Jan. 24, 1970, gage height, 6.15 ft (1.875 m), from rating curve extended above 500 ft^3/s (14.2 m^3/s) on basis of slope-area measurement at gage height, 5.90 ft (1.798 m); minimum daily, 1.6 ft^3/s (0.045 m^3/s) Aug. 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft^3/s (0.85 m^3/s) Apr. 7, gage height, 1.86 ft (0.567 m), no peak above base of 300 ft^3/s (8.50 m^3/s); minimum daily, 1.6 ft^3/s (0.045 m^3/s) Aug. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	4.0	3.0	3.5	3.7	5.3	6.3	15	12	4.6	1.7	2.0
2	4.0	4.0	3.1	4.7	3.7	4.9	6.5	13	11	6.1	1.8	1.9
3	4.4	3.9	3.2	8.9	3.7	4.4	7.1	11	11	4.2	2.0	1.9
4	4.0	3.9	3.3	5.5	3.7	4.2	11	11	10	3.6	1.8	2.0
5	3.8	3.9	3.3	4.3	3.7	4.2	15	11	9.6	3.3	1.7	1.9
6	3.6	3.9	3.4	4.0	3.7	4.5	17	12	11	3.2	1.8	1.9
7	3.5	3.9	3.5	3.9	3.9	4.8	19	11	12	3.0	1.9	1.9
8	3.5	3.8	3.6	3.9	6.1	5.0	18	12	11	2.9	1.8	1.9
9	3.6	3.9	3.6	3.9	5.1	8.2	14	16	10	2.8	1.7	1.9
10	3.6	4.1	3.6	3.9	4.5	7.1	12	16	10	2.7	1.7	1.9
11	3.3	4.1	3.6	3.9	4.4	6.7	12	14	9.0	2.7	1.7	1.9
12	3.3	4.1	3.6	3.9	4.5	6.6	13	13	8.4	2.5	1.6	1.9
13	3.3	4.1	3.6	3.9	4.6	5.9	14	14	8.0	2.4	1.7	2.0
14	3.3	7.1	3.5	3.9	4.7	5.4	13	18	7.4	2.4	1.8	2.0
15	3.3	6.3	3.5	3.9	4.8	5.4	13	17	7.5	2.3	1.7	2.1
16	3.5	5.5	3.5	3.9	5.1	5.3	15	18	8.1	2.2	1.7	2.4
17	3.4	5.0	3.4	3.9	5.2	5.4	15	17	7.2	2.1	1.8	3.2
18	3.5	4.8	3.4	4.0	4.9	5.2	13	17	7.0	2.2	2.1	2.9
19	3.5	4.6	3.3	3.9	5.0	5.9	11	16	6.6	2.2	1.9	3.9
20	3.5	4.6	3.2	3.9	5.6	6.2	11	16	6.9	2.2	1.9	4.4
21	4.0	4.4	3.1	4.1	15	6.6	11	16	6.1	2.1	1.8	3.2
22	4.8	4.4	3.1	4.7	8.4	7.5	11	15	5.3	2.1	1.7	3.0
23	4.5	4.4	3.2	4.5	6.9	8.4	12	15	4.8	2.0	1.7	2.8
24	4.0	4.3	3.3	4.2	6.5	7.4	12	15	4.4	2.0	1.9	2.9
25	3.9	4.2	3.3	4.1	6.1	7.4	12	15	4.2	2.0	2.3	2.9
26	3.9	4.1	3.4	3.9	5.4	7.2	11	15	3.8	2.0	2.6	2.8
27	3.9	3.5	3.4	3.8	5.0	7.7	10	18	3.6	1.9	2.3	2.8
28	4.1	3.2	3.5	3.7	5.2	7.7	10	15	3.4	1.9	2.1	3.0
29	4.1	3.1	3.5	3.7	---	6.9	9.9	14	3.3	1.8	2.0	6.5
30	4.1	3.0	3.5	3.7	---	6.5	11	13	3.3	1.8	1.9	4.1
31	4.1	---	3.5	3.7	---	6.1	---	12	---	1.8	2.0	---
TOTAL	116.8	128.1	105.0	129.7	149.1	190.0	365.8	451	225.9	81.0	58.1	79.9
MEAN	3.77	4.27	3.39	4.18	5.33	6.13	12.2	14.5	7.53	2.61	1.87	2.66
MAX	4.8	7.1	3.6	8.9	15	8.4	19	18	12	6.1	2.6	6.5
MIN	3.3	3.0	3.0	3.5	3.7	4.2	6.3	11	3.3	1.8	1.6	1.9
AC-FT	232	254	208	257	296	377	726	895	448	161	115	158

CAL YR 1976 TOTAL 3573.0 MEAN 9.76 MAX 44 MIN 2.9 AC-FT 7090
WTR YR 1977 TOTAL 2080.4 MEAN 5.70 MAX 19 MIN 1.6 AC-FT 4130

11401180 LITTLE GRIZZLY CREEK NEAR GENESEE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: August 1964 to current year.

INSTRUMENTATION.--Temperature recorder since August 1964.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 22.0°C June 25, 27-29, July 21, 1977; minimum recorded, 0.0°C on many days during winter period of most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 22.0°C June 25, 27-29, July 21; minimum recorded, 0.0°C on several days during November and December.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11401180 LITTLE GRIZZLY CREEK NEAR GENESEE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA

LOCATION.--Lat 40°04'42", long 120°55'36", in SW¼SW¼ sec.25, T.26 N., R.9 E., Plumas County, on left bank 0.8 mi (1.3 km) upstream from Dixie Creek, and 1.5 mi (2.4 km) south of Crescent Mills.

DRAINAGE AREA.--739 mi^2 (1,914 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1906 to December 1909, September 1911 to March 1918, October 1930 to current year.

REVISED RECORDS.--WSP 1445: 1906-9. WSP 1931: 1956, 1958(M).

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (1,070 m), from topographic map. Prior to March 1918, nonrecording gage at site 800 ft (240 m) upstream at different datum.

REMARKS.--Records good except those for December and July to September, which are poor. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft (6.2 hm^3), Taylor Lake since 1929, capacity, 380 acre-ft (469,000 m^3), and Antelope Lake (station 11401120) since November 1963. Diversions above station for irrigation of about 11,800 acres (47.8 km^2) of which 9,700 acres (39.2 km^2) are in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--56 years (water years 1907-9, 1912-17, 1931-77), 544 ft^3/s (15.41 m^3/s), 394,100 acre-ft/yr (486 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 25,000 ft^3/s (708 m^3/s) Mar. 19, 1907, gage height, 20.2 ft (6.16 m) site and datum then in use; minimum daily, 0.90 ft^3/s (0.025 m^3/s) July 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 258 ft^3/s (7.31 m^3/s) Feb. 21, gage height, 3.14 ft (0.957 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily, 0.90 ft^3/s (0.025 m^3/s) July 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	48	44	49	60	86	71	31	33	17	1.1	1.6
2	94	49	41	82	59	79	65	35	29	13	1.5	1.6
3	117	48	39	111	59	83	56	34	30	11	1.5	1.6
4	109	52	37	87	59	79	56	47	24	5.8	1.6	1.5
5	110	52	36	70	62	75	62	52	23	4.9	1.6	1.6
6	104	51	34	55	62	74	70	60	29	4.6	1.6	1.7
7	68	49	34	53	62	73	75	62	28	4.6	1.6	1.8
8	56	50	34	52	77	71	69	60	26	4.6	1.6	1.9
9	42	49	34	52	88	91	71	69	30	4.6	1.6	1.9
10	39	47	33	55	81	111	62	85	28	4.6	1.6	2.1
11	47	50	33	59	75	81	49	79	34	4.7	1.6	2.1
12	39	60	33	63	73	74	52	93	29	4.7	1.6	2.2
13	38	53	32	57	73	78	45	81	28	4.2	1.6	2.2
14	41	61	31	54	73	79	44	72	23	3.9	1.6	2.7
15	36	65	31	57	73	75	35	70	20	3.8	1.9	2.9
16	36	63	30	54	74	74	38	77	21	3.7	1.8	2.9
17	34	62	30	53	79	76	39	88	23	3.6	1.2	4.0
18	34	59	30	57	76	72	39	78	26	3.6	1.4	3.4
19	32	56	30	56	72	68	37	56	23	3.6	1.5	4.4
20	38	56	29	59	73	67	33	54	29	2.0	1.2	4.8
21	33	55	29	61	173	67	30	44	26	1.6	1.1	5.2
22	29	55	29	65	174	72	26	37	23	1.4	1.3	5.4
23	34	55	30	71	128	90	22	41	19	1.3	1.3	5.0
24	30	54	30	71	110	116	16	51	16	1.2	1.2	4.3
25	34	54	30	68	96	107	16	52	14	1.1	1.4	4.5
26	40	53	31	65	89	95	25	69	16	1.0	1.6	4.6
27	41	51	31	63	86	91	25	78	16	1.0	1.6	4.5
28	42	49	31	62	86	89	24	70	23	.90	1.2	5.2
29	47	48	31	61	---	83	26	63	23	.90	1.5	8.1
30	46	46	32	60	---	74	25	59	21	.92	1.6	8.1
31	46	---	35	61	---	73	---	48	---	1.1	1.7	---
TOTAL	1618	1600	1014	1943	2352	2523	1303	1895	733	124.92	46.2	103.8
MEAN	52.2	53.3	32.7	62.7	84.0	81.4	43.4	61.1	24.4	4.03	1.49	3.46
MAX	117	65	44	111	174	116	75	93	34	17	1.9	8.1
MIN	29	46	29	49	59	67	16	31	14	.90	1.1	1.5
AC-FT	3210	3170	2010	3850	4670	5000	2580	3760	1450	248	92	206

CAL YR 1976	TOTAL	37480.00	MEAN	102	MAX 600	MIN 14	AC-FT	74340
WTR YR 1977	TOTAL	15255.92	MEAN	41.8	MAX 174	MIN .90	AC-FT	30260

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951-66, 1972.
WATER TEMPERATURES: Water years 1963 to current year.
SEDIMENT RECORDS.--Water years 1957-66.

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

INSTRUMENTATION.--Temperature recorder since October 1962.

REMARKS.--Clock stopped Nov. 26 to Dec. 20, Feb. 15-23, Apr. 20-28, June 29 to July 7; range in temperature, 1.0°C to 5.5°C, 3.0°C to 10.0°C, 9.0°C to 20.0°C, and 12.5°C to 28.0°C, respectively.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.5°C June 30, 1977; minimum recorded, 0.0°C on many days during most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.5°C June 30; minimum recorded, 1.0°C Dec. 21, 29, Jan. 17.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11401500 INDIAN CREEK NEAR CRESCENT MILLS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.5	7.0	15.5	10.5	22.5	13.5	---	---	21.0	17.5	20.0	14.5
2	13.5	6.0	16.5	9.5	22.5	12.5	---	---	22.5	18.0	20.0	14.0
3	16.0	6.0	13.0	9.5	20.5	13.0	---	---	23.0	17.5	18.5	14.0
4	18.0	7.5	18.0	9.0	25.0	13.5	---	---	23.0	17.0	18.5	13.5
5	18.5	9.0	14.0	8.5	25.5	15.0	---	---	21.5	17.0	18.5	14.0
6	19.0	9.5	12.0	8.0	23.5	17.0	---	---	20.0	17.0	18.0	14.0
7	17.5	9.5	13.0	7.5	23.0	16.0	---	---	22.5	16.5	18.5	14.0
8	13.0	9.5	16.0	8.5	24.0	16.0	24.5	15.5	22.5	16.0	18.0	14.0
9	14.5	9.5	11.5	8.5	18.0	14.0	23.0	15.5	21.5	16.5	18.0	14.0
10	17.5	7.5	14.0	8.0	19.0	13.5	24.5	15.5	21.0	16.0	17.5	13.5
11	18.0	8.5	12.5	9.0	23.5	13.0	25.0	16.0	22.5	17.0	17.5	13.5
12	19.5	9.0	14.0	9.5	22.5	14.0	23.5	17.5	24.5	17.0	17.0	13.0
13	18.5	11.0	18.5	10.5	22.5	14.5	23.0	15.0	24.0	16.0	16.0	13.0
14	18.5	8.5	17.5	11.5	24.5	13.5	24.5	16.5	22.0	16.0	18.5	13.5
15	19.0	9.0	15.0	9.5	24.0	14.0	24.0	17.5	22.0	16.0	16.0	13.5
16	20.0	11.0	13.5	9.0	24.5	15.0	25.5	18.0	21.5	15.5	14.0	12.0
17	20.0	10.5	15.5	8.5	19.0	15.0	24.5	19.0	20.0	16.0	13.0	11.5
18	18.5	9.5	13.0	8.5	23.5	13.5	24.0	17.5	22.0	16.0	16.0	12.0
19	18.5	8.5	20.5	9.0	23.0	14.5	24.5	18.5	23.0	17.5	14.5	13.0
20	---	---	20.5	11.5	23.0	16.5	25.0	18.5	22.5	17.5	15.0	12.5
21	---	---	21.0	12.5	27.0	16.0	25.5	18.0	22.5	17.0	16.0	12.5
22	---	---	15.0	9.5	27.0	17.0	25.0	17.5	22.5	17.0	16.0	12.5
23	---	---	13.0	9.5	28.0	16.5	25.0	18.0	22.5	16.5	14.5	12.5
24	---	---	16.5	9.5	28.0	17.0	23.0	17.0	21.5	15.0	16.5	13.0
25	---	---	17.0	10.5	28.0	18.0	23.5	16.5	17.0	15.0	17.0	12.0
26	---	---	15.5	11.0	27.0	16.0	24.0	16.5	20.0	15.5	17.0	13.0
27	---	---	20.0	11.5	27.5	16.0	24.5	17.0	20.0	14.5	15.5	14.0
28	---	---	20.0	11.0	28.5	17.0	24.5	17.0	19.5	14.0	15.0	14.0
29	17.0	11.5	22.0	12.0	---	---	24.5	16.0	20.0	15.0	14.5	13.0
30	16.0	11.5	23.0	13.0	---	---	24.0	16.5	19.0	14.5	15.5	12.0
31	---	---	24.0	14.5	---	---	22.0	17.0	19.5	14.0	---	---
MONTH	---	---	24.0	7.5	28.5	12.5	---	---	24.5	14.0	20.0	11.5

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.--Lat 40°00'11", long 120°57'12", in SE¼NE¼ sec.27, T.25 N., R.9 E., Plumas County, on right bank 200 ft (61 m) upstream from Blackhawk Creek, and 0.9 mi (1.4 km) southeast of Keddie.

DRAINAGE AREA.--184 mi^2 (477 km^2).

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1953, published as "at Keddie." Records for October 1911 to September 1933 at site 1.2 mi (1.9 km) downstream not equivalent owing to inflow.

REVISED RECORDS.--WSP 1041: 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 3,129.86 ft (953.981 m) above mean sea level.

REMARKS.--Records good except those for December, which are fair. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft (986,000 m^3). Approximately 4,600 acres (18.6 km^2) irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft (555,000 m^3) annually for municipal supply. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--44 years, 265 ft^3/s (7.505 m^3/s), 192,000 acre-ft/yr (237 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft^3/s (436 m^3/s) Dec. 22, 1964, gage height, 13.53 ft (4.124 m), from rating curve extended above 5,200 ft^3/s (147 m^3/s) on basis of slope-area measurement at gage height 12.47 ft (3.801 m); minimum, 3.8 ft^3/s (0.11 m^3/s) Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 249 ft^3/s (7.05 m^3/s) Feb. 21, gage height, 2.79 ft (0.850 m), no peak above base of 1,700 ft^3/s (48.1 m^3/s); minimum daily, 5.3 ft^3/s (0.15 m^3/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	31	38	42	42	58	51	33	23	12	6.5	8.6
2	28	33	38	59	42	54	40	35	21	11	7.6	10
3	29	33	38	110	43	53	43	37	16	13	8.2	10
4	31	33	39	66	43	51	46	40	18	13	8.0	13
5	28	33	41	55	43	49	49	44	18	12	6.5	13
6	27	32	40	43	43	49	49	48	21	11	7.7	13
7	28	32	39	41	44	49	54	48	20	13	9.8	11
8	28	32	38	41	55	48	52	45	18	13	9.2	12
9	26	30	38	41	64	65	66	52	24	15	8.2	11
10	26	32	37	43	53	72	61	65	23	15	6.3	12
11	27	32	36	44	50	60	56	74	21	15	6.5	11
12	27	32	35	46	49	57	52	72	18	20	6.8	13
13	29	32	34	45	48	58	51	65	19	15	8.0	14
14	29	51	34	44	48	55	50	61	20	14	9.8	13
15	29	51	34	44	47	55	51	60	20	13	12	13
16	29	41	34	43	46	55	51	59	19	13	12	13
17	29	41	34	44	47	54	50	56	14	12	11	14
18	30	42	33	45	46	50	49	54	16	12	7.7	14
19	29	40	33	45	39	51	47	55	18	12	7.4	15
20	31	40	32	46	42	51	41	53	20	11	6.5	26
21	31	39	32	46	123	47	32	52	19	11	5.3	21
22	34	39	33	50	121	43	33	50	19	11	5.8	20
23	32	39	33	53	84	56	35	48	17	11	5.8	20
24	33	37	33	51	74	69	32	44	21	10	5.5	16
25	32	38	33	48	64	68	33	43	18	10	6.0	15
26	31	40	33	46	60	65	34	43	15	10	8.2	14
27	32	39	34	45	57	62	33	53	16	9.5	8.9	13
28	30	38	34	44	58	64	29	55	16	8.8	6.8	15
29	32	38	34	44	---	60	31	49	16	8.2	8.0	20
30	32	39	34	43	---	57	27	42	15	7.5	9.5	26
31	32	---	36	45	---	54	---	34	---	7.0	8.9	---
TOTAL	919	1109	1094	1502	1575	1739	1328	1569	559	369.0	244.4	439.6
MEAN	29.6	37.0	35.3	48.5	56.3	56.1	44.3	50.6	18.6	11.9	7.88	14.7
MAX	34	51	41	110	123	72	66	74	24	20	12	26
MIN	26	30	32	41	39	43	27	33	14	7.0	5.3	8.6
AC-FT	1820	2200	2170	2980	3120	3450	2630	3110	1110	732	485	872

CAL YR 1976 TOTAL 23879.0 MEAN 65.2 MAX 775 MIN 12 AC-FT 47360
WTR YR 1977 TOTAL 12447.0 MEAN 34.1 MAX 123 MIN 5.3 AC-FT 24690

11403000 EAST BRANCH OF NORTH FORK FEATHER RIVER NEAR RICH BAR, CA

LOCATION.--Lat 40°00'38", long 121°13'03", in SW¼NE¼ sec.20, T.25 N., R.7 E., Plumas County, Plumas National Forest, on left bank 0.5 mi (0.8 km) upstream from mouth, and 1.3 mi (2.1 km) west of Rich Bar.

DRAINAGE AREA.--1,025 mi^2 (2,655 km^2).

PERIOD OF RECORD.--October 1950 to September 1961, 1965-67 (annual maximum), December 1967 to current year.

REVISED RECORDS.--WSP 1245: 1951(M).

GAGE.--Water-stage recorder. Altitude of gage is 2,300 ft (701 m), from topographic map. Prior to Nov. 29, 1950, at site 30 ft (9 m) downstream at same datum.

REMARKS.--No storage or diversion between stations on Indian and Spanish Creeks and station near Rich Bar.

COOPERATION.--Records furnished by Pacific Gas and Electric Co. and reviewed by Geological Survey.

AVERAGE DISCHARGE.--20 years (water years 1951-61, 1969-77), 1,044 ft^3/s (29.57 m^3/s), 756,400 acre-ft/yr (933 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,300 ft^3/s (1,370 m^3/s) Dec. 22, 1964, gage height, 16.56 ft (5.048 m), from rating curve extended above 15,000 ft^3/s (425 m^3/s) on basis of study of upstream and downstream peak discharges; minimum daily, 23 ft^3/s (0.65 m^3/s) Aug. 29-31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 453 ft^3/s (12.8 m^3/s) Feb. 23; minimum daily, 23 ft^3/s (0.65 m^3/s) Aug. 29-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	143	135	117	129	172	164	93	96	45	31	24
2	214	141	137	137	129	177	158	94	84	45	31	26
3	210	141	137	131	127	153	117	99	78	43	31	27
4	190	137	137	129	125	153	115	110	74	42	32	28
5	180	137	139	172	125	147	123	115	70	43	32	27
6	178	141	139	145	125	143	113	125	68	41	32	26
7	175	137	133	131	127	143	143	119	66	42	34	25
8	172	139	133	129	129	139	143	131	64	42	35	25
9	160	139	131	117	145	151	153	145	61	43	34	24
10	140	137	135	127	190	202	149	164	86	44	34	24
11	135	133	139	141	169	192	137	164	78	44	34	25
12	135	133	139	137	151	151	123	175	81	46	34	25
13	135	129	135	135	145	156	123	172	73	45	36	25
14	133	131	129	127	145	158	117	149	73	44	36	26
15	133	137	127	127	143	153	115	141	67	42	39	28
16	133	141	133	127	141	151	110	137	65	40	39	31
17	133	139	133	129	141	151	113	135	65	37	37	34
18	131	139	133	129	143	145	110	161	62	37	32	37
19	133	139	139	129	143	141	104	137	66	37	29	40
20	135	141	139	129	137	137	104	125	68	35	26	43
21	139	137	139	131	135	137	94	120	74	34	25	44
22	141	139	133	133	249	131	86	126	67	33	25	40
23	145	135	133	137	453	145	86	118	64	33	25	36
24	145	133	133	147	275	211	87	116	59	33	26	34
25	145	133	133	149	253	185	90	130	62	32	27	33
26	141	125	135	145	223	190	88	140	55	32	28	34
27	141	129	129	139	172	175	87	165	49	32	28	36
28	143	131	127	135	169	172	78	155	49	31	26	39
29	143	133	125	133	---	169	78	148	51	30	23	42
30	143	133	129	131	---	175	82	133	51	30	23	46
31	145	---	133	131	---	166	---	123	---	30	23	---
TOTAL	4746	4082	4151	4156	4738	4971	3390	4165	2026	1187	947	954
MEAN	153	136	134	134	169	160	113	134	67.5	38.3	30.5	31.8
MAX	220	143	139	172	453	211	164	175	96	46	39	46
MIN	131	125	125	117	125	131	78	93	49	30	23	24
AC-FT	9410	8100	8230	8240	9400	9860	6720	8260	4020	2350	1880	1890

CAL YR 1976 TOTAL 82677 MEAN 226 MAX 1740 MIN 60 AC-FT 164000
WTR YR 1977 TOTAL 39513 MEAN 108 MAX 453 MIN 23 AC-FT 78370

11403500 BUCKS LAKE NEAR BUCKS LODGE, CA

LOCATION.--Lat 39°53'45", long 121°12'10", in NW¼ sec.33, T.24 N., R.7 E., Plumas County, Plumas National Forest, in intake tower No. 2 upstream from dam on Bucks Creek, 2 mi (3 km) northwest of Bucks Lodge, and 15 mi (24 km) west of Quincy.

DRAINAGE AREA.--28.6 mi^2 (74.1 km^2).

PERIOD OF RECORD.--1927-28 (year-end contents only, published in WSP 1315-A), October 1928 to current year. Prior to October 1954, published as Bucks Creek Reservoir near Bucks Ranch.

GAGE.--Water-stage recorder and nonrecording gage monitored once daily. Datum of gage is at mean sea level (levels by Feather River Power Co.).

REMARKS.--Reservoir is formed by concrete-faced, rockfill dam completed in 1927; storage began in May 1927. Capacity, 101,400 acre-ft (125 hm^3) between elevations 5,064.75 ft (1,543.736 m), sill of outlet gate and 5,154.85 ft (1,571.198 m), spillway crest, above mean sea level. Released water flows down Bucks Creek to Lower Bucks Lake, where it enters tunnel that discharges into Grizzly Creek, then to Bucks Creek powerhouse. Figures given herein represent total contents, of which 274 acre-ft (338,000 m^3) is not available for release. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Records furnished by Pacific Gas and Electric Co., in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 105,800 acre-ft (130 hm^3) June 23, 1938, elevation, 5,157.1 ft (1,571.88 m); minimum, 12,330 acre-ft (15.2 hm^3) Feb. 27, 1929, elevation, 5,090.7 ft (1,551.65 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 50,800 acre-ft (62.6 hm^3) July 5-10, elevation, 5,123.8 ft (1,561.73 m); minimum, 36,200 acre-ft (44.6 hm^3) Sept. 18, elevation, 5,113.0 ft (1,558.44 m).

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

5064.75	274	5075	2400	5100	21200	5125	52500
5066	388	5080	4740	5105	26600	5130	60000
5068	635	5085	7920	5110	32500	5140	75900
5070	977	5090	11700	5115	38800	5150	93000
5072	1440	5095	16200	5120	45500	5160	111200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48964	43966	43426	43021	43696	45335	45335	47977	50386	50671	49530	43156
2	48823	43966	43426	43291	43696	45335	45335	47977	50528	50671	49388	42751
3	48398	43966	43156	43426	43831	45335	45335	47977	50528	50671	49247	42217
4	47977	43966	43156	43426	43831	45335	45472	47977	50528	50671	48964	41817
5	47558	43966	43156	43561	43831	45335	45611	48117	50528	50814	48823	41417
6	47139	43966	43021	43696	43831	45472	45611	48257	50528	50814	48823	41021
7	46720	43966	43021	43561	44101	45335	45888	48398	50528	50814	48823	40628
8	46304	43966	43021	43561	44101	45335	46027	48398	50671	50814	48823	39968
9	45888	43966	43021	43561	44238	45335	46166	48540	50671	50814	48823	39576
10	45472	43696	43021	43561	44101	45472	46304	48681	50671	50814	48823	39055
11	45061	43696	43021	43696	44101	45061	46304	48823	50671	50671	48823	38665
12	44619	43561	43021	43696	44101	44924	46304	48964	50671	50386	48823	38537
13	44238	43561	43021	43561	44101	44924	46443	49105	50671	50386	48823	38022
14	43831	43831	43021	43426	44238	44924	46582	49247	50671	50243	48823	37507
15	43831	43831	43021	43426	44238	44619	46582	49247	50671	50243	48823	37126
16	43831	43831	43021	43426	44238	44375	46582	49247	50671	50243	48823	36744
17	43831	43831	43021	43426	44238	44512	46720	49388	50671	50243	48823	36363
18	43831	43966	43021	43426	44375	44619	46859	49388	50671	50243	48823	36236
19	43831	43966	43021	43426	44375	44619	46859	49388	50671	50243	48540	36490
20	43831	43966	43021	43561	44375	44787	46999	49530	50671	50243	48117	36490
21	43831	43966	43021	43561	44924	44787	47139	49530	50671	50243	47698	36490
22	43831	43831	43021	43561	45061	44787	47139	49530	50671	50243	47139	36490
23	43831	43831	43021	43561	45198	45061	47139	49671	50671	50243	46720	36490
24	43831	43831	43021	43561	45335	45061	47278	49671	50671	50243	46304	36490
25	43831	43831	43021	43561	45335	45198	47278	49671	50671	50243	46027	36490
26	43831	43831	43021	43561	45335	45198	47278	49957	50671	50243	45749	36490
27	43831	43831	43021	43561	45335	45335	47418	50100	50671	50243	45198	36490
28	43831	43831	43021	43561	45335	45335	47558	50100	50528	50100	44787	36490
29	43966	43696	43021	43696	---	45335	47558	50243	50528	50100	44375	36490
30	43966	43561	43021	43696	---	45335	47698	50243	50528	49957	43966	36617
31	43966	---	43021	43696	---	45335	---	50243	---	49814	43561	---
MAX	48964	43966	43426	43696	45335	45472	47698	50243	50671	50814	49530	43156
MIN	43831	43561	43021	43021	43696	44375	45335	47977	50386	49814	43561	36236
(†)	5118.9	5118.6	5118.2	5118.7	5119.9	5119.9	5121.6	5123.4	5123.6	5123.1	5118.6	5113.3
(‡)	-5000	-405	-540	+675	+1640	0	+2360	+2550	+285	-714	-6250	-6940

CAL YR 1976 ‡ +270
WTR YR 1977 ‡ -12300

† Elevation, in feet, at end of month.
‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA

LOCATION.--Lat 39°47'39", long 121°27'03", in SW¼NE¼ sec.6, T.22 N., R.5 E., Butte County, Plumas National Forest, on left bank between railroad and highway bridges, 0.5 mi (0.8 km) downstream from Flea Valley Creek and Pulga, and 1.5 mi (2.4 km) downstream from Poe Dam.

DRAINAGE AREA.--1,953 mi^2 (5,058 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1910 to current year. Monthly discharge only for some periods and yearly estimates for water years 1911 and 1938, published in WSP 1315A. Prior to October 1960, published as "at Big Bar."

REVISED RECORDS.--WSP 931: 1938(M), 1940. WSP 1515: 1935.

GAGE.--Water-stage recorder. Datum of gage is 1,304.88 ft (397.727 m) above mean sea level (levels by Pacific Gas and Electric Co.). Prior to Oct. 1, 1937, at site 1.1 mi (1.8 km) upstream at different datum. Oct. 1, 1937, to Sept. 30, 1958, at present site at datum 5.00 ft (1.524 m) higher.

REMARKS.--Records good. Flow regulated by Lake Almanor (station 11399000), Bucks Lake (station 11403500), Mountain Meadows Reservoir, Butt Valley Reservoir, and five forebays, combined capacity, 1,386,000 acre-ft (1.71 km^3). Diversion through Poe powerhouse began on May 29, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record and seven discharge measurements furnished by Pacific Gas and Electric Co. in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE (including diversion through Poe powerhouse).--67 years, 2,963 ft^3/s (83.91 m^3/s), 2,147,000 acre-ft/yr (2.65 km^3/yr).

EXTREMES FOR PERIOD OF RECORD (prior to diversion to Poe powerhouse).--Maximum discharge, 72,400 ft^3/s (2,050 m^3/s) Dec. 23, 1955, gage height, 35.60 ft (10.851 m) present datum, from rating curve extended above 34,000 ft^3/s (963 m^3/s); minimum daily, 235 ft^3/s (6.66 m^3/s) Oct. 31, 1932.
1958 to current year: Maximum discharge, 73,000 ft^3/s (2,070 m^3/s) Dec. 22, 1964, gage height, 35.80 ft (10.912 m), from rating curve extended above 34,000 ft^3/s (963 m^3/s); minimum daily, 5.4 ft^3/s (0.15 m^3/s) Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 124 ft^3/s (3.51 m^3/s) Jan. 2, gage height, 4.48 ft (1.366 m); minimum daily, 5.4 ft^3/s (0.15 m^3/s) Sept. 18.

CORRECTION.--Corrected figures of adjusted mean and acre-feet for water year 1976, superseding those published in the report for 1976, are given herewith:

	Adjusted	
June 1976	Mean 915	Ac-ft 54,430
WTR YR 1976	Mean 1,792	Ac-ft 1,301,000

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	50	50	53	51	59	57	58	34	34	31	14
2	49	51	51	80	51	58	57	55	34	34	20	13
3	50	50	51	75	51	58	57	55	34	34	13	13
4	51	51	52	57	53	58	57	55	34	34	13	13
5	51	51	50	55	52	57	57	55	34	34	12	12
6	51	51	50	54	53	57	57	55	34	34	13	13
7	51	51	50	53	52	57	57	55	34	33	13	14
8	51	51	51	52	54	55	58	55	34	33	12	13
9	50	50	50	50	54	57	62	50	34	33	13	14
10	51	50	50	52	54	57	59	43	34	33	12	14
11	51	51	51	52	57	57	57	40	34	33	12	14
12	50	52	50	54	56	58	56	40	34	33	12	14
13	50	52	49	52	56	58	56	39	34	33	12	14
14	53	68	50	51	56	56	55	39	34	33	12	15
15	52	54	50	48	56	58	56	38	34	33	12	13
16	52	51	50	47	56	58	56	38	34	33	12	14
17	52	50	50	47	56	57	56	38	34	33	13	14
18	53	50	49	48	56	56	56	38	34	33	13	5.4
19	53	50	49	48	56	57	55	37	34	33	12	11
20	52	51	49	48	57	57	54	36	34	33	12	17
21	53	51	53	48	77	57	54	34	34	33	12	15
22	52	51	53	50	63	57	55	34	34	33	12	16
23	51	50	51	48	63	59	54	34	34	33	12	16
24	53	50	49	48	61	64	55	34	34	33	13	17
25	51	54	51	49	59	64	55	34	34	33	13	17
26	50	52	52	51	59	62	55	34	34	33	13	15
27	51	50	50	53	59	61	55	34	34	33	12	15
28	53	52	50	55	59	60	55	34	34	31	13	15
29	50	51	51	52	---	59	55	34	34	28	12	20
30	51	51	56	51	---	58	59	34	34	28	12	17
31	51	---	55	51	---	57	---	34	---	28	13	---
TOTAL	1589	1547	1573	1632	1587	1803	1687	1293	1020	1012	411	427.4
MEAN	51.3	51.6	50.7	52.6	56.7	58.2	56.2	41.7	34.0	32.6	13.3	14.2
MAX	53	68	56	80	77	64	62	58	34	34	31	20
MIN	49	50	49	47	51	55	54	34	34	28	12	5.4
AC-FT	3150	3070	3120	3240	3150	3580	3350	2560	2020	2010	815	848
MEAN †	905	915	680	685	641	784	706	717	567	682	1472	1507
AC-FT †	55650	54430	41820	42140	35590	48230	42040	44080	33730	41910	90500	89700

CAL YR 1976 TOTAL 20475.0 MEAN 55.9 MAX 221 MIN 48 AC-FT 40610 MEAN † 1350 AC-FT † 980000
WTR YR 1977 TOTAL 15581.4 MEAN 42.7 MAX 80 MIN 5.4 AC-FT 30910 MEAN † 856 AC-FT † 619800

† Adjusted for diversion through Poe powerhouse.

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963 to current year.
CHEMICAL ANALYSES: Water years 1963-66, 1972, 1977.
WATER TEMPERATURES: Water years 1963 to current year.

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

INSTRUMENTATION.--Temperature recorder since October 1962.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 24.5°C July 26, 27, 1976; minimum recorded, 0.5°C Jan. 4, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.0 °C on several days during June to August; minimum recorded, 3.5°C on several days during December and January.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
JUL 26...	1300	33	125	8.3	23.5	1	9.1	14
AUG 16...	1100	12	147	7.9	20.0	1	8.2	15
SEP 13...	1015	12	123	8.2	18.5	1	9.0	12

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)
JUL 26...	7.0	5.6	1.5	85	0	70	3.2	1.2	.0
AUG 16...	7.1	5.6	1.7	90	0	74	2.3	1.7	.0
SEP 13...	6.4	4.6	1.6	75	0	62	2.0	1.5	.0

DATE	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRATE (N) (MG/L)	DISSOLVED NITRITE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)
JUL 26...	13	82	87	.11	7.31	.02	.00	.02
AUG 16...	13	79	91	.11	2.56	.01	.00	.01
SEP 13...	9.3	61	74	.08	2.06	.01	.00	.01

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA

LOCATION.--Lat 39°47'12", long 121°33'42", in SE¼SE¼ sec.6, T.22 N., R.4 E., Butte County, on right bank 0.6 mi (1.0 km) upstream from Griffin Gulch, and 4.0 mi (6.4 km) northeast of Paradise.

DRAINAGE AREA.--110 mi^2 (285 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WSP 2131: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (418 m), from topographic map. Prior to June 1, 1970, on left bank at same datum.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at DeSabla and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 ft^3/s (1.42 m^3/s) to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir, usable capacity, 5,000 acre-ft (6.16 hm^3) and Philbrook Reservoir, capacity, 5,010 acre-ft (6.18 hm^3).

AVERAGE DISCHARGE.--20 years, 297 ft^3/s (8.411 m^3/s), 215,200 acre-ft/yr 265 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft^3/s (745 m^3/s) Dec. 22, 1964, gage height, 26.2 ft (7.99 m) from floodmarks, from rating curve extended above 14,000 ft^3/s (396 m^3/s); minimum daily, 0.29 ft^3/s (0.008 m^3/s) Aug. 24, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 288 ft^3/s (8.16 m^3/s) Sept. 29, gage height, 5.22 ft (1.591 m), no peak above base of 2,000 ft^3/s (56.6 m^3/s); minimum daily, 0.29 ft^3/s (0.008 m^3/s) Aug. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.2	.75	1.5	.85	40	1.9	5.9	1.6	.48	.44	.37
2	2.0	1.3	.76	80	.85	35	1.9	16	1.5	.48	.44	.35
3	1.5	1.2	.80	62	.85	35	1.8	4.0	1.4	.77	.44	.35
4	1.5	1.2	.80	5.4	.85	26	2.3	9.1	1.4	.87	.44	.35
5	18	1.2	.80	1.9	.85	1.8	7.4	4.3	1.4	.76	.44	.36
6	5.0	1.2	.84	1.5	.85	1.3	12	3.7	1.4	.60	.44	.38
7	2.4	1.2	.85	1.4	.87	15	12	3.3	1.4	.62	.43	.69
8	2.1	1.2	.85	1.4	1.4	32	19	2.7	1.3	.60	.41	1.3
9	2.0	1.2	.86	1.3	1.8	50	28	3.5	1.3	.60	.41	1.3
10	2.0	1.2	.90	1.2	1.5	54	18	47	1.4	.60	.41	1.3
11	2.0	1.2	.96	1.2	1.3	28	8.7	37	1.3	.60	.45	1.3
12	1.9	1.3	1.1	1.3	1.2	2.5	7.6	31	1.2	.60	.35	1.3
13	1.9	1.4	.93	1.3	1.2	2.1	8.3	30	1.0	.55	.35	1.3
14	1.8	26	.77	1.3	1.2	1.8	8.2	38	.93	.55	.35	1.3
15	2.4	10	.71	1.2	1.2	2.4	4.2	37	.94	.55	.34	1.3
16	1.5	1.6	.70	1.2	1.2	4.2	5.5	25	.83	.55	.32	1.5
17	1.2	1.3	.70	1.2	1.2	2.6	6.2	15	.79	.61	.32	17
18	1.1	1.3	.70	1.2	1.2	2.3	5.1	12	.71	.70	.32	9.2
19	1.1	1.1	.70	1.2	1.2	2.0	3.3	9.4	.59	.70	.32	73
20	1.1	1.1	.70	1.2	1.5	1.8	2.2	8.5	.47	.70	.32	45
21	1.1	1.1	.70	1.2	63	1.8	2.0	5.9	.51	.70	.32	5.0
22	1.1	1.1	.70	1.2	28	2.9	1.9	3.8	.55	.70	.32	1.7
23	1.1	1.1	.72	1.2	13	7.9	1.9	2.8	.55	.70	.32	3.0
24	1.1	1.0	.75	2.1	8.7	16	1.8	4.4	.55	.70	.29	.99
25	1.1	1.0	.75	3.8	2.8	15	2.0	2.8	.51	.66	.33	.56
26	1.1	.98	.73	3.5	2.2	11	2.1	13	.50	.56	.91	.43
27	1.1	.90	.75	1.3	1.8	9.9	1.9	89	.48	.48	1.1	.41
28	1.1	.88	.71	.98	20	9.4	1.7	20	.48	.48	.82	.91
29	1.1	.76	.72	.90	---	6.2	1.6	8.1	.48	.46	.55	86
30	1.1	.75	1.4	.85	---	3.3	1.8	3.1	.48	.44	.48	6.7
31	1.2	---	1.5	.85	---	2.2	---	1.8	---	.44	.41	---
TOTAL	66.8	67.97	25.61	187.78	162.57	425.4	182.3	497.1	27.95	18.81	13.59	264.65
MEAN	2.15	2.27	.83	6.06	5.81	13.7	6.08	16.0	.93	.61	.44	8.82
MAX	18	26	1.5	80	63	54	28	89	1.6	.87	1.1	86
MIN	1.1	.75	.70	.85	.85	1.3	1.6	1.8	.47	.44	.29	.35
AC-FT	132	135	51	372	322	844	362	986	55	37	27	525

CAL YR 1976 TOTAL 10856.98 MEAN 29.7 MAX 877 MIN .70 AC-FT 21530
WTR YR 1977 TOTAL 1940.53 MEAN 5.32 MAX 89 MIN .29 AC-FT 3850

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1962 to current year.
INSTRUMENTATION.--Temperature recorder since October 1962.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 36.0°C June 21, 1977; minimum recorded, 0.0°C Dec. 24, 26-29, 1976.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 36.0°C June 21; minimum recorded, 0.0°C Dec. 24, 26-29.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	7.0	18.5	15.0	27.5	15.0	32.0	20.5	31.0	20.0	27.0	15.5
2	17.5	6.5	16.0	13.0	27.0	14.5	31.5	18.5	29.5	22.0	27.5	15.0
3	18.5	7.5	14.5	12.5	25.0	15.0	29.5	17.5	29.5	21.0	28.0	15.0
4	18.0	8.5	17.0	11.0	32.0	15.5	29.5	15.5	31.5	19.0	28.5	15.0
5	15.0	10.0	19.0	12.5	32.5	16.5	29.0	14.0	29.0	17.5	29.0	16.5
6	15.5	11.5	18.0	11.5	31.5	19.0	30.5	15.5	23.5	18.0	28.5	16.0
7	15.5	11.5	18.0	10.5	33.5	20.0	31.0	16.0	30.0	16.0	27.0	15.5
8	13.0	11.5	20.0	11.0	32.0	20.0	30.5	16.0	29.5	15.5	26.0	17.5
9	11.5	10.5	15.0	13.0	26.0	18.5	30.0	17.0	30.0	16.5	25.5	17.5
10	12.5	9.0	13.0	11.0	22.0	17.0	31.5	17.0	30.5	16.5	25.0	17.0
11	14.5	10.0	11.0	10.5	29.0	15.0	32.0	17.5	31.0	17.5	24.5	16.0
12	16.5	11.0	11.0	9.5	29.0	15.0	30.5	17.5	31.5	19.0	24.0	15.5
13	16.5	12.5	13.5	9.5	29.0	16.5	30.0	17.0	30.5	18.5	22.0	16.0
14	16.5	11.5	15.0	11.5	31.5	15.0	31.0	17.0	30.0	17.5	23.0	16.0
15	18.5	11.5	15.5	12.5	31.5	14.5	31.5	17.5	31.5	16.0	17.0	15.0
16	18.0	12.5	14.5	11.5	32.0	16.0	32.5	17.5	31.0	16.5	15.0	13.5
17	17.5	12.5	14.5	11.0	30.0	16.0	31.0	18.0	22.5	18.0	14.5	13.5
18	21.0	12.0	14.0	11.5	30.5	14.5	30.0	17.5	30.5	18.5	16.5	13.0
19	21.0	11.5	16.5	11.0	33.5	16.0	30.5	19.0	30.5	18.0	15.0	12.5
20	21.0	11.0	18.5	12.5	31.0	18.0	31.0	18.5	31.0	19.5	14.0	11.5
21	21.0	11.0	19.5	14.0	36.0	17.0	30.5	18.0	31.5	18.0	17.0	11.5
22	21.5	11.0	18.0	14.5	34.5	17.0	31.0	17.0	32.0	18.0	19.0	10.5
23	21.5	12.0	17.5	13.0	34.5	18.5	31.0	17.0	30.5	18.0	18.0	12.0
24	21.0	12.0	19.5	12.0	35.5	19.0	29.0	17.0	21.5	18.0	20.5	14.0
25	18.0	12.5	20.0	13.0	34.5	20.5	30.0	16.5	20.0	17.5	22.0	11.0
26	23.0	11.5	17.0	13.0	33.0	18.5	32.0	16.5	26.5	17.5	22.5	11.5
27	22.0	12.0	14.5	10.5	34.5	18.5	32.0	17.0	27.0	16.5	18.0	12.5
28	22.0	12.0	16.5	12.0	34.5	19.0	31.5	16.5	29.5	16.5	16.0	14.5
29	22.0	14.0	19.5	13.5	34.0	19.5	32.5	16.5	30.0	18.0	15.5	13.0
30	23.0	14.5	24.0	13.5	27.5	20.5	33.0	17.5	28.5	17.0	17.0	12.0
31	---	---	28.5	14.5	---	---	32.0	19.0	27.5	15.0	---	---
MONTH	23.0	6.5	28.5	9.5	36.0	14.5	33.0	14.0	32.0	15.0	29.0	10.5

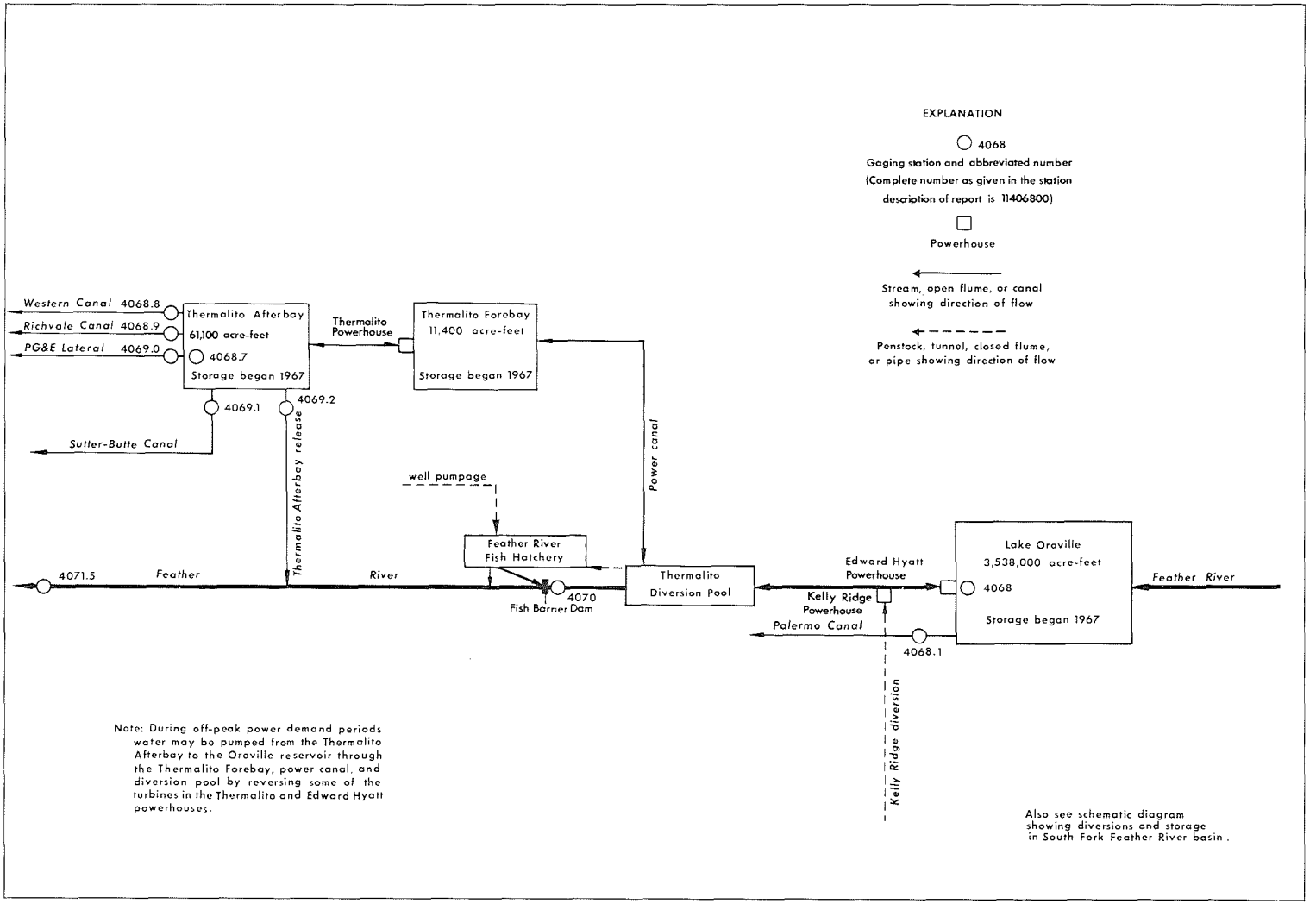

FIGURE 7.--Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

11406800 LAKE OROVILLE NEAR OROVILLE, CA

LOCATION.--Lat 39°32'06", long 121°28'25", in NE¼SW¼ sec.1, T.19 N., R.4 E., Butte County, near intake structure at left end of Oroville Dam on Feather River, 1.0 mi (1.6 km) downstream from North Fork Feather River, and 4.2 mi (6.8 km) east of Oroville.
DRAINAGE AREA.--3,607 mi² (9,342 km²).
PERIOD OF RECORD.--November 1967 to current year.
GAGE.--Water-stage recorder. Datum of gage is 0.47 ft (0.143 m) above mean sea level (levels by California Department of Water Resources).
REMARKS.--Reservoir is formed by an earthfill dam with concrete chute-type sidehill spillway completed May 13, 1968; storage began Nov. 14, 1967. Usable capacity, 2,685,385 acre-ft (3.31 km³) between elevations 640.0 ft (195.07 m) minimum power pool, and 900.0 ft (274.32 m) normal maximum pool. Dead storage, 852,192 acre-ft (1.05 km³). Total capacity at normal maximum pool, 3,537,577 acre-ft (4.36 km³); temporary detention storage occurred at times during construction; maximum was 155,200 acre-ft (191 hm³) Dec. 23, 1964. Water is released to Edward Hyatt powerhouse through penstock in left abutment of dam and to Palermo Canal (station 11406810) through concrete tunnel also in left abutment of dam. Three of the total of six turbines in the Edward Hyatt powerplant are reversible and during periods of low power demand water is pumped at times from the river back into Lake Oroville. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.
COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project. Contents not rounded to Geological Survey standards.
EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 3,536,000 acre-ft (4.36 km³) June 4, 1973, gage height, 899.88 ft (274.283 m); minimum since initial storage began, 882,395 acre-ft (1.09 km³) Sept. 7, 1977, gage height, 645.11 ft (196.630 m).
EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,828,147 acre-ft (2.25 km³) Oct. 3, gage height, 765.66 ft (233.373 m); minimum, 882,395 acre-ft (1.09 km³) Sept. 7, gage height, 645.11 ft (196.630 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

640	852192	730	1498175	820	2425571
650	911975	740	1586086	830	2548850
660	974560	750	1677554	840	2676446
670	1040003	760	1772690	850	2808349
680	1108406	770	1871511	860	2944741
690	1179915	780	1974240	870	3085747
700	1254634	790	2080969	880	3231454
710	1332547	800	2191742	890	3382038
720	1413685	810	2306597	900	3537577

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1824089	1735623	1680635	1626250	1605175	1568582	1564316	1396622	1352527	1197035	984770	892483
2	1826266	1729039	1678394	1629812	1604090	1561565	1565737	1387938	1346111	1192904	980908	892061
3	1828147	1721331	1676155	1624437	1602283	1560235	1566537	1379943	1336049	1184966	973856	889893
4	1821024	1721901	1681195	1625794	1601922	1563074	1563872	1374901	1331355	1179184	970150	886889
5	1823792	1720571	1684748	1621692	1598854	1562807	1562098	1368251	1331991	1174441	966963	886289
6	1820234	1722852	1680728	1619143	1601651	1567693	1561565	1368656	1321921	1166156	967664	884670
7	1816681	1724278	1674012	1619871	1594170	1555543	1557312	1368009	1315684	1154453	964292	882395
8	1812345	1717629	1666479	1623879	1586086	1552007	1559438	1370114	1316078	1148992	959407	885209
9	1814611	1710714	1663880	1628442	1578925	1546186	1562364	1368737	1310488	1143692	951388	890314
10	1815695	1702311	1661285	1628990	1576246	1537834	1564849	1370682	1303895	1138125	947615	894292
11	1813428	1700897	1662211	1624243	1574194	1540380	1561565	1370195	1299669	1133642	945419	897737
12	1814217	1701086	1663139	1622147	1582234	1547243	1557047	1372628	1299982	1129384	934864	900221
13	1813034	1708918	1659618	1615870	1588867	1556339	1551831	1371654	1294673	1117946	932067	902041
14	1812444	1720287	1656934	1614871	1588329	1551654	1540907	1370276	1289611	1111206	929895	902952
15	1810869	1716207	1655270	1616779	1588149	1542578	1536693	1372547	1284408	1100874	918906	905263
16	1809885	1710620	1652777	1621965	1587790	1540820	1534589	1370276	1275897	1100596	910019	909408
17	1809000	1710431	1649087	1618142	1584921	1542578	1533100	1369143	1269423	1102406	902406	910202
18	1805168	1701368	1650101	1614962	1582324	1543809	1525844	1369223	1268654	1095734	899554	911669
19	1798795	1701651	1650839	1613963	1583398	1552891	1520265	1368899	1267885	1084813	897001	911608
20	1787949	1702782	1647797	1611060	1584652	1564228	1511142	1369061	1260061	1076295	902527	912526
21	1776277	1703819	1646048	1611967	1588688	1569116	1499468	1367442	1253413	1067687	907883	913383
22	1770460	1701462	1642644	1613781	1584921	1569917	1491721	1368980	1247776	1053040	905324	914547
23	1770847	1696568	1637595	1616052	1580266	1568582	1489659	1367685	1242763	1043956	903742	916203
24	1771235	1694030	1636128	1609882	1577675	1565116	1485457	1365743	1235120	1044493	901495	916571
25	1767748	1695627	1637411	1606079	1576246	1566625	1475199	1363077	1234743	1035593	901616	916203
26	1762236	1696568	1634479	1603548	1577139	1569294	1463294	1358560	1235498	1025818	899797	916264
27	1753462	1698920	1633746	1605989	1578836	1571075	1451709	1356145	1225182	1017028	896527	914057
28	1747405	1696568	1633837	1600748	1572411	1568582	1437588	1358157	1216271	1011372	894171	912220
29	1742034	1691777	1630544	1604632	---	1567426	1422149	1359688	1214031	1000060	891278	913260
30	1742609	1686340	1630361	1610788	---	1563429	1406826	1361463	1202953	995963	889172	915160
31	1743280	---	1627254	1605898	---	1564494	---	1353410	---	996872	891820	---
MAX	1828147	1735623	1684748	1629812	1605175	1571075	1566537	1396622	1352527	1197035	984770	916571
MIN	1742034	1686340	1627254	1600748	1572411	1537834	1406826	1353410	1202953	995963	889172	882395
†	756.95	750.94	744.55	742.20	738.47	737.58	719.17	712.61	693.13	663.46	646.68	650.52
‡	-84669	-56940	-59086	-21356	-33487	-7917	-157668	-53416	-150457	-206081	-105052	+23340
††	4281	1928	1823	691	1461	2104	3657	2752	4873	5455	4372	3219

CAL YR 1976 ‡ +234
WTR YR 1977 ‡ -912789

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Evaporation, in acre-feet.

11406810 PALERMO CANAL NEAR OROVILLE, CA

LOCATION.--Lat 39°31'59", long 121°28'54", in SW¼SW¼ sec.1, T.19 N., R.4 E., Butte County, on right bank 50 ft (15 m) downstream from Oroville Dam, and 4.4 mi (7.1 km) east of Oroville.

PERIOD OF RECORD.--April 1965 to current year. Daily discharge of diversion from Kelly Ridge penstock for period April 1965 to October 1968 when Kelly Ridge penstock supplied the entire flow of Palermo Canal are in files of California district office of Geological Survey.

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 547.67 ft (166.930 m), levels by California Department of Water Resources. April 1965 to October 1968, water-stage recorder and Parshall flume at site of diversion from Kelly Ridge penstock, 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Canal diverts from left end of Oroville Dam. Water is used for irrigation near Oroville. During period of construction of Oroville Dam, water was released from Kelly Ridge penstock to meet irrigation requirements.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 12.2 ft^3/s (0.346 m^3/s) 8,840 acre-ft/yr (10.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft^3/s (0.79 m^3/s) several days in July to September 1967; no flow at times in 1967, 1970, 1974-75.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	4.9	4.5	2.9	2.4	3.2	12	21	21	21	22
2	15	12	4.9	3.0	2.9	2.4	3.2	12	21	21	20	22
3	15	12	4.9	3.0	2.9	2.4	3.2	11	21	21	20	22
4	15	12	4.9	4.5	2.9	2.4	4.8	9.6	21	21	20	22
5	15	12	4.9	4.5	2.9	2.4	7.5	8.4	21	21	20	22
6	15	12	4.9	4.5	2.9	2.4	9.7	6.4	21	21	20	22
7	15	12	4.9	4.5	2.9	2.4	11	5.9	21	20	21	22
8	15	12	4.9	4.5	2.9	2.4	14	5.9	21	20	21	22
9	15	11	4.6	4.5	2.4	1.8	15	5.2	21	20	21	22
10	15	9.8	4.1	4.5	2.0	1.5	15	4.0	21	21	20	22
11	15	9.8	4.1	4.5	2.0	1.5	15	4.0	21	21	20	22
12	15	9.8	4.2	4.5	2.0	2.0	15	4.0	21	21	20	22
13	15	9.8	4.2	4.5	2.0	1.9	15	4.0	21	21	20	21
14	15	9.9	4.2	4.5	2.1	1.4	15	4.0	21	21	20	21
15	15	8.8	4.2	4.5	2.0	1.4	16	3.9	21	21	21	21
16	15	7.5	4.2	4.5	2.1	1.3	17	5.3	21	21	21	20
17	15	7.5	4.1	4.5	2.7	1.3	17	9.7	20	21	21	19
18	15	7.5	4.1	4.5	3.4	1.3	17	14	20	21	21	18
19	15	6.6	4.1	4.5	3.4	1.3	17	17	20	21	21	16
20	15	4.9	5.0	4.5	3.5	1.3	17	20	20	21	21	15
21	15	4.9	6.4	4.5	3.5	1.3	17	21	21	21	21	15
22	15	5.0	6.4	4.5	3.1	1.3	17	21	23	21	22	15
23	15	5.0	6.4	4.5	2.4	1.3	17	21	22	21	22	14
24	15	5.0	6.4	4.5	2.4	1.4	17	21	21	21	23	12
25	15	5.0	6.4	4.5	2.4	1.4	17	21	21	21	22	13
26	15	5.1	6.4	4.5	2.4	1.4	15	21	21	20	22	13
27	15	5.0	6.4	4.5	2.4	1.4	13	21	21	20	22	13
28	15	5.0	6.4	3.8	2.4	1.4	12	21	21	20	22	11
29	15	4.9	6.4	2.9	---	1.3	12	21	21	20	22	9.9
30	15	4.9	5.8	2.9	---	1.4	12	21	21	20	22	9.9
31	15	---	4.5	2.9	---	2.2	---	21	---	21	22	---
TOTAL	465	249.7	158.2	131.0	73.8	53.0	396.6	397.3	629	643	652	540.8
MEAN	15.0	8.32	5.10	4.23	2.64	1.71	13.2	12.8	21.0	20.7	21.0	18.0
MAX	15	13	6.4	4.5	3.5	2.4	17	21	23	21	23	22
MIN	15	4.9	4.1	2.9	2.0	1.3	3.2	3.9	20	20	20	9.9
AC-FT	922	495	314	260	146	105	787	788	1250	1280	1290	1070

CAL YR 1976 TOTAL 4967.53 MEAN 13.6 MAX 26 MIN .13 AC-FT 9850
WTR YR 1977 TOTAL 4389.40 MEAN 12.0 MAX 23 MIN 1.3 AC-FT 8710

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE¼SE¼ sec.33, T.19 N., R.3 E., Butte County, at dam 195 ft (59 m) northeast of centerline of outlet structure, and 5.7 mi (9.2 km) southwest of Oroville.

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

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft (30.623 m) above mean sea level (levels by California Department of Water Resources). Auxiliary water-stage recorder 90 ft (27 m) southwest of centerline of Western Canal outlet, and 7.2 mi (11.6 km) west of Oroville.

REMARKS.--Reservoir is formed by an earthfill dam completed in 1967; diversion from the reservoir began Oct. 12, 1967. Usable capacity, 61,144 acre-ft (75.4 hm^3) between gage heights 120.0 ft (36.58 m) and 139.0 ft (42.37 m) extreme operating levels. Normal operating range is 123 ft (37.5 m) to 136.5 ft (41.61 m). Water is released to four canals (stations 11406880, 11406890, 11406900, and 11406910), and to the Feather River (station 11406920) from the reservoir. Total maximum release to the four canals is approximately 4,000 ft^3/s (113 m^3/s). Water is pumped, at times, from Thermalito Afterbay back into Thermalito Forebay during off-peak periods to be re-released through Thermalito powerplant for power generation during peak demand periods. Records, including extremes, represent total contents at 2400 hours. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,300 acre-ft (70.7 hm^3) May 24, 1969, gage height, 136.56 ft (41.623 m); minimum since initial operation began, 5,590 acre-ft (6.89 hm^3) Mar. 1, 1968, gage height, 119.09 ft (36.299 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 48,030 acre-ft (59.2 hm^3) Mar. 10, gage height, 134.33 ft (40.944 m); minimum, 12,976 acre-ft (16.0 hm^3) Dec. 28, gage height, 123.04 ft (37.503 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

120	7054	128	25832
122	10792	130	32150
124	15157	134	46719
126	20171	139	68198

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32517	18266	22357	15180	16913	26192	18012	30541	17484	20492	34174	33527
2	27473	21690	23518	13530	17911	32051	16521	31984	18780	17309	33867	33935
3	22469	27257	24326	17086	18317	31588	15298	33155	23805	17835	34723	32986
4	26829	24414	19221	18857	18317	26951	17210	34178	21967	16692	33222	33867
5	22162	23604	13799	23661	19693	26525	19958	36679	16133	14853	30606	32450
6	24618	20681	15797	27813	16229	21142	22554	33629	21498	16302	24530	35069
7	27104	17434	20681	27534	22273	31819	25832	29289	24007	20573	19641	37425
8	30671	22469	26132	23518	29193	35277	22218	24530	19273	19825	19641	35765
9	26525	28093	26737	16012	36255	39339	18599	24414	19091	18368	24123	31292
10	22807	35765	26951	15345	39084	48030	15180	22218	21060	17160	22807	27043
11	23921	37175	24007	19091	39413	44338	14853	21580	20011	16229	19509	23719
12	22948	37104	21196	19693	30250	36749	15749	19273	15511	15016	24472	22218
13	23404	27043	21525	24941	22610	28093	17559	18012	16060	20064	22023	21251
14	21967	15392	21580	25148	21196	32217	24530	18496	16570	21251	19091	20118
15	20251	16839	20492	22835	19772	40037	24123	15416	16987	27104	24530	18961
16	17785	20064	21443	14853	19221	43149	19825	16987	19772	23005	28249	18368
17	14853	18368	22078	17962	19825	42997	15416	17835	22078	16913	30541	17484
18	15180	28186	19221	19273	21006	43493	15844	17086	18088	17086	29544	16839
19	17160	25623	16351	19588	18088	35138	16133	16741	15416	21690	32283	18190
20	22807	22413	15749	20762	15298	23461	20011	16399	17911	22554	28186	17086
21	30153	19221	15677	19325	13530	16815	26737	16987	19273	22218	23518	16351
22	30541	21580	16133	16913	15844	16864	28908	14923	20198	28186	24882	15677
23	25296	23661	18676	13844	20681	16815	21635	14322	20816	29575	26434	15086
24	20011	24735	18088	18088	22078	20118	17309	15251	23318	21333	27751	14230
25	19221	21635	15180	22078	23661	19091	18317	16060	19509	21525	27257	13530
26	19039	18496	16181	24065	21746	17086	18728	20304	14529	25414	28311	13373
27	22554	15630	14923	21580	19772	14923	19039	22666	18728	25922	31160	14853
28	23461	14162	12976	26373	23318	16012	21251	20304	22666	24677	32751	16987
29	24065	15298	14644	20198	---	16399	25533	18088	18599	30997	35381	17210
30	19772	18496	14003	13642	---	19509	30024	15600	21773	32217	37747	16012
31	15463	---	15180	17210	---	18088	---	20627	---	27043	35069	---
MAX	32517	37175	26951	27813	39413	48030	30024	36679	24007	32217	37747	37425
MIN	14853	14162	12976	13530	13530	14923	14853	14322	14529	14853	19091	13373
†	124.13	125.36	124.01	124.85	127.14	125.20	129.35	126.17	126.59	128.40	130.86	124.36
‡	-15534	+3033	-3316	+2030	+6108	-5230	+11936	-9397	+1146	+5270	+8026	-19057
††	1193	591	339	148	349	814	1358	1136	1785	2252	2227	1534

CAL YR 1976 ‡ -32770
WTR YR 1977 ‡ -14985

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.
†† Evaporation, in acre-feet.

11406880 WESTERN CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW¼NW¼ sec.18, T.19 N., R.3 E., Butte County, on left bank 500 ft (152 m) downstream from Thermalito Afterbay Dam, and 7.3 mi (11.7 km) west of Oroville.

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

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft (30.623 m) above mean sea level (levels by California Department of Water Resources).

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--9 years, 298 ft^3/s (8.439 m^3/s), 215,900 acre-ft/yr (266 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,170 ft^3/s (33.1 m^3/s) Apr. 24, 27, 28, 1977; no flow for several months most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	243	410	390	245			0	1110	557	777	718	143
2	243	409	301	245			0	1080	628	768	716	143
3	244	409	392	245			0	964	697	754	716	143
4	243	409	391	245			29	903	766	748	718	126
5	244	407	390	247			39	788	780	748	719	90
6	245	410	390	245			82	728	782	756	719	84
7	243	408	390	244			162	702	787	741	717	53
8	243	410	390	243			153	610	790	736	705	38
9	243	415	392	241			133	528	772	726	687	38
10	244	415	393	240			114	392	755	715	687	39
11	245	414	391	245			181	308	735	700	674	44
12	243	413	391	247			204	281	712	688	655	56
13	243	404	392	249			294	285	683	692	628	34
14	243	400	392	246			420	316	663	710	600	37
15	308	400	392	247			496	304	661	728	585	34
16	411	395	395	245			591	293	661	725	571	32
17	410	263	395	245			645	297	670	724	559	32
18	409	313	394	245			654	320	673	725	548	32
19	410	393	392	247			684	342	671	728	549	102
20	411	392	391	153			857	363	670	730	540	81
21	410	392	392	0			999	368	680	745	507	12
22	410	393	391	0			1030	370	688	749	463	16
23	410	387	360	0			1090	361	698	737	425	12
24	411	386	321	0			1170	346	732	734	400	11
25	410	387	321	0			1150	330	747	740	339	11
26	409	387	320	0			1160	295	750	740	290	11
27	411	385	320	0			1170	285	756	741	267	11
28	410	390	319	0			1170	310	762	742	241	11
29	410	260	320	0	---		1150	348	768	734	229	11
30	410	244	272	0	---		1140	404	778	731	211	11
31	410	---	247	0	---		---	490	---	726	175	---
TOTAL	10279	11500	11327	4809	0	0	16967	14821	21472	22738	16558	1498
MEAN	332	383	365	155	0	0	566	478	716	733	534	49.9
MAX	411	415	395	249	0	0	1170	1110	790	777	719	143
MIN	243	244	247	0	0	0	0	281	557	688	175	11
AC-FT	20390	22810	22470	9540	0	0	33650	29400	42590	45100	32840	2970

CAL YR 1976 TOTAL 133994.00 MEAN 366 MAX 1140 MIN 0 AC-FT 265800
WTR YR 1977 TOTAL 131969.00 MEAN 362 MAX 1170 MIN 0 AC-FT 261800

11406890 RICHVALE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'19", long 121°41'06", in SW¼NW¼ sec.18, T.19 N., R.3 E., Butte County, on right bank 500 ft (152 m) downstream from axis of Thermalito Afterbay Dam, and 7.3 mi (11.7 km) west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 100.47 ft (30.623 m) above mean sea level (levels by California Department of Water Resources).

REMARKS.--Canal diverts from Thermalito Afterbay; water is used for irrigation. The canal is part of the Oroville project. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--9 years, 115 ft^3/s (3.257 m^3/s) 83,320 acre-ft/yr (103 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft^3/s (14.5 m^3/s) May 16, 1974; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0						0	369	161	282	271	76
2	0						0	357	176	282	263	59
3	0						0	328	188	274	259	34
4	0						0	320	203	266	260	24
5	0						9.4	319	216	259	266	24
6	0						39	297	184	259	271	24
7	0						40	273	239	270	270	12
8	0						27	235	252	274	270	0
9	0						26	197	261	268	270	0
10	0						25	138	261	269	268	0
11	0						8.9	122	249	268	250	0
12	0						0	109	236	261	229	0
13	0						0	103	232	259	223	0
14	0						0	103	231	260	223	0
15	12						0	102	231	258	217	0
16	21						0	121	226	259	206	0
17	21						0	141	221	259	190	0
18	21						0	141	221	265	181	0
19	8.0						0	138	220	268	180	0
20	0						0	122	220	266	170	0
21	0						0	97	221	267	168	0
22	0						0	89	221	268	169	0
23	0						46	90	228	267	168	0
24	0						173	85	232	267	164	0
25	0						222	77	232	268	144	0
26	0						270	76	240	295	133	0
27	0						349	78	248	291	128	0
28	0						394	78	265	274	123	0
29	0				---		393	91	276	270	115	0
30	0				---		393	97	280	270	110	0
31	0	---			---		---	124	---	270	89	---
TOTAL	83.0	0	0	0	0	0	2415.3	5017	6871	8333	6248	253
MEAN	2.68	0	0	0	0	0	80.5	162	229	269	202	8.43
MAX	21	0	0	0	0	0	394	369	280	295	271	76
MIN	0	0	0	0	0	0	0	76	161	258	89	0
AC-FT	165	0	0	0	0	0	4790	9950	13630	16530	12390	502

CAL YR 1976 TOTAL 47839.00 MEAN 131 MAX 484 MIN 0 AC-FT 94890
WTR YR 1977 TOTAL 29220.30 MEAN 80.1 MAX 394 MIN 0 AC-FT 57960

11406900 PACIFIC GAS AND ELECTRIC CO. LATERAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°29'22", long 121°41'12", in SE¼NW¼ sec.19, T.19 N., R.3 E., Butte County, on right bank 82 ft (25 m) downstream from axis of Thermalito Afterbay Dam, and 7.2 mi (11.6 km) west of Oroville.

PERIOD OF RECORD.--April 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft (34.586 m) above mean sea level (levels by California Department of Water Resources).

REMARKS.--Flow regulated at outlet works from Thermalito Afterbay; water is used for irrigation. Records for some years include diversions from Thermalito Afterbay into Pacific Gas and Electric Co. lateral via Duncan lateral siphon. No diversion was made during the current year to Duncan lateral siphon.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--9 years, 4.71 ft^3/s (0.133 m^3/s), 3,410 acre-ft/yr (4.20 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft^3/s (1.30 m^3/s) Apr. 24, 1977; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	14	12	15	15	1.2
2							0	14	12	15	14	0
3							0	13	13	15	14	0
4							0	12	13	15	15	0
5							0	11	13	15	15	0
6							0	9.7	14	15	13	.90
7							0	9.4	14	15	13	.50
8							0	8.8	14	15	13	0
9							0	8.3	14	14	13	0
10							0	6.4	14	14	13	0
11							0	5.8	15	13	13	0
12							0	5.8	14	14	13	0
13							0	5.8	14	14	13	0
14							6.0	5.6	12	14	13	0
15							11	5.8	12	14	13	0
16							12	5.2	13	14	13	0
17							12	4.8	13	14	12	0
18							12	4.8	12	14	11	0
19							26	4.8	12	14	11	0
20							38	4.8	12	14	11	0
21							44	5.4	12	15	10	0
22							42	7.2	13	15	9.7	0
23							45	7.9	13	15	6.8	0
24							46	7.9	15	15	4.8	0
25							36	8.1	15	15	4.8	0
26							27	7.9	15	15	4.8	0
27							26	7.9	15	15	4.5	0
28							25	9.4	15	15	3.8	0
29					---		20	11	15	15	3.8	0
30					---		15	11	15	15	2.8	0
31		---			---		---	11	---	15	2.3	---
TOTAL	0	0	0	0	0	0	443.00	254.5	405	452	319.1	2.60
MEAN	0	0	0	0	0	0	14.8	8.21	13.5	14.6	10.3	.087
MAX	0	0	0	0	0	0	46	14	15	15	15	1.2
MIN	0	0	0	0	0	0	.00	4.8	12	13	2.3	0
AC-FT	0	0	0	0	0	0	879	505	803	897	633	5.2

CAL YR 1976	TOTAL	1954.90	MEAN 5.34	MAX 42	MIN 0	AC-FT	3880
WTR YR 1977	TOTAL	1876.20	MEAN 5.14	MAX 46	MIN 0	AC-FT	3720

11406910 SUTTER-BUTTE CANAL AT INTAKE, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'01", long 121°39'27", in NW corner of Boga Fernandez Grant, T.18 N., R.3 E., Butte County, on left bank 675 ft (206 m) downstream from Thermalito Afterbay Dam, and 6.8 mi (10.9 km) southwest of Oroville.

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

GAGE.--Water-stage recorder. Datum of gage is 109.97 ft (33.519 m) above mean sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 109.50 ft (33.376 m) lower.

REMARKS.--Water is diverted from Thermalito Afterbay and is used for irrigation. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--9 years, 654 ft^3/s (18.52 m^3/s), 473,800 acre-ft/yr (5.84 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft^3/s (59.8 m^3/s) Apr. 22-24, 1968; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	414	0	11		0	284	31	1370	683	936	969	593
2	421	0	12		66	342	34	1270	776	931	962	595
3	410	0	12		101	342	23	1110	866	894	959	609
4	412	0	12		102	332	2.5	1000	887	851	959	600
5	408	0	11		184	110	33	902	893	869	966	612
6	0	0	12		199	67	91	814	873	914	938	671
7	0	0	12		208	90	102	779	877	949	899	707
8	410	0	11		247	99	101	817	886	952	842	676
9	409	0	12		262	115	100	761	886	949	819	672
10	409	0	12		304	163	101	675	888	926	837	635
11	411	0	12		410	196	87	602	904	921	942	589
12	410	0	11		397	202	50	612	872	918	823	215
13	411	0	11		388	196	50	640	874	937	790	207
14	410	0	19		450	188	50	596	844	938	752	182
15	409	0	23		513	297	49	522	846	918	768	184
16	410	0	22		536	485	47	207	840	892	781	110
17	409	0	22		607	551	49	199	828	863	789	55
18	412	0	21		696	576	51	190	781	876	783	54
19	411	0	21		752	585	50	183	760	904	765	40
20	412	0	20		750	605	90	170	760	910	740	11
21	413	0	20		588	626	135	164	769	909	756	11
22	412	0	20		490	750	182	164	802	916	748	.48
23	409	0	20		429	793	408	166	830	891	749	.33
24	410	0	21		379	783	669	179	851	888	744	.20
25	411	0	21		407	726	1000	180	841	905	713	.14
26	411	0	20		395	702	1270	165	824	948	702	.03
27	412	0	12		342	662	1330	144	878	960	677	0
28	411	0	0		265	623	1380	289	916	976	673	107
29	206	11	0		---	701	1400	341	914	994	639	179
30	0	11	0		---	711	1380	351	956	986	588	187
31	0	---	0		---	646	---	540	---	956	590	---
TOTAL	10893	22	433	0	10467	13548	10345.5	16092	25405	28577	24662	8502.18
MEAN	351	.73	14.0	0	374	437	345	519	847	922	796	283
MAX	421	11	23	0	752	793	1400	1370	956	994	969	707
MIN	0	0	0	0	0	67	2.5	144	683	851	588	0
AC-FT	21610	44	859	0	20760	26870	20520	31920	50390	56680	48920	16860

CAL YR 1976 TOTAL 280963.00 MEAN 768 MAX 2000 MIN 0 AC-FT 557300
WTR YR 1977 TOTAL 148946.68 MEAN 408 MAX 1400 MIN 0 AC-FT 295400

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER, NEAR OROVILLE, CA

LOCATION.--Lat 39°27'23", long 121°38'10", in NW¼SE¼ sec.33, T.19 N., R.3 E., Butte County, on left bank of outlet channel 955 ft (291 m) downstream from centerline of Thermalito Afterbay Dam, and 5.7 mi (9.2 km) southwest of Oroville.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 113.47 ft (34.586 m) above mean sea level (levels by California Department of Water Resources). Prior to May 1, 1970, at datum 13.00 ft (3.962 m) lower.

REMARKS.--Flow regulated by gates of Thermalito Afterbay outlet 955 ft (291 m) upstream. See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records collected by California Department of Water Resources, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--9 years, 4,246 ft^3/s (120.2 m^3/s), 3,076,000 acre-ft/yr (3.79 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft^3/s (612 m^3/s) Jan. 28, 1970, gage height, 23.30 ft (7.102 m) previous datum; no flow for many days in 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,050 ft^3/s (86.4 m^3/s) Apr. 29, gage height, 3.56 ft (1.085 m); minimum daily, 330 ft^3/s (9.35 m^3/s) Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1910	1660	1140	785	788	815	698	2570	786	1750	1560	1540
2	1900	1470	1130	787	785	824	699	2000	1190	1740	1560	1550
3	1900	1320	1130	792	791	795	697	988	1190	1750	1550	1540
4	1910	1260	1110	798	791	796	697	751	1170	1760	1560	1550
5	1890	1250	1110	796	788	796	722	496	1160	1450	1280	1550
6	1920	1260	1130	790	772	775	1150	401	982	1280	1070	1560
7	1840	1260	1130	785	786	790	1190	392	782	1280	1060	1560
8	1640	1280	1140	775	789	686	1580	393	776	1280	821	1560
9	1440	1280	1130	774	788	597	1570	397	782	1290	681	1550
10	1290	1280	1130	784	789	595	1570	391	787	1280	667	1510
11	1240	1270	1120	788	784	593	1580	398	780	1070	875	1030
12	1240	1280	1110	791	769	583	1580	391	780	979	1050	551
13	1250	1260	1120	792	775	565	1680	385	780	990	1050	343
14	1240	1250	1130	800	783	569	2240	397	780	1280	1030	335
15	1200	1260	1120	782	787	584	2730	387	780	1470	1070	345
16	1110	1280	1120	777	782	589	2710	397	780	1460	1070	347
17	1110	1280	1130	792	788	400	2730	392	780	1450	1070	342
18	1120	1290	1120	800	788	396	2730	397	780	1470	948	336
19	1400	1280	1100	793	771	398	2520	396	780	1730	690	336
20	1710	1260	1120	794	772	397	2370	394	780	2170	573	383
21	1880	1270	1120	789	776	396	2420	388	770	2360	858	330
22	1930	1280	1120	782	789	396	2690	384	765	2370	1070	337
23	1920	1290	1130	774	791	402	2880	390	763	2360	1070	333
24	1920	1290	1130	787	793	400	2960	399	1050	2340	1070	342
25	1920	1220	1110	793	789	398	2980	398	1270	1950	1370	337
26	1930	1160	1120	784	775	394	2980	398	1270	1610	1570	332
27	1930	1110	1030	786	765	396	2970	397	1290	1560	1580	336
28	1930	1120	922	776	787	398	2990	386	1280	1560	1580	344
29	1830	1130	859	773	---	396	2990	385	1470	1580	1570	341
30	1740	1140	785	774	---	476	2980	383	1770	1560	1570	337
31	1730	---	787	789	---	697	---	393	---	1540	1550	---
TOTAL	50920	38040	33583	24382	21931	17292	62283	17014	29103	49719	36093	23187
MEAN	1643	1268	1083	787	783	558	2076	549	970	1604	1164	773
MAX	1930	1660	1140	800	793	824	2990	2570	1770	2370	1580	1560
MIN	1110	1110	785	773	765	394	697	383	763	979	573	330
AC-FT	101000	75450	66610	48360	43500	34300	123500	33750	57730	98620	71590	45990

CAL YR 1976 TOTAL 604062 MEAN 1650 MAX 3410 MIN 646 AC-FT 1198000
WTR YR 1977 TOTAL 403547 MEAN 1106 MAX 2990 MIN 330 AC-FT 800400

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: May 1968 to current year.

INSTRUMENTATION.--Temperature recorder since May 1968.

REMARKS.--Temperature is listed only when water is released from Thermalito Afterbay. Because of the complete regulation of the Feather River below Oroville Dam, the temperature of the water released from Thermalito Afterbay affects the temperature of the Feather River downstream from the Oroville project.

COOPERATION.--Records furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.5°C June 23, 1977; minimum recorded, 1.5°C Dec. 13, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.5°C June 23; minimum recorded, 4.0°C Jan. 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.5	13.0	15.5	15.0	25.5	22.0	24.0	23.0	24.5	21.0	23.0	22.0
2	14.5	13.5	16.0	15.0	24.0	22.0	23.5	21.5	22.0	20.5	23.5	22.0
3	15.5	13.5	16.0	14.5	23.5	21.5	23.0	21.5	21.5	20.5	24.5	22.0
4	16.0	15.0	17.0	15.5	25.0	21.5	22.0	20.5	21.5	21.0	24.5	23.0
5	18.5	16.0	16.5	16.0	26.5	22.0	23.0	20.5	23.0	21.5	25.5	23.5
6	19.5	16.5	16.5	16.0	25.5	24.0	24.0	21.0	22.0	22.0	26.0	24.0
7	18.0	17.0	17.0	15.5	27.0	23.5	24.5	21.5	23.5	21.5	25.5	24.0
8	18.0	16.5	18.0	16.5	25.0	23.0	23.5	21.5	24.0	22.0	26.0	24.5
9	18.0	16.0	17.0	16.5	24.5	22.0	23.0	21.5	24.0	23.0	25.5	25.0
10	17.0	15.0	16.5	16.0	22.0	21.0	25.5	21.5	25.0	23.0	25.0	24.5
11	17.0	15.5	16.0	16.0	24.0	20.0	25.5	22.0	25.5	23.5	25.0	24.0
12	18.5	15.5	18.5	16.0	23.5	21.0	24.0	22.0	24.5	23.5	25.0	23.5
13	19.0	17.0	19.5	17.0	23.5	20.5	24.0	21.5	24.5	23.0	24.0	23.0
14	17.0	15.5	19.0	17.0	24.0	20.0	25.5	22.0	25.5	23.0	23.0	22.0
15	16.0	15.5	20.5	18.5	23.0	20.5	24.0	21.5	25.0	23.0	22.0	20.5
16	18.5	16.0	19.5	16.5	23.5	21.5	24.0	21.0	25.0	23.0	20.5	19.0
17	16.5	15.0	19.5	17.0	21.5	20.5	23.5	21.0	23.5	22.0	18.5	18.5
18	15.5	14.0	19.0	18.0	23.0	20.0	23.5	21.5	23.0	21.5	19.0	18.0
19	15.0	13.5	19.5	16.5	24.0	21.0	24.0	22.0	23.0	21.5	19.0	19.0
20	15.5	14.5	20.0	18.5	25.0	22.0	23.5	21.5	23.0	21.5	20.5	19.0
21	15.5	14.5	23.0	19.5	24.5	22.0	23.5	21.0	24.5	21.5	21.5	20.0
22	16.0	15.0	20.0	18.5	25.5	23.5	23.0	20.5	26.0	23.5	22.0	20.0
23	17.0	15.5	18.0	16.5	28.5	23.5	23.5	20.5	24.5	23.5	21.0	19.5
24	17.0	16.0	20.0	16.5	26.0	24.0	21.5	20.0	24.0	23.0	21.0	20.0
25	16.0	15.5	19.5	17.0	25.5	24.0	22.0	20.5	23.0	22.0	23.0	20.0
26	16.5	15.0	18.0	18.0	26.0	24.5	24.0	21.0	23.5	21.5	21.5	20.0
27	16.0	15.5	20.5	17.0	26.5	24.5	24.0	22.0	24.0	21.5	21.0	20.5
28	15.5	15.0	21.5	18.0	26.0	24.5	24.5	21.5	23.5	22.0	21.0	20.0
29	15.5	15.0	23.5	19.0	25.5	24.0	24.5	22.0	23.5	22.0	20.0	20.0
30	16.0	15.5	25.5	20.5	24.5	23.0	24.0	22.0	24.0	22.0	20.5	19.5
31	---	---	25.5	21.5	---	---	23.5	21.5	23.5	22.0	---	---
MONTH	19.5	13.0	25.5	14.5	28.5	20.0	25.5	20.0	26.0	20.5	26.0	18.0

11407000 FEATHER RIVER AT OROVILLE, CA

LOCATION.--Lat 39°31'18", long 121°32'48", in Boga Fernandez Grant, T.19 N., R.4 E., Butte County, on right bank 300 ft (91 m) upstream from fish barrier dam on Feather River, and 0.8 mi (1.3 km) northeast of Oroville Post Office.
DRAINAGE AREA.--3,624 mi² (9,386 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1901 to current year. Monthly discharge only for some periods, published in WSP 1315-A. October 1934 to September 1961 published as "near Oroville." Records since October 1967 equivalent to earlier records if diversions out of Thermalito Afterbay are added to flow past station.
REVISED RECORDS.--WSP 843: 1907(M), 1909(M), 1914-15(M), 1919(M), 1927-28(M). WSP 881: 1913-28 (yearly summaries only). WSP 1515: 1906-8. WSP 1931: Drainage area. WDR CA-74-2: 1968-70, adjusted monthly discharge.
GAGE.--Water-stage recorder. Datum of gage is 148.97 ft (45.406 m) above mean sea level (levels by California Department of Water Resources). See WSP 1931 for history of changes prior to Oct. 1, 1964.
REMARKS.--Flow regulated by Lake Oroville (station 11406800) and other powerplants and reservoirs above station. Several diversions above station for power and irrigation. Feather River Fish Hatchery diverts up to 120 ft³/s (3.40 m³/s) at Thermalito diversion dam 0.4 mi (0.6 km) upstream from gage. Diverted flow returns to Feather River approximately 0.3 mi (0.5 km) downstream from gage. Daily figures shown are combined figures of river flow and diversion to fish hatchery. See REMARKS for upstream stations and schematic diagrams showing diversions from Feather River at Lake Oroville and for South Fork Feather River basin.
COOPERATION.--Records collected by California Department of Water Resources under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.
AVERAGE DISCHARGE (adjusted for diversions into and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay).--76 years, 5,872 ft³/s (166.3 m³/s), 4,254,000 acre-ft/yr (5.25 km³/yr).
EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge observed, 230,000 ft³/s (6,510 m³/s) Mar. 19, 1907, elevation, 167.5 ft (51.05 m) above mean sea level; minimum daily, 89 ft³/s (2.52 m³/s) Sept. 19, 1972.
Combined flow (since construction of Oroville Dam), maximum discharge, 56,400 ft³/s (1,600 m³/s) Jan. 25, 1970; minimum daily, 222 ft³/s (6.29 m³/s) Sept. 19, 1972.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of February 1881 reached a stage of 25 ft (7.6 m) from floodmarks, site and datum in use from Dec. 16, 1912, to Sept. 30, 1934.
EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 430 ft³/s (12.2 m³/s) Aug. 10, gage height, 0.65 ft (0.198 m); minimum daily, 264 ft³/s (7.48 m³/s) Sept. 25.
Combined flow, maximum discharge, 533 ft³/s (15.1 m³/s) Aug. 10; minimum daily, 372 ft³/s (10.5 m³/s) May 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	405	407	420	410	408	405	404	372	407	409	408	400
2	404	414	420	410	406	405	406	391	410	401	413	408
3	402	414	420	409	404	407	402	394	414	401	406	407
4	402	409	417	408	405	407	409	400	412	403	406	407
5	401	411	412	405	404	409	416	399	412	399	401	401
6	401	410	414	405	408	410	416	399	414	405	393	400
7	405	405	414	398	409	411	412	407	411	409	388	395
8	410	407	407	395	412	413	405	415	410	406	399	395
9	411	409	405	404	412	413	404	406	402	407	409	390
10	409	413	409	403	412	406	399	397	410	408	424	382
11	407	413	413	398	411	402	401	396	396	414	406	384
12	409	408	413	407	409	401	411	396	395	408	412	390
13	402	408	420	409	411	398	408	398	394	404	406	405
14	398	400	418	405	410	400	400	403	399	404	405	425
15	398	400	418	405	413	406	400	400	403	408	408	421
16	397	403	407	407	413	407	401	396	408	408	408	411
17	397	405	413	408	412	408	399	397	406	405	407	404
18	398	401	426	406	409	408	405	395	406	402	408	401
19	403	393	415	407	404	407	410	395	406	404	407	396
20	404	397	417	409	404	407	409	397	406	406	406	397
21	404	394	419	410	402	404	408	396	411	406	397	398
22	409	389	405	409	406	400	394	389	413	405	399	403
23	413	393	410	405	408	395	383	392	414	404	400	395
24	408	398	412	407	406	434	388	402	413	399	407	394
25	408	394	409	409	405	427	384	402	413	398	414	389
26	409	389	400	407	405	404	385	407	409	407	412	393
27	409	382	395	405	403	400	385	409	404	406	412	397
28	410	388	398	408	404	396	392	407	408	407	413	402
29	413	408	395	405	---	399	400	404	407	409	418	401
30	409	415	400	414	---	404	398	401	410	399	411	400
31	405	---	403	413	---	406	---	401	---	397	401	---
TOTAL	12560	12077	12744	12600	11415	12599	12034	12363	12223	12548	12604	11991
MEAN	405	403	411	406	408	406	401	399	407	405	407	400
MAX	413	415	426	414	413	434	416	415	414	414	424	425
MIN	397	382	395	395	402	395	383	372	394	397	388	382
AC-FT	24910	23950	25280	24990	22640	24990	23870	24520	24240	24890	25000	23780
MEAN ‡	1224	1221	915	1060	1115	1238	1149	1196	859	872	1717	1726
AC-FT ‡	75250	72640	56290	65180	61910	76130	68350	73570	51140	53590	105600	102700

CAL YR 1976 TOTAL 148311 MEAN 405 MAX 431 MIN 369 AC-FT 294200 MEAN ‡ 2095 AC-FT ‡ 1521000
WTR YR 1977 TOTAL 147758 MEAN 405 MAX 434 MIN 372 AC-FT 293100 MEAN ‡ 1191 AC-FT ‡ 862400

‡ Adjusted for diversions in and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay.

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-7, 1951 to current year.
CHEMICAL ANALYSES: Water years 1906-7, 1951 to current year.
SPECIFIC CONDUCTANCE: Water years 1972 to current year.
WATER TEMPERATURES: Water years 1954, 1957 to current year.
SEDIMENT RECORDS: Water years 1957 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: January to December 1906.
SPECIFIC CONDUCTANCE: March 1972 to current year.
WATER TEMPERATURES: October 1953 to September 1954, November 1956 to current year.
SEDIMENT DISCHARGE: November 1956 to current year.

REVISED RECORDS.--WDR CA-74-2: 1966, sediment.

INSTRUMENTATION.--Specific conductance recorder since June 1976. Temperature recorder October 1953 to September 1954, and since November 1956.

REMARKS.--Water-temperature data for the gaging station are obtained from a thermograph located at fish hatchery near fish barrier dam. Chemical and sediment sampling point ranges from 0.2 to 1.5 mi (0.3 to 2.4 km) downstream from gaging station. Extremes affected by construction of Oroville Dam in 1967, and are given for two separate periods--Water years 1954, 1957-67, and 1968 to current year. Extremes for water temperatures are not included for 1968 water year.

COOPERATION.--Records of discharge and temperature data furnished by California Department of Water Resources and reviewed by the Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD (water years 1954, 1957-67).--
WATER TEMPERATURES: Maximum, 27.0°C Sept. 10, 12, 1959; minimum, 1.5°C Dec. 27, 1959, Jan. 23-25, 1962.
SEDIMENT CONCENTRATIONS (water years 1957-67): Maximum daily mean, 4,100 mg/L Feb. 1, 1963; minimum daily mean, 1 mg/L on many days in 1961-62, 1964.
SEDIMENT DISCHARGE (water years 1957-67): Maximum daily, 1,500,000 tons (1,360,000 tonnes) Feb. 1, 1963; minimum daily, 3 tons (2.7 tonnes) Jan. 16, 17, 1962.

Water years 1968-77.--
SPECIFIC CONDUCTANCE (water years 1973-77): Maximum daily recorded, 132 micromhos Aug. 30, 1977; minimum daily recorded, 66 micromhos June 13, 14, 1974, July 1, 1975.
WATER TEMPERATURES (water years 1969-77): Maximum recorded, 20.0°C on several days in 1977; minimum recorded, 6.5°C on many days in 1971-73, 1974-75.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 310 mg/L Jan. 22, 1969; minimum daily mean, 1 mg/L on many days each year.
SEDIMENT DISCHARGE: Maximum daily, 42,100 tons (38,200 tonnes) Jan. 22, 1969; minimum daily, 0.60 ton (0.54 tonne) Sept. 19, 1972.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum daily, 132 micromhos Aug. 30; minimum daily, 86 micromhos Oct. 29.
WATER TEMPERATURES: Maximum recorded, 20.0°C on several days during September; minimum recorded, 7.0°C Jan. 9-11, 16.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 8 mg/L on several days during September; minimum daily mean, 1 mg/L on many days.
SEDIMENT DISCHARGE: Maximum daily, 9.2 tons (8.3 tonnes) Sept. 14; minimum daily, 1.1 tons (1.0 tonne) on many days during November and December.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	TEMPER-ATURE (DEG C)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)
OCT												
07...	1330	405	88	15.5	39	0	9.4	3.7	3.8	17	.3	.8
NOV												
04...	0800	409	95	10.5	41	0	9.8	3.9	4.0	17	.3	.9
DEC												
08...	0800	407	101	8.5	45	1	11	4.2	4.2	17	.3	1.0
FEB												
08...	1500	412	--	--	43	0	9.8	4.4	4.1	17	.3	1.0
MAR												
02...	1630	405	--	--	40	0	9.2	4.2	4.0	17	.3	.9
APR												
07...	0830	412	97	12.0	41	0	9.7	4.0	4.1	18	.3	1.0
MAY												
05...	1000	399	102	12.5	44	0	11	4.1	4.2	17	.3	.8
JUN												
03...	1300	414	97	17.5	47	0	11	4.7	4.6	17	.3	1.1
JUL												
06...	1330	405	109	18.0	49	0	12	4.6	5.0	18	.3	1.0
SEP												
07...	1225	395	--	--	54	0	--	--	--	15	.3	--

11407000 FEATHER RIVER NEAR OROVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)
OCT											
07...	47	0	39	2.3	1.5	.1	55	.07	60.1	.81	.03
NOV											
04...	50	--	41	5.5	1.1	.1	60	.08	66.3	.06	.03
DEC											
08...	53	--	43	4.9	1.6	.0	70	.10	76.9	.17	.01
FEB											
08...	60	--	49	5.3	1.5	.1	62	.08	69.0	.11	.02
MAR											
02...	58	--	48	4.7	1.3	.0	68	.09	74.4	.05	.02
APR											
07...	59	--	48	3.0	1.4	.2	72	.10	80.1	.02	.01
MAY											
05...	59	--	48	2.9	1.5	.0	55	.07	59.3	.04	.03
JUN											
03...	61	--	50	2.0	1.5	.1	61	.08	68.2	.02	.01
JUL											
06...	63	--	52	2.7	1.7	.1	62	.08	67.8	.04	.02
SEP											
07...	73	--	60	--	1.8	--	--	.09	--	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94		---	108	102	93	96	100	110	104	122	129
2	94		---	109	100	93	94	100	113	112	121	124
3	94		---	109	99	92	94	100	113	110	122	128
4	94		---	108	103	92	95	99	112	107	122	127
5	93		---	108	101	93	93	102	112	108	123	127
6	91		---	106	102	93	94	109	112	108	123	124
7	93		---	108	104	94	94	107	111	118	124	125
8	93		---	111	93	95	98	106	113	116	124	125
9	93		---	108	99	94	98	106	115	116	124	124
10	93		---	110	100	92	97	107	113	115	126	125
11	94		---	110	99	92	95	108	112	117	125	125
12	94		---	97	99	92	96	108	112	118	125	126
13	93		---	97	97	94	97	108	113	112	125	123
14	91		---	94	95	92	97	108	112	111	125	127
15	90		---	95	99	93	96	108	112	117	125	129
16	91		---	96	98	93	98	106	112	116	124	126
17	90		---	96	98	94	96	108	112	115	124	124
18	90		98	98	98	93	96	109	111	110	126	123
19	92		98	96	98	95	96	106	111	115	125	123
20	91		100	95	97	93	96	102	112	118	128	122
21	88		100	95	95	94	95	110	111	117	126	122
22	88		101	99	97	95	97	111	110	117	126	123
23	87		102	100	95	94	97	111	112	119	122	123
24	87		103	98	97	94	98	110	111	120	125	122
25	87		104	100	93	94	99	110	109	120	127	123
26	88		104	102	97	95	96	111	108	121	128	123
27	88		105	98	91	94	96	111	112	121	128	124
28	89		106	101	93	95	99	112	108	121	127	123
29	86		107	101	---	91	98	111	111	121	127	123
30	---		107	99	---	94	97	111	111	121	132	121
31	---		107	100	---	93	---	111	---	121	127	---
MONTH	91		---	102	98	93	96	107	112	116	125	124
YEAR	MAX	132	MIN	86	MEAN	106						

11407000 FEATHER RIVER NEAR OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER		
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	405	5	5.5	407	2	2.2	420	1	1.1
2	404	5	5.5	414	2	2.2	420	1	1.1
3	402	4	4.3	414	2	2.2	420	1	1.1
4	402	4	4.3	409	2	2.2	417	1	1.1
5	401	4	4.3	411	2	2.2	412	1	1.1
6	401	4	4.3	410	2	2.2	414	1	1.1
7	405	4	4.4	405	2	2.2	414	1	1.1
8	410	4	4.4	407	2	2.2	407	1	1.1
9	411	4	4.4	409	2	2.2	405	1	1.1
10	409	4	4.4	413	2	2.2	409	1	1.1
11	407	4	4.4	413	2	2.2	413	1	1.1
12	409	3	3.3	408	2	2.2	413	1	1.1
13	402	3	3.3	408	2	2.2	420	1	1.1
14	398	3	3.2	400	2	2.2	418	1	1.1
15	398	3	3.2	400	2	2.2	418	1	1.1
16	397	3	3.2	403	2	2.2	407	1	1.1
17	397	3	3.2	405	2	2.2	413	1	1.1
18	398	3	3.2	401	2	2.2	426	1	1.2
19	403	3	3.3	393	2	2.1	415	1	1.1
20	404	3	3.3	397	2	2.1	417	1	1.1
21	404	3	3.3	394	2	2.1	419	1	1.1
22	409	3	3.3	389	2	2.1	405	1	1.1
23	413	3	3.3	393	2	2.1	410	1	1.1
24	408	2	2.2	398	2	2.1	412	1	1.1
25	408	2	2.2	394	2	2.1	409	1	1.1
26	409	2	2.2	389	2	2.1	400	1	1.1
27	409	2	2.2	382	2	2.1	395	1	1.1
28	410	2	2.2	388	2	2.1	398	1	1.1
29	413	2	2.2	408	1	1.1	395	2	2.1
30	409	2	2.2	415	1	1.1	400	2	2.2
31	405	2	2.2	---	---	---	403	2	2.2
TOTAL	12560	---	106.9	12077	---	62.8	12744	---	37.4

	JANUARY			FEBRUARY			MARCH		
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	410	2	2.2	408	2	2.2	405	2	2.2
2	410	2	2.2	406	2	2.2	405	2	2.2
3	409	2	2.2	404	2	2.2	407	2	2.2
4	408	2	2.2	405	2	2.2	407	2	2.2
5	405	2	2.2	404	2	2.2	409	2	2.2
6	405	2	2.2	408	2	2.2	410	2	2.2
7	398	2	2.1	409	2	2.2	411	2	2.2
8	395	2	2.1	412	2	2.2	413	2	2.2
9	404	2	2.2	412	2	2.2	413	2	2.2
10	403	2	2.2	412	2	2.2	406	2	2.2
11	398	2	2.1	411	2	2.2	402	2	2.2
12	407	2	2.2	409	2	2.2	401	2	2.2
13	409	2	2.2	411	2	2.2	398	2	2.1
14	405	2	2.2	410	2	2.2	400	2	2.2
15	405	2	2.2	413	2	2.2	406	2	2.2
16	407	2	2.2	413	2	2.2	407	2	2.2
17	408	2	2.2	412	2	2.2	408	2	2.2
18	406	2	2.2	409	2	2.2	408	2	2.2
19	407	2	2.2	404	2	2.2	407	2	2.2
20	409	2	2.2	404	2	2.2	407	2	2.2
21	410	2	2.2	402	2	2.2	404	2	2.2
22	409	2	2.2	406	2	2.2	400	2	2.2
23	405	2	2.2	408	2	2.2	395	2	2.1
24	407	2	2.2	406	2	2.2	434	2	2.3
25	409	2	2.2	405	2	2.2	427	2	2.3
26	407	2	2.2	405	2	2.2	404	2	2.2
27	405	2	2.2	403	2	2.2	400	2	2.2
28	408	2	2.2	404	2	2.2	396	2	2.1
29	405	2	2.2	---	---	---	399	2	2.2
30	414	2	2.2	---	---	---	404	2	2.2
31	413	2	2.2	---	---	---	406	2	2.2
TOTAL	12600	---	67.9	11415	---	61.6	12599	---	68.1

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	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	404	2	2.2	372	3	3.0	407	2	2.2
2	406	2	2.2	391	3	3.2	410	2	2.2
3	402	2	2.2	394	3	3.2	414	2	2.2
4	409	2	2.2	400	3	3.2	412	2	2.2
5	416	2	2.2	399	3	3.2	412	2	2.2
6	416	2	2.2	399	3	3.2	414	2	2.2
7	412	2	2.2	407	3	3.3	411	2	2.2
8	405	2	2.2	415	3	3.4	410	2	2.2
9	404	2	2.2	406	3	3.3	402	2	2.2
10	399	2	2.2	397	3	3.2	410	2	2.2
11	401	2	2.2	396	3	3.2	396	3	3.2
12	411	2	2.2	396	3	3.2	395	3	3.2
13	408	2	2.2	398	3	3.2	394	3	3.2
14	400	2	2.2	403	3	3.3	399	3	3.2
15	400	3	3.2	400	3	3.2	403	3	3.3
16	401	3	3.2	396	2	2.1	408	3	3.3
17	399	3	3.2	397	2	2.1	406	3	3.3
18	405	3	3.3	395	2	2.1	406	3	3.3
19	410	3	3.3	395	2	2.1	406	3	3.3
20	409	3	3.3	397	2	2.1	406	3	3.3
21	408	3	3.3	396	2	2.1	411	3	3.3
22	394	3	3.2	389	2	2.1	413	3	3.3
23	383	3	3.1	392	2	2.1	414	3	3.4
24	388	3	3.1	402	2	2.2	413	3	3.3
25	384	3	3.1	402	2	2.2	413	3	3.3
26	385	3	3.1	407	2	2.2	409	3	3.3
27	385	3	3.1	409	2	2.2	404	3	3.3
28	392	3	3.2	407	2	2.2	408	3	3.3
29	400	3	3.2	404	2	2.2	407	4	4.4
30	398	3	3.2	401	2	2.2	410	4	4.4
31	---	---	---	401	2	2.2	---	---	---
TOTAL	12034	---	81.9	12363	---	82.7	12223	---	89.9

	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	409	4	4.4	408	4	4.4	400	5	5.4
2	401	4	4.3	413	4	4.5	408	5	5.5
3	401	4	4.3	406	4	4.4	407	5	5.5
4	403	4	4.4	406	4	4.4	407	6	6.6
5	399	4	4.3	401	4	4.3	401	6	6.5
6	405	4	4.4	393	4	4.2	400	6	6.5
7	409	4	4.4	388	4	4.2	395	7	7.5
8	406	4	4.4	399	4	4.3	395	7	7.5
9	407	4	4.4	409	4	4.4	390	7	7.4
10	408	4	4.4	424	4	4.6	382	7	7.2
11	414	4	4.5	406	4	4.4	384	8	8.3
12	408	4	4.4	412	4	4.4	390	8	8.4
13	404	4	4.4	406	4	4.4	405	8	8.7
14	404	4	4.4	405	4	4.4	425	8	9.2
15	408	4	4.4	408	5	5.5	421	8	9.1
16	408	4	4.4	408	5	5.5	411	8	8.9
17	405	4	4.4	407	5	5.5	404	8	8.7
18	402	4	4.3	408	5	5.5	401	7	7.6
19	404	4	4.4	407	5	5.5	396	7	7.5
20	406	4	4.4	406	5	5.5	397	7	7.5
21	406	4	4.4	397	5	5.4	398	7	7.5
22	405	4	4.4	399	5	5.4	403	7	7.6
23	404	4	4.4	400	5	5.4	395	7	7.5
24	399	4	4.3	407	5	5.5	394	6	6.4
25	398	4	4.3	414	5	5.6	389	6	6.3
26	407	4	4.4	412	5	5.6	393	6	6.4
27	406	4	4.4	412	5	5.6	397	6	6.4
28	407	4	4.4	413	5	5.6	402	6	6.5
29	409	4	4.4	418	5	5.6	401	6	6.5
30	399	4	4.3	411	5	5.5	400	5	5.4
31	397	4	4.3	401	5	5.4	---	---	---
TOTAL	12548	---	135.7	12604	---	154.9	11991	---	216.0
YEAR	147758		1165.8						

11407150 FEATHER RIVER NEAR GRIDLEY, CA

LOCATION.--Lat 39°22'00", long 121°38'46", in Boga Fernandez Grant, T.18 N., R.3 E., Butte County, on right bank 300 ft (91 m) upstream from highway bridge, and 2.7 mi (4.3 km) east of Gridley.

DRAINAGE AREA.--3,676 mi^2 (9,521 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1964 to current year. January 1944 to September 1964 are published in reports by California Department of Water Resources.

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft (0.887 m) below mean sea level. Prior to Mar. 13, 1966, water-stage recorder on left bank. Mar. 14, 1966, to Sept. 30, 1973, on right bank, at datum 47.09 ft (14.353 m) above mean sea level.

REMARKS.--Flow regulated by Lake Oroville since November 1967 (station 11406800) and Thermalito Afterbay release to the Feather River since December 1968 (station 11406920). See schematic diagram showing diversions and storage from Feather River at Lake Oroville.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--13 years, 5,102 ft^3/s (144.5 m^3/s), 3,696,000 acre-ft/yr (4.56 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft^3/s (4,280 m^3/s) Dec. 23, 1964, gage height, 50.43 ft (15.371 m), present datum; minimum daily, 117 ft^3/s (3.31 m^3/s) June 27, 1966. Maximum discharge since construction of Oroville Dam in 1967, 72,900 ft^3/s (2,060 m^3/s) Jan. 27, 1970, gage height, 42.81 ft (13.048 m); minimum daily, 366 ft^3/s (10.4 m^3/s) July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 52.25 ft (15.926 m) present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,210 ft^3/s (90.9 m^3/s) Apr. 28 to May 1, gage height, 76.16 ft (23.214 m); minimum daily, 602 ft^3/s (17.0 m^3/s) May 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	2050	1410	1130	1090	1150	1030	2910	828	1910	1780	1890
2	2270	1900	1420	1190	1100	1170	1010	2300	1290	1870	1800	1910
3	2240	1740	1400	1170	1090	1150	1010	1300	1330	1900	1790	1890
4	2250	1680	1380	1130	1100	1140	1010	1080	1330	1900	1810	1890
5	2240	1660	1360	1120	1090	1160	1020	827	1330	1730	1610	1880
6	2250	1640	1370	1090	1080	1150	1140	714	1210	1480	1340	1860
7	2210	1630	1370	1110	1090	1160	1460	696	993	1470	1320	1870
8	2060	1640	1370	1090	1110	1120	1570	700	986	1480	1160	1860
9	1870	1630	1340	1090	1090	995	1800	702	981	1470	996	1840
10	1710	1650	1340	1100	1100	967	1780	693	993	1460	989	1840
11	1640	1620	1370	1100	1100	979	1790	680	981	1340	1130	1390
12	1640	1630	1360	1100	1080	983	1800	668	957	1190	1320	944
13	1640	1620	1360	1100	1080	959	1860	664	969	1220	1350	706
14	1630	1610	1380	1110	1110	948	2260	658	980	1410	1330	696
15	1590	1590	1390	1080	1100	985	2910	636	969	1650	1360	701
16	1490	1600	1390	1080	1110	985	2870	616	969	1660	1380	707
17	1480	1600	1400	1090	1100	844	2860	622	981	1650	1380	701
18	1480	1600	1390	1110	1100	790	2850	623	981	1660	1320	695
19	1700	1600	1370	1090	1100	793	2720	604	963	1860	1080	730
20	2020	1570	1380	1090	1110	783	2540	616	969	2300	923	744
21	2200	1560	1410	1090	1130	783	2550	602	969	2560	1120	685
22	2280	1560	1410	1100	1110	783	2800	614	981	2600	1390	692
23	2280	1570	1400	1080	1130	772	3020	604	981	2590	1410	694
24	2280	1600	1400	1090	1130	778	3120	611	1140	2570	1420	697
25	2270	1520	1400	1090	1130	784	3140	634	1470	2340	1630	684
26	2250	1460	1390	1090	1130	748	3120	635	1480	1960	1910	684
27	2280	1380	1340	1080	1120	743	3120	626	1450	1790	1920	691
28	2280	1380	1250	1090	1130	715	3160	614	1450	1790	1920	707
29	2200	1400	1200	1080	---	731	3150	616	1540	1800	1920	711
30	2100	1420	1150	1070	---	757	3170	608	1890	1790	1920	689
31	2100	---	1120	1080	---	1010	---	609	---	1770	1900	---
TOTAL	62220	48110	42020	34110	30940	28815	67640	25082	34341	56170	45628	33678
MEAN	2007	1604	1355	1100	1105	930	2255	809	1145	1812	1472	1123
MAX	2290	2050	1420	1190	1130	1170	3170	2910	1890	2600	1920	1910
MIN	1480	1380	1120	1070	1080	715	1010	602	828	1190	923	684
AC-FT	123400	95430	83350	67660	61370	57150	134200	49750	68120	111400	90500	66800

CAL YR 1976 TOTAL 701876 MEAN 1918 MAX 3860 MIN 950 AC-FT 1392000
WTR YR 1977 TOTAL 508754 MEAN 1394 MAX 3170 MIN 602 AC-FT 1009000

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1964 to current year.
SEDIMENT RECORDS: October 1964 to current year.

REVISED RECORDS.--WDR-CA-73-2: 1966, sediment. WDR CA-74-2: 1965, 1970, 1971, 1973, sediment.

INSTRUMENTATION.--Temperature recorder since October 1971.

COOPERATION.--Temperature records furnished by California Department of Water Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES (water years 1965-69, 1971-77): Maximum recorded, 29.5°C June 25, 1977; minimum recorded, 4.0°C on several days in December and January of most years.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,340 mg/L Dec. 25, 1964; minimum daily mean, 1 mg/L Dec. 12, 1968, Dec. 4, 1969, Sept. 1, 1970, Dec. 14, 1971.
SEDIMENT DISCHARGE: Maximum, 527,000 tons (478,000 tonnes) Dec. 23, 1964; minimum daily, 1.4 tons (1.3 tonnes) Oct. 27, 1966.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 29.5°C June 25; minimum recorded, 6.5°C on several days during January.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 112 mg/L Apr. 15; minimum daily mean, 3 mg/l Dec. 23-26.
SEDIMENT DISCHARGE: Maximum daily, 880 tons (798 tonnes) Apr. 15; minimum daily, 11 tons (10 tonnes) on several days during December, March, and May.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	17.5	14.0	13.5	9.5	9.5	8.5	8.0	7.5	7.5	11.0	10.0
2	17.0	17.0	14.0	13.5	9.5	9.5	8.5	8.5	7.5	7.5	10.5	10.0
3	17.0	16.5	14.0	13.5	10.0	9.5	8.5	8.0	8.0	7.5	10.5	10.0
4	17.5	16.5	14.0	13.5	10.0	9.5	8.0	8.0	8.0	7.5	10.5	10.0
5	17.5	17.0	14.0	13.5	10.0	9.5	8.0	7.5	8.0	8.0	10.5	10.0
6	18.0	17.5	14.0	13.5	10.0	9.5	7.5	7.0	8.5	8.0	11.0	10.0
7	18.0	17.5	14.5	14.0	10.0	9.5	7.0	7.0	9.0	8.5	11.0	10.5
8	18.0	17.5	14.0	13.5	10.0	9.5	7.0	6.5	9.0	9.0	11.5	10.5
9	18.0	17.0	14.0	13.5	10.0	9.5	7.0	6.5	9.0	9.0	11.5	11.0
10	18.0	17.0	14.0	14.0	9.5	9.0	7.0	7.0	7.0	9.0	11.0	10.0
11	18.0	17.0	14.0	13.5	9.5	9.0	7.0	7.0	9.5	9.5	10.5	10.0
12	18.0	17.0	14.0	13.5	9.5	9.0	7.0	7.0	10.0	9.5	10.5	10.0
13	17.5	17.0	13.5	13.0	9.5	9.0	7.5	7.0	10.0	9.5	10.5	9.5
14	17.5	17.0	13.5	13.5	9.5	9.0	7.0	7.0	10.5	10.0	10.5	9.5
15	17.5	17.0	14.0	13.5	9.0	9.0	7.0	7.0	11.0	11.0	10.5	10.0
16	17.5	17.0	14.0	13.5	9.0	9.0	7.0	7.0	11.5	11.0	10.0	10.0
17	17.0	16.5	14.0	13.5	9.0	9.0	7.0	6.5	12.0	11.5	10.0	9.5
18	17.0	16.5	14.0	14.0	9.0	8.5	6.5	6.5	12.0	11.5	11.0	10.0
19	17.0	16.5	14.0	14.0	9.0	8.5	6.5	6.5	12.0	11.5	11.5	11.0
20	16.5	16.0	13.5	13.5	9.0	8.5	7.0	6.5	11.5	11.5	12.0	11.0
21	16.5	16.0	13.5	13.0	9.0	8.5	7.0	7.0	11.5	11.0	12.5	12.0
22	15.5	13.0	13.0	13.0	9.0	8.5	7.5	7.0	11.0	10.5	13.5	12.5
23	15.0	14.5	13.0	13.0	9.0	8.5	8.0	7.5	11.5	11.0	13.0	12.5
24	15.0	14.5	12.5	12.5	8.5	8.0	8.0	8.0	11.0	10.5	12.0	11.5
25	15.0	14.5	12.0	12.0	8.5	8.5	8.0	7.5	11.0	10.5	11.5	11.0
26	14.0	14.0	12.0	11.5	8.0	8.0	8.0	8.0	11.0	10.0	12.5	11.0
27	14.0	13.5	10.5	10.0	8.5	8.0	8.0	8.0	11.0	10.5	13.0	12.5
28	14.0	13.0	10.0	9.5	8.0	8.0	8.0	7.5	11.0	10.5	12.5	11.5
29	13.5	13.5	9.5	9.0	8.0	7.5	7.5	7.5	---	---	12.0	11.0
30	13.5	13.0	9.5	9.0	8.5	8.0	7.5	7.5	---	---	12.0	11.5
31	14.0	13.5	---	---	8.5	8.0	7.5	7.0	---	---	12.5	11.5
MONTH	18.0	13.0	14.5	9.0	10.0	7.5	8.5	6.5	12.0	7.5	13.5	9.5

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER		
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	2290	6	37	2050	8	44	1410	5	19
2	2270	6	37	1900	7	36	1420	5	19
3	2240	6	36	1740	7	33	1400	5	19
4	2250	6	36	1680	6	27	1380	5	19
5	2240	6	36	1660	6	27	1360	6	22
6	2250	6	36	1640	6	27	1370	6	22
7	2210	6	36	1630	6	26	1370	6	22
8	2060	5	28	1640	6	27	1370	6	22
9	1870	5	25	1630	6	26	1340	7	25
10	1710	5	23	1650	6	27	1340	7	25
11	1640	5	22	1620	6	26	1370	6	22
12	1640	6	27	1630	7	31	1360	5	18
13	1640	7	31	1620	7	31	1360	4	15
14	1630	7	31	1610	7	30	1380	4	15
15	1590	7	30	1590	8	34	1390	4	15
16	1490	7	28	1600	8	35	1390	4	15
17	1480	6	24	1600	8	35	1400	4	15
18	1480	6	24	1600	9	39	1390	4	15
19	1700	6	28	1600	10	43	1370	5	18
20	2020	6	33	1570	9	38	1380	5	19
21	2200	6	36	1560	9	38	1410	5	19
22	2280	6	37	1560	8	34	1410	4	15
23	2280	6	37	1570	7	30	1400	3	11
24	2280	7	43	1600	6	26	1400	3	11
25	2270	7	43	1520	6	25	1400	3	11
26	2250	8	49	1460	6	24	1390	3	11
27	2280	10	62	1380	6	22	1340	4	14
28	2280	10	62	1380	6	22	1250	4	13
29	2200	9	53	1400	6	23	1200	4	13
30	2100	9	51	1420	5	19	1150	4	12
31	2100	8	45	---	---	---	1120	5	15
TOTAL	62220	---	1126	48110	---	905	42020	---	526

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	JANUARY			FEBRUARY			MARCH		
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	1130	6	18	1090	6	18	1150	9	28
2	1190	8	26	1100	6	18	1170	10	32
3	1170	8	25	1090	7	21	1150	11	34
4	1130	7	21	1100	7	21	1140	11	34
5	1120	6	18	1090	7	21	1160	11	34
6	1090	5	15	1080	7	20	1150	10	31
7	1110	5	15	1090	8	24	1160	10	31
8	1090	5	15	1110	8	24	1120	9	27
9	1090	5	15	1090	7	21	995	9	24
10	1100	5	15	1100	7	21	967	8	21
11	1100	5	15	1100	6	18	979	7	19
12	1100	5	15	1080	7	20	983	7	19
13	1100	6	18	1080	8	23	959	7	18
14	1110	6	18	1110	10	30	948	7	18
15	1080	6	17	1100	10	30	985	7	19
16	1080	6	17	1110	9	27	985	7	19
17	1090	6	18	1100	10	30	844	6	14
18	1110	5	15	1100	10	30	790	6	13
19	1090	5	15	1100	11	33	793	5	11
20	1090	5	15	1110	11	33	783	5	11
21	1090	5	15	1130	12	37	783	5	11
22	1100	5	15	1110	12	36	783	6	13
23	1080	5	15	1130	12	37	772	7	15
24	1090	5	15	1130	11	34	778	9	19
25	1090	6	18	1130	11	34	784	11	23
26	1090	6	18	1130	10	31	748	12	24
27	1080	6	17	1120	10	30	743	13	26
28	1090	7	21	1130	9	27	715	14	27
29	1080	7	20	---	---	---	731	12	24
30	1070	7	20	---	---	---	757	12	25
31	1080	7	20	---	---	---	1010	12	33
TOTAL	34110	---	540	30940	---	749	28815	---	697

	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	1030	11	31	2910	13	102	828	21	47
2	1010	11	30	2300	12	75	1290	30	104
3	1010	11	30	1300	11	39	1330	34	122
4	1010	11	30	1080	10	29	1330	30	108
5	1020	12	33	827	10	22	1330	27	97
6	1140	12	37	714	9	17	1210	24	78
7	1460	15	59	696	9	17	993	22	59
8	1570	25	111	700	8	15	986	20	53
9	1800	34	165	702	8	15	981	20	53
10	1780	28	135	693	7	13	993	17	46
11	1790	25	121	680	7	13	981	14	37
12	1800	24	117	668	6	11	957	16	41
13	1860	23	116	664	6	11	969	18	47
14	2260	51	347	658	6	11	980	23	61
15	2910	112	880	636	7	12	969	23	60
16	2870	86	666	616	7	12	969	24	63
17	2860	63	486	622	8	13	981	24	64
18	2850	43	331	623	9	15	981	24	64
19	2720	30	220	604	10	16	963	23	60
20	2540	22	151	616	11	18	969	22	58
21	2550	18	124	602	11	18	969	20	52
22	2800	18	136	614	10	17	981	18	48
23	3020	19	155	604	10	16	981	18	48
24	3120	20	168	611	10	16	1140	18	55
25	3140	21	178	634	16	27	1470	40	159
26	3120	19	160	635	15	26	1480	35	140
27	3120	18	152	626	13	22	1450	33	129
28	3160	16	137	614	12	20	1450	33	129
29	3150	15	128	616	11	18	1540	36	150
30	3170	14	120	608	10	16	1890	50	255
31	---	---	---	609	10	16	---	---	---
TOTAL	67640	---	5554	25082	---	688	34341	---	2487

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	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	1910	48	248	1780	16	77	1890	15	77
2	1870	46	232	1800	16	78	1910	15	77
3	1900	46	236	1790	16	77	1890	14	71
4	1900	46	236	1810	14	68	1890	13	66
5	1730	30	140	1610	12	52	1880	12	61
6	1480	20	80	1340	12	43	1860	11	55
7	1470	18	71	1320	12	43	1870	10	50
8	1480	18	72	1160	12	38	1860	9	45
9	1470	18	71	996	12	32	1840	9	45
10	1460	18	71	989	12	32	1840	8	40
11	1340	18	65	1130	14	43	1390	8	30
12	1190	20	64	1320	16	57	944	8	20
13	1220	20	66	1350	16	58	706	8	15
14	1410	19	72	1330	17	61	696	8	15
15	1650	18	80	1360	16	59	701	8	15
16	1660	18	81	1380	15	56	707	8	15
17	1650	18	80	1380	13	48	701	8	15
18	1660	19	85	1320	12	43	695	8	15
19	1860	20	100	1080	11	32	730	9	18
20	2300	30	186	923	11	27	744	9	18
21	2560	25	173	1120	11	33	685	9	17
22	2600	20	140	1390	11	41	692	9	17
23	2590	16	112	1410	11	42	694	9	17
24	2570	13	90	1420	11	42	697	9	17
25	2340	11	69	1630	14	62	684	10	18
26	1960	14	74	1910	17	88	684	10	18
27	1790	17	82	1920	18	93	691	10	19
28	1790	16	77	1920	20	104	707	10	19
29	1800	16	78	1920	20	104	711	10	19
30	1790	16	77	1920	18	93	689	9	17
31	1770	16	76	1900	16	82	---	---	---
TOTAL	56170	---	3384	45628	---	1808	33678	---	941
YEAR	508754		19405.0						

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPER-ATURE (DEG C)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
APR 15...	1740	--	2930	106	839	75	84	90	96	100	--
MAY 24...	1030	16.5	602	19	31	72	91	99	100	--	--
JUL 01...	1820	--	1910	330	1700	66	83	87	92	94	100

11407300 NORTH HONCUT CREEK NEAR BANGOR, CA

LOCATION.--Lat 39°20'32", long 121°29'25", in NW¼SE¼ sec.11, T.17 N., R.4 E., Butte County, on left bank 0.2 mi (0.3 km) upstream from unnamed tributary, and 5.7 mi (9.2 km) southwest of Bangor.

DRAINAGE AREA.--47.1 mi^2 (122.0 km^2).

PERIOD OF RECORD.--October 1960 to September 1962, July 1963 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 125 ft (38 m), from topographic map. Prior to September 1962, at site 50 ft (15 m) upstream at same datum.

REMARKS.--Small diversions above station for irrigation. Slight regulation occurs from Lake Wyandotte, capacity, 1,460 acre-ft (1.80 hm^3).

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--16 years, 46.9 ft^3/s (1.328 m^3/s), 33,980 acre-ft/yr (41.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft^3/s (303 m^3/s) Dec. 26, 1964, gage height, 11.57 ft (3.527 m), from rating curve extended above 4,600 ft^3/s (130 m^3/s); maximum gage height, 12.03 ft (3.667 m) Feb. 27, 1973; no flow many days in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 115 ft^3/s (3.26 m^3/s) Jan. 3, gage height, 5.05 ft (1.539 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	.30	2.0	4.0	3.2	4.5	2.4	1.9	2.3	9.1	8.6	5.7
2	6.3	.40	2.3	19	3.0	3.9	2.1	2.0	1.8	9.6	8.2	3.9
3	6.2	.40	2.4	68	3.3	3.6	2.1	2.9	1.4	8.9	9.0	2.7
4	4.5	.40	2.4	22	3.3	3.8	1.9	5.2	.80	7.9	9.3	1.7
5	8.5	.90	2.4	12	2.9	3.7	1.9	10	.30	9.3	8.4	1.2
6	12	1.5	2.3	8.5	2.7	3.2	1.9	14	.10	11	7.8	.50
7	11	2.1	2.1	6.4	2.6	2.8	1.9	15	.60	9.1	6.7	.10
8	9.8	3.2	2.2	5.8	3.0	2.7	1.9	14	.80	9.1	5.4	0
9	8.1	3.2	2.2	4.9	3.4	2.6	2.3	20	1.5	9.1	4.6	0
10	6.1	3.1	2.3	4.3	4.0	2.4	2.0	21	1.6	9.1	4.6	0
11	4.3	2.7	2.4	4.3	4.1	2.4	2.1	17	1.8	9.0	5.1	0
12	2.4	1.6	2.4	4.3	4.2	2.3	2.0	18	5.9	9.4	4.0	0
13	1.1	0	2.3	4.6	3.6	2.3	2.4	15	6.3	11	2.6	0
14	.60	.10	2.1	4.6	3.4	2.1	2.1	12	5.6	11	1.9	0
15	.20	5.3	2.2	4.1	3.1	2.4	2.2	12	7.8	10	3.0	0
16	.10	5.9	2.1	4.1	3.2	2.9	2.0	9.8	9.3	8.9	5.4	0
17	0	5.3	2.0	3.9	3.0	3.3	1.8	8.5	10	8.4	6.8	.30
18	0	4.8	1.8	3.6	2.8	3.3	1.5	7.3	12	7.1	11	1.9
19	0	3.0	1.7	3.5	2.7	3.0	1.4	5.6	18	8.8	14	5.8
20	0	2.7	1.7	3.3	2.8	2.6	1.3	3.9	22	9.2	16	8.1
21	0	2.4	1.7	3.6	13	2.4	1.1	2.5	18	9.7	17	5.0
22	0	2.5	1.7	3.5	24	2.1	.90	3.0	11	9.4	18	7.4
23	0	2.2	1.6	3.6	15	2.1	.90	2.1	10	8.1	16	6.7
24	0	1.9	1.6	3.3	19	2.7	.80	1.7	8.4	8.4	14	6.1
25	0	2.0	1.5	3.1	11	6.9	.70	1.5	7.7	10	13	5.9
26	0	1.8	1.4	2.9	7.9	7.2	.60	1.7	8.2	11	13	5.7
27	0	2.0	1.5	2.9	6.1	6.2	.50	9.3	8.5	9.9	14	3.7
28	0	2.0	1.7	3.2	5.1	4.7	.50	12	8.2	10	12	3.7
29	0	2.0	2.0	3.2	---	3.8	.50	9.1	8.3	10	10	4.7
30	0	1.9	2.5	3.0	---	3.0	1.1	5.4	7.5	7.0	8.8	4.0
31	.10	---	3.6	3.5	---	2.6	---	3.3	---	8.4	7.4	---
TOTAL	87.10	67.60	64.1	231.0	165.4	103.5	46.80	266.7	205.70	286.9	285.6	84.80
MEAN	2.81	2.25	2.07	7.45	5.91	3.34	1.56	8.60	6.86	9.25	9.21	2.83
MAX	12	5.9	3.6	68	24	7.2	2.4	21	22	11	18	8.1
MIN	0	0	1.4	2.9	2.6	2.1	.50	1.5	.10	7.0	1.9	0
AC-FT	173	134	127	458	328	205	93	529	408	569	566	168

CAL YR 1976 TOTAL 2236.40 MEAN 6.11 MAX 129 MIN 0 AC-FT 4440
WTR YR 1977 TOTAL 1895.20 MEAN 5.19 MAX 68 MIN 0 AC-FT 3760

11407500 SOUTH HONCUT CREEK NEAR BANGOR, CA

LOCATION.--Lat 39°22'04", long 121°22'16", in SE¼SE¼ sec.35, T.18 N., R.5 E., Butte County, on right bank 2.3 mi (3.7 km) southeast of Bangor, 3.3 mi (5.3 km) upstream from Tennessee Creek, and 16.3 mi (26.2 km) southeast of Oroville.

DRAINAGE AREA.--30.6 mi^2 (79.3 km^2).

PERIOD OF RECORD.--October 1950 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 620 ft (189 m), from topographic map.

REMARKS.--Records good. Some small diversions upstream for irrigation.

AVERAGE DISCHARGE.--27 years, 35.0 ft^3/s (0.99 m^3/s), 25,360 acre-ft/yr (31.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft^3/s (498 m^3/s) Dec. 26, 1964, gage height, 19.25 ft (5.867 m), from rating curve extended above 2,200 ft^3/s (62.3 m^3/s) on basis of slope-area measurements at gage heights 11.15 ft (3.399 m) and 19.25 ft (5.867 m); no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54 ft^3/s (1.53 m^3/s) Jan. 3, gage height, 3.23 ft (0.985 m), no peak above base of 1,400 ft^3/s (39.6 m^3/s); no flow on several days during July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.76	1.8	2.5	1.5	2.2	2.2	3.6	6.6	.45	0	4.0
2	.86	.72	1.8	18	1.6	2.1	2.1	4.4	8.5	.43	0	4.3
3	1.1	.70	2.0	20	1.6	2.1	1.9	2.9	8.6	.26	0	4.7
4	.78	.69	2.1	5.8	1.7	2.0	1.9	2.8	6.9	1.8	0	5.2
5	.60	.65	2.0	3.7	1.5	2.0	1.9	2.9	6.5	5.1	0	5.1
6	.73	.58	2.0	3.2	1.5	3.6	1.8	7.1	6.4	5.5	0	5.1
7	1.3	.54	2.0	2.5	1.6	6.1	1.9	7.2	5.4	7.1	0	5.0
8	1.3	.53	2.1	2.3	1.9	6.0	2.1	7.1	3.0	6.5	0	5.2
9	1.0	.63	2.1	2.2	2.2	6.0	2.7	7.9	1.7	5.7	0	5.2
10	.85	.75	2.1	2.1	1.9	6.5	3.3	9.8	2.9	5.9	0	5.4
11	.82	1.1	2.3	2.1	1.8	6.4	4.0	8.8	1.5	5.8	0	6.2
12	.78	1.1	2.3	2.3	1.7	6.8	3.8	8.4	1.0	5.8	.03	5.9
13	.71	1.1	2.2	2.2	1.6	8.3	3.3	7.8	.88	6.5	.02	5.8
14	.58	4.2	2.1	2.1	1.6	8.0	3.2	7.4	4.1	8.6	.02	4.4
15	.52	3.1	2.1	2.0	1.6	9.4	3.2	7.2	6.9	6.4	.01	5.7
16	.58	1.9	2.0	2.0	1.6	10	3.0	8.0	6.8	6.3	.01	5.8
17	.57	1.5	2.0	2.0	1.6	9.8	2.1	8.7	7.0	6.1	1.9	6.1
18	.50	1.5	1.9	2.0	1.6	8.8	2.0	8.8	6.9	6.1	3.7	5.6
19	.45	2.5	1.9	2.0	1.5	8.1	1.6	8.8	7.2	6.3	4.9	7.3
20	.46	1.6	1.9	1.9	1.6	7.5	1.5	8.6	7.1	6.4	4.9	3.9
21	.56	1.7	1.9	1.9	11	7.4	1.6	8.6	6.7	5.9	4.8	3.3
22	.64	1.8	2.0	1.9	9.2	7.3	1.5	7.9	4.8	6.1	4.9	3.1
23	.75	1.9	2.0	1.8	11	8.8	1.7	7.9	4.4	5.9	4.8	3.2
24	.84	1.7	2.0	1.8	6.7	14	1.6	7.6	4.4	5.5	4.9	4.1
25	.99	1.7	2.0	1.8	3.5	22	1.7	7.1	4.5	5.6	5.4	3.8
26	.98	1.8	2.0	1.7	2.8	11	1.9	8.1	6.3	2.6	4.9	2.8
27	.90	1.6	2.0	1.7	2.4	6.3	1.8	8.0	6.3	.69	5.1	2.9
28	.86	1.5	2.0	1.7	2.3	2.7	1.7	7.3	3.0	.24	4.9	3.2
29	.86	1.7	1.9	1.7	---	2.4	1.7	7.1	1.0	.12	4.4	3.2
30	.86	1.8	2.9	1.7	---	2.3	1.7	6.9	.59	.06	4.0	2.9
31	.82	---	2.9	1.5	---	2.2	---	6.7	---	0	3.5	---
TOTAL	24.14	43.35	64.3	102.1	82.1	208.1	66.4	221.4	147.87	135.75	67.09	138.4
MEAN	.78	1.45	2.07	3.29	2.93	6.71	2.21	7.14	4.93	4.38	2.16	4.61
MAX	1.3	4.2	2.9	20	11	22	4.0	9.8	8.6	8.6	5.4	7.3
MIN	.45	.53	1.8	1.5	1.5	2.0	1.5	2.8	.59	0	0	2.8
AC-FT	48	86	128	203	163	413	132	439	293	269	133	275

CAL YR 1976 TOTAL 1430.73 MEAN 3.91 MAX 90 MIN .21 AC-FT 2840
WTR YR 1977 TOTAL 1301.00 MEAN 3.56 MAX 22 MIN 0 AC-FT 2580

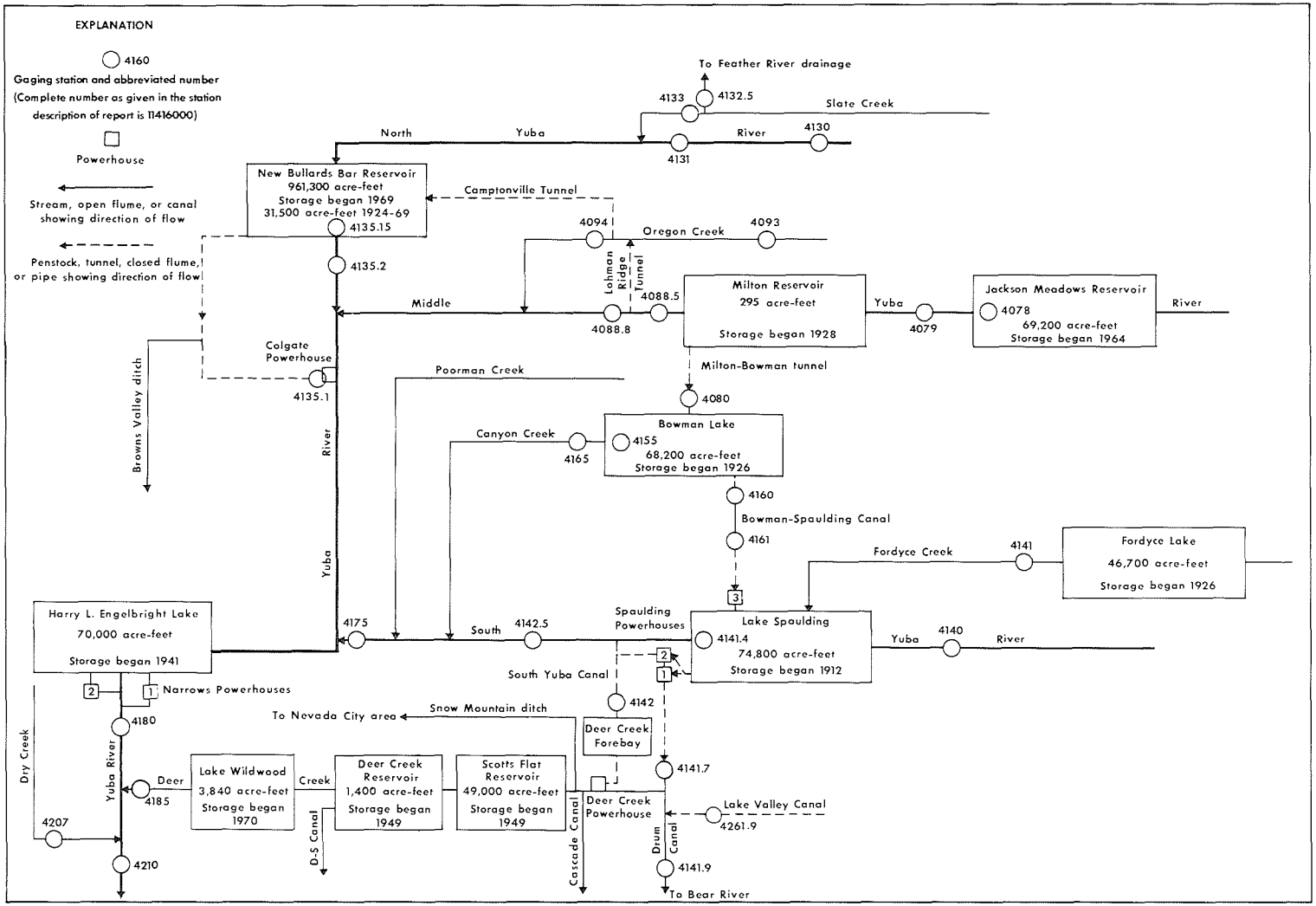

FIGURE 8.--Schematic diagram showing diversions and storage in Yuba River basin.

11407800 JACKSON MEADOWS RESERVOIR NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'40", long 120°33'15", in NW¼SE¼ sec.18, T.19 N., R.13 E., Sierra County, Tahoe National Forest, on right bank at Jackson Meadows Dam on Middle Yuba River, 0.7 mi (1.1 km) downstream from Pass Creek, and 5.7 mi (9.2 km) southeast of Sierra City.

DRAINAGE AREA.--37.6 mi^2 (97.4 km^2).

PERIOD OF RECORD.--November 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Nov. 9, 1964. Usable capacity, 66,700 acre-ft (82.2 hm^3) between elevations 5,933.0 ft (1,808.38 m), bottom of intake tower, and 6.036.0 ft (1,839.77 m), top of spillway Tainter gates. Dead storage, 2,500 acre-ft (3.08 hm^3). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Yuba River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft (87.5 hm^3) on several days in 1969-71, elevation, 6,037.7 ft (1,840.29 m); minimum since reservoir first filled, 2,500 acre-ft (3.08 hm^3) Sept. 27-29, 1976, elevation, 5,933.1 ft (1,808.41 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 7,550 acre-ft (9.31 hm^3) May 4, elevation, 5,952.3 ft (1,814.26 m); minimum, 2,520 acre-ft (3.11 hm^3) Oct. 1, elevation, 5,933.2 ft (1,808.44 m).

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

5930	2000	5990	27600
5940	3920	6000	35300
5950	6760	6010	43900
5960	10600	6020	53200
5970	15400	6030	63000
5980	21000	6040	73500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2520	2610	2850	2990	3230	3620	4110	7270	3070	4930	4880	4690
2	2520	2610	2850	3030	3230	3640	4130	7410	3210	4960	4880	4690
3	2540	2630	2850	3050	3250	3640	4160	7520	3340	4960	4880	4690
4	2540	2630	2850	3050	3250	3640	4180	7520	3460	4960	4850	4660
5	2540	2630	2850	3050	3250	3640	4230	7380	3600	4960	4850	4660
6	2540	2630	2870	3070	3270	3660	4300	7240	3750	4960	4850	4660
7	2540	2650	2870	3070	3270	3660	4430	7030	3920	4960	4820	4660
8	2540	2650	2870	3070	3270	3660	4560	6890	4030	4960	4820	4640
9	2540	2650	2870	3070	3290	3690	4660	6760	4160	4960	4820	4640
10	2540	2660	2890	3090	3290	3690	4740	6590	4250	4960	4820	4640
11	2540	2660	2890	3090	3320	3690	4820	6430	4350	4960	4820	4610
12	2540	2660	2890	3090	3320	3710	4960	6240	4400	4960	4820	4610
13	2540	2680	2890	3110	3320	3730	5100	6020	4460	4960	4800	4610
14	2540	2720	2890	3110	3340	3750	5240	5800	4510	4960	4800	4610
15	2540	2720	2910	3110	3340	3750	5360	5560	4560	4960	4800	4580
16	2540	2740	2910	3130	3340	3780	5560	5330	4610	4960	4770	4580
17	2540	2760	2910	3130	3360	3780	5710	5100	4640	4960	4770	4580
18	2540	2760	2910	3130	3360	3800	5830	4850	4660	4960	4770	4580
19	2560	2780	2930	3150	3380	3800	5920	4610	4720	4960	4770	4580
20	2560	2780	2930	3150	3380	3800	6020	4400	4770	4930	4770	4560
21	2560	2800	2930	3170	3510	3800	6140	4230	4800	4930	4740	4560
22	2560	2800	2930	3170	3530	3850	6240	4060	4820	4930	4740	4560
23	2570	2810	2950	3170	3550	3890	6360	3920	4850	4930	4740	4560
24	2570	2810	2950	3190	3550	3920	6490	3730	4850	4930	4720	4560
25	2570	2810	2950	3190	3570	3940	6590	3550	4880	4900	4720	4560
26	2590	2810	2950	3190	3570	3940	6690	3420	4900	4900	4720	4560
27	2590	2830	2950	3210	3600	4010	6790	3290	4900	4900	4720	4530
28	2590	2830	2970	3210	3600	4030	6890	3150	4930	4900	4720	4530
29	2590	2830	2970	3210	---	4060	6990	3050	4930	4900	4720	4560
30	2610	2830	2970	3230	---	4080	7100	3010	4930	4880	4720	4530
31	2610	---	2970	3230	---	4080	---	2990	---	4880	4720	---
MAX	2610	2830	2970	3230	3600	4080	7100	7520	4930	4960	4880	4690
MIN	2520	2610	2850	2990	3230	3620	4110	2990	3070	4880	4720	4530
†	5933.7	5934.9	5935.6	5936.9	5938.6	5940.7	5951.0	5935.7	5944.0	5943.8	5943.2	5942.5
‡	+90	+220	+140	+260	+370	+480	+3020	-4110	+1940	-50	-160	-190

CAL YR 1976 ‡ -22030
WTR YR 1977 ‡ +2010

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

11407900 MIDDLE YUBA RIVER BELOW JACKSON MEADOWS DAM, NEAR SIERRA CITY, CA

LOCATION.--Lat 39°30'58", long 120°33'40", in SE¼NW¼ sec.18, T.19 N., R.13 E., Sierra County, Tahoe National Forest, on right bank 0.6 mi (1.0 km) downstream from Jackson Meadows Dam, and 5.2 mi (8.4 km) southeast of Sierra City.

DRAINAGE AREA.--38.3 mi^2 (99.2 km^2).

PERIOD OF RECORD.--October 1964 to current year. If record for Milton-Bowman tunnel near Graniteville is added to record published as Middle Yuba River at Milton, a record equivalent to this site can be obtained for the period 1928-64.

GAGE.--Water-stage recorder. Datum of gage is 5,717.20 ft (1,742.603 m) above mean sea level (levels by Nevada Irrigation District).

REMARKS.--Records good. Flow regulated by Jackson Meadows Reservoir since November 1964 (station 11407800). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Jackson Meadows Reservoir).--13 years, 108 ft^3/s (3.059 m^3/s), 78,250 acre-ft/yr (96.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s (65.1 m^3/s) Sept. 1, 1965, gage height, 6.60 ft (2.012 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s) on basis of computation of flow over Milton Dam at gage height, 10.57 ft (3.222 m); no flow many days in 1976 and 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1925, 10.57 ft (3.222 m) Jan. 31, 1963, from floodmarks, discharge, 10,000 ft^3/s (283 m^3/s) by computation of flow over Milton Dam, adjusted for diversion and inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 171 ft^3/s (4.84 m^3/s) May 14, gage height, 3.88 ft (1.183 m); no flow for many days during October to February.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	0	.01	0	0	.08	.34	1.1	46	2.0	2.0	2.2
2	2.5	0	.01	0	0	.05	.34	1.3	2.7	2.0	2.0	2.2
3	2.4	0	.01	.01	0	.08	.34	1.3	2.7	2.0	2.0	2.2
4	2.3	0	.01	0	0	.08	.40	45	2.7	2.0	2.0	2.2
5	2.3	0	.01	0	0	.08	.74	110	2.7	2.0	2.0	2.2
6	2.3	0	.01	0	0	.08	1.3	117	3.1	2.0	2.0	2.2
7	2.3	0	.01	0	0	.08	1.4	117	3.1	2.0	2.0	2.2
8	2.3	0	0	0	0	.12	1.4	117	2.7	2.0	2.0	2.2
9	2.3	0	0	0	0	.24	1.3	117	3.1	2.0	2.0	2.2
10	2.3	0	0	0	0	.24	1.3	117	3.5	2.0	2.2	2.2
11	2.3	0	0	0	0	.24	1.3	117	3.5	2.0	2.2	2.2
12	2.3	0	0	0	.01	.24	1.3	138	3.4	2.0	2.2	2.2
13	2.3	0	0	0	.01	.24	1.3	158	3.2	2.0	2.0	2.2
14	2.3	0	0	0	.01	.24	1.3	165	3.1	2.0	1.8	2.2
15	2.3	.01	.01	0	.02	.24	1.3	170	3.0	2.0	1.8	2.2
16	2.3	.01	.01	0	.02	.24	1.3	168	3.0	2.0	1.8	2.2
17	2.3	.02	.01	0	.02	.24	1.3	162	2.8	2.0	1.8	2.2
18	1.8	.02	.01	0	.02	.20	1.3	159	2.7	2.0	1.8	2.2
19	.46	.01	.01	0	.02	.20	1.3	158	3.0	2.0	1.8	2.4
20	.28	.01	0	0	.02	.24	1.3	158	2.5	2.0	1.8	2.4
21	.20	.01	0	0	.54	.24	1.3	158	2.4	2.0	1.8	2.4
22	.20	0	0	0	.64	.28	1.3	155	2.4	2.0	1.8	2.4
23	.05	0	0	0	.40	.40	1.3	155	2.3	2.0	1.7	2.4
24	.03	0	0	0	.28	.54	1.3	152	2.2	2.0	1.6	2.4
25	.03	0	0	0	.24	.54	1.3	146	2.2	2.0	1.7	2.4
26	.02	0	0	0	.20	.54	1.3	145	2.0	2.0	2.4	2.4
27	.01	0	0	0	.08	.54	1.3	144	2.0	2.0	2.4	2.4
28	.01	.01	0	0	.08	.54	1.3	143	2.0	2.0	2.4	2.5
29	0	.01	0	0	---	.54	1.1	120	2.0	2.0	2.4	2.6
30	0	.01	0	0	---	.46	1.1	95	2.0	2.0	2.2	2.4
31	0	---	0	0	---	.34	---	95	---	2.0	2.2	---
TOTAL	42.49	.12	.12	.01	2.61	8.41	34.46	3804.7	124.0	62.0	61.8	68.7
MEAN	1.37	.004	.004	.0003	.093	.27	1.15	123	4.13	2.00	1.99	2.29
MAX	2.5	.02	.01	.01	.64	.54	1.4	170	46	2.0	2.4	2.6
MIN	0	0	0	0	0	.05	.34	1.1	2.0	2.0	1.6	2.2
AC-FT	84	.2	.2	.02	5.2	17	68	7550	246	123	123	136

CAL YR 1976 TOTAL 22285.03 MEAN 60.9 MAX 256 MIN 0 AC-FT 44200 MEAN ‡ 30.5 AC-FT ‡ 22170
WTR YR 1977 TOTAL 4209.42 MEAN 11.5 MAX 170 MIN 0 AC-FT 8350 MEAN ‡ 14.3 AC-FT ‡ 10360

‡ Adjusted for change in contents in Jackson Meadows Reservoir.

11408000 MILTON-BOWMAN TUNNEL OUTLET NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'36", long 120°36'40", in NW¼NE¼ sec.3, T.18 N., R.12 E., Nevada County, on right bank 100 ft (30 m) downstream from tunnel outlet near upper end of Bowman Lake, and 6.9 mi (11.1 km) east of Graniteville.

PERIOD OF RECORD.--May 1928 to September 1930, February 1931 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to October 1962, published as "Milton-Bowman tunnel at outlet."

GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 5,592.51 ft (1,704.597 m) above mean sea level. Prior to Sept. 22, 1964, at datum 0.56 ft (0.171 m) higher.

REMARKS.--Records excellent. Tunnel diverts from Middle Yuba River at Milton, in sec.12, T.19 N., R.12 E., and discharges into Bowman Lake. Practically the entire flow of Middle Yuba River is diverted during low and medium flows. Middle Yuba River flow is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--49 years, 72.9 ft^3/s (2.065 m^3/s), 52,820 acre-ft/yr (65.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft^3/s (13.9 m^3/s) Feb. 11, 1941; minimum daily, 0.4 ft^3/s (0.011 m^3/s) Oct. 7, 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.3	1.3	1.1	1.1	1.3	2.2	8.4	77	4.5	3.7	3.7
2	2.6	1.3	1.3	1.2	1.1	1.3	2.2	8.1	13	4.4	3.7	3.8
3	2.3	1.3	1.3	1.2	1.1	1.3	2.2	9.4	9.6	4.5	3.7	3.8
4	1.9	1.3	1.3	1.3	1.1	1.3	2.9	25	8.7	4.4	3.7	3.7
5	1.7	1.3	1.3	1.3	1.1	1.3	4.5	122	8.0	4.3	3.7	3.7
6	1.6	1.3	1.3	1.2	1.1	1.3	5.4	131	8.1	4.3	3.7	3.7
7	1.5	1.3	1.3	1.2	1.1	1.3	6.0	130	8.6	4.2	3.7	3.6
8	1.4	1.3	1.3	1.2	1.1	1.3	6.0	130	7.7	4.1	3.7	3.5
9	1.4	1.3	1.3	1.1	1.1	1.3	5.4	131	7.9	4.1	3.8	3.5
10	1.4	1.3	1.3	1.1	1.1	1.3	5.2	131	8.5	4.0	3.9	3.5
11	1.4	1.3	1.1	1.1	1.1	1.3	5.4	130	7.6	4.0	3.9	3.5
12	1.4	1.3	1.3	1.1	1.1	1.3	5.6	146	7.1	3.9	3.9	3.5
13	1.3	1.3	1.3	1.1	1.1	1.3	6.2	177	6.7	3.9	3.9	3.6
14	1.3	1.6	1.3	1.1	1.1	1.3	6.4	180	6.4	3.9	3.9	3.7
15	1.4	1.5	1.3	1.1	1.1	1.3	6.4	188	6.2	3.8	3.7	3.7
16	1.4	1.4	1.3	1.1	1.1	1.4	7.1	188	6.0	3.8	3.7	3.9
17	1.4	1.4	1.3	1.1	1.1	1.4	7.7	186	5.9	3.7	3.7	4.8
18	1.4	1.4	1.3	1.1	1.1	1.4	7.0	183	5.7	3.7	3.6	4.8
19	1.4	1.4	1.3	1.1	1.1	1.4	6.2	180	6.6	3.9	3.7	4.7
20	1.4	1.4	1.3	1.1	1.3	1.4	5.9	177	6.8	3.9	3.6	4.8
21	1.4	1.4	1.3	1.1	1.7	1.5	5.9	174	5.8	3.9	3.5	4.7
22	1.4	1.3	1.3	1.2	1.5	1.7	5.9	172	5.4	3.9	3.5	4.5
23	1.4	1.3	1.3	1.3	1.4	2.0	5.7	173	5.1	3.9	3.5	4.5
24	1.4	1.3	1.2	1.3	1.4	2.5	5.7	170	4.9	3.7	3.3	4.3
25	1.4	1.3	1.2	1.3	1.4	2.7	5.6	167	4.9	3.7	3.6	4.3
26	1.4	1.3	1.1	1.3	1.3	2.7	5.5	167	4.7	3.7	4.8	4.3
27	1.4	1.3	1.1	1.3	1.3	2.7	5.3	166	4.6	3.7	4.4	4.3
28	1.4	1.3	1.1	1.2	1.3	2.7	5.3	161	4.5	3.7	4.2	4.4
29	1.4	1.3	1.1	1.2	---	2.5	5.1	142	4.6	3.7	4.1	6.2
30	1.4	1.3	1.1	1.1	---	2.3	5.5	104	4.4	3.7	3.9	5.2
31	1.4	---	1.1	1.1	---	2.2	---	103	---	3.7	3.9	---
TOTAL	47.0	40.1	38.7	36.3	33.5	52.0	161.4	4259.9	271.0	122.6	117.6	124.2
MEAN	1.52	1.34	1.25	1.17	1.20	1.68	5.38	137	9.03	3.95	3.79	4.14
MAX	2.6	1.6	1.3	1.3	1.7	2.7	7.7	188	77	4.5	4.8	6.2
MIN	1.3	1.3	1.1	1.1	1.1	1.3	2.2	8.1	4.4	3.7	3.3	3.5
AC-FT	93	80	77	72	66	103	320	8450	538	243	233	246

CAL YR 1976 TOTAL 23212.8 MEAN 63.4 MAX 254 MIN 1.1 AC-FT 46040
WTR YR 1977 TOTAL 5304.3 MEAN 14.5 MAX 188 MIN 1.1 AC-FT 10520

11408850 MIDDLE YUBA RIVER NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°25'01", long 120°57'06", in SW¼SE¼ sec.15, T.18 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 0.6 mi (1.0 km) downstream from Kanaka Creek, and 5.8 mi (9.3 km) southeast of Camptonville.

DRAINAGE AREA.--136 mi^2 (352 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,170 ft (661 m), from topographic map.

REMARKS.--Records excellent. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (station 11407800), Milton-Bowman tunnel (station 11408000) which diverts above station to Bowman Lake (station 11415500), and other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--10 years, 305 ft^3/s (8.638 m^3/s), 221,000 acre-ft/yr (272 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,300 ft^3/s (348 m^3/s) Jan. 21, 1970, gage height, 14.80 ft (4.511 m); minimum daily, 11 ft^3/s (0.31 m^3/s) July 29, Aug. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 277 ft^3/s (7.84 m^3/s) Feb. 21, gage height, 6.33 ft (1.929 m); minimum daily, 11 ft^3/s (0.31 m^3/s) July 29, Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	24	24	26	49	49	78	76	23	12	13
2	28	24	24	80	26	43	48	86	73	23	12	12
3	31	24	24	115	25	41	47	70	70	23	12	12
4	28	24	24	48	25	38	46	77	65	23	12	12
5	26	24	24	37	25	37	50	72	62	22	12	12
6	25	24	24	31	25	36	59	85	60	21	12	12
7	24	24	24	28	25	36	67	86	59	20	12	12
8	24	23	24	33	33	36	76	78	56	19	12	12
9	24	23	24	31	43	47	82	94	52	18	12	12
10	24	23	24	29	33	55	71	134	54	18	12	12
11	24	23	24	27	30	44	65	123	54	18	12	12
12	24	23	24	27	29	43	61	113	48	17	12	12
13	24	24	24	28	29	50	64	103	45	16	12	12
14	24	68	24	28	28	45	71	115	42	16	12	12
15	24	56	24	27	28	44	69	118	40	16	12	12
16	24	36	24	27	28	46	70	107	37	15	12	13
17	24	30	23	27	28	48	76	99	36	14	11	16
18	24	28	22	27	28	48	73	94	34	14	12	17
19	24	27	22	27	27	47	67	90	33	14	12	17
20	24	27	22	28	27	48	64	85	37	13	12	18
21	24	27	22	29	147	49	63	85	38	13	12	17
22	24	26	22	33	122	51	62	85	33	13	12	16
23	24	25	22	33	78	62	62	85	31	13	12	15
24	24	25	22	31	66	76	62	86	29	12	12	15
25	24	25	22	29	54	70	63	81	28	12	13	15
26	24	25	22	28	48	65	61	82	27	12	16	15
27	24	24	25	28	45	64	59	106	25	12	16	15
28	24	24	24	27	47	65	57	93	25	12	15	16
29	24	24	23	27	---	61	55	85	24	11	14	25
30	24	24	24	27	---	56	56	81	23	12	13	26
31	24	---	24	26	---	52	---	77	---	12	13	---
TOTAL	762	828	725	1047	1175	1552	1875	2853	1316	497	387	437
MEAN	24.6	27.6	23.4	33.8	42.0	50.1	62.5	92.0	43.9	16.0	12.5	14.6
MAX	31	68	25	115	147	76	82	134	76	23	16	26
MIN	24	23	22	24	25	36	46	70	23	11	11	12
AC-FT	1510	1640	1440	2080	2330	3080	3720	5660	2610	986	768	867

CAL YR 1976 TOTAL 28357 MEAN 77.5 MAX 637 MIN 22 AC-FT 56250
WTR YR 1977 TOTAL 13454 MEAN 36.9 MAX 147 MIN 11 AC-FT 26690

11408880 MIDDLE YUBA RIVER BELOW OUR HOUSE DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°24'42", long 120°59'49", in SW¼NW¼ sec.20, T.18 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 400 ft (122 m) downstream from Our House Dam, and 4.0 mi (6.4 km) southeast of Camptonville.

DRAINAGE AREA.--145 mi^2 (376 km^2).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,957.51 ft (596.649 m) above mean sea level. Prior to Nov. 4, 1970, at datum 10.0 ft (3.05 m) higher.

REMARKS.--Records excellent. Natural flow of stream affected by Jackson Meadows Reservoir since November 1964 (station 11407800), Milton-Bowman tunnel (station 11408000) which diverts above station to Bowman Lake (station 11415500), Lohman Ridge tunnel since October 1968 which diverts 400 ft (122 m) upstream to Oregon Creek and then to Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--9 years, 135 ft^3/s (3.823 m^3/s), 97,810 acre-ft/yr (121 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft^3/s (354 m^3/s) Jan. 21, 1970, gage height, 20.70 ft (6.309 m) present datum; minimum daily, 3.2 ft^3/s (0.091 m^3/s) Oct. 21 to Nov. 4, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 52 ft^3/s (1.47 m^3/s) Apr. 14, gage height, 10.52 ft (3.206 m); minimum daily, 12 ft^3/s (0.34 m^3/s) on many days during August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	23	24	24	26	35	32	49	35	23	13	14
2	26	23	24	25	26	39	32	50	35	23	13	13
3	30	23	24	27	26	39	31	50	35	23	13	13
4	31	22	24	25	26	37	31	50	35	23	13	13
5	30	22	24	25	26	36	31	43	35	22	13	13
6	29	22	24	25	26	34	31	38	35	22	13	12
7	28	23	24	24	26	34	32	38	35	21	13	12
8	27	22	24	24	26	34	32	38	35	21	13	12
9	26	22	24	24	29	35	32	38	35	20	13	12
10	26	22	24	24	29	36	32	38	34	19	13	12
11	26	22	24	24	29	36	32	39	34	19	12	12
12	25	23	24	24	29	36	32	39	34	18	12	12
13	24	23	24	25	28	36	32	38	34	17	12	12
14	24	29	24	25	28	36	40	38	34	17	12	12
15	24	32	24	25	28	36	48	38	28	17	12	12
16	24	31	24	25	28	36	48	38	23	17	13	13
17	24	31	24	25	28	36	49	38	23	17	12	14
18	24	29	23	25	28	36	49	38	23	16	13	16
19	24	28	23	25	27	36	48	38	23	16	13	16
20	24	27	23	25	27	36	48	38	23	15	13	17
21	24	26	23	25	30	36	48	38	23	15	13	18
22	24	26	23	27	31	36	48	37	24	15	13	17
23	24	25	23	28	30	36	48	35	24	15	12	17
24	24	25	23	28	30	36	48	35	24	15	12	16
25	24	25	23	28	30	37	48	35	24	14	12	16
26	24	24	23	28	29	35	48	35	24	14	13	16
27	24	24	19	28	29	34	48	35	23	14	15	16
28	24	24	20	28	29	32	48	35	23	14	15	15
29	24	24	22	27	---	32	48	35	23	14	15	17
30	24	24	23	27	---	32	48	35	23	14	15	19
31	23	---	24	27	---	32	---	35	---	13	14	---
TOTAL	784	746	723	796	784	1097	1222	1204	863	543	403	429
MEAN	25.3	24.9	23.3	25.7	28.0	35.4	40.7	38.8	28.8	17.5	13.0	14.3
MAX	31	32	24	28	31	39	49	50	35	23	15	19
MIN	23	22	19	24	26	32	31	35	23	13	12	12
AC-FT	1560	1480	1430	1580	1560	2180	2420	2390	1710	1080	799	851
‡	90	310	150	700	990	1190	1650	3800	1150	0	41	97

CAL YR 1976 TOTAL 11394 MEAN 31.1 MAX 50 MIN 19 AC-FT 22600
WTR YR 1977 TOTAL 9594 MEAN 26.3 MAX 50 MIN 12 AC-FT 19030

‡ Diversion, in acre-feet, to Lohman Ridge tunnel.

11409300 OREGON CREEK AT CAMPTONVILLE, CA

LOCATION.--Lat 39°26'46", long 121°02'43", in SE¼NE¼ sec.11, T.18 N., R.8 E., Yuba County, Tahoe National Forest, on right bank 25 ft (8 m) downstream from county bridge, 0.5 mi (0.8 km) southeast of Camptonville, and 5.5 mi (8.8 km) upstream from mouth.

DRAINAGE AREA.--23.0 mi^2 (59.6 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,230 ft (680 m), from topographic map.

REMARKS.--Records good except those for the summer months, which are poor. No regulation or diversion above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--10 years, 66.5 ft^3/s (1.883 m^3/s), 48,180 acre-ft/yr (59.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,130 ft^3/s (88.6 m^3/s) Jan. 21, 1970, gage height, 10.07 ft (3.069 m); minimum daily, 0.53 ft^3/s (0.015 m^3/s) Aug. 14-16, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 103 ft^3/s (2.92 m^3/s) Feb. 21, gage height, 3.89 ft (1.186 m), no peak above base of 500 ft^3/s (14.2 m^3/s); minimum daily, 0.53 ft^3/s (0.015 m^3/s) Aug. 14-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.9	2.6	3.1	3.4	11	11	12	8.2	2.1	.59	.85
2	3.6	1.9	2.6	20	3.1	9.4	10	11	7.5	2.5	.59	.80
3	3.7	1.9	2.5	26	3.1	8.4	9.5	8.3	7.1	2.2	.59	.80
4	2.7	1.9	2.6	8.4	3.2	7.5	9.1	17	6.9	1.9	.59	.80
5	2.3	1.9	2.6	5.7	3.3	6.9	9.5	12	5.8	1.7	.59	.80
6	2.2	1.9	2.5	4.1	3.1	6.7	9.8	15	5.1	1.7	.59	.78
7	2.1	2.0	2.4	3.2	3.1	6.2	10	18	5.3	1.6	.59	.75
8	1.9	2.0	2.4	3.2	5.2	6.2	11	19	4.9	1.5	.59	.72
9	1.9	2.0	2.7	3.2	8.3	10	14	20	4.5	1.4	.59	.68
10	1.7	2.2	2.6	3.3	5.2	12	12	50	4.9	1.3	.59	.66
11	1.8	2.5	2.5	3.1	4.4	9.1	10	41	4.9	1.2	.57	.66
12	1.8	2.7	2.4	3.4	4.0	8.9	9.4	37	4.2	1.1	.55	.66
13	1.7	2.9	2.3	3.3	3.8	10	8.7	30	3.7	1.1	.54	.66
14	1.7	20	2.3	3.1	3.7	8.1	8.4	26	3.5	1.0	.53	.66
15	1.8	9.1	2.2	3.1	3.6	8.6	7.7	24	3.3	1.0	.53	.66
16	1.8	4.2	2.1	3.0	3.4	8.4	7.2	23	3.1	.94	.53	1.2
17	1.7	3.2	2.1	3.3	3.3	8.9	6.8	22	3.0	.86	.56	2.5
18	1.8	2.9	2.0	3.5	3.3	9.8	6.4	20	2.9	.82	.60	1.9
19	1.8	2.7	2.0	3.7	3.1	10	6.0	19	2.8	.78	.64	2.7
20	1.8	2.6	2.0	3.9	3.1	11	5.9	16	2.8	.74	.70	3.2
21	1.8	2.6	2.0	4.4	42	11	5.6	15	2.9	.70	.64	1.9
22	1.9	2.6	2.0	5.6	30	11	5.2	14	2.8	.68	.60	1.3
23	1.9	2.5	2.0	5.9	19	14	5.0	13	2.7	.66	.60	1.1
24	1.8	2.4	2.0	4.9	14	17	4.7	12	2.5	.64	.62	1.0
25	1.9	2.4	2.0	4.3	11	15	4.6	11	2.4	.62	.70	1.1
26	1.9	2.5	2.0	3.9	9.6	17	4.6	13	2.3	.60	.92	1.1
27	1.8	2.4	2.0	3.7	9.1	17	4.5	14	2.2	.60	1.4	.93
28	1.8	2.4	2.0	3.5	9.9	16	4.2	11	2.1	.60	1.0	1.3
29	1.9	2.5	2.0	3.5	---	14	4.0	11	2.0	.60	.96	3.7
30	2.0	2.6	3.1	3.5	---	13	4.3	10	1.9	.60	.94	4.3
31	1.9	---	2.8	3.6	---	12	---	9.0	---	.60	.90	---
TOTAL	62.5	97.3	71.3	160.4	221.3	334.1	229.1	573.3	118.2	34.34	20.93	40.17
MEAN	2.02	3.24	2.30	5.17	7.90	10.8	7.64	18.5	3.94	1.11	.68	1.34
MAX	3.7	20	3.1	26	42	17	14	50	8.2	2.5	1.4	4.3
MIN	1.7	1.9	2.0	3.0	3.1	6.2	4.0	8.3	1.9	.60	.53	.66
AC-FT	124	193	141	318	439	663	454	1140	234	68	42	80

CAL YR 1976 TOTAL 5548.20 MEAN 15.2 MAX 300 MIN 1.3 AC-FT 11000
WTR YR 1977 TOTAL 1962.94 MEAN 5.38 MAX 50 MIN .53 AC-FT 3890

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA

LOCATION.--Lat 39°26'22", long 121°03'29", in SW¼SW¼ sec.11, T.18 N., R.8 E., Yuba County, Tahoe National Forest, on right bank 500 ft (152 m) downstream from Log Cabin Dam, 670 ft (204 m) upstream from High Point Ravine, and 1.1 mi (1.8 km) southwest of Camptonville.

DRAINAGE AREA.--29.1 mi^2 (75.4 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,919.96 ft (585.204 m) above mean sea level (levels by Yuba County Water Agency). Prior to July 24, 1973, at site 470 ft (143 m) downstream at datum 8.40 ft (2.560 m) lower.

REMARKS.--Records excellent. Camptonville tunnel, maximum capacity, about 830 ft^3/s (23.5 m^3/s), 520 ft (158 m) upstream, diverts to New Bullards Bar Reservoir (station 11413515); diversion began October 1968. See schematic diagram showing diversions and storage in Yuba River basin.

AVERAGE DISCHARGE.--9 years, 38.8 ft^3/s (1.099 m^3/s), 28,110 acre-ft/yr (34.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,180 ft^3/s (118 m^3/s) Jan. 21, 1970, gage height, 7.02 ft (2.140 m) previous site and datum; maximum gage height, 7.51 ft (2.289 m) Jan. 16, 1970; minimum daily discharge, 0.34 ft^3/s (0.010 m^3/s) Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft^3/s (0.37 m^3/s) May 1, gage height, 2.29 ft (0.698 m); minimum daily, 1.1 ft^3/s (0.031 m^3/s) Aug. 15-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	2.5	2.0	2.7	4.1	5.9	6.3	11	7.1	2.8	1.2	1.3
2	3.3	2.4	2.0	5.3	3.9	6.1	6.3	9.6	7.1	3.2	1.2	1.3
3	3.3	2.4	2.0	5.2	3.8	6.4	6.3	9.1	6.5	2.9	1.3	1.6
4	3.3	2.4	2.0	5.2	3.5	6.6	6.8	10	6.6	2.7	1.2	1.5
5	3.3	2.4	2.0	5.2	3.3	7.2	6.8	9.9	6.3	2.4	1.2	1.4
6	3.3	2.4	2.0	5.1	3.3	7.7	6.5	7.6	6.3	2.4	1.2	1.5
7	3.3	2.4	2.0	4.8	3.3	7.1	6.6	8.1	6.3	2.3	1.2	1.5
8	3.3	2.4	1.9	4.5	3.3	6.3	6.7	8.6	7.1	2.2	1.3	1.5
9	3.3	2.4	2.0	4.6	3.2	6.5	6.8	8.8	7.9	2.1	1.3	1.5
10	3.2	2.3	1.9	4.5	2.9	7.9	6.2	9.6	7.9	2.0	1.3	1.4
11	3.1	2.3	1.9	4.5	2.8	6.7	5.9	9.4	8.0	1.9	1.2	1.3
12	3.1	2.3	1.9	4.6	2.7	7.3	5.7	9.0	7.9	1.9	1.2	1.3
13	3.1	2.4	1.9	4.5	2.7	8.1	5.7	8.8	7.7	1.8	1.2	1.3
14	3.1	2.8	1.9	4.5	2.7	7.1	8.7	8.6	7.7	1.7	1.2	1.3
15	3.1	2.5	1.9	4.6	2.7	6.8	11	8.6	5.9	1.7	1.1	1.4
16	3.0	2.4	1.9	4.7	2.7	7.4	11	8.5	4.7	1.6	1.1	1.6
17	3.0	2.2	1.9	4.7	2.7	8.1	11	8.2	4.7	1.6	1.1	3.1
18	3.0	2.2	1.9	4.7	2.7	8.1	11	7.2	4.7	1.5	1.2	2.9
19	3.0	2.2	1.9	4.4	2.9	7.9	11	7.2	4.7	1.5	1.3	3.4
20	3.1	2.2	1.9	4.2	3.1	6.8	11	7.1	4.7	1.4	1.4	3.8
21	3.1	2.1	1.9	4.2	3.9	6.8	11	7.3	4.9	1.4	1.3	2.8
22	3.1	2.1	1.9	4.8	4.6	6.8	11	7.7	4.9	1.4	1.2	2.3
23	3.0	2.1	1.9	5.1	4.1	7.0	11	7.7	4.8	1.4	1.2	2.1
24	3.0	2.1	1.9	4.8	3.8	8.1	11	7.7	4.7	1.4	1.2	2.0
25	3.0	2.1	1.9	4.5	3.5	8.4	11	7.8	4.8	1.3	1.2	2.0
26	2.8	2.1	1.9	4.4	3.4	8.4	11	7.9	4.8	1.3	1.6	2.0
27	2.7	2.1	1.9	4.4	3.6	7.8	11	8.2	4.3	1.3	2.2	2.0
28	2.7	2.0	1.9	4.3	5.7	6.8	9.6	8.1	3.6	1.3	1.9	2.3
29	2.6	2.0	1.9	4.3	---	6.4	8.6	7.8	3.1	1.3	1.7	4.0
30	2.6	2.0	2.7	4.2	---	6.5	8.6	7.2	2.6	1.3	1.5	4.7
31	2.6	---	2.6	4.1	---	6.3	---	6.8	---	1.3	1.4	---
TOTAL	94.7	68.2	61.2	141.6	94.9	221.3	261.1	259.1	172.3	56.3	40.8	62.1
MEAN	3.05	2.27	1.97	4.57	3.39	7.14	8.70	8.36	5.74	1.82	1.32	2.07
MAX	3.3	2.8	2.7	5.3	5.7	8.4	11	11	8.0	3.2	2.2	4.7
MIN	2.6	2.0	1.9	2.7	2.7	5.9	5.7	6.8	2.6	1.3	1.1	1.3
AC-FT	188	135	121	281	188	439	518	514	342	112	81	123
‡	59	419	207	821	1360	1590	1710	4730	1100	0	13	75

CAL YR 1976 TOTAL 2186.8 MEAN 5.97 MAX 14 MIN 1.9 AC-FT 4340
WTR YR 1977 TOTAL 1533.6 MEAN 4.20 MAX 11 MIN 1.1 AC-FT 3040

‡ Camptonville tunnel diversion, in acre-feet, to New Bullards Bar Reservoir.

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: August 1971 to current year.

INSTRUMENTATION.--Temperature recorder since Aug. 17, 1971.

REMARKS.--Prior to July 24, 1973, at site 470 ft (143 m) downstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 25.0°C July 16-18, 1972; minimum recorded, 0.5°C Dec. 11-14, 1972, Feb. 1, 1975.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.5°C June 29; minimum recorded, 1.5°C Jan. 8-10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11409400 OREGON CREEK BELOW LOG CABIN DAM, NEAR CAMPTONVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11410000 MIDDLE YUBA RIVER BELOW OREGON CREEK, NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'11", long 121°05'18", in NE¼NW¼ sec.33, T.18 N., R.8 E., Yuba County, on right bank 2,000 ft (610 m) downstream from Freeman Crossing, 0.7 mi (1.1 km) downstream from Oregon Creek, and 1.4 mi (2.3 km) northeast of North San Juan.

DRAINAGE AREA.--198 mi^2 (513 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1974 to September 1977 (discontinued).

INSTRUMENTATION.--Temperature recorder from Sept. 11, 1974 to Sept. 30, 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 30.5°C June 25, 29, 1977; minimum recorded, 0.0°C Dec. 24, 1974, Jan. 2, 3, 1975, Jan. 17, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 30.5°C June 25, 29; minimum recorded, 0.0°C Jan. 17.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	16.0	11.0	7.5	4.0	1.5	---	---	5.0	1.5	7.0	3.5
2	16.5	15.5	11.0	7.5	4.5	2.0	---	---	4.5	1.5	6.0	3.0
3	19.0	14.0	11.0	7.0	4.5	2.0	---	---	4.5	1.0	8.5	5.0
4	18.0	13.5	11.0	7.5	4.5	2.5	---	---	5.0	1.0	8.5	4.0
5	18.5	13.0	11.0	7.5	4.5	2.0	---	---	5.0	2.0	9.0	4.0
6	19.0	13.5	11.0	7.5	4.0	1.5	---	---	6.5	2.5	9.5	4.5
7	19.0	14.0	11.0	7.5	4.0	1.5	---	---	6.5	3.0	8.5	5.5
8	19.0	14.0	11.0	7.5	4.0	1.5	---	---	6.0	5.0	11.0	7.0
9	19.0	14.0	11.0	8.0	5.0	2.5	---	---	7.5	4.5	11.0	7.0
10	18.0	13.5	11.5	8.0	4.0	1.5	---	---	7.5	4.0	9.5	5.0
11	18.5	13.5	11.0	9.0	4.0	1.5	---	---	8.0	4.0	9.0	5.0
12	17.5	12.5	12.0	9.5	3.5	1.5	---	---	8.0	4.0	8.0	6.5
13	16.5	11.5	10.5	9.0	3.5	1.5	---	---	8.5	4.0	6.5	5.0
14	16.5	11.5	11.0	10.0	3.0	1.0	3.5	1.0	9.0	4.5	6.5	3.5
15	16.0	11.5	11.5	9.5	3.5	1.0	3.0	0.5	9.5	5.0	6.5	4.5
16	15.5	11.5	11.5	9.0	3.0	1.0	3.0	0.5	9.5	5.0	6.0	5.5
17	15.5	11.0	10.5	8.0	3.0	0.5	2.5	0.0	10.0	5.5	9.0	5.5
18	15.0	10.5	10.5	7.5	2.5	0.5	3.0	0.5	9.5	5.5	10.0	4.5
19	15.0	10.5	10.5	8.0	2.0	0.5	4.0	1.0	10.0	5.5	11.5	6.5
20	14.5	10.5	9.5	7.0	2.0	0.5	4.5	2.0	7.5	6.0	12.0	6.0
21	14.5	10.5	10.0	7.0	2.0	0.5	5.0	4.0	8.0	6.5	12.5	7.0
22	14.0	10.5	9.0	7.0	2.5	0.5	6.5	5.0	9.0	6.5	13.5	8.0
23	14.5	10.5	8.5	6.0	3.0	1.0	6.5	4.0	7.0	5.5	10.0	8.0
24	14.0	10.5	8.5	5.5	2.5	0.5	5.5	3.0	7.5	4.0	8.0	7.5
25	14.5	11.0	8.0	5.5	2.5	0.5	5.5	2.5	8.0	3.5	11.5	6.5
26	13.0	9.5	7.0	4.5	2.0	0.5	5.0	2.0	8.5	3.5	12.0	6.0
27	12.0	8.0	5.5	3.5	1.0	0.5	5.0	2.0	9.0	4.0	13.5	7.5
28	11.5	7.5	4.5	2.0	1.0	0.5	4.5	1.5	8.0	5.0	12.5	7.0
29	10.5	7.5	4.5	2.0	---	---	4.0	1.0	---	---	12.0	6.0
30	11.5	7.5	4.5	2.0	---	---	4.0	1.0	---	---	9.5	6.5
31	11.5	7.5	---	---	---	---	5.0	2.0	---	---	12.0	5.0
MONTH	19.0	7.5	12.0	2.0	5.0	0.5	---	---	10.0	1.0	13.5	3.0

11410000 MIDDLE YUBA RIVER BELOW OREGON CREEK, NEAR NORTH SAN JUAN, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	7.5	15.0	13.0	24.5	18.0	28.5	23.5	27.5	21.5	25.5	18.0
2	13.5	7.0	17.0	11.5	23.5	17.5	28.5	22.5	28.5	23.0	25.0	18.0
3	14.5	7.5	14.0	12.0	23.0	17.0	28.0	22.0	29.5	22.0	24.5	17.0
4	16.0	9.0	17.0	11.0	25.5	17.5	26.5	20.0	29.0	21.5	25.0	16.5
5	17.0	10.0	14.5	11.5	26.5	19.0	26.0	18.5	26.0	20.5	25.0	17.0
6	18.0	11.0	12.0	10.0	26.5	21.0	27.0	18.5	25.0	20.0	25.5	17.5
7	18.0	11.5	13.5	9.5	28.0	21.0	27.5	19.0	26.5	19.0	25.0	17.0
8	13.5	12.0	15.0	10.0	26.5	21.5	28.0	19.5	25.5	18.0	25.5	17.5
9	15.0	11.0	12.5	11.5	23.0	20.5	28.0	20.0	26.5	18.0	25.0	17.5
10	16.5	9.5	12.0	11.0	20.0	18.5	28.5	19.5	27.0	18.5	24.5	17.0
11	17.0	10.5	12.0	10.5	23.5	16.5	29.0	20.5	27.0	19.5	23.5	16.5
12	18.5	11.0	12.5	10.5	22.5	17.5	28.5	20.5	28.0	20.0	23.0	16.0
13	18.5	12.5	17.0	10.0	24.0	18.0	28.5	20.0	28.0	21.0	22.0	15.5
14	18.5	11.5	18.5	13.0	25.0	18.5	29.0	20.0	27.5	20.0	22.0	16.5
15	17.5	12.0	16.5	13.0	25.5	18.5	29.5	20.5	28.0	19.0	18.0	15.5
16	18.5	12.5	16.0	11.0	26.5	19.0	29.5	20.5	27.0	19.0	16.0	15.0
17	18.5	13.0	14.0	10.0	25.0	19.5	29.5	21.5	23.0	20.0	17.5	14.5
18	17.5	12.0	15.0	9.5	24.5	18.5	29.0	20.5	27.0	20.0	20.0	14.5
19	17.0	11.0	18.5	11.0	26.0	19.0	29.0	21.0	27.5	20.0	18.0	16.0
20	17.5	11.5	20.5	13.5	26.5	20.0	29.5	21.0	28.0	20.5	20.5	15.0
21	17.0	11.5	20.5	14.5	28.5	20.0	29.0	21.0	28.0	20.0	20.0	14.0
22	18.0	12.0	17.5	15.0	29.0	21.0	29.0	20.5	28.0	20.0	19.5	13.0
23	18.0	12.5	15.5	14.0	29.5	21.0	29.0	20.0	27.5	20.0	19.0	12.5
24	17.0	13.0	19.0	12.5	30.0	22.0	28.0	20.0	24.5	20.0	21.0	15.5
25	15.0	13.0	18.5	13.5	30.5	23.5	28.0	19.5	21.5	19.5	20.5	14.0
26	17.5	11.5	15.5	14.0	30.0	22.5	28.5	19.5	25.0	19.5	20.5	14.5
27	17.0	12.0	20.0	13.5	30.0	22.5	28.5	19.0	25.5	18.0	19.5	15.0
28	18.0	12.5	20.5	13.5	30.0	23.0	28.0	19.5	26.5	18.0	18.0	16.0
29	17.0	13.5	21.5	14.0	30.5	23.5	28.5	19.0	27.5	19.5	18.0	16.0
30	17.5	13.5	22.5	15.0	27.5	24.0	29.5	20.0	26.5	19.0	19.5	14.5
31	---	---	24.0	16.5	---	---	28.5	21.0	26.0	18.5	---	---
MONTH	18.5	7.0	24.0	9.5	30.5	16.5	29.5	18.5	29.5	18.0	25.5	12.5

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA

LOCATION.--Lat 39°31'30", long 120°56'13", in NE¼SW¼ sec.11, T.19 N., R.9 E., Sierra County, Tahoe National Forest, on right bank 200 ft (61 m) downstream from St. Catherine Creek, 3.1 mi (5.0 km) southwest of Goodyears Bar, and 6.4 mi (10.3 km) southwest of Downieville.

DRAINAGE AREA.--250 mi^2 (648 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Prior to October 1949, published as North Fork Yuba River below Goodyears Bar. Monthly and yearly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1041: 1944. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,453 ft (747.7 m) above mean sea level (river-profile survey).

REMARKS.--Records excellent. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--47 years, 742 ft^3/s (21.01 m^3/s), 537,600 acre-ft/yr (663 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft^3/s (1,130 m^3/s) Feb. 1, 1963, gage height, 25.8 ft (7.25 m) from floodmarks, from rating curve extended above 8,500 ft^3/s (241 m^3/s) on basis of one float measurement at 17,900 ft^3/s (507 m^3/s) and slope-area measurements at gage heights 19.15 ft (5.837 m) and 23.8 ft (7.25 m); minimum daily, 60 ft^3/s (1.70 m^3/s) Sept. 7-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 623 ft^3/s (17.6 m^3/s) Feb. 21, gage height, 4.04 ft (1.231 m), no peak above base of 3,200 ft^3/s (90.6 m^3/s); minimum daily, 60 ft^3/s (1.70 m^3/s) Sept. 7-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	97	101	99	104	143	150	313	324	105	69	63
2	120	97	100	212	102	135	147	289	312	105	69	63
3	132	97	101	243	102	133	143	270	281	103	68	63
4	115	96	100	138	102	124	152	287	265	100	67	62
5	110	96	100	122	101	122	191	289	258	96	67	61
6	105	96	99	110	102	126	236	277	253	94	68	61
7	103	95	98	105	102	128	265	259	252	93	68	60
8	101	96	98	104	136	127	316	254	223	91	67	60
9	100	96	101	107	137	178	288	334	212	89	67	60
10	99	97	98	107	120	160	242	375	234	88	66	60
11	99	98	99	104	117	143	231	335	208	87	66	60
12	98	99	99	108	115	151	238	310	191	85	65	60
13	96	99	99	106	116	156	269	314	181	83	64	60
14	96	224	98	103	116	137	287	432	171	82	64	60
15	97	167	98	104	118	144	268	454	163	81	64	62
16	96	146	97	104	118	139	295	376	157	79	63	67
17	97	134	98	105	119	140	334	336	150	78	63	88
18	98	122	96	111	116	134	285	318	147	77	67	84
19	98	117	95	118	114	138	247	304	147	76	66	86
20	98	113	95	117	115	142	235	352	180	76	64	87
21	98	110	95	121	369	145	243	398	150	75	64	76
22	100	108	95	130	256	157	239	394	137	74	63	72
23	103	107	96	123	201	193	256	363	129	73	63	71
24	101	105	95	114	172	194	258	333	123	73	63	71
25	100	104	94	110	153	180	258	314	119	73	67	72
26	98	102	94	108	145	172	235	340	114	73	83	71
27	98	94	91	107	142	178	232	434	110	73	77	70
28	97	95	95	105	155	182	231	361	107	72	71	75
29	98	101	93	104	---	168	228	334	104	71	68	123
30	98	102	99	104	---	161	227	321	103	70	65	101
31	98	---	98	104	---	152	---	320	---	69	64	---
TOTAL	3146	3310	3015	3657	3865	4682	7226	10390	5505	2564	2070	2129
MEAN	101	110	97.3	118	138	151	241	335	184	82.7	66.8	71.0
MAX	132	224	101	243	369	194	334	454	324	105	83	123
MIN	96	94	91	99	101	122	143	254	103	69	63	60
AC-FT	6240	6570	5980	7250	7670	9290	14330	20610	10920	5090	4110	4220

CAL YR 1976 TOTAL 94076 MEAN 257 MAX 1320 MIN 91 AC-FT 186600
WTR YR 1977 TOTAL 51559 MEAN 141 MAX 454 MIN 60 AC-FT 102300

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1972, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	ALKALINITY AS CACO3 (MG/L)
AUG							
02...	1000	69	156	8.1	20.5	8.5	74
17...	1015	63	160	8.2	18.0	8.8	77
SEP							
12...	1030	60	162	8.2	15.0	9.4	79

11413100 NORTH YUBA RIVER ABOVE SLATE CREEK, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°31'29", long 121°05'26", in NE¼SW¼ sec.9, T.19 N., R.8 E., Yuba County, Tahoe National Forest, on left bank 500 ft (152 m) upstream from Slate Creek, and 2.8 mi (4.5 km) southeast of Strawberry Valley.

DRAINAGE AREA.--351 mi^2 (909 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1968 to current year.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 1,953.44 ft (595.409 m) above mean sea level.

REMARKS.--Records good. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--9 years, 1,147 ft^3/s (32.48 m^3/s), 831,000 acre-ft/yr (1.02 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,800 ft^3/s (1,010 m^3/s) Jan. 22, 1970, gage height, 19.91 ft (6.069 m), recorded; 20.7 ft (6.31 m), from floodmarks; minimum daily, 71 ft^3/s (2.01 m^3/s) Sept. 7-15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 29.8 ft (9.08 m) from floodmarks, discharge, 63,400 ft^3/s (1,800 m^3/s) from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Feb. 21, gage height, 7.43 ft (2.265 m), no peak above base of 4,500 ft^3/s (127 m^3/s); minimum daily, 71 ft^3/s (2.01 m^3/s) Sept. 7-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	114	118	118	127	201	208	388	363	118	82	74
2	126	114	118	278	126	178	209	383	345	122	82	73
3	150	114	118	442	124	172	201	317	310	122	81	73
4	142	116	118	198	122	166	204	379	294	119	81	73
5	133	116	118	164	123	159	251	348	282	114	80	73
6	126	113	118	145	124	159	313	364	273	114	79	72
7	124	112	118	133	124	160	350	348	275	112	79	71
8	122	112	118	130	152	162	409	335	256	112	79	71
9	120	112	118	128	198	239	407	447	238	109	79	71
10	118	112	118	130	155	250	339	609	253	108	79	71
11	118	112	118	134	148	200	307	538	236	105	79	71
12	118	112	118	133	148	198	307	489	216	103	77	71
13	116	113	118	133	147	214	339	454	203	102	76	71
14	114	294	118	132	145	188	362	573	191	101	76	71
15	114	233	116	131	144	193	338	602	181	100	76	71
16	114	172	116	131	147	189	360	507	175	97	74	75
17	114	161	116	131	147	189	407	449	169	94	73	101
18	114	148	115	133	147	186	356	415	164	92	73	113
19	114	141	114	141	144	185	310	393	160	91	74	109
20	114	137	115	145	141	191	288	428	202	91	74	123
21	114	134	112	146	548	195	289	473	176	91	74	101
22	114	132	112	159	463	205	285	468	159	90	74	92
23	114	130	112	163	299	260	302	432	148	89	74	89
24	114	127	112	150	253	295	303	402	144	87	73	87
25	114	125	112	142	212	265	304	373	137	86	74	87
26	114	121	112	137	194	257	282	378	132	86	89	87
27	114	116	111	133	185	266	269	522	128	86	92	86
28	114	110	108	130	192	276	267	429	124	86	86	88
29	114	115	118	128	---	254	264	392	122	86	82	163
30	114	118	119	126	---	235	262	369	118	85	79	148
31	114	---	121	126	---	219	---	363	---	83	77	---
TOTAL	3681	3986	3593	4750	5179	6506	9092	13367	6174	3081	2427	2626
MEAN	119	133	116	153	185	210	303	431	206	99.4	78.3	87.5
MAX	150	294	121	442	548	295	409	609	363	122	92	163
MIN	114	110	108	118	122	159	201	317	118	83	73	71
AC-FT	7300	7910	7130	9420	10270	12900	18030	26510	12250	6110	4810	5210

CAL YR 1976 TOTAL 127877 MEAN 349 MAX 2560 MIN 108 AC-FT 253600
WTR YR 1977 TOTAL 64462 MEAN 177 MAX 609 MIN 71 AC-FT 127900

11413100 NORTH YUBA RIVER ABOVE SLATE CREEK, NEAR STRAWBERRY VALLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years, 1969, 1972, 1975 to current year.
WATER TEMPERATURES: Water years 1969, 1975 to September 1977 (discontinued).
SEDIMENT RECORDS: Water year 1972.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: September 1968 to July 1969, October 1974 to September 1977 (discontinued).

INSTRUMENTATION.--Temperature recorder September 1968 to July 1969, and October 1974 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 26.5°C Aug. 3, 1977; minimum recorded, 0.0°C on several days in 1974 and 1976.

EXTREMES FOR CURRENT YEAR:
WATER TEMPERATURES: Maximum recorded, 26.5°C Aug. 3; minimum recorded, 0.0°C Dec. 27, 28.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11413100 NORTH YUBA RIVER ABOVE SLATE CREEK, NEAR STRAWBERRY VALLEY, CA--Continued

TEMPERATURE (DEG. C) OF WATER. WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11413250 SLATE CREEK TUNNEL NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'57", long 121°03'03", in SE¼SW¼ sec.2, T.20 N., R.8 E., Plumas County, Plumas National Forest, on right bank 30 ft (9 m) upstream from diversion dam on Slate Creek, 0.3 mi (0.5 km) upstream from Feney Ravine, and 4.5 mi (7.2 km) northeast of town of Strawberry Valley.

PERIOD OF RECORD.--October 1966 to current year. Records of daily discharge for December 1961 to September 1966 are in files of Geological Survey. Monthly diversion used to adjust Slate Creek below diversion dam near Strawberry Valley since February 1962.

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

REMARKS.--Records good. Tunnel diverts water from Slate Creek to Sly Creek Reservoir (station 11395400) for power development. See schematic diagrams of South Fork Feather and Yuba River basins.

AVERAGE DISCHARGE.--11 years, 98.2 ft^3/s (2.781 m^3/s), 71,150 acre-ft/yr (87.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft^3/s (24.4 m^3/s) Apr. 6, 1963; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									0			
2									0			
3									0			
4									0			
5									0			
6									0			
7									0			
8									0			
9									0			
10									0			
11									0			
12									0			
13									0			
14									0			
15									0			
16									0			
17									0			
18									0			
19									0			
20									0			
21									0			
22									0			
23									0			
24									0			
25									0			
26									0			
27									0			
28									0			
29					---				.85			
30					---				0			
31		---			---		---		---			---
TOTAL	0	0	0	0	0	0	0	0	.85	0	0	0
MEAN	0	0	0	0	0	0	0	0	.028	0	0	0
MAX	0	0	0	0	0	0	0	0	.85	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	0	0	0	0	1.7	0	0	0

CAL YR 1976	TOTAL	14513.00	MEAN 39.7	MAX	758	MIN 0	AC-FT	28790	
WTR YR 1977	TOTAL	0.85	MEAN .002	MAX	.85	MIN 0	AC-FT	1	

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'52", long 121°03'04", in SE¼SW¼ sec.2, T.20 N., R.8 E., Plumas County, Plumas National Forest, on right bank 300 ft (91 m) downstream from diversion dam, 0.2 mi (0.3 km) upstream from Feney Ravine, and 4.5 mi (7.2 km) northeast of town of Strawberry Valley.

DRAINAGE AREA.--49.4 mi^2 (127.9 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 3,570 ft (1,088 m), from topographic map.

REMARKS.--Records good. Slate Creek tunnel (station 11413250) diverts at diversion dam, 300 ft (91 m) upstream, up to 900 ft^3/s (25.5 m^3/s) from Slate Creek Reservoir, capacity, 223 acre-ft (275,000 m^3) to Sly Creek Reservoir (station 11395400). Diversion began in February 1962. See schematic diagrams of South Fork Feather and Yuba River basins. Daily records represent flow in Slate Creek below the diversion dam.

AVERAGE DISCHARGE (adjusted for diversion to Slate Creek tunnel).--17 years, 200 ft^3/s (5.664 m^3/s), 144,900 acre-ft/yr (179 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 13,100 ft^3/s (371 m^3/s) Dec. 22, 1964, gage height, 16.42 ft (5.005 m), from rating curve extended above 5,500 ft^3/s (156 m^3/s) on basis of computed flow over dam at gage heights 12.75 ft (3.886 m) and 15.90 ft (4.846 m); minimum, 0.3 ft^3/s (0.008 m^3/s) Mar. 4, 5, 1962.
Combined flow, maximum discharge, 13,900 ft^3/s (394 m^3/s) Dec. 22, 1964; minimum daily, 2.3 ft^3/s (0.065 m^3/s) Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 378 ft^3/s (10.7 m^3/s) Feb. 21, gage height, 4.33 ft (1.320 m); minimum daily, 3.3 ft^3/s (0.094 m^3/s) Aug. 16, Sept. 13.
Combined flow, maximum discharge, 378 ft^3/s (10.7 m^3/s) Feb. 21; minimum daily, 3.3 ft^3/s (0.094 m^3/s) Aug. 16, Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.5	6.1	6.7	13	23	29	42	32	7.9	3.9	3.5
2	6.9	5.3	6.2	8.6	13	22	28	37	30	8.7	3.9	3.7
3	9.6	5.3	6.2	11	13	21	27	29	27	7.8	3.8	3.7
4	8.7	5.3	6.6	20	13	18	30	39	25	7.0	3.6	3.7
5	7.2	5.3	6.3	18	13	18	39	33	23	6.6	3.5	3.7
6	6.7	5.3	5.7	15	13	19	47	40	22	6.3	3.6	3.6
7	6.4	5.3	5.7	12	12	19	49	42	21	6.0	3.8	3.5
8	6.3	5.3	5.6	12	12	19	58	47	19	5.6	3.7	3.5
9	6.1	5.3	6.7	11	26	45	54	87	18	5.5	3.9	3.5
10	6.1	5.3	5.8	11	20	35	44	142	18	5.4	3.7	3.5
11	5.8	5.4	6.0	11	18	28	38	123	17	5.5	3.7	3.4
12	5.8	5.9	5.5	11	18	29	36	107	16	5.3	3.7	3.4
13	5.8	6.1	5.8	11	19	27	37	92	15	5.1	3.6	3.3
14	5.8	14	5.1	11	20	21	38	103	14	5.0	3.5	3.5
15	5.8	20	5.8	11	21	25	34	94	13	4.9	3.4	3.7
16	5.8	16	5.8	11	20	23	34	77	12	4.7	3.3	5.0
17	5.5	13	5.1	11	19	23	36	65	12	4.7	3.4	15
18	5.6	10	5.2	10	18	22	30	58	12	4.5	3.8	11
19	5.6	9.7	5.4	11	17	26	27	53	11	4.5	3.9	15
20	5.6	8.2	5.4	11	17	29	24	54	15	4.4	3.7	19
21	5.6	7.0	5.5	11	139	30	24	56	12	4.3	3.6	9.2
22	5.6	6.9	6.4	11	62	31	23	52	11	4.2	3.5	7.0
23	6.1	6.7	6.7	15	42	39	23	47	11	4.3	3.4	6.2
24	5.9	6.7	4.7	16	32	36	22	43	11	4.3	3.5	6.0
25	5.7	6.7	6.1	14	28	33	22	39	11	4.1	4.1	6.1
26	5.8	6.4	5.3	13	26	37	21	49	11	4.1	5.3	5.9
27	5.6	4.7	4.5	13	26	46	19	61	10	4.0	5.3	5.7
28	5.6	5.9	5.3	13	28	46	18	46	10	3.9	4.5	6.7
29	5.6	6.5	5.7	13	---	39	18	40	11	3.9	4.2	29
30	5.5	6.2	6.9	13	---	33	18	36	6.0	4.0	3.9	15
31	5.3	---	6.7	13	---	30	---	34	---	3.9	3.7	---
TOTAL	189.5	225.2	179.8	379.3	718	892	947	1867	476.0	160.4	118.4	215.0
MEAN	6.11	7.51	5.80	12.2	25.6	28.8	31.6	60.2	15.9	5.17	3.82	7.17
MAX	9.6	20	6.9	20	139	46	58	142	32	8.7	5.3	29
MIN	5.3	4.7	4.5	6.7	12	18	18	29	6.0	3.9	3.3	3.3
AC-FT	376	447	357	752	1420	1770	1880	3700	944	318	235	426
MEAN ‡	6.11	7.51	5.80	12.2	25.6	28.8	31.6	60.2	15.9	5.17	3.82	7.17
AC-FT ‡	376	447	357	752	1420	1770	1880	3700	946	318	235	426

CAL YR 1976 TOTAL 3455.9 MEAN 9.44 MAX 33 MIN 2.9 AC-FT 6850 MEAN ‡ 49.1 AC-FT ‡ 35650
WTR YR 1977 TOTAL 6367.6 MEAN 17.4 MAX 142 MIN 3.3 AC-FT 12630 MEAN ‡ 17.4 AC-FT ‡ 12630

‡ Adjusted for diversion to Slate Creek Tunnel.

11413510 NEW COLGATE POWERPLANT NEAR FRENCH CORRAL, CA

LOCATION.--Lat 39°19'51", long 121°11'23", in NE¼SE¼ sec.16, T.17 N., R.7 E., Yuba County, at powerplant on right bank of Yuba River, 0.3 mi (0.5 km) upstream from Dobbins Creek, and 2.3 mi (3.7 km) northwest of French Corral.

PERIOD OF RECORD.--October 1966 to current year. Records of daily discharge for October 1960 to September 1966 are available in files of Geological Survey. Prior to October 1969, published as "Colgate powerplant."

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from North Yuba River at New Bullards Bar Dam (station 11413515). Colgate powerplant was rebuilt during the 1970 water year with an increased capacity. Browns Valley ditch diverted up to 10 ft^3/s (0.28 m^3/s) at times from the head of the penstock for use in irrigation. This diversion discontinued Oct. 31, 1973. See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Yuba County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 1,174 ft^3/s (33.25 m^3/s) 850,600 acre-ft/yr (1.05 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,200 ft^3/s (119 m^3/s) June 2, 1971; no flow for several days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	608	519	491	302	419	0	0	0	153	100	581	252
2	469	1080	546	399	368	0	0	734	299	714	302	304
3	860	673	1120	491	114	0	0	359	216	145	219	132
4	485	388	503	596	208	0	0	29	905	202	279	394
5	464	765	219	634	80	0	0	405	293	485	305	0
6	384	648	390	343	116	0	194	130	379	636	271	370
7	601	872	227	196	121	32	152	9.0	296	527	31	505
8	459	1180	290	11	99	0	129	0	311	207	423	351
9	613	750	343	0	3.0	0	403	131	395	528	706	10
10	541	836	196	33	0	0	211	185	881	465	407	0
11	620	716	183	72	0	0	161	117	218	460	429	0
12	883	731	41	31	0	0	343	0	120	246	599	0
13	597	0	583	39	0	0	728	342	246	135	0	0
14	330	0	624	55	0	69	1810	8.0	176	642	0	0
15	615	383	524	14	0	326	2040	42	494	1130	612	120
16	853	398	578	0	0	27	630	159	388	603	280	287
17	741	317	499	0	0	273	892	498	272	766	263	0
18	620	546	849	0	0	311	637	294	965	0	131	30
19	811	452	309	109	0	0	672	94	338	41	541	100
20	778	512	234	110	0	0	265	95	315	209	392	140
21	562	649	366	121	0	0	788	165	597	230	22	189
22	301	606	640	65	0	57	672	227	553	434	403	81
23	354	356	417	198	0	0	490	76	444	293	299	55
24	906	755	593	125	0	0	0	41	748	110	284	97
25	640	658	504	57	0	0	452	201	229	196	33	73
26	476	694	399	186	0	0	293	721	0	360	121	110
27	690	899	196	263	0	0	168	706	521	239	479	224
28	726	757	208	120	0	0	234	0	531	737	504	202
29	801	790	56	18	---	0	624	0	303	568	731	99
30	702	410	126	63	---	124	638	0	536	569	53	10
31	399	---	109	62	---	0	---	607	---	0	191	---
TOTAL	18889	18340	12363	4713	1528.0	1219	13626	6375.0	12122	11977	9891	4135
MEAN	609	611	399	152	54.6	39.3	454	206	404	386	319	138
MAX	906	1180	1120	634	419	326	2040	734	965	1130	731	505
MIN	301	0	41	0	0	0	0	0	0	0	0	0
AC-FT	37470	36380	24520	9350	3030	2420	27030	12640	24040	23760	19620	8200

GAL YR 1976 TOTAL 162939.00 MEAN 445 MAX 1510 MIN 0 AC-FT 323200
WTR YR 1977 TOTAL 115178.00 MEAN 316 MAX 2040 MIN 0 AC-FT 228500

11413515 NEW BULLARDS BAR RESERVOIR NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°23'34", long 121°08'25", in SE¼NW¼ sec.25, T.18 N., R.7 E., Yuba County, Plumas National Forest, in center of dam on North Yuba River, 2.2 mi (3.5 km) upstream from Middle Yuba River, and 2.4 mi (3.9 km) northwest of North San Juan.

DRAINAGE AREA.--489 mi^2 (1,267 km^2).

PERIOD OF RECORD.--January 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Yuba County Water Agency).

REMARKS.--Reservoir is formed by concrete-arch dam with a concrete-sidehill spillway. Spill controlled by three 30-ft (9.1 m) by 53-ft (16.2-m) radial gates. Storage began in January 1969. Usable capacity, 727,380 acre-ft (897 hm^3) between elevations 1,732.0 ft (527.91 m) minimum power pool, and 1,955.0 ft (595.88 m) normal gross pool. Dead storage, 233,920 acre-ft (288 hm^3). Total capacity at normal gross pool, 961,300 acre-ft (1.19 km^3), elevation, 1,955.0 ft (595.88 m). Water is released to Colgate powerplant through a tunnel at the dam. Water is diverted into the reservoir from Middle Yuba River via Lohman Ridge tunnel to Oregon Creek then via Camptonville tunnel. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Yuba County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 964,757 acre-ft (1.19 km^3) June 30, 1975, elevation, 1,955.72 ft (596.103 m); minimum since reservoir first filled, 257,652 acre-ft (318 hm^3) Sept. 28, 1977, elevation, 1,744.00 ft (531.571 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 342,677 acre-ft (423 hm^3) Oct. 1, elevation, 1,781.40 ft (542.971 m); minimum, 257,652 acre-ft (318 hm^3) Sept. 28, elevation, 1,744.00 ft (531.571 m).

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

1600	64900	1750	270110
1630	90570	1800	389980
1660	122990	1850	539750
1690	162980	1900	721130
1720	211770	1960	985471

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	342677	312434	283836	265913	269014	281878	296890	289984	311853	299684	278098	261616
2	341936	310577	282530	266226	268426	282313	297497	289454	312109	298330	277560	261265
3	340456	309420	280444	267167	268531	282812	297789	289542	312434	298262	277259	261141
4	339815	308728	279584	267167	268426	283182	298465	290470	311273	298015	276702	260379
5	339128	307484	279282	265704	268531	283553	299165	290426	311273	297385	276278	260420
6	338734	306381	278635	265289	268531	283945	299526	291223	311041	296150	275845	269763
7	337655	304914	278592	265237	268573	284272	300046	292200	311134	295209	275781	258778
8	336945	302674	277990	265579	268846	284709	300839	293089	311041	294963	274990	258082
9	335894	301274	277517	265913	269477	285365	301178	294093	310809	294048	273610	257856
10	335284	299684	277345	266226	269864	286132	301632	295500	309513	293223	272882	257918
11	334284	298465	277195	266330	270215	286591	302087	296935	309559	292422	272054	258020
12	332874	297115	277410	266665	270696	287338	302087	298465	309883	291978	270891	258163
13	331662	297340	276487	266958	270996	287778	301292	299006	309652	291956	271060	258265
14	331299	298240	275332	267167	271335	288130	298465	300567	309837	290736	271123	258347
15	330332	298691	274479	267502	271695	287889	294874	301996	309189	288505	269983	258265
16	328887	298128	273499	267796	272096	288351	293870	302997	308728	287338	269583	257815
17	327563	297892	272649	268153	272500	288329	292867	303225	308543	285891	269161	258061
18	326459	297083	271018	268426	272669	288108	292422	303681	306886	286022	268951	258265
19	324928	296621	270532	268636	272925	288439	291845	304594	306542	286110	268006	258351
20	323925	295769	270278	268741	273499	289056	291978	305395	306381	285847	267209	258351
21	322831	294762	269767	268929	274564	289542	290980	306266	305509	285451	267272	258265
22	322308	293780	268678	269182	277002	289984	290205	306932	304709	284709	266540	258265
23	321833	293312	268006	269182	278420	290869	289763	307806	304137	284141	265955	258265
24	320293	292067	266958	269161	279174	291978	290426	308728	302997	284010	265454	258224
25	319347	291312	266205	269351	279714	292645	290139	309420	302587	283727	265496	258224
26	318664	290205	265621	269435	280319	293312	290205	308844	302883	283008	265367	258183
27	317580	288659	265913	269056	280795	294204	290426	308613	302087	282639	264558	257897
28	316406	287295	265704	269056	281336	294874	290382	309652	301133	281228	263623	257652
29	314883	285256	265829	269330	---	295545	289608	310716	300725	280146	262174	257795
30	313832	284600	266018	269414	---	295993	289188	311737	299820	279066	262195	258122
31	313133	---	266330	269688	---	296441	---	311389	---	279217	261905	---
MAX	342677	312434	283836	269688	281336	296441	302087	311737	312434	299684	278098	269763
MIN	313133	284600	265621	265237	268426	281878	289188	289454	299820	279066	261905	257652
†	1769.40	1756.75	1748.20	1749.80	1755.25	1762.10	1758.84	1768.65	1763.60	1754.27	1746.07	1744.23
‡	-30535	-28533	-18270	+3358	+11648	+15105	-7253	+22201	-11569	-20603	-17312	-3783

CAL YR 1976 ‡ -28991
WTR YR 1977 ‡ -85546

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

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°22'48", long 121°08'19", in SW¼NE¼ sec.36, T.18 N., R.7 E., Yuba County, Plumas National Forest, on right bank 1.1 mi (1.8 km) downstream from New Bullards Bar Dam, and 2 mi (3 km) northwest of North San Juan.

DRAINAGE AREA.--490 mi^2 (1,269 km^2).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gages. Altitude of gage is 1,280 ft (390 m), from topographic map.

REMARKS.--Records good. Flow regulated by New Bullards Bar Reservoir since 1969 (station 11413515). Colgate powerplant (station 11413510) diverts from New Bullards Bar Dam 1.1 mi (1.8 km) upstream. Water is diverted out of basin through Slate Creek tunnel (station 11413250). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (since construction of Bullards Bar Dam, unadjusted).--8 years (water years 1970-77), 189 ft^3/s (5.35 m^3/s), 136,900 acre-ft/yr (169 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft^3/s) 1,590 m^3/s) Jan. 22, 1970, gage height, 35.29 ft (10.756 m), from rating curve extended above 40,000 ft^3/s (1,130 m^3/s) on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft^3/s (0.012 m^3/s) Nov. 5, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 22, 1964, reached a stage of 49.8 ft (15.18 m) from floodmarks, discharge, 91,000 ft^3/s (2,580 m^3/s), from computation of flow over old Colgate Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft^3/s (0.42 m^3/s) Jan. 2, gage height, 5.70 ft (1.737 m); minimum daily, 2.9 ft^3/s (0.082 m^3/s) Aug. 24 to Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	5.3	5.1	5.3	5.1	5.2	5.4	6.3	3.4	3.4	3.5	2.9
2	5.7	5.3	5.1	8.7	5.1	5.1	5.4	6.0	3.4	3.4	3.5	2.9
3	5.7	5.3	5.1	7.9	5.1	5.1	5.4	6.0	3.4	3.4	3.5	2.9
4	5.7	5.3	5.1	6.4	5.1	5.1	5.4	6.0	3.4	3.4	3.5	2.9
5	5.7	5.1	5.1	5.7	5.1	5.3	5.4	5.8	3.4	3.4	3.5	2.9
6	5.7	5.1	5.1	5.5	5.1	5.3	5.5	5.7	3.4	3.4	3.5	2.9
7	5.7	5.1	5.1	5.5	5.1	5.3	5.5	5.7	3.4	3.5	3.5	2.9
8	5.7	5.1	5.1	5.6	5.2	5.3	5.6	5.7	3.4	3.5	3.5	2.9
9	5.7	5.1	5.1	5.6	5.3	5.9	5.7	5.8	3.4	3.5	3.3	2.9
10	5.7	5.1	5.1	5.6	5.2	5.6	5.6	5.5	3.4	3.5	3.3	3.0
11	5.7	5.1	5.1	5.6	5.1	5.4	5.6	4.8	3.4	3.5	3.3	3.0
12	5.7	5.1	5.1	5.6	5.1	5.4	5.6	4.3	3.4	3.5	3.3	3.0
13	5.7	5.2	5.1	5.6	5.1	5.4	5.6	4.2	3.3	3.5	3.3	3.0
14	5.6	7.6	5.1	5.6	5.1	5.4	5.6	4.2	3.3	3.5	3.3	3.0
15	5.6	6.0	5.1	5.6	5.1	5.4	5.5	4.1	3.3	3.5	3.3	3.0
16	5.6	5.6	5.1	5.6	5.1	5.4	5.6	4.0	3.3	3.5	3.3	3.0
17	5.6	5.4	5.1	5.6	5.1	5.4	5.6	4.0	3.3	3.5	3.3	3.3
18	5.6	5.4	5.1	5.5	5.1	5.4	5.6	4.0	3.3	3.5	3.1	3.3
19	5.6	5.3	5.1	5.4	5.1	5.4	5.3	4.0	3.3	3.5	3.1	3.4
20	5.6	5.3	5.0	5.1	5.2	5.4	5.3	3.8	3.4	3.5	3.1	3.4
21	5.4	5.3	5.0	5.1	7.2	5.4	5.3	3.8	3.4	3.5	3.1	3.3
22	5.4	5.3	5.0	5.1	6.0	5.4	5.3	3.8	3.4	3.5	3.1	3.3
23	5.4	5.3	5.0	5.1	6.4	5.7	5.3	3.8	3.4	3.5	3.1	3.3
24	5.4	5.3	5.0	5.1	5.8	5.9	5.3	3.7	3.4	3.5	2.9	3.3
25	5.3	5.3	5.0	5.1	5.5	5.8	5.3	3.7	3.4	3.5	2.9	3.3
26	5.3	5.2	5.0	5.1	5.3	5.6	5.3	3.7	3.4	3.5	2.9	3.3
27	5.3	5.1	5.0	5.1	5.3	5.5	5.3	3.7	3.4	3.5	2.9	3.4
28	5.3	5.1	5.0	5.1	5.3	5.4	5.3	3.5	3.4	3.5	2.9	3.4
29	5.3	5.1	5.0	5.1	---	5.4	5.3	3.5	3.4	3.5	2.9	3.4
30	5.3	5.1	5.1	5.1	---	5.4	5.4	3.5	3.4	3.5	2.9	3.4
31	5.3	---	5.1	5.1	---	5.4	---	3.5	---	3.5	2.9	---
TOTAL	172.0	159.9	157.1	173.1	149.3	168.1	163.3	140.1	101.3	107.9	99.5	93.9
MEAN	5.55	5.33	5.07	5.58	5.33	5.42	5.44	4.52	3.38	3.48	3.21	3.13
MAX	5.7	7.6	5.1	8.7	7.2	5.9	5.7	6.3	3.4	3.5	3.5	3.4
MIN	5.3	5.1	5.0	5.1	5.1	5.1	5.3	3.5	3.3	3.4	2.9	2.9
AC-FT	341	317	312	343	296	333	324	278	201	214	197	186

CAL YR 1976 TOTAL 2076.2 MEAN 5.67 MAX 8.8 MIN 4.8 AC-FT 4120
WTR YR 1977 TOTAL 1685.5 MEAN 4.62 MAX 8.7 MIN 2.9 AC-FT 3340

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1966 to September 1969, July 1971 to current year.
INSTRUMENTATION.--Temperature recorder October 1966 to September 1969, and since July 1971.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 25.0°C July 7, 9, 21, 1968; minimum recorded, 2.0°C on many days in 1967 and 1968.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 22.5°C June 29; minimum recorded, 4.5°C Jan. 8, 9, 11. 17.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11413700 YUBA RIVER BELOW COLGATE POWERHOUSE, NEAR FRENCH CORRAL, CA

LOCATION.--Lat 39°19'38", long 121°11'48", in SW¼SE¼ sec.16, T.17 N., R.7 E., Yuba County, on right bank 1,000 ft (300 m) downstream from Dobbins Creek, 0.5 mi (0.8 km) downstream from Colgate powerhouse, and 2.4 mi (3.9 km) northwest of French Corral.

DRAINAGE AREA.--729 mi^2 (1,888 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1974 to current year.

INSTRUMENTATION.--Temperature recorder since Oct. 9, 1974.

REMARKS.--Stream temperatures are affected by operation of Colgate powerplant. Prior to June 29, thermograph located 1,300 ft (396 m) upstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 27.0°C July 25, 1976; minimum recorded, 1.0°C Jan. 9, 1977.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 25.5°C June 25; minimum recorded, 1.0°C Jan. 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11413700 YUBA RIVER BELOW COLGATE POWERHOUSE, NEAR FRENCH CORRAL, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'12", long 120°33'38", in SE¼SW¼ sec.19, T.17 N., R.13 E., Nevada County, on right bank 0.7 mi (1.1 km) downstream from Rattlesnake Creek, 1.3 mi (2.1 km) west of Cisco Grove, and 1.5 mi (2.4 km) northwest of Cisco.

DRAINAGE AREA.--51.8 mi^2 (134.2 km^2).

PERIOD OF RECORD.--April 1942 to current year. Prior to October 1949, published as South Fork Yuba River near Cisco.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 5,520 ft (1,682 m), from river-profile map. Prior to October 1945, water-stage recorder at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records excellent. Low flow regulated by several small lakes operated by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--35 years, 195 ft^3/s (5.522 m^3/s), 141,300 acre-ft/yr (174 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft^3/s (521 m^3/s) Jan. 31, 1963, gage height, 19.6 ft (5.97 m) from floodmarks in gage house, 20.6 ft (6.28 m) from outside floodmarks, from rating curve extended above 4,600 ft^3/s (130 m^3/s) on basis of slope-area measurement at gage height 15.8 ft (4.81 m); minimum daily, 0.1 ft^3/s (0.003 m^3/s) Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 514 ft^3/s (14.6 m^3/s) May 26, gage height, 4.49 ft (1.369 m), no peak above base of 1,500 ft^3/s (42.5 m^3/s); minimum daily, 2.1 ft^3/s (0.059 m^3/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	13	5.7	2.2	4.1	16	33	221	206	8.8	5.1	7.4
2	15	12	5.5	4.1	4.1	13	43	185	179	10	5.0	7.2
3	17	12	5.5	3.8	4.0	12	36	155	139	11	5.0	6.8
4	13	12	5.4	3.4	3.9	11	57	131	128	11	4.8	5.7
5	10	11	5.3	3.2	4.0	11	123	131	123	10	4.5	4.9
6	8.8	10	5.1	3.2	4.1	13	174	116	109	9.3	4.4	4.7
7	7.3	10	4.9	3.2	4.5	16	227	108	117	9.0	4.6	4.5
8	7.7	10	4.7	3.1	5.6	17	235	110	84	9.5	4.6	4.0
9	7.7	9.9	4.8	3.1	6.2	22	177	154	71	10	4.8	3.8
10	7.7	9.5	5.9	3.2	6.0	19	137	133	91	9.9	4.7	3.8
11	7.7	9.1	4.8	3.3	6.2	17	156	117	69	9.8	4.7	3.6
12	6.9	9.0	4.6	3.3	6.4	20	196	114	53	9.2	4.5	3.4
13	6.9	8.7	4.5	3.2	7.3	18	242	160	45	9.1	4.4	3.4
14	6.9	17	4.4	3.1	8.4	19	230	311	39	8.7	5.1	3.4
15	6.6	14	4.3	3.3	10	16	240	281	33	8.3	4.1	3.3
16	6.9	12	4.3	3.5	12	15	302	174	30	7.3	3.6	3.1
17	6.9	14	4.1	3.7	13	14	281	141	26	6.8	3.7	4.3
18	6.6	15	4.0	4.0	14	14	214	131	25	6.3	4.0	4.2
19	6.6	13	3.9	4.2	14	16	166	141	25	6.4	4.9	4.4
20	6.6	11	3.8	4.4	14	20	166	225	30	6.3	7.6	4.9
21	7.7	10	3.8	4.8	43	25	180	272	25	6.1	8.2	4.1
22	9.2	9.5	3.9	6.2	27	38	187	250	20	6.9	8.2	3.6
23	9.5	9.0	3.8	5.8	21	53	204	210	17	6.8	8.0	3.1
24	9.2	8.7	3.5	5.1	19	39	200	183	16	6.6	7.8	3.1
25	9.5	8.2	2.8	4.8	15	31	177	183	15	6.4	8.3	3.2
26	9.5	7.9	2.6	4.5	14	30	156	250	13	6.2	11	3.1
27	9.5	7.0	2.3	4.4	14	40	156	330	10	6.1	9.0	3.5
28	11	6.6	2.2	4.2	16	42	153	227	10	6.0	8.2	3.6
29	12	6.3	2.1	4.1	---	35	143	206	9.4	5.6	8.2	5.6
30	14	5.9	2.2	4.1	---	31	142	203	8.8	5.3	7.8	5.1
31	13	---	2.2	4.1	---	26	---	210	---	5.1	7.5	---
TOTAL	290.9	311.3	126.9	120.6	320.8	709	5133	5763	1766.2	243.8	186.3	128.8
MEAN	9.38	10.4	4.09	3.89	11.5	22.9	171	186	58.9	7.86	6.01	4.29
MAX	17	17	5.9	6.2	43	53	302	330	206	11	11	7.4
MIN	6.6	5.9	2.1	2.2	3.9	11	33	108	8.8	5.1	3.6	3.1
AC-FT	577	617	252	239	636	1410	10180	11430	3500	484	370	255

CAL YR 1976 TOTAL 23766.0 MEAN 64.9 MAX 480 MIN 2.1 AC-FT 47140
WTR YR 1977 TOTAL 15100.6 MEAN 41.4 MAX 330 MIN 2.1 AC-FT 29950

11414100 FORDYCE CREEK BELOW FORDYCE DAM, NEAR CISCO, CA

LOCATION.--Lat 39°22'45", long 120°29'52", in NW¼SE¼ sec.34, T.18 N., R.13 E., Nevada County, Tahoe National Forest, on right bank 850 ft (259 m) downstream from Fordyce Dam, and 5.3 mi (8.5 km) northeast of Cisco.

DRAINAGE AREA.--31.7 mi^2 (82.1 km^2).

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

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

REMARKS.--Flow regulated by Fordyce Lake, usable capacity, 46,662 acre-ft (57.5 hm^3). See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 123 ft^3/s (3.483 m^3/s), 89,110 acre-ft/yr (110 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft^3/s (132 m^3/s) July 9, 1974, gage height, 7.90 ft (2.408 m) in gage well, 6.82 ft (2.079 m) from high-water marks, from rating curve extended above 1,000 ft^3/s (28.3 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 4.5 ft^3/s (0.13 m^3/s) Sept. 22-27, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 520 ft^3/s (14.7 m^3/s) Nov. 2, gage height, 3.84 ft (1.170 m); minimum daily, 4.5 ft^3/s (0.13 m^3/s) Sept. 22-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	28	5.3	4.9	4.7	4.9	5.3	14	22	156	132	5.4
2	34	273	5.3	4.9	4.7	4.9	5.3	14	23	155	131	5.3
3	34	505	5.3	4.9	4.7	4.8	5.4	14	23	155	130	5.3
4	34	499	5.3	4.9	4.7	4.7	6.0	14	23	153	129	5.3
5	34	491	5.3	4.9	4.7	4.7	6.2	14	24	153	128	5.2
6	34	488	5.3	4.9	4.7	4.8	6.4	15	105	152	127	5.1
7	34	482	5.3	4.9	4.7	4.9	6.7	15	181	151	126	5.1
8	34	477	5.3	4.9	4.7	4.9	7.0	15	181	99	125	5.1
9	34	471	5.3	4.9	4.7	4.9	7.2	15	109	18	124	5.0
10	34	464	5.3	4.9	4.7	4.9	7.3	15	25	18	122	4.9
11	34	458	5.3	4.9	4.7	4.9	7.4	15	25	94	122	4.9
12	34	294	5.3	4.9	4.7	4.9	7.7	15	25	153	53	4.9
13	34	19	5.3	4.9	4.7	4.9	8.1	17	103	152	6.5	4.9
14	34	19	5.3	4.9	4.7	4.9	8.6	17	169	151	6.5	4.9
15	34	100	5.1	4.9	4.7	4.9	9.0	17	168	150	6.5	4.8
16	34	170	5.1	4.9	4.7	4.9	9.7	17	168	149	6.3	4.7
17	34	167	5.1	4.7	4.7	4.9	10	17	168	148	6.3	4.7
18	34	163	5.1	4.7	4.7	4.9	10	17	166	146	6.3	4.7
19	34	160	5.1	4.7	4.7	5.0	11	17	165	145	6.3	4.7
20	34	157	5.1	4.7	4.7	5.2	11	17	164	145	6.3	4.7
21	33	154	5.1	4.7	5.5	5.4	11	18	164	144	6.3	4.6
22	33	151	5.1	4.7	5.0	5.6	11	18	163	143	6.1	4.5
23	33	148	5.1	4.7	4.9	5.4	11	19	162	141	6.0	4.5
24	33	144	4.9	4.7	4.9	5.3	12	19	108	140	6.0	4.5
25	33	140	4.9	4.7	4.9	5.3	12	19	22	139	6.0	4.5
26	30	137	4.9	4.7	4.9	5.5	12	20	22	139	5.9	4.5
27	28	133	4.9	4.7	4.9	5.6	13	20	95	137	5.8	4.5
28	28	130	4.9	4.7	4.9	5.5	13	20	159	136	5.8	4.6
29	28	39	4.9	4.7	---	5.3	13	21	158	135	5.6	4.7
30	28	5.6	4.9	4.7	---	5.3	13	21	157	134	5.6	4.7
31	28	---	4.9	4.7	---	5.3	---	22	---	132	5.6	---
TOTAL	1015	7066.6	159.3	148.9	133.9	157.3	276.3	528	3247	4163	1564.7	145.2
MEAN	32.7	236	5.14	4.80	4.78	5.07	9.21	17.0	108	134	50.5	4.84
MAX	34	505	5.3	4.9	5.5	5.6	13	22	181	156	132	5.4
MIN	28	5.6	4.9	4.7	4.7	4.7	5.3	14	22	18	5.6	4.5
AC-FT	2010	14020	316	295	266	312	548	1050	6440	8260	3100	288

CAL YR 1976 TOTAL 15096.9 MEAN 41.2 MAX 505 MIN 4.9 AC-FT 29940
WTR YR 1977 TOTAL 18605.2 MEAN 51.0 MAX 505 MIN 4.5 AC-FT 36900

11414140 LAKE SPAULDING NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'35", long 120°38'32", in SE¼NE¼ sec.20, T.17 N., R.12 E., Nevada County, on left abutment of Spaulding Dam on South Yuba River, 2.5 mi (4.0 km) northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi^2 (306 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft (1,465.97 m) above mean sea level (levels by Pacific Gas and Electric Co.). Prior to July 1968, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by three concrete-arch dams with spillway on the middle arch. Storage began in 1913. Capacity, 74,773 acre-ft (92.20 hm^3) between gage heights 0.6 ft (0.18 m), bottom of outlet and 205.0 ft (62.48 m), top of radial gates. Released water flows through Spaulding powerhouses Nos. 1 and 2. Flow through powerhouse No. 1 is transported out of Yuba River basin by Drum Canal to Bear River basin. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 75,100 acre-ft (92.6 hm^3) July 13, 1967, gage height, 205.5 ft (62.64 m); minimum, 914 acre-ft (1.13 hm^3) Feb. 28, 1976, gage height, 25.5 ft (7.77 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 58,998 acre-ft (72.7 hm^3) Sept. 11, gage height, 180.9 ft (55.14 m); minimum, 5,457 acre-ft (6.73 hm^3) Oct. 31, Nov. 1, gage height, 54.1 ft (16.49 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

11	329	50	4578
15	427	70	9632
20	566	100	19541
25	874	150	41545
30	1352	200	71329
40	2742	206	75473

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15321	5457	19395	19358	17916	18704	19249	32085	48531	52445	54665	57717
2	14652	5767	19358	19468	18094	18813	19395	32222	49033	53258	54429	57778
3	13960	6374	19578	19505	17987	18813	19541	32176	49594	53549	54194	57968
4	13213	7131	19541	19725	17880	18813	19395	32406	49989	53900	54135	57899
5	12541	7765	19541	19725	17809	18813	19505	32268	50442	54076	53959	58143
6	11911	8704	19176	19541	17845	18813	19505	32268	50385	53900	54429	58204
7	11106	9367	18958	19505	17774	18632	21331	31766	50498	53783	54783	58082
8	10649	9780	18813	19395	17703	18560	22363	31811	50442	53900	54960	58265
9	9076	9632	18813	19249	17809	18560	23257	32176	50953	53959	54960	58509
10	7927	10077	18994	19139	17809	18309	23453	32498	51182	54311	54901	58753
11	6621	10377	18994	18344	17739	17845	23927	33751	51353	53059	55020	58998
12	6107	10923	19139	19067	17739	17952	24486	34174	51869	53491	55435	58204
13	5661	10892	19212	18740	17739	18058	24930	34932	51754	53316	55673	57899
14	5661	10984	19249	18813	17739	17668	25705	36085	51582	53374	55792	57596
15	5661	11414	19176	18813	17739	17456	26659	37266	51525	53316	56091	57233
16	5661	11786	19030	18813	17739	17210	27544	37947	51754	53660	56270	57112
17	5730	12478	19212	18813	17668	17280	28484	38394	51984	54252	56270	57354
18	5753	13181	19249	18452	17562	17315	29224	38995	52330	53725	56510	57414
19	5661	14025	19285	18452	17456	17280	29487	39196	52909	53900	56811	57293
20	5661	14819	19322	18238	17456	17386	30060	40006	53258	53959	56510	57172
21	5661	15625	19176	18166	17668	17491	30237	41080	53141	53842	56690	56931
22	5661	16308	19176	18094	18130	17527	30282	42168	53258	53549	56931	56871
23	5547	16965	19395	17987	18273	17597	30818	42586	52851	53374	57112	56811
24	5547	17774	19505	17845	18452	17703	31313	43534	52967	54252	57112	56991
25	5547	18632	19615	17774	18488	17809	31448	43852	52967	54252	57293	56811
26	5547	19103	19541	18278	18524	18053	30907	44598	53199	54252	57535	56750
27	5547	19541	19505	18278	18849	18560	30818	45892	53316	54252	57656	56690
28	5547	20206	19505	18166	18632	18704	30549	46764	52909	54370	57899	56510
29	5547	20243	19505	18094	---	18777	31132	46873	52503	54194	57778	56450
30	5547	19541	19615	18023	---	18849	31222	47533	52445	54076	57535	56270
31	5457	---	19358	17987	---	19139	---	47698	---	54547	57778	---
MAX	15321	20243	19615	19725	18849	19139	31448	47698	53316	54547	57899	58998
MIN	5457	5457	18813	17774	17456	17210	19249	31766	48531	52445	53959	56270
†	54.1	100.0	99.5	95.7	97.5	98.9	128.7	161.0	169.9	173.6	178.9	176.4
‡	-10576	+14084	-183	-1371	+645	+507	+12083	+16476	+4747	+2102	+3231	-1508

CAL YR 1976 ‡ +8709
WTR YR 1977 ‡ +40237

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'03", long 120°39'08", in SE¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, Tahoe National Forest, 100 ft (30 m) downstream from tunnel outlet, 1.0 mi (1.6 km) downstream from Spaulding No. 1 powerhouse, and 1.7 mi (2.7 km) northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year. Prior to October 1972, published as "Drum Canal at intake."

GAGE.--Water-stage recorder. Altitude of gage is 4,880 ft (1,487 m), from topographic map. Prior to Oct. 1, 1968, in powerhouse 0.7 mi (1.1 km) upstream at different datum.

REMARKS.--Canal diverts from Spaulding No. 1 powerhouse at Lake Spaulding Dam. Water is used for irrigation and power in the Bear River basin. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 503 ft^3/s (14.24 m^3/s), 364,400 acre-ft/yr (449 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 848 ft^3/s (24.0 m^3/s) May 12, 1975; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	422	29	25	1.4	17	15	21	7.7	11	235	9.1	6.5
2	412	29	14	1.6	17	15	21	168	9.8	220	282	39
3	403	29	8.7	66	17	15	21	283	8.5	13	259	12
4	393	31	8.6	1.0	17	15	35	297	8.5	13	264	12
5	384	32	8.6	1.0	17	15	55	315	8.5	13	230	12
6	371	34	159	80	17	15	154	293	301	177	258	177
7	451	35	140	56	17	274	156	14	352	314	6.8	194
8	622	229	96	56	17	21	186	17	224	250	6.5	69
9	665	354	156	55	17	21	164	9.3	21	259	258	13
10	681	230	5.2	55	17	293	165	4.8	21	11	177	13
11	592	236	5.0	55	17	252	178	4.8	21	12	112	13
12	359	216	3.6	55	17	23	133	4.8	21	279	187	254
13	166	65	2.3	55	17	23	157	4.8	219	251	8.2	253
14	54	65	2.3	55	17	261	216	5.0	243	261	8.2	210
15	43	65	2.3	55	17	296	142	5.0	243	241	8.2	213
16	35	65	68	55	17	183	70	5.0	256	217	8.2	214
17	40	64	1.6	50	17	24	48	5.0	314	93	8.2	13
18	48	65	1.6	37	16	24	7.4	5.0	94	9.0	99	13
19	49	29	1.6	37	15	83	106	5.0	12	256	7.4	212
20	43	6.9	1.6	31	15	25	11	5.0	128	264	7.1	212
21	43	6.9	89	22	15	23	258	5.1	295	262	237	210
22	43	129	3.6	18	15	22	298	5.3	318	249	7.7	206
23	39	12	2.0	18	15	22	10	5.3	301	249	7.7	220
24	37	12	2.0	18	15	22	7.2	42	328	7.4	7.7	11
25	37	12	2.0	18	15	22	179	248	188	7.4	7.7	11
26	37	12	2.0	17	15	21	148	20	17	247	7.7	174
27	36	74	75	17	15	21	168	21	124	256	93	182
28	35	12	4.1	17	15	21	174	21	261	189	8.5	185
29	34	339	2.2	17	---	21	166	21	293	191	8.5	183
30	34	310	1.4	17	---	21	8.4	21	335	334	364	171
31	32	---	70	17	---	21	---	233	---	150	6.5	---
TOTAL	6640	2827.8	964.3	1054.0	455	2130	3463.0	2100.9	4976.3	5529.8	2959.9	3707.5
MEAN	214	94.3	31.1	34.0	16.3	68.7	115	67.8	166	178	95.5	124
MAX	681	354	159	80	17	296	298	315	352	334	364	254
MIN	32	6.9	1.4	1.0	15	15	7.2	4.8	8.5	7.4	6.5	6.5
AC-FT	13170	5610	1910	2090	902	4220	6870	4170	9870	10970	5870	7350

CAL YR 1976 TOTAL 81636.8 MEAN 223 MAX 681 MIN 1.4 AC-FT 161900
WTR YR 1977 TOTAL 36808.5 MEAN 101 MAX 681 MIN 1.0 AC-FT 73010

11414190 DRUM CANAL ABOVE DRUM FOREBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'50", long 120°43'47", in NE¼SW¼ sec.10, T.16 N., R.11 E., Placer County, on right bank 1.2 mi (1.9 km) west of Blue Canyon, and 1.5 mi (2.4 km) upstream from Drum Forebay.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 4,800 ft (1,463 m), from topographic map.

REMARKS.--Flow represents water diverted from South Yuba River through Spaulding No. 1 powerplant plus diversion from North Fork American River basin by way of Lake Valley Canal (station 11426190). Water from Drum Canal enters the Bear River at Drum Forebay. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 509 ft^3/s (14.41 m^3/s), 368,800 acre-ft/yr (455 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 808 ft^3/s (22.9 m^3/s) June 14, 1975, Oct. 24, 1975; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	449	29	25	2.0	17	19	25	17	14	276	311	12
2	440	29	14	2.0	17	19	25	175	12	14	305	101
3	430	29	9.0	66	17	19	25	289	11	13	304	12
4	420	31	9.0	66	17	19	17	296	11	13	286	12
5	410	32	9.0	66	21	19	7.2	310	11	154	253	12
6	397	34	159	80	21	19	6.7	301	292	294	35	177
7	479	35	140	56	21	265	6.2	16	341	283	11	196
8	655	229	96	56	21	24	6.4	24	206	269	262	68
9	699	354	156	55	21	25	7.5	14	20	13	184	12
10	714	230	5.0	55	21	288	7.5	6.9	16	12	133	12
11	626	236	5.0	55	21	253	9.3	6.9	14	293	197	12
12	392	216	4.0	55	21	31	7.4	6.2	18	274	13	250
13	200	65	2.0	55	21	25	12	6.0	212	277	12	254
14	87	65	2.0	55	21	253	11	6.0	243	285	12	213
15	75	65	2.0	55	21	304	11	6.0	287	273	12	215
16	66	65	68	55	21	182	9.9	6.0	259	125	12	217
17	69	64	2.0	50	21	24	14	4.9	299	41	101	13
18	75	65	2.0	37	20	24	12	2.5	14	298	12	13
19	75	29	2.0	37	19	47	100	3.0	12	294	11	214
20	67	7.0	2.0	31	19	26	17	2.7	238	292	248	215
21	63	7.0	89	22	24	26	261	3.9	307	295	12	211
22	49	129	4.0	18	21	25	299	5.1	306	297	12	210
23	44	12	2.0	18	21	27	13	7.3	311	28	12	23
24	43	12	2.0	18	19	26	9.4	45	312	31	12	11
25	42	12	2.0	18	19	25	192	253	25	293	12	11
26	42	12	2.0	17	19	25	151	26	17	298	99	177
27	40	74	75	17	19	25	168	31	267	229	13	175
28	37	12	4.0	17	20	27	171	27	285	231	13	186
29	34	339	2.0	17	---	25	167	25	310	369	298	184
30	34	310	2.0	17	---	25	11	25	41	167	269	171
31	32	---	70	17	---	25	---	230	---	66	12	---
TOTAL	7285	2828.0	967.0	1185.0	561	2166	1779.5	2177.4	4711	6097	3478	3589
MEAN	235	94.3	31.2	38.2	20.0	69.9	59.3	70.2	157	197	112	120
MAX	714	354	159	80	24	304	299	310	341	369	311	254
MIN	32	7.0	2.0	2.0	17	19	6.2	2.5	11	12	11	11
AC-FT	14450	5610	1920	2350	1110	4300	3530	4320	9340	12090	6900	7120

CAL YR 1976 TOTAL 82443.21 MEAN 225 MAX 714 MIN 0 AC-FT 163500
WTR YR 1977 TOTAL 36823.90 MEAN 101 MAX 714 MIN 2.0 AC-FT 73040

11414200 SOUTH YUBA CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°18'45", long 120°39'45", in SE¼NE¼ sec.30, T.17 N., R.12 E., Nevada County, on left bank of concrete flume 400 ft (122 m) downstream from Bowman Lake Road, and 2.5 mi (4.0 km) northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 4,640 ft (1,414 m), from topographic map.

REMARKS.--Canal diverts from Spaulding No. 2 powerhouse at Lake Spaulding Dam. Water is diverted to Deer Creek powerhouse where it enters Deer Creek and about 30 ft^3/s (0.85 m^3/s) to Boardman Canal (station 11421720) via the Bear River. See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 97.3 ft^3/s (2.756 m^3/s), 70,490 acre-ft/yr (86.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft^3/s (4.67 m^3/s) Aug. 3, 1965; no flow Apr. 20-22, 1966 and Apr. 6-11, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	77	69	58	46	42	36	46	39	49	42	41
2	91	78	57	60	45	38	36	40	44	49	41	40
3	88	80	61	69	44	33	35	34	43	49	43	40
4	74	80	59	56	44	33	17	33	42	49	45	39
5	71	81	58	56	44	32	18	33	42	48	43	38
6	70	80	59	55	44	32	17	32	42	46	42	41
7	70	78	51	61	44	34	15	32	44	51	42	43
8	70	79	60	57	44	33	15	32	46	62	42	43
9	70	81	60	56	44	34	23	26	46	63	41	41
10	70	83	57	55	44	32	23	17	47	60	42	43
11	73	83	57	55	44	31	12	17	47	47	41	42
12	73	83	56	55	43	31	12	18	47	44	42	43
13	70	79	57	55	43	31	12	18	48	44	42	45
14	70	66	56	56	43	30	11	18	49	45	42	44
15	80	61	54	55	45	30	11	18	47	45	42	43
16	87	62	57	55	47	30	25	18	47	46	42	42
17	87	62	59	55	47	30	34	19	48	48	42	38
18	89	64	58	56	47	30	34	20	48	47	42	37
19	92	61	58	55	46	30	31	20	49	46	42	37
20	92	61	58	52	46	31	34	21	49	46	41	36
21	92	60	58	52	40	31	39	19	47	45	41	32
22	93	59	57	52	40	31	40	24	48	42	42	32
23	94	58	56	50	40	31	38	31	47	38	42	33
24	94	58	57	49	40	31	37	34	48	39	42	33
25	94	59	57	47	42	31	38	33	49	39	42	33
26	96	61	57	47	43	31	41	31	49	40	41	33
27	96	61	57	47	42	30	41	30	51	40	40	33
28	85	59	58	46	42	28	41	31	52	40	40	33
29	76	62	57	46	---	25	42	32	51	40	40	31
30	77	61	57	46	---	23	44	32	52	41	41	32
31	77	---	57	47	---	28	---	33	---	42	41	---
TOTAL	2552	2077	1789	1661	1223	967	852	842	1408	1430	1293	1141
MEAN	82.3	69.2	57.7	53.6	43.7	31.2	28.4	27.2	46.9	46.1	41.7	38.0
MAX	96	83	69	69	47	42	44	46	52	63	45	45
MIN	70	58	51	46	40	23	11	17	39	38	40	31
AC-FT	5060	4120	3550	3290	2430	1920	1690	1670	2790	2840	2560	2260

CAL YR 1976	TOTAL	25479.7	MEAN 69.6	MAX 98	MIN	2.5	AC-FT	50540
WTR YR 1977	TOTAL	17235.0	MEAN 47.2	MAX 96	MIN	11	AC-FT	34190

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'27", in SW¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, on right bank 150 ft (46 m) downstream from road bridge, 0.8 mi (1.3 km) downstream from Spaulding Nos. 1 and 2 powerplants, and 1.6 mi (2.6 km) northeast of Emigrant Gap.

DRAINAGE AREA.--120 mi^2 (311 km^2).

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft (1,351.008 m) above mean sea level (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulation by Lake Spaulding (station 11414140). See schematic diagrams of Yuba River and Bear River basins.

COOPERATION.--Records collected by Pacific gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years (water years 1967-77), 72.6 ft^3/s (2.056 m^3/s), 52,600 acre-ft/yr (64.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,700 ft^3/s (275 m^3/s) Jan. 22, 1970, gage height, 14.45 ft (4.404 m); minimum daily, 2.1 ft^3/s (0.060 m^3/s) on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57 ft^3/s (1.61 m^3/s) Feb. 21, gage height, 2.62 ft (0.799 m); minimum daily, 2.1 ft^3/s (0.060 m^3/s) on several days during July and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	5.6	5.9	4.9	4.6	5.6	4.0	5.4	3.6	2.5	2.3	2.6
2	6.6	5.6	5.4	15	4.6	4.8	3.9	4.6	3.7	2.5	2.2	2.6
3	5.9	5.6	6.0	10	4.5	4.5	3.7	4.3	3.6	2.5	2.3	2.6
4	5.6	5.7	5.6	6.1	4.5	4.2	3.7	4.0	3.5	2.5	2.3	4.4
5	5.7	5.7	5.1	5.3	4.4	4.1	3.6	4.2	3.4	2.4	2.3	7.2
6	5.6	5.7	5.3	4.4	4.5	4.0	3.2	6.4	3.3	2.4	2.3	4.3
7	5.5	5.7	5.4	4.1	4.5	4.0	3.1	6.3	3.2	2.4	2.3	2.5
8	5.4	5.7	5.7	4.2	5.7	3.9	3.3	6.0	3.2	2.5	2.3	2.4
9	5.2	5.7	5.7	4.2	5.4	9.1	4.5	7.9	3.2	2.7	2.3	2.4
10	5.1	5.7	5.6	4.2	5.1	5.7	4.3	11	3.3	2.9	2.3	2.3
11	5.2	5.7	5.7	4.1	5.0	4.9	3.7	8.6	3.2	2.5	2.3	2.3
12	5.6	5.8	5.7	4.1	4.8	4.9	3.6	8.1	3.1	2.3	2.3	2.3
13	6.1	5.9	5.7	4.1	4.6	4.8	3.5	6.9	3.1	2.3	2.2	2.4
14	6.2	11	5.7	4.1	4.6	4.4	3.4	6.0	3.0	2.3	2.3	2.4
15	6.4	6.7	5.6	4.1	4.6	4.5	3.2	5.3	3.0	2.1	2.2	2.4
16	6.7	5.7	5.6	4.1	4.6	4.5	3.2	5.1	2.9	2.1	2.2	2.4
17	6.5	5.6	5.7	4.1	4.2	4.7	3.3	4.8	2.9	2.2	2.3	2.6
18	6.0	5.9	5.7	4.5	2.7	4.8	3.4	4.5	2.9	2.1	2.2	2.9
19	6.1	5.7	5.7	5.6	2.7	5.3	3.2	4.3	3.0	2.1	2.3	3.3
20	6.2	5.7	5.7	6.3	2.7	5.7	3.2	4.1	3.0	2.2	2.4	3.0
21	6.2	5.6	5.7	6.3	20	5.7	3.2	4.1	3.0	2.4	2.4	2.5
22	6.2	5.5	5.7	6.1	9.7	5.5	3.1	3.8	2.9	2.3	2.4	2.1
23	6.2	5.4	5.5	5.3	8.1	5.9	3.2	4.3	2.7	2.2	2.5	2.1
24	6.1	5.4	5.0	4.5	6.9	6.2	3.1	4.2	2.7	2.2	2.7	2.1
25	6.0	5.3	4.9	4.3	5.9	6.0	3.1	4.1	2.7	2.2	3.0	2.1
26	5.8	5.0	4.9	4.2	5.5	5.9	3.1	5.1	2.7	2.3	3.5	2.1
27	5.3	5.1	4.9	4.1	5.6	6.0	3.1	4.7	2.7	2.3	2.7	2.2
28	5.5	5.6	4.9	4.3	6.3	5.4	3.0	4.2	2.7	2.3	2.7	2.2
29	6.2	5.3	4.9	4.8	---	4.8	3.0	4.1	2.6	2.3	2.7	2.8
30	6.2	6.0	4.9	4.8	---	4.3	3.5	3.8	2.6	2.3	2.6	2.3
31	6.0	---	4.9	4.7	---	4.0	---	3.7	---	2.3	2.6	---
TOTAL	183.0	174.6	168.7	160.9	156.3	158.1	102.4	163.9	91.4	72.6	75.4	81.8
MEAN	5.90	5.82	5.44	5.19	5.58	5.10	3.41	5.29	3.05	2.34	2.43	2.73
MAX	6.7	11	6.0	15	20	9.1	4.5	11	3.7	2.9	3.5	7.2
MIN	5.1	5.0	4.9	4.1	2.7	3.9	3.0	3.7	2.6	2.1	2.2	2.1
AC-FT	363	346	335	319	310	314	203	325	181	144	150	162

CAL YR 1976 TOTAL 2125.0 MEAN 5.81 MAX 26 MIN 3.1 AC-FT 4210
WTR YR 1977 TOTAL 1589.1 MEAN 4.35 MAX 20 MIN 2.1 AC-FT 3150

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'10", in SE¼SW¼ sec.5, T.18 N., R.12 E., Nevada County, on right bank near rockfill portion of Bowman Dam on Canyon Creek, 4.5 mi (7.2 km) east of Graniteville, and 8 mi (13 km) south of Sierra City.

DRAINAGE AREA.--27.1 mi^2 (70.2 km^2).

PERIOD OF RECORD.--December 1926 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District). Prior to Oct. 8, 1964, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by one rockfill and one concrete-arch dam; storage began in November 1926. Total capacity, 68,200 acre-ft (84.1 hm^3) between elevations, 5,400 ft (1,645.9 m), bottom of outlet tunnel and 5,563 ft (1,695.6 m), crest of concrete-arch dam. Flashboards are occasionally added, increasing elevation to 5,565.8 ft (1,696.46 m) and capacity to 70,400 acre-ft (86.8 hm^3), all of which is available for release. Lake receives water from Middle Yuba River through Milton-Bowman tunnel (station 11408000), and releases it through Bowman-Spaulding Canal (station 11416000) which conveys it to reservoirs of Pacific Gas and Electric Co. Water is eventually used for irrigation by Nevada Irrigation District. See schematic diagram of Yuba River basin. Lake completely drained for inspection and repair Nov. 25 to Dec. 9, 1949, Oct. 1-20, 1966, Oct. 4-29, 1972.

COOPERATION.--Forty nonrecording gage readings furnished by Nevada Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft (87.5 hm^3) May 30, 1965, elevation, 5,566.5 ft (1,696.67 m); minimum observed under normal operating conditions since reservoir first filled, 1,000 acre-ft (1.23 hm^3) Mar. 4, 1931, elevation, 5,430.1 ft (1,655.09 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 40,700 acre-ft (50.2 hm^3) Oct. 1, elevation, 5,527.0 ft (1,684.63 m); minimum, 16,000 acre-ft (19.7 hm^3) Sept. 30, elevation, 5,484.2 ft (1,671.58 m).

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

5419.6	0	5460	6900
5425	500	5470	10200
5430	900	5480	14200
5435	1400	5510	30000
5440	2100	5540	49800
5450	4100	5570	73800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40600	35600	31400	26600	24700	24200	23800	25800	36600	37600	33100	24100
2	40400	35600	31200	26600	24700	24200	23800	25900	36700	37600	32800	23800
3	40300	35500	31000	26600	24700	24100	23900	26000	36800	37600	32500	23500
4	40100	35500	30800	26500	24600	24100	23900	26200	36900	37500	32200	23200
5	39900	35400	30700	26300	24600	24200	23900	26500	37000	37400	31900	23000
6	39700	35300	30500	26300	24500	24100	23900	26900	37100	37400	31600	22800
7	39600	35200	30400	26200	24500	24100	24000	27200	37200	37300	31300	22500
8	39400	35000	30200	26200	24500	24100	24100	27500	37300	37300	31100	22200
9	39200	34900	30100	26100	24500	24100	24100	28000	37300	37300	30800	22000
10	39000	34700	30000	26000	24400	24100	24200	28300	37400	37200	30500	21700
11	38800	34600	29800	26000	24400	24100	24200	28700	37500	37100	30200	21400
12	38700	34400	29600	25900	24400	24100	24300	29000	37500	37000	29900	21200
13	38500	34300	29500	25900	24400	24000	24400	29400	37600	37000	29600	21000
14	38200	34300	29400	25700	24300	23900	24400	29800	37600	36900	29300	20600
15	38100	34100	29300	25700	24200	23800	24500	30100	37600	36800	29000	20400
16	37900	34000	29000	25600	24200	23800	24700	30400	37600	36700	28800	20100
17	37800	33800	28900	25600	24200	23700	24700	30800	37600	36600	28400	19800
18	37600	33600	28800	25500	24200	23700	24800	31200	37600	36400	28200	19600
19	37400	33400	28600	25400	24200	23700	24800	31600	37600	36300	27900	19200
20	37300	33200	28400	25400	24100	23700	25000	32000	37700	36100	27600	19000
21	37100	33000	28300	25300	24200	23700	25000	32500	37700	35900	27300	18600
22	37000	32800	28100	25300	24300	23700	25100	32800	37700	35800	27000	18400
23	36800	32600	28000	25200	24300	23700	25200	33200	37700	35500	26800	18000
24	36700	32500	27800	25100	24200	23800	25300	33600	37700	35200	26400	17800
25	36500	32300	27700	25100	24200	23800	25300	34100	37700	35000	26100	17400
26	36400	32100	27500	25000	24200	23800	25400	34500	37700	34700	25900	17200
27	36200	32000	27400	25000	24200	23800	25500	35000	37700	34400	25600	16800
28	36100	31900	27200	25000	24200	23800	25600	35400	37600	34100	25300	16600
29	36000	31700	27100	24900	---	23800	25600	35800	37600	33900	25000	16300
30	35900	31600	26900	24800	---	23800	25700	36100	37600	33700	24700	16000
31	35800	---	26800	24800	---	23800	---	36400	---	33400	24400	---
MAX	40600	35600	31400	26600	24700	24200	25700	36400	37700	37600	33100	24100
MIN	35800	31600	26800	24800	24100	23700	23800	25800	36600	33400	24400	16000
†	5519.6	5512.6	5504.7	5501.3	5500.3	5499.7	5502.8	5520.6	5522.6	5515.6	5500.7	5484.2
‡	-4900	-4200	-4800	-2000	-600	-400	+1900	+10700	+1200	-4200	-9000	-8400

CAL YR 1976 ‡ -19300
WTR YR 1977 ‡ -24700

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

11416000 BOWMAN-SPAULDING CANAL INTAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'26", long 120°39'30", in NW¼SW¼ sec.8, T.18 N., R.12 E., Nevada County, Tahoe National Forest, on left bank 0.6 mi (1.0 km) downstream from Bowman Dam, 4.5 mi (7.2 km) east of Graniteville, and 8.5 mi (13.7 km) south of Sierra City.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1970, published as Bowman-Spaulding Canal at intake or Bowman-Spaulding Canal intake, near Sierra City.

REVISED RECORDS.--WSP 1395: 1935-36, 1940.

GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft (1,642.991 m) above mean sea level. Prior to July 1965 at site 0.3 mi (0.5 km) upstream at different datum.

REMARKS.--Records good except those below 5 ft^3/s (0.14 m^3/s), which are poor. Canal diverts from left bank of Canyon Creek at diversion dam 500 ft (152 m) downstream from Bowman Dam. Water is diverted to Lake Spaulding and after passing through several powerhouses is used for irrigation by Nevada Irrigation District. See diagram of Yuba River basin.

AVERAGE DISCHARGE.--50 years, 156 ft^3/s (4.418 m^3/s), 113,000 acre-ft/yr (139 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft^3/s (9.60 m^3/s) July 24, 1973; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54	52	93	72	22	17	17	2.6	66	119	149	142
2	92	53	93	73	22	17	17	2.6	66	119	148	142
3	92	53	92	73	22	17	17	2.6	66	119	148	141
4	91	55	94	56	22	17	17	2.6	66	119	148	141
5	91	58	95	40	22	17	17	2.6	66	120	148	141
6	91	58	82	35	22	17	17	2.6	66	120	147	140
7	87	58	69	35	22	17	17	2.6	66	119	147	140
8	82	59	72	35	23	17	17	2.6	66	119	146	140
9	82	80	72	35	23	18	18	2.6	67	119	146	140
10	83	92	72	35	22	17	17	2.6	92	119	146	139
11	83	94	71	35	22	17	13	2.6	107	119	146	139
12	83	95	72	35	23	17	6.1	32	107	119	145	139
13	85	95	73	35	23	41	2.6	48	107	119	145	138
14	87	97	73	35	23	66	2.6	48	107	119	145	138
15	85	95	73	35	18	66	2.6	48	107	122	144	146
16	84	95	73	35	15	66	2.6	48	107	122	144	152
17	84	94	73	35	15	35	2.6	49	107	123	144	152
18	84	94	73	34	15	18	2.6	52	107	123	144	151
19	78	94	73	33	16	18	2.6	55	107	133	144	151
20	73	94	72	33	16	18	2.6	55	107	145	144	151
21	73	94	72	33	20	17	2.6	55	107	145	144	150
22	73	94	72	33	16	18	2.6	55	114	145	144	150
23	73	94	73	33	36	18	2.6	56	118	145	144	149
24	74	94	72	33	47	18	2.6	56	119	145	144	149
25	73	94	72	30	29	18	2.6	56	119	144	144	148
26	74	94	72	20	17	18	2.6	57	119	144	144	148
27	75	94	72	22	17	18	2.6	57	119	147	143	147
28	78	93	72	21	17	17	2.6	57	119	150	143	147
29	66	93	72	21	---	17	2.6	57	119	149	143	147
30	55	93	72	21	---	17	2.6	57	119	149	142	146
31	52	---	72	22	---	17	---	61	---	149	142	---
TOTAL	2437	2502	2353	1123	607	726	236.9	1087.6	2929	4048	4495	4344
MEAN	78.6	83.4	75.9	36.2	21.7	23.4	7.90	35.1	97.6	131	145	145
MAX	92	97	95	73	47	66	18	61	119	150	149	152
MIN	52	52	69	20	15	17	2.6	2.6	66	119	142	138
AC-FT	4830	4960	4670	2230	1200	1440	470	2160	5810	8030	8920	8620

CAL YR 1976 TOTAL 54010.61 MEAN 148 MAX 312 MIN .33 AC-FT 107100
WTR YR 1977 TOTAL 26888.50 MEAN 73.7 MAX 152 MIN 2.6 AC-FT 53330

11416100 BOWMAN-SPAULDING CANAL AT JORDAN CREEK SIPHON VENTURI, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°20'32", long 120°38'26", in SW¼NW¼ sec.16, T.17 N., R.12 E., Nevada County, at outlet of Jordan Creek siphon 0.6 mi (1.0 km) downstream from Fuller Lake, and 3.5 mi (5.6 km) northeast of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,440 ft (1,658 m), from topographic map.

REMARKS.--Records show water diverted from Bowman Lake (station 11415500) plus numerous small tributaries before it enters Lake Spaulding (station 11414140). See schematic diagram of Yuba River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 221 ft^3/s (6.259 m^3/s), 160,100 acre-ft/yr (197 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 330 ft^3/s (9.35 m^3/s) Dec. 22, 1964; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	63	85	65	21	19	21	0	80	126	147	141
2	95	52	72	66	21	19	21	43	88	126	147	140
3	95	45	89	65	21	19	21	0	76	128	145	140
4	94	60	88	103	21	19	21	0	71	129	143	140
5	92	67	89	132	21	19	21	0	82	129	143	140
6	92	65	88	33	21	19	21	0	77	118	143	140
7	94	64	75	43	21	19	23	0	82	118	142	139
8	94	63	69	43	21	18	26	0	81	123	140	138
9	94	82	69	43	21	18	27	0	85	121	144	138
10	92	91	72	43	21	19	26	0	95	124	144	138
11	91	89	72	27	21	19	26	0	112	136	143	138
12	91	91	72	27	21	19	22	20	113	127	145	137
13	91	94	75	27	21	34	19	57	109	116	147	136
14	92	98	75	27	21	68	20	58	114	111	146	136
15	95	100	75	27	21	75	21	58	132	104	146	136
16	93	100	72	28	17	75	21	58	160	106	146	146
17	92	94	72	28	17	54	21	59	163	119	146	150
18	94	80	75	28	17	18	21	62	167	119	145	150
19	90	80	72	28	17	19	58	64	164	117	144	149
20	85	102	68	28	17	19	76	51	161	141	146	149
21	85	97	68	28	17	19	21	64	156	146	145	149
22	85	94	68	28	21	19	16	72	147	141	143	148
23	85	71	79	28	28	20	8.3	72	144	141	142	147
24	85	69	75	28	63	21	0	72	140	141	141	148
25	85	91	82	24	56	21	0	79	143	136	141	148
26	82	95	79	21	19	21	0	81	134	125	143	147
27	83	97	75	21	19	21	0	84	141	144	143	147
28	84	88	75	21	19	21	0	80	140	150	143	146
29	72	87	72	21	---	21	0	80	138	141	143	147
30	64	75	79	21	---	21	0	81	128	146	141	146
31	64	---	72	21	---	21	---	79	---	146	141	---
TOTAL	2678	2444	2348	1173	642	814	578.3	1374	3623	3995	4458	4294
MEAN	86.4	81.5	75.7	37.8	22.9	26.3	19.3	44.3	121	129	144	143
MAX	95	102	89	132	63	75	76	84	167	150	147	150
MIN	48	45	68	21	17	18	0	0	71	104	140	136
AC-FT	5310	4850	4660	2330	1270	1610	1150	2730	7190	7920	8840	8520

CAL YR 1976 TOTAL 57701.00 MEAN 158 MAX 312 MIN 0 AC-FT 114400
WTR YR 1977 TOTAL 28421.30 MEAN 77.9 MAX 167 MIN 0 AC-FT 56370

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'39", in NE¼SE¼ sec.7, T.18 N., R.12 E., Nevada County, on left bank 1 mi (2 km) downstream from Bowman Dam, 3 mi (5 km) upstream from Texas Creek, and 9 mi (14 km) south of Sierra City.

DRAINAGE AREA.--28.3 mi^2 (73.3 km^2).

PERIOD OF RECORD.--January 1927 to current year.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control. Concrete control covered with rocks Jan. 22, 1970. Altitude of gage is 5,100 ft (1,554 m), from topographic map.

REMARKS.--Records good except those for flows below 0.5 ft^3/s (0.014 m^3/s), which are fair. Flow regulated by French Lake, usable capacity, 13,840 acre-ft (17.1 hm^3), Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--50 years, 36.9 ft^3/s (1.045 m^3/s), 26,730 acre-ft/yr (33.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,740 ft^3/s (106 m^3/s) Jan. 22, 1970, gage height, 9.42 ft (2.871 m) in gage well, 10.32 ft (3.416 m) from floodmarks, from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement of maximum flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18 ft^3/s (0.51 m^3/s) Feb. 21, gage height, 3.55 ft (1.082 m); minimum daily, 0.01 ft^3/s (<0.001 m^3/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	2.3	2.3	1.6	1.8	1.0	.93	.98	.50	.17	.11	.07
2	2.4	2.3	2.3	2.5	1.7	.92	.90	1.0	.44	.17	.10	.08
3	2.2	2.2	2.3	2.3	1.8	.86	.87	.88	.39	.18	.10	.08
4	2.2	2.2	2.3	1.8	1.8	.81	1.0	1.0	.37	.17	.09	.07
5	2.1	2.3	2.4	1.7	1.8	.86	1.2	.87	.33	.16	.09	.05
6	2.1	2.2	1.9	1.7	1.8	.86	1.3	1.1	.32	.15	.10	.04
7	1.8	2.2	1.5	1.6	1.8	.86	1.2	1.4	.33	.14	.10	.04
8	1.1	2.2	1.6	1.6	2.1	.81	1.2	1.3	.29	.14	.10	.03
9	1.1	2.3	1.6	1.6	2.1	1.7	1.5	2.0	.42	.13	.10	.03
10	1.1	2.5	1.6	1.7	2.1	1.3	1.3	2.8	.48	.12	.09	.02
11	1.0	2.5	1.6	1.7	2.0	.88	.98	2.6	.47	.14	.08	.02
12	1.1	2.4	1.6	1.7	2.0	.88	.83	2.5	.38	.13	.07	.02
13	1.1	2.5	1.6	1.7	2.0	.88	1.2	2.3	.33	.13	.06	.01
14	1.2	4.2	1.6	1.7	2.0	.80	.65	1.9	.33	.13	.06	.02
15	1.7	2.9	1.5	1.7	2.0	.76	.48	1.4	.31	.12	.06	.05
16	2.1	2.5	1.5	1.7	1.9	.77	.35	1.3	.29	.12	.06	.10
17	2.0	2.4	1.5	1.7	1.8	.72	.29	1.2	.28	.11	.06	.17
18	2.0	2.3	1.5	1.9	1.7	.76	.24	1.1	.27	.11	.06	.16
19	2.2	2.3	1.5	1.9	.62	.99	.21	1.1	.29	.12	.05	.18
20	2.4	2.3	1.5	1.9	.64	1.2	.19	.93	.31	.14	.05	.17
21	2.3	2.3	1.5	1.9	5.7	1.3	.39	.85	.25	.13	.05	.17
22	2.3	2.2	1.6	1.9	2.2	1.3	.48	.79	.24	.13	.04	.16
23	2.3	2.2	1.6	1.9	1.5	1.4	.47	.84	.22	.12	.03	.15
24	2.3	2.3	1.6	1.9	1.2	1.2	.46	.74	.19	.11	.04	.15
25	2.3	2.3	1.6	1.9	1.1	1.2	.47	.65	.19	.11	.09	.14
26	2.3	2.4	1.6	1.9	1.0	1.3	.44	1.1	.17	.11	.14	.14
27	2.3	2.5	1.6	1.9	1.0	1.7	.42	1.5	.16	.11	.13	.14
28	2.3	2.4	1.6	1.8	1.1	1.5	.40	.94	.17	.13	.13	.18
29	2.3	2.4	1.6	1.8	---	1.2	.41	.73	.18	.13	.11	.51
30	2.3	2.3	1.6	1.8	---	1.1	.51	.62	.17	.12	.10	.35
31	2.3	---	1.6	1.8	---	.96	---	.56	---	.11	.08	---
TOTAL	60.4	72.3	52.7	56.2	50.26	32.78	21.27	38.98	9.07	4.09	2.53	3.50
MEAN	1.95	2.41	1.70	1.81	1.80	1.06	.71	1.26	.30	.13	.082	.12
MAX	2.4	4.2	2.4	2.5	5.7	1.7	1.5	2.8	.50	.18	.14	.51
MIN	1.0	2.2	1.5	1.6	.62	.72	.19	.56	.16	.11	.03	.01
AC-FT	120	143	105	111	100	65	42	77	18	8.1	5.0	6.9

CAL YR 1976 TOTAL 956.00 MEAN 2.61 MAX 9.6 MIN 1.0 AC-FT 1900
WTR YR 1977 TOTAL 404.08 MEAN 1.11 MAX 5.7 MIN .01 AC-FT 801

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA

LOCATION.--Lat 39°17'32", long 121°06'13", in NW¼SE¼ sec.32, T.17 N., R.8 E., Nevada County, on left bank at Jones Bar, 100 ft (30 m) upstream from Rush Creek, 0.9 mi (1.4 km) downstream from bridge on State Highway 49, and 5 mi (8 km) northwest of Grass Valley.

DRAINAGE AREA.--308 mi^2 (798 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to September 1948, April 1959 to current year. Published as South Fork Yuba River at Jones Bar 1940-48, and as South Yuba River at Jones Bar 1959-63.

REVISED RECORDS.--WSP 1315-A: 1942-43(M), drainage area at former site. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (323 m), from river-profile map. Oct. 1, 1940, to Sept. 30, 1948, at site 150 ft (46 m) upstream at datum 2.00 ft (0.610 m) higher.

REMARKS.--Records excellent. Flow regulated by Lake Spaulding (station 11414040), Fordyce Lake, capacity, 46,700 acre-ft (57.6 hm^3), Bowman Lake (station 11415500), and many smaller reservoirs. Diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres (81 km^2) by the Nevada Irrigation District. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--26 years, 447 ft^3/s (12.66 m^3/s), 323,900 acre-ft/yr (399 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft^3/s (1,520 m^3/s) Dec. 22, 1964, gage height, 25.0 ft (7.62 m) from floodmarks, from rating curve extended above 23,000 ft^3/s (651 m^3/s) on basis of slope-area measurement of maximum flow; minimum, 1.0 ft^3/s (0.028 m^3/s) Sept. 10-13, 1944.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 30.7 ft (9.36 m) from floodmarks, present datum, at site 100 ft (30 m) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 527 ft^3/s (14.9 m^3/s) Feb. 21, gage height, 5.86 ft (1.786 m); minimum daily, 13 ft^3/s (0.37 m^3/s) Aug. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	34	39	40	41	70	60	65	46	22	15	15
2	38	34	39	98	41	65	58	77	43	22	15	15
3	50	34	40	269	41	59	57	64	42	22	14	15
4	44	34	40	112	41	56	56	57	41	21	14	15
5	40	33	40	71	41	52	56	57	39	20	14	14
6	37	33	39	60	40	51	61	70	38	20	14	14
7	36	33	39	52	41	50	63	90	37	20	15	14
8	35	33	39	46	45	50	63	81	36	19	15	14
9	34	33	39	42	51	54	73	76	34	19	15	14
10	33	33	39	50	53	82	70	118	34	19	15	14
11	36	34	38	46	48	68	63	133	38	19	14	14
12	56	35	38	47	46	61	59	112	36	18	14	14
13	32	37	38	47	45	69	56	103	34	18	14	14
14	31	74	38	46	43	67	54	95	33	17	14	14
15	32	113	38	45	43	63	53	91	32	17	14	14
16	32	61	37	44	42	63	50	81	31	17	13	16
17	33	49	37	44	41	66	49	75	30	16	13	18
18	33	44	37	44	41	64	48	71	29	16	14	20
19	33	42	37	45	40	61	46	69	28	16	15	21
20	33	42	36	47	38	62	44	66	28	16	15	21
21	33	41	38	48	142	64	42	63	30	16	14	21
22	33	41	38	52	254	65	42	59	29	16	14	19
23	34	41	37	57	141	74	41	56	26	16	14	18
24	35	40	37	53	112	106	40	59	25	15	14	17
25	35	40	36	48	83	101	39	57	24	15	14	17
26	35	40	37	46	70	87	39	56	23	15	15	17
27	34	39	29	44	64	80	39	70	22	15	21	17
28	33	38	39	44	64	76	38	71	22	15	21	17
29	33	38	37	43	---	70	37	58	22	15	17	39
30	33	39	44	43	---	65	38	53	22	15	16	31
31	34	---	42	42	---	62	---	49	---	15	15	---
TOTAL	1106	1262	1181	1815	1792	2083	1534	2302	954	542	461	523
MEAN	35.7	42.1	38.1	58.5	64.0	67.2	51.1	74.3	31.8	17.5	14.9	17.4
MAX	56	113	44	269	254	106	73	133	46	22	21	39
MIN	31	33	29	40	38	50	37	49	22	15	13	14
AC-FT	2190	2500	2340	3600	3550	4130	3040	4570	1890	1080	914	1040

CAL YR 1976 TOTAL 28543 MEAN 78.0 MAX 638 MIN 29 AC-FT 56620
WTR YR 1977 TOTAL 15555 MEAN 42.6 MAX 269 MIN 13 AC-FT 30850

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965 to current year.
WATER TEMPERATURES: Water years 1965 to current year.
SEDIMENT RECORDS: Water years 1967-74.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: February 1965 to current year.

INSTRUMENTATION.--Temperature recorder since February 1965.

REMARKS.--Clock stopped Feb. 15 to Mar. 3; range in temperature, 3.5°C to 8.0°C.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.0°C June 25-27, 29, 1977; minimum recorded, 0.0°C on several days in most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.0°C June 25-27, 29; minimum recorded, 0.0°C Dec. 27-29, Jan. 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	18.0	17.0	9.0	7.5	2.0	1.5	2.0	0.5	3.5	2.5	---	---
2	17.0	16.0	9.0	8.0	2.5	2.0	4.5	2.0	3.0	2.5	---	---
3	17.0	14.5	9.0	7.5	3.0	2.0	4.5	3.5	3.0	2.0	---	---
4	17.0	15.0	9.0	8.0	3.0	2.5	3.5	3.0	3.0	2.0	7.0	4.5
5	17.0	15.0	9.0	7.5	3.0	2.5	3.0	2.5	4.0	2.5	7.5	5.0
6	17.5	15.0	9.0	8.0	2.5	2.0	2.5	1.5	5.0	3.5	8.0	6.0
7	17.5	15.5	9.0	8.0	2.5	2.0	2.0	1.0	5.5	4.0	8.0	6.5
8	17.5	15.5	9.0	8.0	2.5	2.0	1.5	0.5	6.0	5.0	9.5	7.5
9	17.5	15.0	9.0	8.0	3.0	2.0	1.0	0.0	6.5	5.0	10.0	8.0
10	17.0	15.0	10.0	8.0	2.5	2.0	1.0	0.5	6.5	5.0	8.5	6.5
11	16.5	14.5	10.0	9.0	2.0	1.5	1.5	0.5	6.5	5.5	8.0	5.5
12	15.5	13.5	10.0	9.5	2.0	1.5	2.5	1.5	6.5	5.5	8.0	6.5
13	15.0	13.0	10.0	9.0	2.0	1.5	2.5	1.5	7.0	6.0	7.0	5.5
14	14.5	12.5	10.5	9.5	2.0	1.0	2.0	1.5	7.5	6.0	6.0	4.5
15	14.0	12.0	10.0	9.0	1.5	1.0	1.5	1.0	---	---	6.5	5.0
16	14.0	12.0	10.0	9.0	1.5	1.0	1.5	1.0	---	---	6.5	6.0
17	13.5	11.5	9.5	8.5	1.0	1.0	1.5	0.5	---	---	8.5	6.0
18	13.5	11.5	9.5	8.5	1.0	0.5	2.0	1.0	---	---	8.5	5.5
19	13.0	11.5	9.0	8.0	1.0	0.5	2.5	1.5	---	---	10.0	7.0
20	13.0	11.0	8.5	7.5	1.0	0.5	4.0	2.5	---	---	10.5	7.5
21	13.0	11.5	8.5	7.5	1.0	0.5	5.0	4.0	---	---	11.5	8.5
22	13.0	11.5	8.0	7.0	1.5	0.5	6.5	5.0	---	---	12.5	9.5
23	13.0	11.5	7.0	6.5	2.0	1.0	6.0	5.0	---	---	11.5	9.0
24	13.0	11.5	7.0	6.5	1.5	0.5	5.0	4.5	---	---	9.0	8.0
25	13.0	12.0	6.5	5.5	1.0	0.5	4.5	3.5	---	---	10.0	7.0
26	12.0	10.5	5.5	4.0	1.0	0.5	4.0	3.5	---	---	10.5	7.5
27	10.5	9.0	4.0	2.5	0.5	0.0	4.0	3.0	---	---	11.5	8.5
28	9.5	8.5	3.0	2.0	0.5	0.0	3.5	2.5	---	---	10.5	8.0
29	9.5	8.0	2.5	2.0	0.5	0.0	3.0	2.0	---	---	10.0	7.5
30	9.5	8.0	2.5	2.0	1.5	0.5	2.5	1.5	---	---	9.5	7.0
31	9.0	8.0	---	---	1.0	0.5	3.5	2.0	---	---	10.0	7.0
MONTH	18.0	8.0	10.5	2.0	3.0	0.0	6.5	0.0	---	---	12.5	4.5

11417500 SOUTH YUBA RIVER AT JONES BAR, NEAR GRASS VALLEY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	8.0	15.5	14.0	22.5	18.5	27.0	23.5	26.0	22.5	24.5	20.0
2	11.5	8.5	16.0	12.5	22.0	18.5	26.0	23.5	27.0	23.0	24.0	20.0
3	12.5	9.0	14.0	12.5	21.5	18.0	26.0	22.5	27.5	23.0	24.0	19.5
4	14.0	10.0	16.0	12.0	23.0	18.5	25.0	21.0	27.5	23.0	24.0	19.5
5	15.0	11.5	14.0	12.0	24.5	20.0	24.5	19.5	25.0	22.0	24.5	19.5
6	16.5	13.0	12.5	11.5	25.5	22.0	24.5	19.5	23.5	21.5	25.0	20.0
7	16.5	13.5	12.0	10.5	27.0	22.5	25.0	20.0	24.5	20.0	24.5	20.0
8	15.0	13.0	13.0	10.5	25.5	23.0	25.0	20.0	24.0	20.0	24.5	22.0
9	14.5	12.0	13.0	12.0	24.0	21.0	25.5	20.5	24.5	20.0	24.5	20.0
10	15.0	11.5	12.0	11.5	21.0	19.0	25.5	20.5	24.5	19.5	25.0	24.0
11	15.5	12.0	11.5	11.0	22.0	18.0	26.0	21.0	24.5	20.0	24.5	23.0
12	16.0	12.5	12.0	10.5	22.0	18.5	26.0	21.5	25.5	20.5	24.5	22.5
13	17.0	14.0	14.5	10.0	23.0	19.0	26.0	21.0	25.5	21.5	23.5	21.5
14	16.5	13.0	16.5	13.0	23.5	19.0	26.0	20.5	25.5	21.0	22.0	19.5
15	17.0	13.5	15.5	14.0	24.0	19.5	26.5	21.0	25.0	20.0	19.5	17.5
16	17.5	14.0	15.0	12.5	24.0	20.0	26.5	21.5	25.0	20.0	17.5	16.5
17	17.5	14.5	14.0	11.0	24.0	20.5	26.5	22.5	22.0	20.5	18.0	16.0
18	17.0	13.5	13.5	11.0	23.0	19.5	26.5	21.5	24.5	20.0	18.5	16.0
19	16.0	13.0	16.5	11.5	24.0	19.5	27.0	22.0	25.0	20.5	18.5	17.0
20	16.5	13.0	18.5	14.0	24.5	20.5	27.0	22.0	25.5	21.0	19.5	16.5
21	16.5	13.5	19.5	15.5	26.0	21.0	27.5	22.5	25.5	21.0	19.5	16.5
22	17.0	13.5	17.0	15.5	27.0	22.0	27.0	22.0	25.5	21.0	18.5	15.5
23	17.5	14.0	15.5	14.5	27.0	22.5	27.0	21.5	26.0	21.0	18.0	15.0
24	17.0	14.5	18.0	13.5	27.5	25.0	26.0	21.5	25.0	23.5	20.0	16.5
25	15.5	14.0	17.5	15.0	28.0	24.0	26.5	21.0	23.5	20.5	20.0	16.5
26	17.0	13.0	16.0	15.0	28.0	23.5	26.5	21.0	24.5	20.5	20.0	16.5
27	17.0	13.5	18.5	14.0	28.0	23.5	26.5	20.5	24.0	20.0	19.0	17.5
28	17.5	14.0	19.0	14.5	27.0	24.0	26.0	20.5	24.5	19.5	18.5	17.5
29	17.0	14.5	19.5	15.0	28.0	24.0	26.5	20.5	25.5	21.0	18.5	17.5
30	17.0	15.0	21.0	16.0	26.0	24.0	27.0	21.0	25.0	20.5	18.0	16.0
31	---	---	22.0	17.5	---	---	27.0	22.0	25.0	20.5	---	---
MONTH	17.5	8.0	22.0	10.0	28.0	18.0	27.5	19.5	27.5	19.5	25.0	15.0

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA

LOCATION.--Lat 39°14'07", long 121°16'23", in NW¼NW¼ sec.23, T.16 N., R.6 E., Yuba County, on right bank 2,000 ft (610 m) downstream from Englebright Dam, 0.5 mi (0.8 km) upstream from Deer Creek, and 2.3 mi (3.7 km) northeast of Smartville.

DRAINAGE AREA.--1,108 mi^2 (2,870 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year. Prior to October 1953, published as "at Narrows Dam." October 1953 to Sept. 30, 1969, published as "at Englebright Dam." If records for Deer Creek near Smartville (station 11418500) since 1941 are added to records at this station, records equivalent to those published from 1903 to 1941 as Yuba River at Smartville (station 11419000) can be obtained.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and crest-stage gages. Datum of gage is 278.68 ft (84.942 m) above mean sea level (levels by International Engineering Co.). Prior to Sept. 19, 1958, at site 2,000 ft (610 m) upstream at datum 248.31 ft (75.685 m) higher and Sept. 19, 1958, to Sept. 30, 1969, at datum 278.68 ft (84.942 m) lower. Supplementary gage 2,000 ft (610 m) upstream since Oct. 1, 1969, at Englebright Dam at datum 248.31 ft (75.685 m) higher.

REMARKS.--Records good. Diversions out of basin for power and irrigation above station up to 1,800 ft^3/s (51.0 m^3/s), stations 11413250, 11414190, 11414200. Flow regulation by Lake Spaulding beginning in 1912 (station 11414140), Jackson Meadows Reservoir (station 11407800) since November 1964, New Bullards Bar Reservoir (station 11413515) since January 1969, Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft (86.3 hm^3), Bowman Lake (station 11415500), Fordyce Lake beginning in 1926, capacity, 46,700 acre-ft (57.6 hm^3), and many smaller reservoirs. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--36 years, 2.475 ft^3/s (70.09 m^3/s), 1,793,000 acre-ft/yr (2.21 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft^3/s (4,840 m^3/s) Dec. 22, 1964, gage height, 546.14 ft (166.463 m) site and datum then in use; no flow through powerplant, from rating curve extended above 25,000 ft^3/s (708 m^3/s) on basis of computation of peak flow over spillway of dam at gage heights 544.72 ft (166.031 m) and 546.14 ft (166.463 m); no flow at times in 1942, 1949, 1956, 1958-61, 1968-69.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 933 ft^3/s (26.4 m^3/s) Dec. 3, gage height, 4.91 ft (1.497 m); minimum daily, 140 ft^3/s (3.96 m^3/s) Sept. 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	707	701	683	348	245	191	245	519	455	459	410	281
2	707	707	704	376	245	195	260	461	466	457	409	268
3	705	707	664	348	245	208	277	419	479	459	411	263
4	701	707	592	346	245	196	293	384	507	453	413	259
5	701	707	588	348	245	196	314	362	519	444	409	259
6	701	703	584	339	245	196	329	347	526	440	409	246
7	701	689	583	336	245	196	353	349	548	440	409	237
8	701	693	585	336	239	196	370	367	531	445	409	257
9	701	695	581	336	233	196	379	383	536	498	404	255
10	701	695	587	296	233	206	394	361	526	494	400	242
11	701	695	585	265	220	213	396	332	519	448	395	235
12	701	700	585	265	207	213	396	322	507	434	387	231
13	701	696	585	265	207	213	416	324	489	433	379	211
14	701	695	585	265	206	203	436	319	494	426	379	201
15	701	690	585	257	204	193	455	319	491	419	373	201
16	701	689	585	250	199	193	465	328	489	413	367	184
17	701	689	585	263	193	193	470	345	489	413	359	173
18	701	689	585	254	193	193	464	354	501	413	347	165
19	701	689	585	254	193	193	486	354	493	413	342	165
20	704	689	585	254	193	193	523	354	490	413	342	165
21	711	685	585	252	193	193	544	349	493	413	342	163
22	708	689	585	250	193	193	544	346	493	409	338	163
23	702	693	561	250	151	193	547	346	490	409	335	151
24	701	695	519	250	148	195	555	349	489	409	327	140
25	702	695	525	250	199	195	558	356	496	422	319	140
26	701	693	522	250	199	193	565	364	498	409	319	154
27	701	693	522	250	198	193	564	374	498	409	318	163
28	701	695	435	267	185	194	560	384	501	409	312	158
29	706	695	348	254	---	209	560	396	507	409	306	158
30	707	699	348	254	---	224	560	399	504	411	307	158
31	707	---	348	251	---	218	---	423	---	413	302	---
TOTAL	21786	20857	17299	8779	5901	6176	13278	11389	15024	13336	11278	6046
MEAN	703	695	558	283	211	199	443	367	501	430	364	202
MAX	711	707	704	376	245	224	565	519	548	498	413	281
MIN	701	685	348	250	148	191	245	319	455	409	302	140
AC-FT	43210	41370	34310	17410	11700	12250	26340	22590	29800	26450	22370	11990

CAL YR 1976 TOTAL 224147 MEAN 612 MAX 2160 MIN 222 AC-FT 444600
WTR YR 1977 TOTAL 151149 MEAN 414 MAX 711 MIN 140 AC-FT 299800

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1972 to current year.

INSTRUMENTATION.--Temperature recorder since October 1972.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 20.0°C Oct. 1, 3, 5, 7, 11, 1974; minimum recorded, 3.0°C Dec. 19, 20, 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 16.0°C Sept. 7, 24, 26, 30; minimum recorded, 7.0°C on several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11418000 YUBA RIVER BELOW ENGLEBRIGHT DAM, NEAR SMARTVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	9.0	11.0	10.0	13.0	11.5	14.0	13.0	14.5	13.5	15.5	14.0
2	10.5	9.0	11.0	10.5	12.0	11.5	14.5	13.0	14.5	13.5	15.5	14.0
3	11.0	9.0	10.5	10.5	12.0	11.5	14.5	13.0	15.0	13.5	15.5	14.5
4	11.0	9.0	11.0	10.5	12.5	12.0	14.0	13.0	15.0	13.5	15.5	14.0
5	10.5	9.0	11.0	10.5	12.5	11.5	14.5	13.0	14.5	13.5	15.5	14.5
6	11.0	9.5	10.5	10.5	12.5	12.0	14.5	13.5	14.5	14.0	15.5	14.5
7	10.5	9.0	11.5	10.5	13.5	12.0	14.0	13.0	15.0	14.0	16.0	14.5
8	10.5	10.0	11.5	10.5	12.5	12.0	14.0	13.0	14.5	14.0	15.5	14.5
9	10.5	10.0	11.0	10.5	12.5	12.0	15.0	13.5	15.0	14.0	15.5	14.5
10	10.5	10.0	11.0	10.5	12.5	12.0	15.0	14.0	15.0	14.0	15.5	14.0
11	11.0	10.0	11.0	10.5	13.0	12.5	15.0	14.0	15.0	14.0	15.5	14.0
12	11.0	10.0	11.5	10.5	13.0	12.0	15.0	14.0	15.0	14.0	15.5	14.5
13	11.0	10.0	11.5	10.5	13.0	12.0	15.0	13.5	15.0	14.0	15.5	14.5
14	11.0	10.0	11.5	11.0	13.0	12.5	14.5	13.5	15.0	14.0	15.5	14.5
15	11.0	10.0	11.5	11.0	13.0	12.5	14.5	13.5	15.0	14.0	14.5	14.5
16	10.5	10.0	11.5	10.5	13.5	12.5	14.5	13.5	15.0	14.0	15.0	14.5
17	10.5	9.5	12.0	11.0	13.5	12.5	14.0	13.0	14.5	14.0	15.0	14.5
18	11.0	9.5	11.5	11.0	13.5	12.5	14.5	13.0	15.0	14.0	15.5	14.5
19	11.0	9.5	12.0	11.0	14.0	12.5	14.0	13.0	15.0	14.0	15.5	14.5
20	10.5	9.5	12.0	11.0	13.5	12.5	14.0	13.0	15.0	14.0	15.5	14.0
21	10.5	9.5	12.0	11.0	14.0	12.5	14.5	13.0	15.0	14.0	15.5	14.5
22	10.5	10.0	11.5	11.0	13.5	12.5	14.5	13.0	15.0	14.0	15.5	14.5
23	10.5	10.0	11.5	11.0	14.0	13.0	14.5	13.5	15.5	14.0	15.5	14.5
24	10.5	10.0	12.0	11.0	14.0	13.0	14.5	13.5	15.0	14.0	16.0	14.5
25	10.5	10.0	12.0	11.5	14.0	13.0	14.5	13.5	14.5	14.0	15.5	14.5
26	10.5	10.0	11.5	11.0	14.0	13.0	14.5	13.5	15.5	14.0	16.0	14.5
27	10.5	10.0	12.0	11.5	14.0	13.0	15.0	13.5	15.0	14.0	15.5	14.5
28	11.0	10.0	12.0	11.5	14.0	13.0	15.0	13.5	15.5	14.0	15.5	14.5
29	11.0	10.5	12.0	11.5	14.0	13.0	15.0	13.5	15.5	14.0	15.5	15.0
30	11.0	10.0	12.0	11.5	14.0	13.0	15.0	13.5	15.5	14.0	16.0	14.5
31	---	---	12.0	11.5	---	---	15.0	13.5	15.0	14.0	---	---
MONTH	11.0	9.0	12.0	10.0	14.0	11.5	15.0	13.0	15.5	13.5	16.0	14.0

11418500 DEER CREEK NEAR SMARTVILLE, CA

LOCATION.--Lat 39°13'28", long 121°16'03", in SW¼SE¼ sec.23, T.16 N., R.6 E., Nevada County, on left bank 400 ft (122 m) upstream from county road bridge, 0.9 mi (1.4 km) upstream from mouth, and 2 mi (3 km) northeast of Smartville.

DRAINAGE AREA.--84.6 mi^2 (219.1 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1935 to current year.

REVISED RECORDS.--WSP 1395: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 630 ft (192 m), from river-profile map. June 21, 1935, to Nov. 30, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good. Natural flow of stream is affected by Scotts Flat Reservoir beginning in 1949, usable capacity, 26,300 acre-ft (32.4 hm^3), increased to 49,000 acre-ft (60.4 hm^3) in July 1964, Deer Creek Reservoir, capacity, 1,400 acre-ft (1.73 hm^3), Lake Wildwood, capacity, 3,840 acre-ft (4.73 hm^3) beginning in 1970, power developments, and diversion for irrigation. At times water from South Yuba River is diverted to Deer Creek and water from Deer Creek is diverted to Bear River. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--42 years, 127 ft^3/s (3.597 m^3/s), 92,010 acre-ft/yr (113 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft^3/s (329 m^3/s) Oct. 13, 1962, gage height, 13.77 ft (4.197 m), from rating curve extended above 5,200 ft^3/s (147 m^3/s); minimum daily, 0.06 ft^3/s (0.002 m^3/s) Aug. 5, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1928 reached a stage of 14.5 ft (4.42 m) from floodmarks, discharge, 14,000 ft^3/s (396 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 442 ft^3/s (12.5 m^3/s) Jan. 3, gage height, 4.33 ft (1.320 m); minimum daily, 0.06 ft^3/s (0.002 m^3/s) Aug. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	6.7	2.0	3.9	6.1	11	8.5	5.2	1.8	.36	.27	.41
2	1.6	35	2.4	36	6.1	10	6.9	17	1.5	.53	.27	.41
3	2.5	27	2.3	233	5.9	9.4	6.4	8.8	.53	.36	.27	.46
4	2.6	1.5	1.9	12	5.9	7.9	6.1	5.4	.74	.27	.27	.40
5	2.4	1.3	4.1	8.8	5.9	7.4	5.9	4.3	.53	.31	.06	.40
6	2.2	1.5	4.8	8.5	5.9	6.9	5.6	4.3	.40	.36	.31	.36
7	2.0	1.3	4.2	6.3	6.1	6.9	5.4	4.0	.36	.36	.31	.31
8	1.8	1.2	2.6	5.5	9.1	7.4	5.9	4.1	.36	.36	.31	.27
9	1.7	1.0	2.9	8.0	13	9.1	8.8	4.3	.36	.36	.31	.31
10	1.8	1.2	2.9	9.4	9.4	9.4	8.5	7.7	.74	.36	.31	.31
11	1.9	1.2	2.9	8.8	8.0	7.4	5.9	7.4	.67	.31	.27	.40
12	1.9	1.5	2.9	9.1	7.0	8.2	5.4	6.4	.53	.36	.27	.46
13	1.9	1.7	2.9	9.4	7.0	9.4	3.8	5.2	.53	.40	.17	.46
14	1.7	8.3	2.9	8.3	7.2	9.4	3.8	4.5	.53	.53	.20	.60
15	1.6	7.2	2.9	8.0	7.0	9.7	2.9	3.6	.31	.46	.27	.82
16	1.5	4.2	2.8	7.7	6.8	9.4	2.9	3.4	.36	.46	.27	1.1
17	1.5	2.8	2.8	7.5	6.1	11	2.4	3.6	.31	.31	.31	1.4
18	1.5	2.9	2.6	7.7	6.3	9.7	2.9	2.7	.31	.40	.41	1.4
19	1.5	2.6	2.6	8.0	6.3	7.9	1.7	2.1	.31	.53	.41	1.8
20	1.6	2.6	2.6	8.5	7.2	7.4	1.4	2.2	.53	.46	.46	2.2
21	1.5	2.5	2.8	8.5	139	7.1	1.5	2.1	.53	.46	.41	1.2
22	1.5	2.4	2.8	8.0	104	5.9	1.5	2.2	.27	.46	.41	.98
23	1.6	2.4	2.8	8.0	98	10	1.5	2.2	.31	.46	.41	.60
24	1.6	2.4	2.6	7.7	55	31	1.6	2.1	.27	.46	.36	.82
25	1.6	1.9	2.6	7.0	23	32	1.6	2.1	.23	.46	.41	.90
26	1.5	1.7	2.6	6.8	15	18	1.6	2.2	.20	.40	.53	.90
27	1.4	1.9	2.6	6.1	13	12	1.6	2.2	.14	.40	.60	.98
28	1.5	1.6	2.4	6.1	13	9.7	1.7	2.0	.17	.36	.53	.67
29	1.6	1.8	2.5	6.1	---	9.4	1.7	1.7	.20	.23	.41	1.1
30	1.6	1.8	3.9	6.1	---	7.9	1.8	1.5	.23	.12	.41	1.1
31	1.5	---	3.9	6.1	---	7.9	---	1.4	---	.17	.41	---
TOTAL	53.6	133.1	89.5	490.9	602.3	325.8	117.2	127.9	14.26	11.83	10.62	23.53
MEAN	1.73	4.44	2.89	15.8	21.5	10.5	3.91	4.13	.48	.38	.34	.78
MAX	2.6	35	4.8	233	139	32	8.8	17	1.8	.53	.60	2.2
MIN	1.4	1.0	1.9	3.9	5.9	5.9	1.4	1.4	.14	.12	.06	.27
AC-FT	106	264	178	974	1190	646	232	254	28	23	21	47
‡	15325	15826	16596	17700	19052	19707	18093	16712	13630	9890	5146	1850

CAL YR 1976 TOTAL 3669.72 MEAN 10.0 MAX 203 MIN .90 AC-FT 7280
WTR YR 1977 TOTAL 2000.54 MEAN 5.48 MAX 233 MIN .06 AC-FT 3970

‡ Contents, in acre-feet, at end of month for Scotts Flat Reservoir, furnished by Nevada Irrigation District.

11418500 DEER CREEK NEAR SMARTVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959, 1974 to current year.
CHEMICAL ANALYSES: Water year 1959.
WATER TEMPERATURES: Water years 1974 to current year.
SEDIMENT RECORDS: Water years 1974 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1973 to current year.
SEDIMENT RECORDS: October 1973 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 168 mg/L Mar. 1, 1974; minimum daily mean, 1 mg/L on many days each year.
SEDIMENT DISCHARGE: Maximum daily, 1,700 tons (1,540 tonnes) Mar. 1, 1974; minimum daily, 0 ton (0 tonne) on many days in 1976-77.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 42 mg/L Feb. 21; minimum daily mean, 1 mg/L on many days.
SEDIMENT DISCHARGE: Maximum daily, 20 tons (18 tonnes) Feb. 21; minimum daily, 0 ton (0 tonne) on many days.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	12.0	7.0	---	6.0	9.0	---	---	22.0	---	29.0	26.0
2	17.0	13.0	7.5	7.5	6.0	9.0	---	18.5	---	26.0	29.0	---
3	---	13.0	8.5	7.0	5.0	10.0	14.0	---	22.0	---	---	---
4	18.0	13.0	---	5.0	4.0	10.0	14.0	20.0	---	---	---	---
5	---	13.0	7.0	5.0	4.0	9.0	14.0	---	---	26.5	26.0	26.0
6	---	14.0	7.0	6.0	4.0	13.0	---	20.0	---	---	---	---
7	21.0	13.0	8.0	5.0	4.0	9.0	14.0	---	23.0	24.5	26.0	22.5
8	17.5	14.0	6.0	3.0	---	---	---	---	---	---	---	---
9	---	14.0	9.0	4.0	---	10.0	14.0	19.0	---	27.5	26.5	---
10	---	12.5	7.0	5.0	5.0	---	14.0	---	---	---	---	---
11	19.5	14.0	6.5	5.0	4.0	13.0	15.0	---	---	28.0	---	---
12	---	14.0	6.0	3.0	11.0	9.0	---	20.0	---	---	28.0	---
13	18.0	14.0	6.5	6.5	11.0	---	---	---	---	27.0	---	23.0
14	---	13.0	6.0	4.0	12.0	9.0	15.0	---	25.0	---	---	---
15	18.0	14.0	6.0	5.0	6.0	---	16.0	---	26.0	---	24.5	25.0
16	---	15.0	6.0	6.5	11.0	9.0	---	21.0	23.0	---	---	---
17	17.0	13.0	---	6.0	10.0	10.5	---	---	---	---	27.0	20.0
18	---	14.0	6.0	5.0	10.0	10.0	18.0	21.0	---	29.0	---	---
19	14.0	12.0	6.0	---	---	9.0	---	---	---	---	27.0	20.0
20	---	---	---	6.0	---	9.0	21.0	21.0	27.0	---	---	---
21	---	11.5	---	6.0	9.0	9.0	---	---	---	29.0	---	21.0
22	---	13.0	6.0	---	9.0	---	22.0	---	29.0	---	28.0	---
23	---	14.0	6.0	7.0	9.0	10.5	21.0	20.0	---	22.0	---	---
24	---	11.0	6.0	7.0	10.0	8.5	22.0	---	29.0	---	25.0	23.0
25	---	---	5.0	---	10.0	---	21.0	---	---	---	---	---
26	---	11.0	4.0	6.0	10.0	9.0	---	---	---	29.0	---	21.0
27	14.0	9.0	3.0	---	9.0	---	22.0	21.0	29.0	---	23.0	---
28	---	---	2.5	9.0	9.0	9.0	22.0	---	---	29.0	---	---
29	12.0	8.5	---	5.0	---	9.0	---	---	---	---	26.0	---
30	---	7.0	---	---	---	9.0	21.0	21.0	29.0	29.0	---	---
31	14.0	---	---	6.0	---	11.5	---	---	---	---	---	---
MONTH	---	12.5	---	5.5	8.0	---	---	---	---	---	---	---

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM
NOV							
02...	1700	13.0	35	9	.85	92	100
03...	1710	13.0	18	12	.58	91	100
FEB							
21...	1800	10.0	304	55	45	97	100

11418500 DEER CREEK NEAR SMARTVILLE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER		
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	1.5	2	.01	6.7	28	.97	2.0	1	.01
2	1.6	1	0	35	22	2.1	2.4	1	.01
3	2.5	1	.01	27	11	.78	2.3	1	.01
4	2.6	1	.01	1.5	8	.03	1.9	2	.01
5	2.4	2	.01	1.3	8	.03	4.1	1	.01
6	2.2	2	.01	1.5	9	.04	4.8	1	.01
7	2.0	2	.01	1.3	7	.02	4.2	2	.02
8	1.8	2	.01	1.2	4	.01	2.6	1	.01
9	1.7	2	.01	1.0	3	.01	2.9	1	.01
10	1.8	1	0	1.2	2	.01	2.9	1	.01
11	1.9	1	.01	1.2	4	.01	2.9	1	.01
12	1.9	1	.01	1.5	4	.02	2.9	2	.02
13	1.9	1	.01	1.7	6	.03	2.9	1	.01
14	1.7	2	.01	8.3	10	.21	2.9	1	.01
15	1.6	2	.01	7.2	4	.08	2.9	1	.01
16	1.5	2	.01	4.2	3	.03	2.8	1	.01
17	1.5	2	.01	2.8	2	.02	2.8	1	.01
18	1.5	2	.01	2.9	4	.03	2.6	2	.01
19	1.5	1	0	2.6	2	.01	2.6	1	.01
20	1.6	1	0	2.6	1	.01	2.6	1	.01
21	1.5	1	0	2.5	1	.01	2.8	1	.01
22	1.5	1	0	2.4	1	.01	2.8	1	.01
23	1.6	1	0	2.4	2	.01	2.8	1	.01
24	1.6	1	0	2.4	2	.01	2.6	1	.01
25	1.6	1	0	1.9	1	.01	2.6	1	.01
26	1.5	1	0	1.7	0	0	2.6	1	.01
27	1.4	1	0	1.9	1	.01	2.6	1	.01
28	1.5	1	0	1.6	2	.01	2.4	1	.01
29	1.6	1	0	1.8	2	.01	2.5	1	.01
30	1.6	1	0	1.8	1	0	3.9	1	.01
31	1.5	1	0	---	---	---	3.9	2	.02
TOTAL	53.6	---	.16	133.1	---	4.53	89.5	---	.34

	JANUARY			FEBRUARY			MARCH		
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	3.9	2	.02	6.1	1	.02	11	2	.06
2	36	19	3.0	6.1	2	.03	10	2	.05
3	233	25	19	5.9	2	.03	9.4	3	.08
4	12	7	.23	5.9	3	.05	7.9	2	.04
5	8.8	4	.10	5.9	2	.03	7.4	3	.06
6	8.5	4	.09	5.9	2	.03	6.9	4	.07
7	6.3	2	.03	6.1	1	.02	6.9	4	.07
8	5.5	2	.03	9.1	4	.10	7.4	4	.08
9	8.0	2	.04	13	2	.07	9.1	8	.20
10	9.4	3	.08	9.4	2	.05	9.4	5	.13
11	8.8	1	.02	8.0	2	.04	7.4	4	.08
12	9.1	1	.02	7.0	3	.06	8.2	2	.04
13	9.4	2	.05	7.0	3	.06	9.4	2	.05
14	8.3	1	.02	7.2	3	.06	9.4	1	.03
15	8.0	1	.02	7.0	2	.04	9.7	6	.16
16	7.7	2	.04	6.8	1	.02	9.4	6	.15
17	7.5	3	.06	6.1	1	.02	11	5	.15
18	7.7	4	.08	6.3	1	.02	9.7	4	.10
19	8.0	4	.09	6.3	1	.02	7.9	2	.04
20	8.5	4	.09	7.2	5	.10	7.4	4	.08
21	8.5	3	.07	139	42	20	7.1	4	.08
22	8.0	2	.04	104	14	3.9	5.9	3	.05
23	8.0	2	.04	98	19	5.2	10	11	.30
24	7.7	2	.04	55	12	1.8	31	19	1.6
25	7.0	2	.04	23	8	.50	32	10	.86
26	6.8	3	.06	15	5	.20	18	17	.83
27	6.1	4	.07	13	3	.11	12	12	.39
28	6.1	4	.07	13	4	.14	9.7	9	.24
29	6.1	2	.03	---	---	---	9.4	4	.10
30	6.1	2	.03	---	---	---	7.9	3	.06
31	6.1	1	.02	---	---	---	7.9	3	.06
TOTAL	490.9	---	23.62	602.3	---	32.72	325.8	---	6.29

11418500 DEER CREEK NEAR SMARTVILLE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	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	8.5	3	.07	5.2	6	.08	1.8	4	.02
2	6.9	3	.06	17	5	.23	1.5	6	.02
3	6.4	3	.05	8.8	4	.10	.53	6	.01
4	6.1	2	.03	5.4	4	.06	.74	6	.01
5	5.9	2	.03	4.3	4	.05	.53	6	.01
6	5.6	2	.03	4.3	2	.02	.40	5	.01
7	5.4	3	.04	4.0	2	.02	.36	5	0
8	5.9	3	.05	4.1	2	.02	.36	5	0
9	8.8	4	.10	4.3	2	.02	.36	4	0
10	8.5	4	.09	7.7	2	.04	.74	4	.01
11	5.9	2	.03	7.4	2	.04	.67	4	.01
12	5.4	2	.03	6.4	3	.05	.53	3	0
13	3.8	2	.02	5.2	2	.03	.53	3	0
14	3.8	2	.02	4.5	2	.02	.53	3	0
15	2.9	2	.02	3.6	2	.02	.31	2	0
16	2.9	2	.02	3.4	2	.02	.36	3	0
17	2.4	3	.02	3.6	3	.03	.31	5	0
18	2.9	4	.03	2.7	2	.01	.31	6	.01
19	1.7	5	.02	2.1	2	.01	.31	7	.01
20	1.4	5	.02	2.2	2	.01	.53	7	.01
21	1.5	3	.01	2.1	2	.01	.53	6	.01
22	1.5	1	0	2.2	3	.02	.27	6	0
23	1.5	3	.01	2.2	3	.02	.31	6	.01
24	1.6	4	.02	2.1	3	.02	.27	6	0
25	1.6	4	.02	2.1	3	.02	.23	7	0
26	1.6	6	.03	2.2	3	.02	.20	8	0
27	1.6	6	.03	2.2	3	.02	.14	8	0
28	1.7	5	.02	2.0	3	.02	.17	6	0
29	1.7	4	.02	1.7	3	.01	.20	5	0
30	1.8	2	.01	1.5	3	.01	.23	4	0
31	---	---	---	1.4	---	---	---	---	---
TOTAL	117.2	---	.95	127.9	---	1.05	14.26	---	.15

	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	.36	4	0	.27	3		.41	2	0
2	.53	4	.01	.27	3		.41	2	0
3	.36	4	0	.27	3		.46	2	0
4	.27	4	0	.27	3		.40	2	0
5	.31	5	0	.06	3		.40	2	0
6	.36	5	0	.31	2		.36	2	0
7	.36	5	0	.31	2		.31	2	0
8	.36	6	.01	.31	2		.27	2	0
9	.36	6	.01	.31	2		.31	3	0
10	.36	5	0	.31	2		.31	3	0
11	.31	4	0	.27	2		.40	3	0
12	.36	4	0	.27	2		.46	2	0
13	.40	4	0	.17	2		.46	1	0
14	.53	4	.01	.20	3		.60	2	0
15	.46	4	0	.27	4		.82	3	.01
16	.46	4	0	.27	4		1.1	3	.01
17	.31	3	0	.31	4		1.4	2	.01
18	.40	3	0	.41	4		1.4	3	.01
19	.53	4	.01	.41	3		1.8	4	.02
20	.46	3	0	.46	2		2.2	3	.02
21	.46	4	0	.41	3		1.2	3	.01
22	.46	3	0	.41	3		.98	2	.01
23	.46	3	0	.41	3		.60	2	0
24	.46	4	0	.36	2		.82	1	0
25	.46	6	.01	.41	2		.90	1	0
26	.40	7	.01	.53	2		.90	2	0
27	.40	6	.01	.60	2		.98	2	.01
28	.36	3	0	.53	2		.67	2	0
29	.23	2	0	.41	2		1.1	2	.01
30	.12	2	0	.41	2		1.1	2	.01
31	.17	2	0	.41	2		---	---	---
TOTAL	11.83	---	.08	10.62	---	0	23.53	---	.13
YEAR	2000.54		70.02						

11420700 DRY CREEK NEAR BROWNS VALLEY, CA

LOCATION.--Lat 39°15'23", long 121°20'34", in NE¼SW¼ sec.7, T.16 N., R.6 E., Yuba County, on left bank 500 ft (150 m) upstream from diversion dam, and 3.6 mi (5.8 km) east of Browns Valley.

DRAINAGE AREA.--87.1 mi^2 (225.6 km^2).

PERIOD OF RECORD.--July 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 265 ft (80.8 m), from topographic map.

REMARKS.--Records good except those for the summer months, which are fair. Flow regulated by Lake Mildred, capacity, 1,500 acre-ft (1.85 hm^3) and Merle Collins Reservoir since 1963, capacity, 57,000 acre-ft (70.3 hm^3), 6.5 mi (10.5 km) upstream. Some diversion above station for irrigation. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (unadjusted).--13 years, 76.5 ft^3/s (2.166 m^3/s), 55,420 acre-ft/yr (68.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft^3/s (169 m^3/s) Jan. 21, 1969, gage height, 10.38 ft (3.164 m); minimum daily, 0.85 ft^3/s (0.024 m^3/s) Sept. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft^3/s (0.57 m^3/s) Jan. 2, gage height, 2.56 ft (0.780 m); minimum daily, 0.85 ft^3/s (0.024 m^3/s) Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.0	2.4	2.0	1.8	1.5	1.8	1.6	3.1	2.6	2.0	1.6	1.4
2	10	2.6	1.9	8.0	1.5	1.9	1.7	3.9	2.6	2.0	1.6	1.3
3	9.3	2.6	1.9	9.2	1.5	2.0	1.6	2.9	2.5	1.9	1.6	1.2
4	8.5	2.5	1.9	3.1	1.5	2.1	1.7	2.9	2.5	1.9	1.9	1.1
5	8.9	2.3	1.9	2.3	1.5	2.1	1.7	3.0	2.4	2.0	1.9	1.1
6	9.1	2.3	1.8	2.1	1.5	1.9	1.8	3.6	2.3	2.0	1.9	1.1
7	9.4	2.2	1.9	2.0	1.5	1.8	1.8	3.3	2.1	1.9	2.0	1.1
8	8.8	2.1	1.9	1.9	1.7	1.8	1.8	3.5	2.1	1.8	2.0	1.0
9	7.6	2.1	2.0	1.9	1.8	1.8	1.9	4.6	2.1	1.8	2.0	.90
10	7.1	2.1	1.8	1.8	1.7	1.8	1.8	4.8	2.2	1.8	2.0	.85
11	7.2	2.3	1.8	1.8	1.5	1.8	1.8	3.7	2.5	1.8	2.1	.86
12	7.1	2.2	1.8	1.8	1.5	1.8	1.8	3.7	2.8	1.8	2.2	.89
13	7.2	2.2	1.8	1.8	1.5	1.8	1.8	3.4	2.9	1.7	2.2	.90
14	6.8	3.9	1.9	1.7	1.5	1.8	1.7	3.5	2.9	1.7	2.1	.92
15	6.6	3.4	1.9	1.7	1.6	1.9	1.8	3.5	2.5	1.7	1.9	.94
16	6.4	2.5	1.9	1.7	1.5	2.2	1.8	3.3	2.7	1.7	1.9	1.0
17	6.4	2.2	1.9	1.6	1.5	1.9	1.8	3.3	2.6	1.7	2.0	1.1
18	6.6	2.3	1.9	1.7	1.6	1.8	1.8	3.2	2.4	1.6	1.8	1.1
19	5.0	2.3	1.8	1.7	1.8	1.8	1.8	3.1	2.2	1.6	1.8	1.5
20	3.7	2.2	1.7	1.7	2.1	1.8	1.8	3.1	2.1	1.6	1.6	1.5
21	3.6	2.1	1.9	1.7	6.2	1.8	2.0	3.6	2.0	1.6	1.6	1.2
22	3.7	2.1	1.9	1.7	6.0	1.8	2.2	4.0	2.0	1.7	1.5	1.1
23	3.5	2.0	1.8	1.6	5.2	1.9	2.5	4.0	2.0	1.8	1.5	1.1
24	3.4	2.0	1.8	1.6	4.2	2.6	2.7	3.8	2.2	1.8	1.5	1.1
25	3.3	2.0	1.8	1.6	2.3	2.6	3.0	3.5	2.2	1.8	1.7	1.0
26	3.1	2.0	1.7	1.6	2.0	2.0	2.8	3.6	2.1	1.7	1.7	1.0
27	2.8	1.9	1.7	1.6	1.8	1.8	2.7	3.8	2.1	1.6	1.6	1.0
28	3.0	1.9	1.7	1.6	1.8	1.7	2.7	3.6	2.2	1.6	1.5	1.1
29	3.4	1.9	1.7	1.6	---	1.7	2.8	3.3	2.0	1.6	1.5	1.1
30	3.0	2.0	2.0	1.6	---	1.8	2.8	3.1	2.0	1.6	1.6	1.1
31	2.4	---	2.0	1.6	---	1.8	---	3.0	---	1.6	1.5	---
TOTAL	185.9	68.6	57.4	69.1	61.3	59.1	61.5	108.7	69.8	54.4	55.3	32.56
MEAN	6.00	2.29	1.85	2.23	2.19	1.91	2.05	3.51	2.33	1.75	1.78	1.09
MAX	10	3.9	2.0	9.2	6.2	2.6	3.0	4.8	2.9	2.0	2.2	1.5
MIN	2.4	1.9	1.7	1.6	1.5	1.7	1.6	2.9	2.0	1.6	1.5	.85
AC-FT	369	136	114	137	122	117	122	216	138	108	110	65

CAL YR 1976 TOTAL 1774.10 MEAN 4.85 MAX 14 MIN 1.7 AC-FT 3520
WTR YR 1977 TOTAL 883.66 MEAN 2.42 MAX 10 MIN .85 AC-FT 1750

11420800 YUBA RIVER AT DAQUERRA POINT DAM, NEAR BROWNS VALLEY, CA

LOCATION.--Lat 39°12'30", long 121°26'31", in SW¼SW¼ sec.29, T.16 N., R.5 E., Yuba County, on left end of Daquerra Point Dam, 2.9 mi (4.7 km) southwest of Browns Valley.

DRAINAGE AREA.--1,330 mi^2 (3,445 km^2).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1974 to September 1977 (discontinued).

INSTRUMENTATION.--Temperature recorder from October 1974 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 24.0°C Sept. 7, 1977; minimum recorded, 6.0°C on several days in 1975 and 1976.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.0°C Sept. 7; minimum recorded, 6.5°C Jan. 9, Feb. 3.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11420800 YUBA RIVER AT DAQUERRA POINT DAM, NEAR BROWNS VALLEY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--Lat 39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, on left bank 4.2 mi (6.8 km) northeast of Marysville, and 5 mi (8 km) downstream from Dry Creek.

DRAINAGE AREA.--1,339 mi^2 (3,468 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to September 1943 (low-water periods only), October 1943 to current year. Published as "at Marysville" October 1940 to September 1957. Records published for two sites August 1954 to September 1955. Yearly discharge for the 1945 water year published in WSP 1315-A.

REVISED RECORDS.--WSP 1715: 1956(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.95 ft (0.899 m) below mean sea level. Prior to August 1954 and Oct. 1, 1956, to Sept. 30, 1957, at Simpson Lane Bridge in Marysville 4.2 mi (6.8 km) downstream at same datum. Sept. 3, 1963, to Sept. 23, 1968, auxiliary water-stage recorder at Simpson Lane Bridge in Marysville 4.2 mi (6.8 km) downstream at same datum.

REMARKS.--Records good. Flow regulated by several reservoirs above station. Many diversions above station for power. Diversions for irrigation of about 13,000 acres (53 km^2) between stations at Englebright Dam and near Marysville. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--34 years (water years 1944-77), 2,486 ft^3/s (70.40 m^3/s), 1,801,000 acre-ft/yr (2.22 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-77), 180,000 ft^3/s (5,100 m^3/s) Dec. 22, 1964, gage height, 90.15 ft (27.478 m) from floodmarks, from rating curve extended above 91,000 ft^3/s (2,580 m^3/s) on basis of Corps of Engineers flood routing study; minimum recorded, 10 ft^3/s (0.28 m^3/s) July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 673 ft^3/s (19.1 m^3/s) Oct. 5; minimum daily, 62 ft^3/s (1.76 m^3/s) July 19, Aug. 5, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	643	359	496	173	252	179	189	198	142	145	69	67
2	651	388	497	182	246	170	192	187	129	149	67	71
3	648	406	502	338	242	168	183	200	121	127	64	84
4	645	431	416	394	240	172	169	206	126	120	63	76
5	651	457	411	332	234	174	179	195	145	107	62	74
6	656	465	412	283	230	175	178	182	145	90	63	76
7	653	455	409	253	220	175	173	163	152	88	72	70
8	654	453	403	233	223	176	167	144	159	85	84	72
9	646	460	406	220	220	176	154	168	140	105	86	105
10	646	467	407	210	217	163	169	192	155	153	75	97
11	634	467	408	195	214	169	173	197	178	122	73	89
12	604	472	403	177	206	177	174	203	183	92	68	87
13	585	480	401	165	195	177	188	180	156	85	62	87
14	552	509	395	156	189	181	200	153	150	83	66	79
15	537	497	395	154	183	193	196	150	172	79	66	71
16	522	495	395	150	179	195	186	147	164	70	67	73
17	524	493	393	146	177	198	170	145	156	75	65	83
18	514	496	387	166	173	197	150	150	167	70	69	87
19	478	494	383	207	171	197	160	157	166	62	67	100
20	466	501	382	228	168	198	166	158	167	64	70	104
21	447	501	374	239	174	193	193	159	161	65	77	105
22	431	499	375	250	252	190	173	164	161	66	87	111
23	427	501	367	254	263	193	156	155	164	65	79	110
24	417	503	325	252	238	206	170	144	164	72	78	100
25	415	509	311	252	208	228	171	151	160	71	72	95
26	418	505	310	250	206	219	165	150	151	77	70	91
27	406	506	305	249	202	209	160	156	153	72	75	87
28	390	506	293	249	196	197	161	155	151	71	79	79
29	372	506	188	253	---	187	162	155	156	72	76	67
30	356	501	170	255	---	194	163	154	151	69	77	78
31	358	---	170	255	---	189	---	134	---	69	74	---
TOTAL	16346	14282	11489	7120	5918	5815	5190	5152	4645	2740	2222	2575
MEAN	527	476	371	230	211	188	173	166	155	88.4	71.7	85.8
MAX	656	509	502	394	263	228	200	206	183	153	87	111
MIN	356	359	170	146	168	163	150	134	121	62	62	67
AC-FT	32420	28330	22790	14120	11740	11530	10290	10220	9210	5430	4410	5110

CAL YR 1976 TOTAL 144163 MEAN 394 MAX 2110 MIN 107 AC-FT 285900
WTR YR 1977 TOTAL 83494 MEAN 229 MAX 656 MIN 62 AC-FT 165600

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-52, 1954-66, 1973 to current year.
CHEMICAL ANALYSES: Water years 1951-52, 1954-66, 1973 to current year. Published as Yuba River at Marysville (sta 11421500) during water years 1966 and 1973-76.
WATER TEMPERATURES: Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1972 to current year.

INSTRUMENTATION.--Temperature recorder since November 1972.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.5°C July 16, 30, 1977; minimum recorded, 5.5°C Jan. 4-8, 1973, Feb. 5-7, 1976.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 28.5°C July 16, 30; minimum recorded, 6.5°C Jan. 4-7.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
DEC										
16...	1400	395	100	7.5	9.5	1	11.8	49	6	9.9
MAR										
01...	1415	181	115	7.4	12.0	--	12.5	53	9	13
24...	1230	203	114	7.4	12.0	--	12.2	50	4	12
APR										
21...	0945	192	114	7.3	14.0	--	10.4	50	3	12
MAY										
25...	0915	154	114	7.3	16.0	--	9.4	53	5	13
JUN										
22...	0915	162	117	8.6	21.0	--	7.3	51	4	13
JUL										
27...	0830	72	126	7.2	21.5	--	7.5	53	1	13
AUG										
25...	1100	72	125	7.3	21.0	--	9.2	53	4	14
SEP										
28...	0845	83	127	7.1	20.0	--	8.3	56	3	14

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
DEC										
16...	--	3.2	--	--	--	53	0	43	--	2.0
MAR										
01...	5.2	4.0	14	.2	.5	54	0	44	7.9	2.0
24...	4.9	3.3	12	.2	.5	56	0	46	6.7	.0
APR										
21...	4.9	3.2	12	.2	.6	57	0	47	6.9	1.7
MAY										
25...	5.0	5.1	17	.3	.5	58	0	48	7.1	2.6
JUN										
22...	4.5	2.9	11	.2	.8	57	0	47	7.7	.3
JUL										
27...	5.1	5.0	17	.3	.8	63	0	52	8.9	.0
AUG										
25...	4.4	4.0	14	.2	.8	60	0	49	8.9	2.1
SEP										
28...	5.1	3.4	12	.2	.7	64	0	52	8.1	1.9

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
DEC										
16...	52	.07	55.5	--	--	--	--	--	--	--
MAR										
01...	72	.10	35.2	.11	.00	.00	.00	.03	.03	0
24...	69	.09	37.8	.03	.00	.01	.00	.02	.01	0
APR										
21...	74	.10	38.4	.02	.00	.00	.00	.02	.00	0
MAY										
25...	76	.10	31.6	.01	.00	.00	.00	.02	.01	0
JUN										
22...	72	.10	31.5	.01	.00	.00	.10	.01	.00	0
JUL										
27...	83	.11	16.1	.02	.00	.06	.00	.01	.00	0
AUG										
25...	82	.11	15.9	.02	.00	.13	.00	.00	.00	0
SEP										
28...	78	.11	17.5	.02	.01	.04	.00	.01	.01	0

DATE	TIME	CHEM-ICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIO-CHEM-ICAL OXYGEN DEMAND 5 DAY (MG/L)	SUS-PENDED SOLIDS (MG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)
APR								
21...	0945	0	.2	1	0	0	0	0
SEP								
28...	0845	1	.3	1	0	0	0	0

DATE	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
APR								
21...	0	10	0	10	.0	0	.00	.6
SEP								
28...	0	30	0	40	.0	0	.00	.5

11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	16.5	15.0	15.5	13.0	---	---	9.5	8.0	9.5	7.5	12.5	9.0
2	15.5	14.5	15.0	13.0	---	---	9.5	7.5	10.0	8.0	12.0	9.0
3	17.5	14.0	15.5	12.5	---	---	8.5	7.5	10.0	7.5	13.0	10.0
4	17.5	13.5	15.5	12.5	---	---	9.0	6.5	10.5	7.5	13.0	8.5
5	18.0	14.0	15.0	12.5	---	---	9.0	6.5	10.0	8.0	13.5	9.5
6	18.0	14.0	15.0	12.5	---	---	8.5	6.5	11.5	8.5	13.5	10.0
7	18.5	14.5	15.5	12.5	---	---	8.5	6.5	---	---	13.0	10.0
8	18.5	14.5	15.0	12.5	---	---	9.5	7.5	---	---	14.5	10.5
9	18.5	14.5	15.0	12.5	---	---	8.5	7.5	---	---	13.5	10.5
10	18.0	14.5	15.0	13.0	11.0	8.5	9.5	7.5	---	---	13.0	9.0
11	18.0	14.5	14.5	13.0	11.0	9.0	---	---	11.5	8.5	13.0	9.5
12	18.0	14.0	14.0	13.0	10.5	8.5	---	---	12.5	9.0	13.5	10.5
13	17.5	14.0	---	---	10.5	8.5	---	---	12.0	9.0	13.0	9.5
14	17.5	14.0	---	---	10.5	8.0	9.0	7.5	13.0	9.0	13.0	9.0
15	17.5	14.0	---	---	10.5	8.0	8.0	7.5	13.0	9.5	12.0	10.5
16	17.5	14.0	---	---	10.5	8.0	8.0	8.0	13.0	10.0	10.5	10.0
17	17.0	14.0	---	---	10.0	8.0	8.5	8.0	13.5	10.0	13.0	9.5
18	17.0	14.0	---	---	10.0	8.0	8.0	7.5	13.5	10.0	14.5	9.5
19	17.0	14.0	---	---	10.0	8.0	8.5	7.5	13.5	10.0	15.0	11.0
20	17.0	13.5	---	---	9.5	7.5	9.0	8.0	11.0	10.5	15.5	11.0
21	17.0	14.0	---	---	9.5	8.0	8.5	7.5	11.5	10.5	16.0	11.0
22	16.0	14.0	---	---	9.5	7.5	10.5	8.5	12.0	8.5	16.5	11.5
23	17.0	13.5	---	---	9.5	7.5	11.0	8.5	12.5	10.0	13.0	11.0
24	16.5	13.5	---	---	9.5	7.5	10.5	8.0	12.0	9.0	12.5	10.5
25	16.5	14.0	---	---	8.5	7.0	10.5	8.0	12.5	9.0	15.0	10.0
26	15.5	13.0	---	---	9.5	7.0	10.5	8.5	13.0	9.0	15.5	10.5
27	16.0	12.5	---	---	9.0	7.5	9.0	8.0	13.5	9.5	16.5	11.5
28	15.5	12.5	---	---	9.5	9.0	8.5	7.5	13.0	10.0	14.0	9.5
29	15.0	13.0	---	---	10.0	8.0	8.5	8.0	---	---	15.0	9.5
30	15.5	13.0	---	---	9.0	8.0	9.5	8.0	---	---	15.5	10.5
31	15.5	13.0	---	---	9.5	9.0	10.0	8.0	---	---	15.5	11.0
MONTH	18.5	12.5	---	---	---	---	11.0	6.5	13.5	7.5	16.5	8.5

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

11421700 FEATHER RIVER BELOW SHANGHAI BEND, NEAR OLIVEHURST, CA

LOCATION.--Lat 39°04'44", long 121°36'08", in New Helvetia Grant, Sutter County, on right bank 1.5 mi (2.4 km) downstream from Shanghai Bend, 3.0 mi (4.8 km) southeast of Olivehurst, and 3.4 mi (5.5 km) south of Yuba City.

DRAINAGE AREA.--5,334 mi^2 (13,815 km^2).

PERIOD OF RECORD.--June 1944 to September 1969 in reports of California Department of Water Resources, October 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3.01 ft (0.917 m) below mean sea level (levels by California Department of Water Resources).

REMARKS.--Flow regulated by many reservoirs and powerplants. See schematic diagrams of South Fork Feather River, North Fork Feather River, and Yuba River basins and Feather River at Lake Oroville.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--8 years, 7,651 ft^3/s (216.7 m^3/s), 5,543,000 acre-ft/yr (6.83 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 133,000 ft^3/s (3,770 m^3/s) Jan. 22, 1970, gage height, 62.55 ft (19.065 m); minimum daily, 581 ft^3/s (16.5 m^3/s) June 1, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,530 ft^3/s (100 m^3/s) Oct. 1, gage height, 33.55 ft (10.226 m); minimum daily, 581 ft^3/s (16.5 m^3/s) June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3210	2520	2030	1580	1440	1360	1160	3350	581	2020	1890	1910
2	3130	2410	2040	1610	1410	1350	999	3000	1170	2020	1900	1930
3	3080	2270	2050	1800	1370	1370	972	2130	1420	2060	1900	1950
4	3050	2050	1960	2060	1350	1340	956	1640	1500	2100	1900	1960
5	3030	2080	1890	1830	1340	1360	908	1220	1540	2010	1900	1940
6	3010	2100	1910	1700	1320	1370	844	988	1500	1580	1600	1950
7	3010	2060	1920	1660	1290	1380	1150	866	1200	1510	1430	1970
8	2910	2060	1920	1610	1320	1370	1350	794	1100	1510	1450	1990
9	2720	2090	1900	1570	1320	1250	1640	845	1060	1520	1320	2040
10	2520	2110	1880	1550	1290	1190	1750	891	1060	1590	1200	2030
11	2400	2100	1900	1520	1270	1160	1820	976	1130	1620	1100	1890
12	2340	2110	1920	1520	1280	1130	1770	981	1190	1350	1140	1430
13	2320	2130	1950	1500	1250	1100	1760	877	1180	1310	1250	986
14	2280	2230	1960	1490	1230	1080	1900	818	1110	1310	1400	780
15	2250	2190	1970	1480	1220	1050	2680	835	1090	1650	1400	765
16	2130	2170	1980	1460	1230	1020	2890	809	1080	1720	1400	766
17	2080	2180	1990	1450	1220	1010	2850	718	1140	1720	1400	756
18	2080	2180	2000	1530	1210	1000	2840	663	1180	1700	1470	733
19	2070	2200	1980	1540	1220	978	2860	674	1170	1710	1340	791
20	2450	2180	1960	1540	1240	952	2650	711	1190	2070	1060	791
21	2660	2150	1910	1530	1380	952	2580	695	1120	2520	982	780
22	2800	2140	1940	1510	1530	935	2630	674	1120	2560	1340	732
23	2850	2140	1940	1520	1540	926	2890	685	1100	2650	1430	728
24	2840	2140	1930	1690	1490	924	3120	676	1380	2660	1480	711
25	2830	2150	1900	1680	1430	984	3220	672	1600	2640	1500	692
26	2810	2070	1870	1670	1420	955	3200	660	1610	2260	1870	689
27	2820	1980	1820	1630	1410	920	3190	700	1650	1930	1960	683
28	2800	1980	1760	1570	1380	874	3130	716	1620	1770	2010	693
29	2770	1990	1670	1550	---	843	3150	700	1600	1790	2010	683
30	2590	2010	1610	1480	---	877	3220	668	1800	1860	1980	682
31	2540	---	1580	1450	---	1020	---	628	---	1880	1960	---
TOTAL	82380	64170	59040	49280	37400	34030	66079	31260	38191	58600	47972	36431
MEAN	2657	2139	1905	1590	1336	1098	2203	1008	1273	1890	1547	1214
MAX	3210	2520	2050	2060	1540	1380	3220	3350	1800	2660	2010	2040
MIN	2070	1980	1580	1450	1210	843	844	628	581	1310	982	682
AC-FT	163400	127300	117100	97750	74180	67500	131100	62000	75750	116200	95150	72260

CAL YR 1976 TOTAL 904030 MEAN 2470 MAX 5020 MIN 1140 AC-FT 1793000
WTR YR 1977 TOTAL 604833 MEAN 1657 MAX 3350 MIN 581 AC-FT 1200000

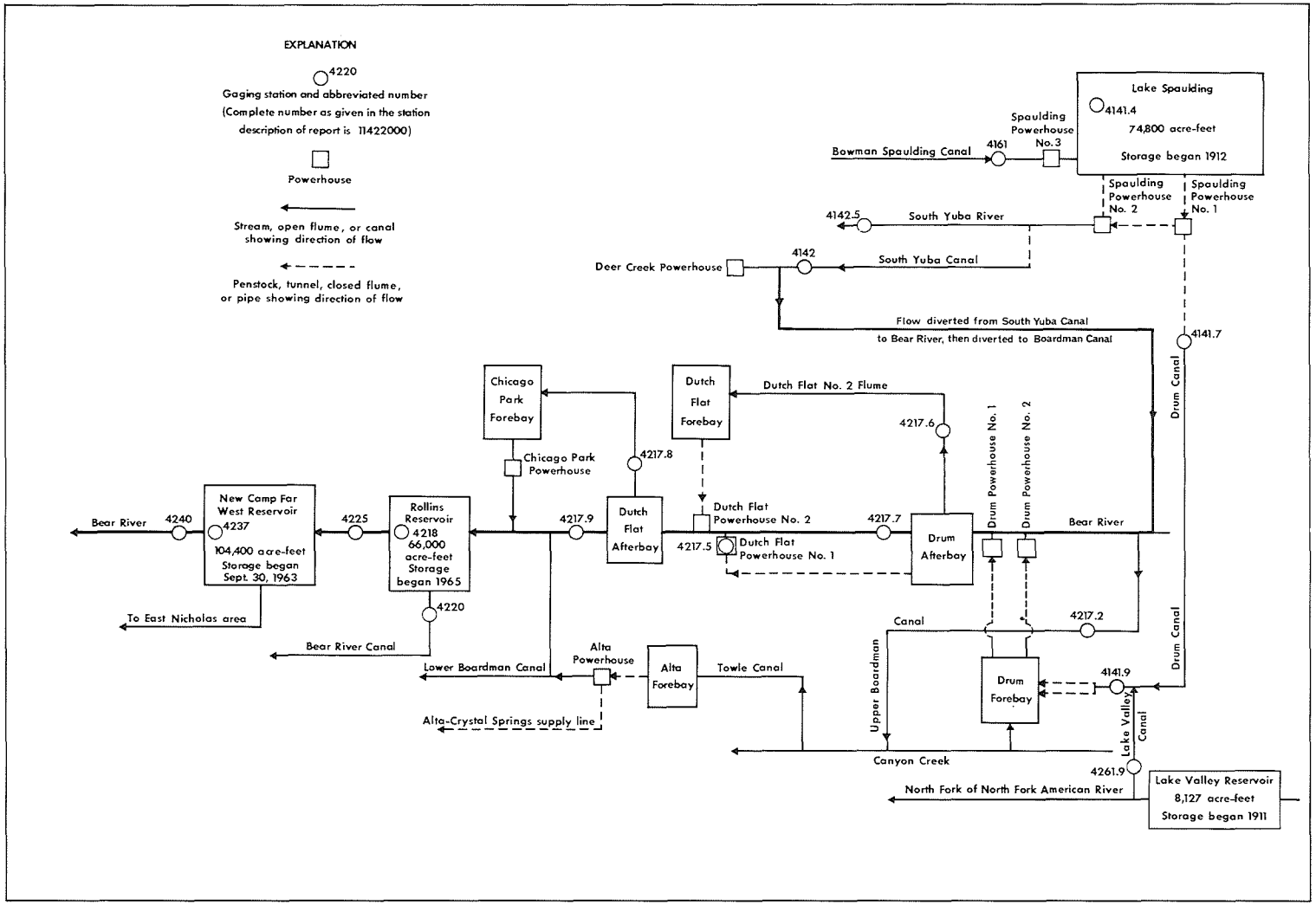

FIGURE 9.--Schematic diagram showing diversion and storage in Bear River basin.

11421720 BOARDMAN CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'49", long 120°42'08", in SE¼NE¼ sec.35, T.17 N., R.11 E., Placer County, on right bank 0.4 mi (0.6 km) downstream from Boardman diversion dam, and 1.8 mi (2.9 km) west of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 5,020 ft (1,530 m), from topographic map. Prior to June 14, 1967, water-stage recorder 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Water is diverted from Bear River to be used for power development and irrigation in the Bear River basin. See schematic diagram of Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 22.4 ft^3/s (0.634 m^3/s), 16,230 acre-ft/yr (20.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft^3/s (1.22 m^3/s) Dec. 21, 1964; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	34	13	20	15	14	12	17	16	16	.06	
2	24	35	18	21	15	14	12	15	17	16	.06	
3	22	36	21	21	14	14	12	16	17	16	.04	
4	7.7	36	20	20	14	14	11	16	17	16	.03	
5	.49	36	20	20	14	14	12	16	17	16	.03	
6	.45	36	20	20	14	14	13	15	17	16	.03	
7	.42	37	20	20	14	14	13	14	17	16	.01	
8	.42	38	20	19	14	14	12	14	17	16	.01	
9	.42	38	20	19	15	15	11	10	17	16	.01	
10	.42	38	20	19	15	15	11	7.7	17	16	.01	
11	.38	38	20	19	15	14	11	7.7	17	7.2	.01	
12	.36	34	20	19	14	14	13	7.7	17	.36	.01	
13	.36	27	20	19	14	13	13	9.8	17	.36	.01	
14	.36	21	20	19	15	13	13	13	17	.32	.01	
15	6.4	20	20	20	16	14	12	13	17	.30	.01	
16	18	20	20	20	17	14	12	13	17	.30	.01	
17	21	20	20	20	17	14	15	13	17	.30	0	
18	23	19	20	20	17	14	13	13	16	.26	0	
19	24	19	20	20	17	14	10	12	16	.24	0	
20	24	19	20	20	17	15	13	10	17	.24	0	
21	24	19	20	20	16	14	16	10	17	.21	0	
22	24	18	20	20	14	14	17	10	17	.19	0	
23	25	17	20	20	13	14	16	12	17	.18	0	
24	25	17	20	19	12	14	15	13	17	.14	0	
25	25	20	21	18	13	14	16	12	16	.14	0	
26	26	19	21	17	14	14	16	12	16	.13	0	
27	29	19	21	17	14	15	16	13	17	.10	0	
28	30	18	20	17	14	13	16	14	16	.10	0	
29	30	17	20	16	---	11	16	13	16	.10	0	
30	32	17	20	16	---	11	16	13	17	.07	0	
31	32	---	20	16	---	12	---	14	---	.06	0	---
TOTAL	499.18	782	615	591	413	427	404	388.9	503	171.30	.35	0
MEAN	16.1	26.1	19.8	19.1	14.8	13.8	13.5	12.5	16.8	5.53	.011	0
MAX	32	38	21	21	17	15	17	17	17	16	.06	0
MIN	.36	17	13	16	12	11	10	7.7	16	.06	0	0
AC-FT	990	1550	1220	1170	819	847	801	771	998	340	.7	0

GAL YR 1976 TOTAL 7910.88 MEAN 21.6 MAX 38 MIN .36 AC-FT 15690
WTR YR 1977 TOTAL 4794.73 MEAN 13.1 MAX 38 MIN 0 AC-FT 9510

11421750 DUTCH FLAT NO. 1 POWERPLANT NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°13'02", long 120°50'04", in SW¼SE¼ sec.27, T.16 N., R.10 E., Placer County, at powerplant 0.8 mi (1.3 km) north of Dutch Flat.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Recorded powerplant output.

REMARKS.--Water is diverted from Drum Afterbay through a tunnel to Dutch Flat No. 1 powerplant and returned to Dutch Flat Afterbay. See schematic diagram showing diversion and storage in Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co. in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 233 ft^3/s (6.599 m^3/s), 168,800 acre-ft/yr (208 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 548 ft^3/s (15.5 m^3/s) for several days in January, February, April 1965; no flow at times in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	320	0	0	0	0	0	36	0	0	173	228	0
2	349	9.9	0	87	0	0	0	150	0	0	158	71
3	428	87	0	9.9	71	0	0	228	0	0	228	0
4	286	0	0	0	0	0	0	220	0	0	286	0
5	181	0	0	0	0	0	0	220	0	119	228	0
6	461	55	87	36	0	0	0	189	228	212	63	103
7	253	63	126	0	0	0	0	9.9	189	261	0	87
8	312	158	103	9.9	0	0	0	0	126	270	189	55
9	286	253	87	95	0	0	0	0	0	0	150	0
10	189	181	0	87	63	71	0	9.9	0	0	87	0
11	245	134	0	0	0	189	0	36	0	253	63	0
12	134	158	0	63	0	0	0	0	0	228	0	173
13	189	0	0	0	0	0	0	181	142	166	0	245
14	71	95	0	9.9	36	181	0	71	181	228	0	181
15	71	63	0	55	0	142	0	9.9	197	228	0	119
16	71	71	0	63	0	173	0	0	197	158	0	181
17	55	63	0	9.9	0	0	0	0	173	0	0	0
18	87	63	0	9.9	9.9	0	0	0	0	220	0	0
19	87	9.9	0	36	0	63	0	0	0	278	0	166
20	63	0	0	9.9	0	0	0	0	205	166	111	134
21	63	0	0	9.9	63	9.9	189	0	166	253	0	189
22	36	71	0	9.9	55	0	270	0	228	261	0	150
23	9.9	0	0	0	0	36	0	0	212	55	0	212
24	36	0	0	0	0	36	0	0	278	0	0	0
25	36	0	0	36	9.9	0	205	0	0	220	0	0
26	0	0	0	0	0	55	142	79	0	261	0	111
27	0	79	0	0	0	0	134	0	126	189	0	150
28	0	0	0	0	9.9	36	158	36	173	173	0	181
29	71	166	0	0	---	0	134	9.9	212	245	197	126
30	0	278	0	0	---	0	0	0	173	166	119	166
31	0	---	0	0	---	71	---	181	---	0	0	---
TOTAL	4389.9	2057.8	403	637.2	317.7	1062.9	1268	1630.6	3206	4783	2107	2800
MEAN	142	68.6	13.0	20.6	11.3	34.3	42.3	52.6	107	154	68.0	93.3
MAX	461	278	126	95	71	189	270	228	278	278	286	245
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	8710	4080	799	1260	630	2110	2520	3230	6360	9490	4180	5550

CAL YR 1976 TOTAL 58984.90 MEAN 161 MAX 543 MIN 0 AC-FT 117000
WTR YR 1977 TOTAL 24663.10 MEAN 67.6 MAX 461 MIN 0 AC-FT 48920

11421760 DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'28", in SE¼NE¼ sec.18, T.16 N., R.11 E., Placer County, on left bank 600 ft (183 m) downstream from Drum Afterbay, and 3.6 mi (5.8 km) west of Blue Canyon.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft (1,020.498 m) above mean sea level (levels by Nevada Irrigation District).

REMARKS.--Records fair except flows below 40 ft^3/s (1.13 m^3/s), which are estimated. Water is diverted from Drum Afterbay through the flume to Dutch Flat No. 2 powerplant and then to Dutch Flat Afterbay. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE.--11 years, 344 ft^3/s (9.742 m^3/s), 249,200 acre-ft/yr (307 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 610 ft^3/s (17.3 m^3/s) Mar. 1, 1968; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	10	.70	10	.83	19	1.1	1.1	14	67	91	1.1
2	14	10	.70	10	.83	19	1.1	1.1	14	7.0	16	1.1
3	14	10	.70	36	.83	40	1.1	77	14	1.0	16	1.1
4	123	10	.70	10	.83	19	7.6	79	14	1.0	28	1.1
5	53	10	.70	10	.83	19	14	36	14	50	11	7.6
6	60	10	52	10	.83	31	14	78	120	9.0	1.0	117
7	259	10	10	10	.83	324	7.6	4.9	116	1.0	1.0	14
8	215	141	10	10	.83	18	1.1	1.1	35	1.0	1.0	7.6
9	397	23	58	10	.83	18	1.1	1.1	8.9	1.0	1.0	1.1
10	523	10	10	10	.83	224	1.1	1.1	1.0	1.0	8.5	1.1
11	443	117	10	10	.83	73	1.1	1.1	1.0	10	149	1.1
12	13	93	10	10	.83	18	1.1	1.1	1.0	14	15	1.1
13	13	10	10	41	.83	17	1.1	1.1	99	10	8.0	1.1
14	13	10	10	12	.83	81	7.6	1.1	70	1.0	1.0	1.1
15	12	10	10	.83	.83	161	14	1.1	114	1.0	1.0	1.1
16	12	10	10	.83	.83	17	14	1.1	14	1.0	1.0	1.1
17	12	10	10	.83	.83	17	14	1.1	74	1.0	8.0	7.6
18	12	10	10	10	.83	17	14	1.1	7.5	1.0	15	14
19	12	10	10	17	.83	16	14	1.1	1.0	6.0	8.0	14
20	12	10	10	12	.83	16	14	7.0	91	15	8.0	14
21	12	10	10	.83	.83	16	7.6	14	89	15	15	7.6
22	11	59	10	.83	.83	16	1.1	14	62	7.0	15	1.1
23	11	10	10	.83	.83	24	1.1	14	65	1.0	15	1.1
24	11	10	10	.83	.83	25	1.1	14	58	1.0	8.0	1.1
25	11	10	10	5.6	.83	15	1.1	14	7.0	1.0	1.0	1.1
26	11	10	10	17	.83	15	1.1	14	1.0	37	1.0	1.1
27	11	10	10	17	.83	15	7.6	14	71	7.0	1.0	1.1
28	11	10	10	12	33	15	14	9.7	113	1.0	1.0	1.1
29	10	64	10	.83	---	15	14	1.1	116	156	142	1.1
30	10	75	10	.83	---	15	7.6	1.1	45	31	14	1.1
31	10	---	10	.83	---	14	---	59	---	1.0	7.5	---
TOTAL	2410	802	353.50	297.90	55.41	1349	201.0	466.2	1450.4	457.0	609.0	226.5
MEAN	77.7	26.7	11.4	9.61	1.98	43.5	6.70	15.0	48.3	14.7	19.6	7.55
MAX	523	141	58	41	33	324	14	79	120	156	149	117
MIN	10	10	.70	.83	.83	14	1.1	1.1	1.0	1.0	1.0	1.1
AC-FT	4780	1590	701	591	110	2680	399	925	2880	906	1210	449

CAL YR 1976 TOTAL 17107.99 MEAN 46.7 MAX 523 MIN .70 AC-FT 33930
WTR YR 1977 TOTAL 8677.91 MEAN 23.8 MAX 523 MIN .70 AC-FT 17210

11421770 BEAR RIVER BELOW DRUM AFTERBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'26", in SW¼NW¼ sec.17, T.16 N., R.11 E., Placer County, on left bank 60 ft (18 m) below Drum Afterbay Dam, and 3.5 mi (5.6 km) west of Blue Canyon.

DRAINAGE AREA.--12.3 mi^2 (31.9 km^2).

PERIOD OF RECORD.--April 1966 to current year, low flows only April to September 1966.

GAGE.--Water-stage recorder and 4-ft (1.2-m) steel Cipolletti weir set in a concrete broad-crested weir. Altitude of gage is 3,300 ft (1,006 m), from topographic map. April 1966 to May 25, 1967, water-stage recorder at present site at different datum, May 26, 1967, to Feb. 11, 1968, water-stage recorder at site 1,000 ft (305 m) downstream at different datum.

REMARKS.--Water for Dutch Flat No. 1 powerplant (station 11421750) and Dutch Flat No. 2 flume (station 11421760) is diverted from Drum Afterbay just upstream from station. See schematic diagram of Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 12.7 ft^3/s (0.360 m^3/s), 9,200 acre-ft/yr (11.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,880 ft^3/s (81.6 m^3/s) Jan. 21, 1970, gage height, 3.68 ft (1.122 m), from rating curve extended above 900 ft^3/s (25.5 m^3/s); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8.4 ft^3/s (0.24 m^3/s) Oct. 20, gage height, 0.73 ft (0.222 m); minimum daily, 1.9 ft^3/s (0.054 m^3/s) Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	5.0	5.1	5.1	5.2	2.5	2.6	2.5	2.3	2.5	2.5	2.7
2	5.8	5.1	5.1	5.2	5.1	2.5	2.6	2.5	2.3	2.5	2.5	2.7
3	5.8	5.1	5.1	5.2	5.1	2.5	2.6	2.4	2.3	2.5	2.5	2.7
4	5.7	5.1	5.1	5.2	5.2	2.5	2.6	2.3	2.3	2.5	2.5	2.7
5	5.8	5.1	5.1	5.1	5.2	2.5	2.5	2.3	2.3	2.5	2.5	2.8
6	5.8	5.0	5.1	5.2	5.1	2.5	2.4	2.2	2.3	2.5	2.5	2.9
7	5.4	5.1	5.1	5.2	5.1	2.5	2.3	2.2	2.3	2.5	2.5	2.9
8	5.9	5.1	5.1	5.2	5.2	2.5	2.3	2.5	2.3	2.6	2.5	2.9
9	5.8	5.1	5.2	5.2	5.2	2.5	2.3	2.6	2.3	2.6	2.5	2.9
10	5.7	5.1	5.1	5.1	5.1	2.5	2.3	2.6	2.3	2.6	2.5	2.9
11	5.7	5.1	5.1	5.2	5.1	2.4	2.5	2.6	2.3	2.5	2.5	2.9
12	5.5	5.1	5.1	5.2	5.2	2.3	2.6	2.6	2.3	2.5	2.5	2.8
13	5.7	4.9	5.1	5.1	5.2	2.3	2.6	2.6	2.5	2.5	2.5	2.8
14	6.1	5.1	5.1	5.2	5.1	2.3	2.6	2.4	2.5	2.5	2.5	2.7
15	6.1	5.1	5.1	5.2	5.1	2.3	2.6	2.5	2.5	2.5	2.5	2.7
16	6.1	5.1	5.1	5.2	5.1	2.3	2.5	2.8	2.5	2.5	2.5	2.7
17	5.7	5.1	5.1	5.2	3.9	2.3	2.3	2.7	2.6	2.6	2.5	2.7
18	5.3	5.0	5.1	5.2	2.5	2.3	2.4	2.6	2.6	2.7	2.5	2.7
19	5.2	5.1	5.1	5.1	2.5	2.3	2.6	2.6	2.6	2.7	2.5	2.7
20	5.3	5.1	5.1	5.1	2.5	2.3	2.5	2.6	2.6	2.6	2.5	2.8
21	5.2	5.1	5.1	5.2	2.5	2.4	2.6	2.5	2.5	2.6	2.5	2.8
22	5.0	5.0	5.2	5.2	2.5	2.6	2.6	2.5	2.5	2.6	2.5	2.8
23	5.1	5.0	5.1	5.2	2.4	2.6	2.6	2.5	2.5	2.6	2.5	2.9
24	5.1	5.1	5.1	5.2	2.3	2.6	2.6	2.5	2.5	2.6	2.5	2.8
25	5.1	5.1	5.2	5.1	2.3	2.6	2.6	2.5	2.5	2.6	2.5	2.8
26	5.1	5.1	5.1	5.1	2.3	2.6	2.6	2.5	2.5	2.6	2.3	2.7
27	5.1	5.1	5.1	5.1	2.3	2.6	2.5	2.5	2.5	2.6	2.3	2.7
28	5.0	5.0	5.1	5.2	2.5	2.6	2.4	2.5	2.5	2.6	2.3	2.7
29	5.0	5.2	5.1	5.1	---	2.6	2.3	2.5	2.5	2.6	2.1	2.7
30	5.1	5.1	5.1	5.2	---	2.6	2.3	2.5	2.5	2.6	1.9	2.7
31	5.1	---	5.2	5.1	---	2.6	---	2.4	---	2.5	2.4	---
TOTAL	169.8	152.3	158.5	160.1	112.8	76.5	74.8	77.5	73.0	79.4	75.8	83.2
MEAN	5.48	5.08	5.11	5.16	4.03	2.47	2.49	2.50	2.43	2.56	2.45	2.77
MAX	6.1	5.2	5.2	5.2	5.2	2.6	2.6	2.8	2.6	2.7	2.5	2.9
MIN	5.0	4.9	5.1	5.1	2.3	2.3	2.3	2.2	2.3	2.5	1.9	2.7
AC-FT	337	302	314	318	224	152	148	154	145	157	150	165

CAL YR 1976 TOTAL 1902.7 MEAN 5.20 MAX 6.1 MIN 4.6 AC-FT 3770
WTR YR 1977 TOTAL 1293.7 MEAN 3.54 MAX 6.1 MIN 1.9 AC-FT 2570

11421780 CHICAGO PARK FLUME NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NW¼NE¼ sec.34, T.16 N., R.10 E., Nevada County, on left bank 670 ft (204 m) downstream from Dutch Flat Afterbay, and 0.6 mi (1.0 km) north of Dutch Flat.

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,600 ft (792 m), from topographic map. Prior to Sept. 8, 1968, at site 420 ft (128 m) upstream at same datum.

REMARKS.--Records fair except flows below 70 ft^3/s (1.98 m^3/s), which are estimated. Flow regulated by Dutch Flat Afterbay. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE.--11 years, 588 ft^3/s (16.65 m^3/s), 426,000 acre-ft/yr (525 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,080 ft^3/s (30.6 m^3/s) Nov. 12, 13, 1973; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	454	15	10	15	20	10	38	20	15	328	305	25
2	462	15	10	70	20	10	163	263	15	25	217	25
3	438	15	10	172	20	10	1.0	313	15	25	416	25
4	439	70	10	20	20	59	1.0	306	15	25	216	25
5	437	128	10	20	20	34	1.0	374	15	113	191	25
6	397	15	245	65	20	23	1.0	276	395	258	79	238
7	450	15	10	55	20	287	1.0	15	341	332	25	25
8	606	225	176	107	20	15	1.0	15	274	314	249	25
9	717	453	121	76	20	10	1.0	15	15	25	172	25
10	745	265	10	99	137	229	1.0	15	15	25	139	25
11	684	214	10	37	21	243	1.0	15	15	325	195	25
12	367	298	10	82	20	10	1.0	15	15	314	25	283
13	164	15	10	76	20	10	1.0	238	329	215	25	330
14	15	15	10	20	311	310	1.0	15	247	266	25	242
15	15	93	102	20	56	356	1.0	15	328	284	25	131
16	45	106	15	85	20	141	1.0	15	179	149	25	203
17	15	85	15	111	20	36	1.0	15	353	25	39	25
18	97	61	15	20	20	10	1.0	57	15	292	25	25
19	121	15	15	20	20	79	1.0	36	15	303	25	240
20	110	15	15	20	20	10	1.0	15	316	256	200	121
21	100	15	15	76	20	10	218	15	249	271	25	227
22	165	182	15	20	20	10	353	15	306	368	25	184
23	15	15	92	20	20	10	20	15	298	25	25	241
24	15	15	75	102	20	10	20	15	459	25	25	25
25	15	15	15	112	95	10	234	15	30	337	25	25
26	15	15	15	20	158	10	184	91	15	311	25	148
27	49	100	15	20	20	10	134	15	244	267	25	156
28	15	15	15	20	139	37	185	15	165	182	25	217
29	62	416	15	20	---	38	143	15	381	437	432	217
30	82	272	15	20	---	29	20	15	228	193	251	127
31	15	---	15	20	---	35	---	282	---	31	25	---
TOTAL	7326	3193	1131	1640	1337	2101	1730.0	2556	5302	6346	3526	3655
MEAN	236	106	36.5	52.9	47.8	67.8	57.7	82.5	177	205	114	122
MAX	745	453	245	172	311	356	353	374	459	437	432	330
MIN	15	15	10	15	20	10	1.0	15	15	25	25	25
AC-FT	14530	6330	2240	3250	2650	4170	3430	5070	10520	12590	6990	7250

CAL YR 1976 TOTAL 88797.00 MEAN 243 MAX 745 MIN 0 AC-FT 176100
WTR YR 1977 TOTAL 39843.00 MEAN 109 MAX 745 MIN 1.0 AC-FT 79030

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE¼NW¼ sec.34, T.16 N., R.10 E., Placer County, at the left bank downstream end of spillway on Dutch Flat Afterbay Dam, 0.6 mi (1.0 km) north of Dutch Flat.

DRAINAGE AREA.--21.5 mi^2 (55.7 km^2).

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 2,600 ft (790 m), from topographic map.

REMARKS.--Records excellent. Water is imported from South Yuba River basin via Drum Canal above forebay (station 11414190). Chicago Park flume (station 11421780) diverts above station to Chicago Park powerplant. Records include spill over Dutch Flat Afterbay Dam. This station measures flow from Dutch Flat Afterbay in connection with a Federal Power Commission Project. See schematic diagram of Bear River basin.

COOPERATION.--Records of elevations for Dutch Flat Afterbay furnished by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--11 years, 27.3 ft^3/s (0.773 m^3/s), 19,780 acre-ft/yr (24.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,500 ft^3/s (42.5 m^3/s) Jan. 20, 1969: minimum daily, 0.08 ft^3/s (0.002 m^3/s) Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.7 ft^3/s (0.27 m^3/s) Oct. 18-22, 26-29, gage height, 0.83 ft (0.253 m); minimum daily, 5.0 ft^3/s (0.14 m^3/s) on many days in March, and June to September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.4	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
2	9.4	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
3	9.4	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
4	9.4	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
5	9.4	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
6	9.2	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
7	9.2	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
8	9.2	5.3	5.3	5.3	5.3	5.0	5.2	5.3	5.3	5.0	5.0	5.0
9	9.2	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
10	9.2	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
11	9.2	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
12	9.0	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
13	9.0	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0
14	9.2	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.1	5.0	5.0	5.0
15	9.2	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.0	5.0
16	9.4	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.0	5.0
17	9.4	5.3	5.3	5.3	5.3	5.2	5.2	5.3	5.0	5.0	5.0	5.0
18	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.0	5.0	5.0	5.0
19	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.0	5.0	5.0	5.0
20	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.0	5.0	5.0	5.0
21	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.0	5.0	5.0	5.0
22	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.0	5.0	5.0	5.0
23	9.4	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
24	9.4	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
25	9.4	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
26	9.7	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
27	9.7	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
28	9.7	5.3	5.3	5.3	5.2	5.2	5.3	5.3	5.0	5.0	5.0	5.0
29	9.7	5.3	5.3	5.3	---	5.2	5.3	5.3	5.0	5.0	5.0	5.0
30	7.7	5.3	5.3	5.3	---	5.2	5.3	5.3	5.0	5.0	5.0	5.0
31	5.3	---	5.3	5.3	---	5.2	---	5.3	---	5.0	5.0	---
TOTAL	285.9	159.0	164.3	164.3	147.8	160.0	157.3	164.3	154.0	155.0	155.0	150.0
MEAN	9.22	5.30	5.30	5.30	5.28	5.16	5.24	5.30	5.13	5.00	5.00	5.00
MAX	9.7	5.3	5.3	5.3	5.3	5.2	5.3	5.3	5.3	5.0	5.0	5.0
MIN	5.3	5.3	5.3	5.3	5.2	5.0	5.2	5.3	5.0	5.0	5.0	5.0
AC-FT	567	315	326	326	293	317	312	326	305	307	307	298

CAL YR 1976	TOTAL	2746.2	MEAN 7.50	MAX	10	MIN 5.2	AC-FT	5450	
WTR YR 1977	TOTAL	2016.9	MEAN 5.53	MAX	9.7	MIN 5.0	AC-FT	4000	

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'05", long 120°56'54", in NE¼SE¼ sec.22, T.15 N., R.9 E., Placer County, on left bank just upstream from Rollins Dam on Bear River, 2.3 mi (3.7 km) north of Colfax.

DRAINAGE AREA.--104 mi^2 (269 km^2).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Nevada Irrigation District).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1964. Usable capacity, 66,000 acre-ft (81.4 hm^3) between elevations 1,970.0 ft (600.46 m), invert of outlet tunnel and 2,171.0 ft (661.72 m), spillway crest, above mean sea level. Dead storage, 270 acre-ft (333,000 m^3). Several diversions into and out of basin upstream for power development and irrigation. Stored water is released into Bear River, part of which is diverted to Pacific Gas and Electric's Bear River Canal for power development. Water is later used for irrigation. See schematic diagram of Bear River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 70,100 acre-ft (86.4 hm^3) Jan. 21, 1970, elevation, 2,175.8 ft (663.18 m); minimum since reservoir first filled, 4,880 acre-ft (6.02 hm^3) Sept. 19, 1977, elevation, 2,027.0 ft (617.83 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,300 acre-ft (28.7 hm^3) Oct. 1, elevation, 2,098.5 ft (639.62 m); minimum, 4,880 acre-ft (6.02 hm^3) Sept. 19, elevation, 2,027.0 ft (617.83 m).

Capacity table (elevations, in feet, and contents, in acre-feet)

2020	3920	2080	16800
2030	5320	2120	32700
2040	6990	2140	43800
2050	8940	2160	57300
2060	11200	2176	70200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23100	5170	7490	6410	7730	9070	13700	12300	10200	11700	13000	7620
2	22900	5170	7390	6620	7700	9110	14000	12600	9920	11500	13100	7320
3	22600	5170	7320	7140	7640	9150	14000	13000	9630	11200	13500	7030
4	22400	5170	7230	7190	7600	9190	14000	13400	9300	10900	13500	6720
5	22200	5100	7140	7210	7620	9220	14000	13900	8960	10800	13500	6410
6	21800	5030	7430	7170	7560	9240	13900	14300	9340	11000	13000	6513
7	21600	5000	7370	7240	7540	9740	13900	14100	9670	11300	12900	6220
8	21700	5000	7580	7280	7510	9760	13900	13900	9670	11600	13000	5910
9	22000	5910	7700	7370	7490	9800	13800	13800	9370	11300	13000	5670
10	22400	6410	7620	7430	7540	10200	13800	13600	9090	11000	12900	5300
11	22700	6670	7540	7520	7540	10700	13700	13500	8840	11200	13000	5060
12	22300	7030	7490	7520	7640	10800	13600	13400	8590	11300	12600	4910
13	21600	6830	7410	7580	7580	10800	13600	13700	8960	11600	12400	5320
14	20800	6720	7360	7660	7730	11500	13500	13500	9190	11800	12100	5490
15	19600	6740	7450	7600	8080	12200	13300	13300	9580	12000	11800	5430
16	18700	6740	7410	7720	8010	12400	13200	13200	9670	12000	11400	5480
17	17600	6740	7360	7810	7990	12500	13000	13000	10100	11700	11100	5300
18	16800	6720	7280	7790	8020	12600	12900	12800	9890	11900	10800	5030
19	15600	6650	7230	7730	7890	12800	12800	12700	9670	12100	10400	4880
20	15100	6560	7150	7680	7830	12800	12600	12500	9940	12300	10400	4950
21	14200	6480	7080	7640	7910	12900	12800	12300	10200	12400	10000	4970
22	13800	6700	6990	7730	8100	12900	13200	12100	10600	12800	9650	5040
23	12800	6640	6990	7700	8160	13100	13000	11800	10800	12500	9280	5520
24	11900	6550	7080	7720	8280	13200	12800	11600	11300	12100	8920	5390
25	10900	6460	7010	7810	8340	13200	12800	11300	11100	12400	8570	5160
26	9890	6390	6940	7890	8630	13300	12900	11100	10800	12600	8240	4970
27	8980	6440	6850	7870	8710	13300	12800	11000	10900	12700	7930	5000
28	8040	6440	6760	7850	8940	13400	12900	10700	10900	12700	7600	5320
29	7100	7140	6650	7810	---	13500	12800	10500	11300	13100	7990	5490
30	6360	7620	6580	7790	---	13500	12500	10200	11400	13100	8220	5510
31	5170	---	6500	7770	---	13600	---	10100	---	12800	7910	---
MAX	23100	7620	7700	7890	8940	13600	14000	14300	11400	13100	13500	7620
MIN	5170	5000	6500	6410	7490	9070	12500	10100	8590	10800	7600	4880
†	2029.0	2043.4	2037.2	2044.2	2050.0	2069.4	2065.3	2055.5	2060.9	2066.5	2044.9	2031.2
‡	-18100	+2450	-1120	+1270	+1170	+4660	-1100	-2400	+1300	+1400	-4890	-2400

CAL YR 1976 ‡ -53000
WTR YR 1977 ‡ -17800

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

11422000 BEAR RIVER CANAL INTAKE NEAR COLFAX, CA

LOCATION.--Lat 39°07'58", long 120°57'12", in SW¼SE¼ sec.22, T.15 N., R.9 E., Placer County, on right bank 600 ft (183 m) downstream from canal inlet, 0.2 mi (0.3 km) below Rollins Dam, and 2.2 mi (3.5 km) north of Colfax.

PERIOD OF RECORD.--January 1912 to September 1953, October 1964 to current year. Monthly discharge only for some periods published in WSP 1315-A. Prior to October 1912, published as Pacific Gas and Electric Co.'s Canal near Colfax, October 1912 to September 1953, published as Bear River Canal near Colfax.

GAGE.--Water-stage recorder. Altitude of gage is 1,980 ft (604 m), from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi (2.4 km) downstream at different datum.

REMARKS.--Canal diverts from left bank of Bear River. Water is first used to develop power at Halsey and Wise powerhouse, part of it is then distributed for irrigation and part is eventually spilled into North Fork American River. See schematic diagram showing diversion and storage in Bear River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--54 years (water years 1913-53, 1965-77), 288 ft^3/s (8.156 m^3/s), 208,700 acre-ft/yr (257 hm^3).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 499 ft^3/s (14.1 m^3/s) Apr. 20-22, 1966, Aug. 1-3, 1967; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	484	34	95	60	44	14	24	108	136	149	146	97
2	485	7.7	57	47	44	14	24	87	140	147	147	96
3	485	7.6	58	31	44	20	25	94	146	141	147	94
4	485	62	58	30	44	24	25	103	161	139	148	99
5	488	266	58	30	44	24	23	104	162	138	148	101
6	490	38	60	36	44	24	23	105	162	138	148	107
7	487	7.7	62	40	44	23	23	102	164	144	147	120
8	485	7.6	62	45	44	22	36	102	165	154	147	119
9	486	7.6	60	51	44	16	41	101	151	154	144	117
10	486	53	53	51	44	13	41	89	131	152	138	114
11	486	71	48	50	44	15	41	84	127	152	137	120
12	486	101	41	50	44	17	41	84	120	148	136	137
13	487	131	41	51	44	17	55	86	116	140	135	138
14	445	127	41	51	44	18	64	86	117	140	135	139
15	469	113	41	51	45	18	75	85	115	140	137	138
16	485	92	41	51	42	18	81	84	113	141	143	138
17	484	80	41	51	43	17	81	91	116	140	143	134
18	484	67	41	51	43	17	80	103	122	138	142	124
19	485	57	41	51	43	17	80	102	113	135	151	118
20	484	53	46	51	43	16	78	102	113	135	165	113
21	484	53	49	45	43	16	80	115	116	136	163	114
22	484	53	49	41	43	16	83	123	129	137	151	115
23	485	53	49	41	30	15	91	124	141	137	138	108
24	485	53	49	41	25	15	96	126	146	136	129	104
25	485	52	50	42	32	15	117	128	155	135	118	103
26	485	52	50	42	20	19	126	129	155	141	115	102
27	485	52	56	42	14	24	125	128	161	146	112	102
28	486	52	60	41	14	23	125	127	172	147	109	103
29	486	34	59	38	---	23	125	126	162	147	104	104
30	486	16	59	34	---	22	125	126	149	148	106	94
31	405	---	59	40	---	23	---	125	---	147	101	---
TOTAL	14912	1853.2	1634	1376	1096	575	2054	3279	4176	4422	4230	3412
MEAN	481	61.8	52.7	44.4	39.1	18.5	68.5	106	139	143	136	114
MAX	490	266	95	60	45	24	126	129	172	154	165	139
MIN	405	7.6	41	30	14	13	23	84	113	135	101	94
AC-FT	29580	3680	3240	2730	2170	1140	4070	6500	8280	8770	8390	6770

CAL YR 1976 TOTAL 107627.2 MEAN 294 MAX 496 MIN 7.6 AC-FT 213500
WTR YR 1977 TOTAL 43019.2 MEAN 118 MAX 490 MIN 7.6 AC-FT 85330

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.--Lat 39°07'53", long 120°57'29", in SE¼SW¼ sec.22, T.15 N., R.9 E., Nevada County, on right bank 65 ft (20 m) downstream from highway bridge, 0.5 mi (0.8 km) downstream from Rollins Dam, and 2.2 mi (3.5 km) north of Colfax.

DRAINAGE AREA.--105 mi^2 (272 km^2).

PERIOD OF RECORD.--January 1912 to September 1913, October 1913 to July 1915 (gage heights and discharge measurements only), August 1915 to June 1917, November 1949 to September 1953, August 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A. Prior to August 1964, published as Bear River near Colfax. Records for November and December 1911 include diversion to Bear River Canal and are not equivalent.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,927.41 ft (587.475 m) above mean sea level. Prior to Aug. 8, 1915, nonrecording gages at several sites above diversion dam 0.3 mi (0.5 km) upstream at different datums. Aug. 8, 1915, to June 30, 1917, nonrecording gage 0.7 mi (1.1 km) downstream at different datum. Nov. 1, 1949, to Sept. 30, 1953, at site 0.2 mi (0.3 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by Rollins Reservoir (station 11421800) beginning Dec. 15, 1964. Bear River Canal (station 11422000) diverts above station. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE (unadjusted).--18 years (water years 1913, 1916, 1951-53, 1965-77), 360 ft^3/s (10.19 m^3/s), 260,800 acre-ft/yr (322 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft^3/s (272 m^3/s) Nov. 20, 1950, gage height, 21.40 ft (6.523 m) site and datum then in use, from rating curve extended above 3,600 ft^3/s (102 m^3/s) on basis of slope-area measurement of maximum flow; no flow at times in 1912, 1952. Maximum discharge since construction of Rollins Dam, 12,700 ft^3/s (360 m^3/s) Jan. 21, 1970, gage height, 11.72 ft (3.572 m), from rating curve extended above 6,000 ft^3/s (170 m^3/s); minimum daily, 0.5 ft^3/s (0.014 m^3/s) Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 71 ft^3/s (2.01 m^3/s) Oct. 14, gage height, 1.11 ft (0.338 m); minimum daily, 4.2 ft^3/s (0.12 m^3/s) Mar. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	19	11	10	5.0	4.6	5.3	39	15	15	31	48
2	59	13	11	12	5.0	4.6	5.3	38	15	15	31	48
3	57	8.2	11	11	5.0	4.6	5.3	38	15	15	31	48
4	56	8.7	11	10	5.0	4.6	5.3	32	15	15	31	48
5	51	19	11	10	5.0	4.6	5.3	21	15	15	31	48
6	48	14	11	10	5.0	4.6	5.3	21	15	15	31	48
7	49	17	11	10	5.0	4.6	5.2	21	15	15	31	48
8	51	11	11	10	5.0	4.5	5.3	21	15	15	28	48
9	52	17	11	10	5.0	4.7	5.3	21	16	15	25	49
10	55	17	11	8.2	5.0	4.6	5.3	21	16	15	25	49
11	53	15	11	5.0	5.0	4.4	5.3	21	16	17	25	49
12	50	15	11	5.3	5.0	4.5	5.3	21	16	19	25	37
13	47	15	11	5.1	5.0	4.6	5.3	21	16	20	25	31
14	48	16	11	5.0	5.0	4.6	5.3	21	16	20	24	31
15	41	15	11	5.0	5.0	4.6	5.3	21	15	20	24	31
16	30	15	11	5.0	5.0	4.6	5.3	21	16	20	27	27
17	27	14	11	5.0	5.0	4.6	5.3	21	16	20	29	24
18	34	14	11	5.0	5.1	4.4	5.2	21	16	24	29	24
19	36	14	11	5.0	5.1	4.4	5.3	21	15	31	29	24
20	34	14	11	5.0	5.3	4.4	23	21	14	31	29	25
21	31	14	11	5.0	6.9	4.4	39	21	14	31	29	25
22	31	14	11	5.0	5.6	4.4	38	21	15	30	37	25
23	32	14	11	5.0	6.7	4.5	38	21	15	30	49	25
24	27	13	11	5.0	5.0	4.6	38	21	15	30	49	25
25	23	11	11	5.2	5.4	4.5	38	18	15	30	49	25
26	26	11	11	5.0	4.6	4.4	38	15	15	30	49	25
27	32	11	11	5.0	4.6	4.4	38	15	15	30	49	25
28	30	11	11	5.0	4.6	4.3	38	15	15	30	48	25
29	30	11	11	5.0	---	4.2	38	15	15	31	48	25
30	29	11	11	5.0	---	4.9	38	15	15	31	48	22
31	26	---	11	5.0	---	5.8	---	15	---	31	48	---
TOTAL	1255	411.9	341	206.8	143.9	141.5	504.5	675	457	706	1064	1032
MEAN	40.5	13.7	11.0	6.67	5.14	4.56	16.8	21.8	15.2	22.8	34.3	34.4
MAX	60	19	11	12	6.9	5.8	39	39	16	31	49	49
MIN	23	8.2	11	5.0	4.6	4.2	5.2	15	14	15	24	22
AC-FT	2490	817	676	410	285	281	1000	1340	906	1400	2110	2050

CAL YR 1976 TOTAL 12163.4 MEAN 33.2 MAX 95 MIN 8.2 AC-FT 24130
WTR YR 1977 TOTAL 6938.6 MEAN 19.0 MAX 60 MIN 4.2 AC-FT 13760

11423700 NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CA

LOCATION.--Lat 39°03'01", long 121°18'53", in NE¼SW¼ sec.21, T.14 N., R.6 E., on Yuba-Placer County line, in center of New Camp Far West Dam on the Bear River, 6.4 mi (10.3 km) east of Wheatland, and 11.8 mi (19.0 km) northeast of Sheridan.

DRAINAGE AREA.--283 mi^2 (733 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by South Sutter Water District).

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Sept. 30, 1963. Usable capacity, 102,200 acre-ft (126 hm^3) between elevations 175.0 ft (53.34 m) bottom of lowest river outlet, and 300.0 ft (91.44 m) crest of spillway. Dead storage, 2,200 acre-ft (2.71 hm^3). See schematic diagram of Bear River basin.

COOPERATION.--Records furnished by South Sutter Water District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 120,200 acre-ft (148 hm^3) Jan. 21, 1970, elevation, 307.3 ft (93.66 m); minimum, 2,200 acre-ft (2.71 hm^3) Oct. 11, 1968, elevation, 175.0 ft (53.34 m), may have been lower during periods of no record Oct. 12-16, 1968, and during the 1977 water year.

EXTREMES FOR CURRENT YEAR.--Maximum observed contents, 12,200 acre-ft (15.0 hm^3) Apr. 15, 16, elevation, 215.60 ft (65.715 m); minimum observed, 2,200 acre-ft (2.71 hm^3) Oct. 5, elevation, 175.00 ft (53.340 m), but may have been less during periods of no record.

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

170	1400	250	34200
180	3000	260	44000
190	4800	270	55500
200	7000	280	69500
210	9800	290	85600
220	14000	300	104400
230	19400	320	151000
240	25800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4200			---	9600	11000	11900	11200	11400	8800	6000	3400
2	3700			---	9500	---	---	11300	11400	---	5900	---
3	3200			7800	9600	11100	---	11400	11300	---	---	---
4	2700			8100	---	---	11900	11400	11300	---	---	---
5	2200			8300	---	---	11900	11300	11200	8500	5600	---
6	---			8400	9600	---	---	11300	11100	8500	---	---
7	---			---	9600	11100	---	11300	11100	8400	---	---
8	---			---	---	---	---	11300	11000	8300	5300	---
9	---			---	---	---	---	11300	10900	8300	5200	---
10	---			8700	9700	---	---	11400	10700	8200	---	---
11	---			8700	---	11100	12100	11500	10600	8100	---	---
12	---			---	---	---	---	11600	10600	8000	4900	3000
13	---			---	---	---	---	11600	10500	7900	---	---
14	---			8900	9700	11100	---	---	10300	---	---	---
15	---			---	---	---	12200	---	10200	7700	---	---
16	---			---	---	11200	12200	11700	10100	---	---	---
17	---			---	9700	11200	---	---	10100	7500	---	---
18	---			9100	---	11300	12100	11700	9900	7400	---	---
19	3900			---	---	---	---	11700	9800	---	---	2800
20	---			---	---	---	12100	11700	9700	---	---	---
21	---			---	---	11400	12000	11700	9600	---	---	---
22	---			---	10100	11400	11900	11700	9600	---	4200	---
23	---			---	10300	11400	11800	11700	9500	---	---	---
24	---			9400	10500	11600	11700	11700	9400	---	---	---
25	---			---	10800	---	11600	11600	9300	6600	---	---
26	---			---	---	---	11500	11600	9300	6600	3900	---
27	---			---	---	---	11400	11500	9200	6500	---	---
28	---			---	10900	11800	11400	11500	9100	6400	---	---
29	---			---	---	---	11300	11500	9000	6300	3600	---
30	---			---	---	---	11200	11500	8900	---	---	3000
31	---			9600	---	11900	---	11400	---	6100	3400	---
MAX	---			---	---	---	---	---	11400	---	---	---
MIN	---			---	---	---	---	---	8900	---	---	---
†	---	---	---	209.3	212.7	214.9	213.4	213.9	206.7	195.8	182.4	180.0
‡	---	---	---	---	+1300	+1000	-700	+200	-2500	-2800	-2700	-400

CAL YR 1976 ‡ --
WTR YR 1977 ‡ -1200

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

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'01", long 121°24'21", in SE¼SW¼ sec.3, T.13 N., R.5 E., Placer County, on right bank 100 ft (30 m) downstream from bridge on U.S. Highway 99E, 1 mi (2 km) southeast of Wheatland, and 6.5 mi (10.5 km) downstream from Rock Creek.

DRAINAGE AREA.--292 mi² (756 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.92 ft (21.921 m) above mean sea level. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--Records good. Natural flow of stream affected by inflow from Yuba River and American River basins. Flow regulated by Lake Combie, usable capacity, 7,840 acre-ft (9.67 hm³), Rollins Reservoir (station 11421800) since December 1964, and New Camp Far West Reservoir (station 11423700) since October 1963. Many diversions for irrigation and power. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE (adjusted for diversions and change in contents in New Camp Far West Reservoir since 1966).--48 years, 447 ft³/s (12.66 m³/s), 323,900 acre-ft/yr (399 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,000 ft³/s (935 m³/s) Dec. 22, 1955, gage height, 19.30 ft (5.883 m) site and datum then in use; maximum gage height, 20.83 ft (6.349 m) Nov. 21, 1950, site and datum then in use; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft³/s (4.96 m³/s) Oct. 1, 2, gage height, 5.50 ft (1.676 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	0		0	0	.68	.37	6.2	3.8	4.6	2.8	4.8
2	175	0		.37	0	.55	.36	6.0	3.4	4.5	3.4	5.8
3	171	0		1.6	0	.52	.16	5.5	3.3	3.3	2.7	5.9
4	156	0		2.2	0	.40	.11	5.1	3.0	3.1	2.6	5.6
5	80	0		.19	0	.43	.53	3.7	4.3	3.5	3.7	5.3
6	32	0		0	0	.39	.10	3.6	4.3	3.2	4.2	5.4
7	8.0	0		0	.04	.41	0	3.4	4.3	2.3	5.1	2.6
8	5.4	0		0	.51	.43	0	3.2	5.7	2.1	6.3	.82
9	3.4	0		0	.99	.56	.29	3.5	3.3	2.1	4.8	.16
10	1.5	0		0	1.5	.78	.43	3.2	4.2	2.2	4.0	.23
11	1.1	0		0	.33	.34	.05	3.4	5.3	2.4	4.8	.23
12	.62	.69		0	.31	.29	0	4.0	3.4	2.2	6.4	.61
13	.25	.14		0	.31	.83	.01	3.7	3.5	2.1	6.8	.94
14	0	.49		0	.59	1.1	.97	3.4	2.9	3.0	8.2	.70
15	.10	.37		0	.47	1.5	.46	4.3	2.1	3.6	8.2	.08
16	.30	0		0	.67	3.3	.35	4.3	2.2	3.4	4.9	0
17	.27	0		0	.70	3.8	.03	3.4	2.3	3.1	4.4	0
18	.34	0		0	.72	2.8	0	2.6	2.4	2.9	5.3	0
19	.31	0		0	.31	.53	0	2.4	3.1	3.2	4.0	0
20	.31	0		0	.67	.55	0	2.6	3.4	3.0	4.8	0
21	.44	0		0	2.8	.68	0	3.2	3.2	3.0	3.2	0
22	.22	0		0	1.2	.97	0	2.1	3.1	2.9	4.0	0
23	0	0		0	2.8	1.1	0	2.1	2.7	3.1	3.5	0
24	0	0		0	.68	2.2	0	3.7	2.3	4.1	5.0	0
25	0	0		0	.31	2.4	.27	5.3	2.1	3.2	3.7	0
26	.78	0		0	.24	1.5	2.2	3.4	1.9	2.9	6.5	0
27	.74	0		0	.48	1.1	2.0	2.9	2.1	2.4	5.9	0
28	.11	0		0	.80	.79	2.7	8.0	2.1	2.2	3.7	0
29	0	0		0	---	.84	2.9	6.0	2.0	3.0	3.0	0
30	0	0		0	---	.78	3.6	6.0	3.5	2.3	4.9	0
31	0	---		0	---	.55	---	5.3	---	2.5	5.4	---
TOTAL	677.19	1.69	0	4.36	17.43	33.10	17.89	125.5	95.2	91.4	146.2	39.17
MEAN	21.8	.056	0	.14	.62	1.07	.60	4.05	3.17	2.95	4.72	1.31
MAX	175	.69	0	2.2	2.8	3.8	3.6	8.0	5.7	4.6	8.2	5.9
MIN	0	0	0	0	0	.29	0	2.1	1.9	2.1	2.6	0
AC-FT	1340	3.4	0	8.6	35	66	35	249	189	181	290	78
†	0	0	0	0	824	817	1224	1234	2658	2439	2359	557

CAL YR 1976 TOTAL 8012.08 MEAN 21.9 MAX 208 MIN 0 AC-FT 15890 MEAN ‡ 24.9 AC-FT ‡ 18000
WTR YR 1977 TOTAL 1249.13 MEAN 3.42 MAX 175 MIN 0 AC-FT 2480 MEAN ‡ 18.5 AC-FT ‡ 13390

† Diversion, in acre-feet, to Camp Far West North and South Canals and South Sutter conveyance canal, furnished by South Sutter Water District.
‡ Adjusted for diversion and change in contents in New Camp Far West Reservoir.

11424000 BEAR RIVER NEAR WHEATLAND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1953 to current year.

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	INSTAN-TANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
OCT										
19...	1130	--	.31	223	8.0	18.0	7	10.5	95	19
FEB										
15...	1230	--	.80	240	8.0	15.5	1	11.9	122	38
MAR										
18...	1330	--	1.7	226	7.5	15.5	1	12.1	97	22
MAY										
16...	1410	4.3	--	218	8.4	25.5	2	10.1	99	30
JUN										
28...	1230	--	2.2	237	8.4	30.5	0	9.8	100	25
JUL										
21...	1220	--	3.2	243	8.4	30.0	0	9.9	99	22
AUG										
18...	1250	--	5.7	243	8.3	28.5	--	10.1	112	30

DATE	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)
OCT									
19...	32	9.4	93	0	76	8.9	120	.16	.10
FEB									
15...	21	8.1	102	0	84	9.9	156	.21	.34
MAR									
18...	19	7.4	91	0	75	9.8	147	.20	.67
MAY									
16...	16	7.4	84	0	69	13	134	.18	1.56
JUN									
28...	19	8.6	92	0	75	15	160	.22	.95
JUL									
21...	20	9.2	94	0	77	15	148	.20	1.28
AUG									
18...	16	8.8	100	0	82	14	134	.18	2.06

11425000 FEATHER RIVER NEAR NICOLAUS, CA

LOCATION.--Lat 38°53'26", long 121°26'12", in SE¼NE¼ sec.14, T.12 N., R.3 E., Sutter County, on left bank 1.7 mi (2.7 km) southwest of Nicolaus, 4.2 mi (6.8 km) downstream from Bear River, and at mile 8.1 (13.0 km).

DRAINAGE AREA.--5,921 mi^2 (15,335 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1921 to December 1942 (low-water periods only), April 1943 to current year. Prior to October 1974, published as "at Nicolaus."

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 3.30 ft (1.006 m) below mean sea level. Prior to November 1931, on middle fender pier of bridge 1.6 mi (2.6 km) upstream at same datum. November 1931 to September 1974, at highway bridge 1.3 mi (2.1 km) upstream at same datum.

REMARKS.--Records good. Flow partly regulated by many reservoirs, total capacity, 6,868,000 acre-ft (8.47 km^3), the largest of which are Lake Oroville (station 11406800) completed in 1968, Lake Almanor (station 11399000) completed in 1913, and New Bullards Bar Reservoir (station 11413515) completed in 1969. Diversions for irrigation of about 87,000 acres (352 km^2) between stations at Oroville and near Nicolaus.

REVISED RECORDS.--WSP 1931: Drainage area.

AVERAGE DISCHARGE.--34 years (water years 1944-77), 8,050 ft^3/s (228.0 m^3/s), 5,832,000 acre-ft/yr (7.19 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944-77), 357,000 ft^3/s (10,100 m^3/s) Dec. 23, 1955; maximum gage height, 51.60 ft (15.728 m) Dec. 23, 1955; no flow Aug. 2-18, 1924, July 11-22, 24, 26, Aug. 1, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,600 ft^3/s (102 m^3/s) Oct. 1, gage height, 21.81 ft (6.648 m); minimum daily, 589 ft^3/s (16.7 m^3/s) June 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3330	2640	2200	1610	1570	1490	1170	3140	589	1900	1820	1910
2	3090	2610	2200	1690	1520	1480	1100	3040	832	1910	1800	1910
3	3160	2470	2190	2020	1520	1510	1030	2440	1310	1920	1790	1940
4	3130	2360	2190	2140	1480	1470	1020	1720	1370	1990	1780	1960
5	3080	2320	2120	1930	1490	1420	975	1380	1430	1970	1800	1970
6	3020	2340	2070	1810	1490	1420	946	1100	1450	1720	1630	1960
7	2990	2330	2070	1700	1460	1390	1010	939	1320	1520	1430	1980
8	2970	2300	2100	1680	1490	1380	1300	854	1100	1510	1460	1990
9	2820	2320	2140	1630	1540	1350	1470	857	1010	1470	1330	2020
10	2640	2320	2060	1600	1480	1250	1710	884	1040	1530	1150	2030
11	2490	2330	2060	1580	1490	1200	1740	939	1070	1600	1140	2010
12	2390	2340	2060	1560	1480	1220	1720	1000	1150	1420	1240	1670
13	2370	2340	2070	1540	1480	1220	1700	929	1150	1280	1420	1230
14	2340	2390	2080	1520	1440	1180	2160	846	1090	1300	1420	933
15	2310	2430	2100	1520	1420	1160	2210	869	1060	1440	1420	857
16	2270	2390	2100	1500	1420	1250	2690	894	1050	1660	1430	842
17	2170	2380	2100	1490	1420	1230	2710	804	1060	1680	1430	858
18	2160	2380	2100	1510	1410	1090	2720	709	1150	1680	1440	834
19	2140	2370	2100	1540	1370	1030	2690	728	1170	1620	1440	852
20	2330	2370	2090	1530	1390	1030	2560	721	1180	1790	1230	922
21	2610	2340	2070	1530	1520	1020	2400	738	1190	2150	1070	877
22	2760	2340	2090	1530	1650	985	2420	692	1130	2320	1230	833
23	2860	2350	2090	1540	1710	951	2610	733	1100	2380	1450	814
24	2850	2340	2080	1650	1700	967	2850	695	1110	2410	1460	784
25	2880	2340	2050	1730	1600	1020	3010	666	1250	2450	1480	769
26	2900	2320	2050	1750	1570	1010	3030	699	1540	2270	1670	742
27	2870	2240	2030	1720	1540	974	3010	745	1590	1930	1890	735
28	2860	2160	1960	1670	1520	994	2980	743	1590	1750	1960	727
29	2850	2180	1820	1650	---	902	2990	720	1510	1720	2000	734
30	2750	2180	1690	1600	---	901	3020	714	1580	1740	1970	759
31	2650	---	1650	1570	---	971	---	649	---	1780	1930	---
TOTAL	84040	70520	63780	51040	42170	36465	62951	32587	36171	55810	47710	38452
MEAN	2711	2351	2057	1646	1506	1176	2098	1051	1206	1800	1539	1282
MAX	3330	2640	2200	2140	1710	1510	3030	3140	1590	2450	2000	2030
MIN	2140	2160	1650	1490	1370	901	946	649	589	1280	1070	727
AC-FT	166700	139900	126500	101200	83640	72330	124900	64640	71750	110700	94630	76270

GAL YR 1976 TOTAL 909370 MEAN 2485 MAX 4990 MIN 1100 AC-FT 1804000
WTR YR 1977 TOTAL 621696 MEAN 1703 MAX 3330 MIN 589 AC-FT 1233000

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951 to current year.
CHEMICAL ANALYSES: Water years 1951-66. Published as "at Nicolaus".
WATER TEMPERATURES: Water years 1951-58, 1960 to current year. Published as station 11425100 for period 1964-74.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: October 1951 to September 1958, November 1959 to September 1962.
SPECIFIC CONDUCTANCE: March 1951 to September 1958, October 1960 to June 1966.
WATER TEMPERATURES: March 1951 to September 1958, November 1959 to current year.

INSTRUMENTATION.--Temperature recorder since November 1961.

REMARKS.--Unpublished records of daily specific conductance available in files of district office. Prior to 1964 water year, thermograph located at gaging station "at Nicolaus", 1.3 mi (2.1 km) upstream. Records from October 1964 to September 1974 were obtained 2.5 mi (4.0 km) downstream and are considered equivalent.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 34.5°C July 21, 1961; minimum recorded, 0.0°C Jan. 3-6, 1961.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 32.5°C June 24; minimum recorded, 4.5°C Jan. 7, 8, 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	13.5	18.0	16.5	28.5	21.5	28.0	24.5	28.5	24.5	26.0	21.0
2	17.0	13.5	19.0	15.5	28.0	21.0	27.0	22.0	28.5	24.5	26.0	21.0
3	19.0	13.5	18.0	15.5	26.5	21.5	26.0	21.0	28.0	22.5	26.5	21.0
4	20.0	14.5	20.0	14.5	28.0	22.0	25.5	20.0	27.5	22.5	27.0	22.0
5	21.5	16.0	19.5	15.5	29.0	24.0	26.5	20.5	25.0	21.5	28.0	23.0
6	23.0	17.0	21.5	15.0	29.0	24.0	27.5	21.0	25.0	21.0	28.0	23.5
7	22.0	17.0	22.0	15.0	31.0	25.0	28.0	22.0	25.5	20.0	28.5	23.5
8	18.5	16.0	20.5	16.0	30.0	25.0	28.5	22.5	26.5	21.0	28.0	23.5
9	19.0	15.0	18.5	16.0	24.5	21.0	27.0	21.5	27.0	21.5	27.5	23.5
10	18.0	13.5	16.5	15.0	24.5	20.0	28.5	22.0	28.0	22.0	26.0	22.0
11	19.5	14.5	18.5	14.0	26.5	20.0	29.0	23.0	28.0	23.0	25.5	21.5
12	20.5	15.5	20.0	14.5	26.0	21.0	27.0	22.0	28.0	23.0	25.5	21.0
13	21.0	16.0	24.0	15.5	25.0	20.0	28.0	21.5	27.0	22.0	25.5	21.0
14	19.0	14.5	24.5	16.0	26.0	19.0	29.0	22.5	27.0	22.0	24.0	20.0
15	20.0	15.5	24.5	16.5	27.0	21.0	29.5	23.5	28.0	22.5	21.0	19.5
16	20.0	17.0	22.5	16.0	27.0	21.5	30.0	24.5	28.5	23.0	19.0	17.5
17	18.5	16.0	24.5	16.5	26.0	20.0	29.0	24.0	25.0	22.5	21.0	17.5
18	17.5	14.0	19.5	17.0	26.0	20.5	28.0	22.5	27.0	22.0	22.5	18.0
19	17.5	14.0	25.0	15.5	27.0	21.0	27.0	22.0	27.0	22.0	22.0	19.0
20	18.5	14.5	24.5	18.0	27.0	21.5	28.0	22.0	28.0	22.5	23.5	18.0
21	18.0	14.5	25.0	19.0	28.5	23.0	27.5	22.0	28.5	22.5	23.5	19.0
22	19.0	15.0	20.5	16.5	31.5	24.5	27.0	22.5	28.5	23.5	24.0	19.5
23	19.5	16.0	21.5	16.0	31.5	25.0	27.0	22.5	28.0	23.5	23.5	19.5
24	18.5	16.5	24.0	17.0	32.5	26.0	25.0	21.5	25.5	22.0	24.0	19.0
25	18.5	16.5	21.5	17.5	30.5	26.0	25.5	21.0	23.5	21.0	24.5	19.0
26	19.0	15.5	21.5	18.0	30.0	24.5	27.0	21.5	25.0	21.0	24.5	19.0
27	19.0	16.0	24.5	17.0	29.5	24.0	28.0	22.5	26.0	21.0	23.5	20.5
28	19.0	15.5	25.5	19.0	29.5	25.0	28.5	22.0	26.0	22.0	23.0	20.0
29	18.5	16.5	26.0	19.5	29.0	24.0	29.0	23.5	26.5	22.5	24.0	19.5
30	20.0	16.5	28.0	21.0	27.5	23.5	29.5	24.0	26.5	22.5	23.0	18.5
31	---	---	29.5	23.0	---	---	29.5	24.5	26.5	22.0	---	---
MONTH	23.0	13.5	29.5	14.0	32.5	19.0	30.0	20.0	28.5	20.0	28.5	17.5

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'51", long 121°36'12", in SW¼SE¼ sec.23, T.11 N., R.3 E., Sutter County, on left bank 0.8 mi (1.3 km) southeast of Verona, 1 mi (2 km) downstream from Feather River, 6.2 mi (10.0 km) east of Knights Landing, and at mile 19.6 (31.5 km) upstream from Sacramento.

DRAINAGE AREA.--21,251 mi^2 (55,040 km^2), revised.

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3.00 ft (0.914 m) below mean sea level.

REMARKS.--Records excellent. Natural flow of stream affected by storage reservoirs, power developments, diversions for irrigation, return flow from irrigated areas, and bypassing for flood control. When discharge exceeds about 55,000 ft^3/s (1,560 m^3/s) flow begins over Fremont weir (just upstream) into Yolo Bypass (station 11453000). Gage height of crest of Fremont weir is 33.5 ft (10.21 m).

AVERAGE DISCHARGE.--48 years (water years 1930-77), 18,780 ft^3/s (531.8 m^3/s), 13,606,000 acre-ft/yr (16.8 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79,200 ft^3/s (2,240 m^3/s) Mar. 1, 1940, gage height, 41.20 ft (12.558 m); minimum daily, 304 ft^3/s (8.61 m^3/s) July 23, 24, 1931; maximum reverse flow, 16,800 ft^3/s (476 m^3/s) Dec. 4, 1950, backwater from American River. Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 ft^3/s (9,120 m^3/s) Dec. 25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,200 ft^3/s (402 m^3/s) Jan. 5, gage height, 14.52 ft (4.426 m); minimum daily, 4,510 ft^3/s (128 m^3/s) June 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10300	7330	7840	8210	8880	6730	6070	7540	5040	7050	7610	6840
2	9800	7240	7910	8990	8670	6380	6280	8480	4780	7470	7670	6770
3	9620	7100	7770	10100	8380	6050	6390	8880	4760	7910	7700	6700
4	9430	6940	7670	12300	8370	5800	6410	9160	4700	8070	7640	6980
5	9170	6980	7510	13700	8310	5750	6240	8910	4730	8070	7580	7260
6	8990	7060	7340	11900	8360	6160	6020	8200	4880	7750	7540	6990
7	8740	7020	7140	10200	8380	6390	5680	7480	5140	7330	7400	6880
8	8440	6930	7030	9050	8570	6670	5640	7310	4950	7120	7260	6940
9	8070	6850	7020	8500	8580	6760	5510	7210	4760	7120	7260	7190
10	7670	6930	6780	8120	8390	6600	5810	7560	4510	7190	7220	7330
11	7530	7000	6610	7780	8190	6400	6280	8230	4820	7330	6910	7260
12	7450	7080	6580	8020	7780	6490	6410	8570	5070	7330	6630	6840
13	7360	7160	6630	8340	7580	6440	6120	9290	5510	7190	6740	6490
14	7200	7250	6520	8600	7440	6460	5560	9300	5580	6910	6630	6210
15	7060	7400	6500	8940	7410	6440	5490	8620	5370	6630	6520	5780
16	6900	7550	6410	9120	7310	6930	6120	7910	5580	6840	6350	5580
17	6760	7680	6430	9160	7150	7950	6270	7230	5850	7050	6320	5600
18	6780	7790	6530	9080	6940	8400	6250	6690	6070	7190	6170	5750
19	6750	8010	6620	9040	6710	8370	6570	6520	6550	7190	6240	6180
20	6650	7900	6600	9010	6780	8220	6430	6690	6630	7190	6280	6420
21	6920	7730	6580	9030	7120	7750	6180	6670	6420	7460	6180	6210
22	7250	7690	6520	9230	7600	6960	5870	6690	6420	7840	6170	6980
23	7430	7700	6610	9450	7970	6720	5870	6500	6210	8000	6420	6560
24	7570	7620	6610	9590	8080	6600	6180	6170	6140	8230	6560	5780
25	7590	7750	6550	9820	8010	6760	6550	6070	6070	8580	6660	5510
26	7450	7720	6640	10100	7690	6790	6490	6200	6700	8540	6910	5450
27	7490	7720	6610	9980	7160	6770	6710	6500	7190	8190	7190	5320
28	7450	7640	6410	9760	6870	6730	6740	6640	6910	7910	7190	5070
29	7380	7590	6210	9500	---	6310	6690	6640	6910	7680	7210	5070
30	7310	7660	6280	9430	---	6000	6800	6600	6910	7500	7160	5070
31	7280	---	7140	9210	---	5880	---	5950	---	7540	6940	---
TOTAL	241790	222020	211600	293260	218680	208660	185630	230410	171160	233400	214260	189010
MEAN	7800	7401	6826	9460	7810	6731	6188	7433	5705	7529	6912	6300
MAX	10300	8010	7910	13700	8880	8400	6800	9300	7190	8580	7700	7330
MIN	6650	6850	6210	7780	6710	5750	5490	5950	4510	6630	6170	5070
AC-FT	479600	440400	419700	581700	433800	413900	368200	457000	339500	462900	425000	374900

CAL YR 1976	TOTAL	3852320	MEAN	10530	MAX	25000	MIN	6210	AC-FT	7641000
WTR YR 1977	TOTAL	2619880	MEAN	7178	MAX	13700	MIN	4510	AC-FT	5197000

11426000 SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CA

LOCATION.--Lat 38°36'25", long 121°33'15", unsurveyed, Sacramento County, 2 gages on right bank, one 100 ft (30 m) upstream from weir and one 100 ft (30 m) downstream from weir, 3.2 mi (5.1 km) upstream from American River, 4 mi (6 km) northwest of Sacramento, and at mile 4.2 (6.8 km) upstream from Sacramento.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for water years 1940-51, published in WSP 1735. Published as Sacramento weir near Sacramento 1939-61. Gage-height records collected at same site February 1926 to September 1934 and major flood flows only October 1934 to September 1939 are contained in reports of California Department of Water Resources.

GAGE.--Water-stage recorders and concrete weir crest. Datum of gage is 3.00 ft (0.914 m) below mean sea level. October 1939 to September 1942, October 1959 to September 1963, water-stage recorder or nonrecording gage at downstream end of weir. October 1942 to September 1959, water-stage recorder on left bank at Sacramento River opposite center of weir. Since February 1963, water-stage recorders on right bank 100 ft (30 m) upstream and 100 ft (30 m) downstream from ends of weir.

REMARKS.--No flow since Mar. 31, 1975. Crest of weir is at gage height 22.0 ft (6.71 m) and top of moveable gates at 28.0 ft (8.53 m). Weir consists of 48 gates each 38.1 ft (11.61 m) long. Flow over weir enters Yolo Bypass by way of Sacramento Bypass. Flow regulated by weir gates. Since February 1963, stage is obtained by averaging the stage obtained at sites above and below the weir.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--38 years, 202 ft^3/s (5.721 m^3/s) 146,300 acre-ft/yr (1.80 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 118,000 ft^3/s (3,340 m^3/s) Mar. 26, 1928; maximum gage height, 33.01 ft (10.061 m) Dec. 23, 1955; no flow all or most of each year.

EXTREMES FOR CURRENT YEAR.--No flow during year.

11426150 ONION CREEK NEAR SODA SPRINGS, CA

LOCATION.--Lat 39°16'02", long 120°21'50", in SE¼NE¼ sec.11, T.16 N., R.14 E., Placer County, Tahoe National Forest, on right bank 0.3 mi (0.5 km) upstream from unnamed tributary, 1 mi (2 km) upstream from mouth, and 4.0 mi (6.5 km) south of Soda Springs.

DRAINAGE AREA.--3.58 mi^2 (9.27 km^2).

PERIOD OF RECORD.--August 1959 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,900 ft (1,798 m), from topographic map.

REMARKS.--Records good except those for the winter months and below 0.05 ft^3/s (0.001 m^3/s), which are poor.

AVERAGE DISCHARGE.--18 years, 9.07 ft^3/s (0.257 m^3/s), 6,570 acre-ft/yr (8.10 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,750 ft^3/s (49.6 m^3/s) Dec. 23, 1964, gage height, 4.98 ft (1.518 m) in gage well, 6.82 ft (2.079 m) from floodmarks, from rating curve extended above 120 ft^3/s (3.40 m^3/s) on basis of slope-area measurement of maximum flow; minimum daily, 0.01 ft^3/s (0.0003 m^3/s) Sept. 1, 2, 7-10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 22 ft^3/s (0.62 m^3/s) May 20, gage height, 1.86 ft (0.567 m), no peak above base of 50 ft^3/s (1.42 m^3/s); minimum daily, 0.01 ft^3/s (0.0003 m^3/s) Sept. 1, 2, 7-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.60	.21	.26	.38	.56	.92	1.6	3.7	4.3	.71	.08	.01
2	1.3	.20	.25	.35	.55	.92	1.6	3.2	3.7	1.0	.07	.01
3	.40	.20	.26	.38	.54	.92	2.3	2.5	3.4	.82	.07	.02
4	.28	.20	.26	.36	.56	.93	4.9	2.8	3.3	.71	.07	.03
5	.25	.20	.26	.34	.55	1.3	6.5	2.3	3.2	.63	.05	.03
6	.23	.20	.26	.34	.56	1.6	6.6	2.2	4.5	.57	.07	.02
7	.23	.20	.25	.34	.69	1.3	7.0	2.0	3.1	.53	.07	.01
8	.23	.20	.25	.34	.73	1.5	4.6	2.5	2.5	.46	.06	.01
9	.22	.20	.24	.34	.69	1.5	3.9	2.6	3.2	.46	.05	.01
10	.21	.20	.26	.34	.75	1.5	3.8	2.4	2.7	.45	.04	.01
11	.21	.20	.26	.34	.83	1.5	4.0	2.3	2.3	.39	.04	.02
12	.21	.20	.25	.34	.92	1.5	4.3	2.4	2.1	.36	.04	.03
13	.20	.20	.25	.34	.94	1.2	4.1	5.6	1.9	.34	.05	.03
14	.21	.35	.25	.34	.95	1.0	3.6	9.3	1.7	.31	.05	.03
15	.21	.59	.25	.34	1.0	1.0	3.8	6.2	1.6	.27	.06	.02
16	.21	1.5	.25	.37	1.1	1.0	4.6	4.1	1.6	.27	.05	.07
17	.21	.74	.25	.38	1.0	1.0	3.7	3.6	1.6	.26	.05	.11
18	.21	.54	.25	.39	.94	1.0	3.0	3.5	1.5	.24	.05	.10
19	.21	.44	.25	.40	.96	1.3	2.8	6.0	1.5	.25	.05	.13
20	.19	.36	.25	.42	.94	1.8	2.8	10	1.6	.26	.05	.14
21	.20	.34	.25	.50	1.7	2.7	2.8	10	1.4	.20	.06	.09
22	.19	.32	.25	.63	1.4	3.8	3.0	7.0	1.2	.18	.05	.08
23	.20	.31	.25	.56	1.0	2.5	2.8	5.6	1.2	.16	.03	.08
24	.20	.28	.25	.58	1.0	2.1	2.6	5.2	1.1	.13	.02	.09
25	.20	.26	.25	.56	.96	1.8	2.4	5.3	1.1	.12	.03	.09
26	.20	.24	.25	.53	.95	2.6	2.4	7.1	1.3	.12	.10	.07
27	.20	.24	.25	.52	.94	2.4	2.4	7.6	.96	.11	.08	.06
28	.20	.24	.25	.52	.92	2.5	2.5	6.3	.82	.09	.06	.11
29	.20	.24	.28	.55	---	2.4	2.9	5.8	.79	.09	.04	.21
30	.20	.25	.43	.58	---	1.8	4.0	5.4	.79	.10	.03	.17
31	.20	---	.42	.56	---	2.7	---	4.7	---	.10	.03	---
TOTAL	8.21	9.85	8.19	13.26	24.63	51.99	107.3	149.2	61.96	10.69	1.65	1.89
MEAN	.26	.33	.26	.43	.88	1.68	3.58	4.81	2.07	.34	.053	.063
MAX	1.3	1.5	.43	.63	1.7	3.8	7.0	10	4.5	1.0	.10	.21
MIN	.19	.20	.24	.34	.54	.92	1.6	2.0	.79	.09	.02	.01
AC-FT	16	20	16	26	49	103	213	296	123	21	3.3	3.7

CAL YR 1976 TOTAL 958.60 MEAN 2.62 MAX 18 MIN .10 AC-FT 1900
WTR YR 1977 TOTAL 448.82 MEAN 1.23 MAX 10 MIN .01 AC-FT 890

11426190 LAKE VALLEY CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'58", long 120°39'11", in NE¼NW¼ sec.32, T.17 N., R.12 E., Placer County, Tahoe National Forest, on right bank 500 ft (152 m) upstream from inlet to Carpenter Flat siphon, and 1 mi (2 km) east of Emigrant Gap.

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,360 ft (1,634 m), from topographic map.

REMARKS.--Canal diverts from right bank of the North Fork of North Fork American River, 2.7 mi (4.3 km) downstream from Lake Valley Reservoir to the Drum Canal in the Bear River basin. See schematic diagram of Bear River and Yuba River basins.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 12.8 ft^3/s (0.362 m^3/s), 9,270 acre-ft/yr (11.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 40 ft^3/s (1.133 m^3/s) Mar. 29, 1974; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27						0	8.2	2.8	0	31	0
2	28						0	7.1	2.5	0	2.7	0
3	27						0	5.6	2.3	0	1.1	0
4	27						0	5.9	2.0	0	.73	0
5	26						0	4.2	1.8	0	.53	0
6	26						0	4.7	1.7	0	.57	0
7	28						0	5.0	1.7	0	.60	0
8	33						0	6.1	1.6	0	.57	0
9	34						0	8.1	1.7	0	.55	0
10	33						0	8.1	1.8	0	.58	0
11	33						0	8.0	1.6	5.0	.46	0
12	33						0	8.0	1.5	23	.44	0
13	34						0	8.2	1.4	27	.43	0
14	33						0	9.5	1.3	27	.43	.04
15	32						0	12	1.2	27	.51	0
16	31						0	9.1	1.1	30	.43	.09
17	29						0	7.8	1.1	35	.39	.03
18	27						0	7.5	1.1	31	.31	.01
19	26						0	8.0	1.3	28	0	0
20	24						0	8.2	0	31	0	0
21	20						0	7.3	0	32	0	0
22	6.3						0	6.1	0	32	0	0
23	5.4						0	6.5	0	31	.80	0
24	5.7						0	6.3	0	30	.14	0
25	5.3						0	5.2	0	32	0	.55
26	3.7						0	6.3	0	35	0	.14
27	1.7						0	10	0	35	0	.07
28	.01						1.7	6.4	0	34	0	.06
29	0				---		1.8	5.0	0	33	0	.04
30	0				---		2.2	4.0	0	32	0	.03
31	0	---			---		---	3.4	---	33	0	---
TOTAL	639.11	0	0	0	0	0	5.7	215.8	31.5	623.0	43.27	1.06
MEAN	20.6	0	0	0	0	0	.19	6.96	1.05	20.1	1.40	.035
MAX	34	0	0	0	0	0	2.2	12	2.8	35	31	.55
MIN	0	0	0	0	0	0	0	3.4	0	0	0	0
AC-FT	1270	0	0	0	0	0	11	428	62	1240	86	2.1

CAL YR 1976 TOTAL 2157.69 MEAN 5.90 MAX 34 MIN 0 AC-FT 4280
WTR YR 1977 TOTAL 1559.44 MEAN 4.27 MAX 35 MIN 0 AC-FT 3090

11426200 NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°08'37", long 120°45'30", in NW¼SE¼ sec.17, T.15 N., R.11 E., Placer County, Tahoe National Forest, on right bank 0.2 mi (0.3 km) downstream from Big Reservoir, and 6.0 mi (9.7 km) southeast of Dutch Flat.

DRAINAGE AREA.--1.68 mi^2 (4.35 km^2).

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,980 ft (1,213 m), from topographic map.

REMARKS.--Flow regulated by Big Reservoir, capacity, 2,200 acre-ft (2.71 hm^3). Some diversion above station for mining.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--21 years, 4.35 ft^3/s (0.123 m^3/s), 3,150 acre-ft/yr (3.88 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft^3/s (10.7 m^3/s) Jan. 22, 1970, gage height, 4.76 ft (1.451 m); no flow many days in 1964-66, and 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 6.40 ft (1.951 m) probably Dec. 23, 1955, from flood-marks, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1.0 ft^3/s (0.028 m^3/s) Feb. 21, gage height, 2.01 ft (0.613 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	.30	.20	.10	.20	.40	.10	.20	.20	.10	.10	.10
2	.20	.30	.20	.30	.10	.40	.10	.20	.20	.10	.10	.10
3	.20	.20	.10	.20	.10	.30	.10	.20	.20	.10	.10	0
4	.20	.20	.10	.20	.10	.30	.10	.20	.10	.20	.10	0
5	.20	.20	.10	.20	.10	.20	.10	.20	.10	.20	.10	0
6	.20	.30	.10	.20	.10	.20	.10	.20	.10	.20	.10	0
7	.10	.30	.10	.20	.10	.20	.10	.20	.10	.20	.10	0
8	.10	.30	.10	.20	.30	.10	.10	.20	.10	.20	0	0
9	.10	.30	.10	.20	.40	.30	.20	.20	.10	.20	0	.10
10	.20	.30	.10	.20	.30	.30	.10	.20	.10	.10	0	.10
11	.20	.30	.10	.20	.20	.30	.20	.20	.20	.20	0	.10
12	.20	.30	.10	.20	.10	.20	.20	.20	.20	.10	0	.10
13	.20	.30	.10	.20	.10	.20	.20	.20	.20	.20	0	.10
14	.20	.40	.10	.20	.10	.20	.20	.20	.10	.10	.10	.10
15	.20	.30	.10	.20	.10	.20	.20	.20	.10	.10	0	.10
16	.20	.30	.10	.20	.10	.30	.20	.20	.10	.10	.10	.10
17	.20	.30	.10	.20	.10	.30	.20	.20	.10	.10	.10	.10
18	.30	.30	.10	.20	.10	.30	.20	.20	.10	.10	.10	.10
19	.20	.20	.10	.20	.10	.30	.20	.20	.10	.10	.10	.10
20	.30	.20	.10	.10	.10	.30	.20	.20	.10	.10	.10	.10
21	.30	.20	.20	.20	.50	.30	.10	.20	.10	.10	.10	.10
22	.20	.20	.20	.20	.40	.30	.10	.20	.10	.10	.10	.10
23	.30	.20	.20	.20	.40	.30	.10	.20	.10	.10	.10	0
24	.30	.20	.20	.20	.40	.30	.10	.20	.10	.10	.10	0
25	.30	.20	.20	.20	.40	.30	.10	.20	.10	.10	.10	0
26	.30	.20	.20	.20	.40	.30	.10	.20	.10	.10	.20	0
27	.20	.20	.20	.20	.40	.20	.10	.20	.10	.10	.10	0
28	.20	.20	.10	.20	.40	.20	.10	.20	.10	.10	.10	0
29	.30	.20	.10	.20	---	.20	.10	.20	.10	.10	.10	.10
30	.30	.20	.10	.20	---	.10	.10	.20	.10	.10	.10	.10
31	.30	---	.10	.20	---	.10	---	.20	---	.10	.10	---
TOTAL	6.90	7.60	4.00	6.10	6.20	7.90	4.10	6.20	3.60	3.90	2.50	1.80
MEAN	.22	.25	.13	.20	.22	.25	.14	.20	.12	.13	.081	.060
MAX	.30	.40	.20	.30	.50	.40	.20	.20	.20	.20	.20	.10
MIN	.10	.20	.10	.10	.10	.10	.10	.20	.10	.10	0	0
AC-FT	14	15	7.9	12	12	16	8.1	12	7.1	7.7	5.0	3.6

CAL YR 1976 TOTAL 99.50 MEAN .27 MAX 1.1 MIN .10 AC-FT 197
WTR YR 1977 TOTAL 60.80 MEAN .17 MAX .50 MIN 0 AC-FT 121

11426400 NORTH SHIRTTAIL CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°07'49", long 120°47'44", in NW¼SE¼ sec.24, T.15 N., R.10 E., Placer County, Tahoe National Forest, on right bank 200 ft (61 m) downstream from Forbes Creek, and 7.0 mi (11.3 km) southeast of Dutch Flat.

DRAINAGE AREA.--9.10 mi^2 (23.57 km^2).

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 3,500 ft (1,067 m), from topographic map.

REMARKS.--Flow slightly regulated by Big Reservoir, capacity, 2,200 acre-ft (2.71 hm^3).

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by the Geological Survey.

AVERAGE DISCHARGE.--21 years, 19.8 ft^3/s (0.561 m^3/s), 14,350 acre-ft/yr (17.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,780 ft^3/s (50.4 m^3/s) Dec. 22, 1964, gage height, 7.56 ft (2.304 m), from rating curve extended above 590 ft^3/s (16.7 m^3/s) on basis of slope-area measurement at gage height 6.36 ft (1.939 m); no flow many days in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 7.30 ft (2.225 m) from floodmarks, discharge, 1,650 ft^3/s (46.7 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16 ft^3/s (0.45 m^3/s) Feb. 21, gage height, 1.51 ft (0.460 m); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	.20	.20	.20	.60	2.9	1.8	1.9	.50	0		
2	.30	.20	.20	4.6	.60	2.4	1.6	1.3	.40	0		
3	.30	.20	.20	3.7	.60	2.1	1.4	.90	.40	0		
4	.20	.20	.20	1.5	.60	1.8	1.3	.90	.40	0		
5	.20	.20	.20	1.1	.60	1.6	1.2	.80	.30	0		
6	.20	.20	.20	.90	.50	1.4	1.1	1.0	.30	0		
7	.20	.20	.20	.80	.50	1.3	1.0	1.2	.30	0		
8	.20	.20	.20	.70	1.1	1.2	1.0	1.1	.30	0		
9	.20	.20	.20	.50	1.4	3.7	1.3	1.1	.30	0		
10	.20	.20	.20	.50	1.1	3.3	1.0	3.0	.30	0		
11	.20	.20	.20	.60	.90	2.7	.90	2.4	.30	.10		
12	.10	.20	.20	.60	.80	2.7	.90	2.4	.20	.10		
13	.10	.20	.20	.60	.70	2.8	.80	2.3	.20	.10		
14	.10	2.0	.20	.60	.70	2.6	.70	1.9	.20	.10		
15	.10	.50	.20	.60	.60	2.5	.70	1.6	.20	.10		
16	.10	.30	.20	.60	.60	2.7	.70	1.5	.20	.10		
17	.10	.30	.20	.60	.60	2.9	.70	1.4	.20	0		
18	.10	.20	.20	.60	.50	2.9	.60	1.4	.20	0		
19	.10	.20	.20	.60	.50	2.9	.60	1.2	.20	0		
20	.20	.20	.20	.70	.50	2.9	.60	1.0	.20	0		
21	.20	.20	.20	.80	7.8	2.9	.50	.90	.20	0		
22	.20	.20	.20	1.3	5.1	2.5	.50	.90	.20	0		
23	.20	.20	.20	1.4	3.6	2.9	.50	.90	.10	0		
24	.20	.20	.20	1.2	3.2	3.7	.50	.90	.10	0		
25	.20	.20	.20	1.0	2.8	3.6	.40	.80	.10	0		
26	.20	.20	.20	.90	2.4	3.2	.40	1.2	.10	0		
27	.20	.20	.30	.80	2.2	2.9	.40	1.1	.10	0		
28	.20	.20	.40	.70	2.6	2.7	.40	.80	.10	0		
29	.20	.20	.40	.70	---	2.5	.40	.70	.10	0		
30	.20	.20	.30	.70	---	2.2	.70	.60	.10	0		
31	.20	---	.30	.60	---	2.0	---	.60	---	0		---
TOTAL	5.70	8.30	6.90	30.70	43.70	80.4	24.60	39.70	6.80	.60	0	0
MEAN	.18	.28	.22	.99	1.56	2.59	.82	1.28	.23	.019	0	0
MAX	.30	2.0	.40	4.6	7.8	3.7	1.8	3.0	.50	.10	0	0
MIN	.10	.20	.20	.20	.50	1.2	.40	.60	.10	0	0	0
AC-FT	11	16	14	61	87	159	49	79	13	1.2	0	0

CAL YR 1976 TOTAL 675.30 MEAN 1.85 MAX 24 MIN .10 AC-FT 1340
WTR YR 1977 TOTAL 247.40 MEAN .68 MAX 7.8 MIN 0 AC-FT 491

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA

LOCATION.--Lat 38°56'10", long 121°01'22", in SW¼NW¼ sec.31, T.13 N., R.9 E., Placer County, on left bank 50 ft (15 m) upstream from spillway of North Fork Dam, 2 mi (3 km) upstream from Middle Fork, and 4 mi (6 km) northeast of Auburn.

DRAINAGE AREA.--342 mi^2 (886 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 715.0 ft (217.93 m) above mean sea level (levels by Corps of Engineers).

REMARKS.--Records good. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft (15.8 hm^3) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir, combined capacity, 10,300 acre-ft (12.7 hm^3) above station. Lake Valley Canal (station 11426190) diverts from North Fork of North Fork American River into Bear River basin for power development in powerhouses of Pacific Gas and Electric Co. Combined storage and diversion have small effect on natural flow.

AVERAGE DISCHARGE.--36 years, 801 ft^3/s (22.68 m^3/s), 580,300 acre-ft/yr (716 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft^3/s (1,850 m^3/s) Dec. 23, 1964, gage height, 11.87 ft (3.618 m), from rating curve extended above 24,000 ft^3/s (680 m^3/s) on basis of computed flow over spillway of dam at gage height 10.22 ft (3.115 m); no flow Aug. 27-30, Sept. 2-11, 1944, Oct. 5, 6, 1963, Nov. 7-10, 1965, caused by operation of valve in North Fork Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 571 ft^3/s (16.2 m^3/s) May 27, gage height, 1.09 ft (0.332 m), no peak above base of 4,300 ft^3/s (122 m^3/s); minimum daily, 12 ft^3/s (0.34 m^3/s) on many days during August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	31	37	36	43	111	107	259	315	43	14	13
2	37	31	37	71	43	98	102	327	311	41	14	13
3	42	31	36	292	42	87	98	256	272	41	13	13
4	42	31	36	180	42	81	96	216	239	40	12	12
5	39	31	35	91	42	76	116	196	236	38	12	12
6	36	31	35	66	41	73	216	199	229	36	12	12
7	35	31	34	56	41	74	273	201	233	36	12	12
8	34	31	34	50	45	78	329	189	219	34	13	12
9	34	31	34	47	53	91	302	205	188	33	12	12
10	35	31	34	46	60	148	253	291	185	30	14	12
11	36	32	34	45	53	117	214	283	192	28	14	12
12	34	33	34	48	50	107	205	261	155	28	14	12
13	34	33	34	48	49	126	226	252	136	27	13	12
14	33	84	34	46	49	122	260	360	126	26	13	12
15	31	114	34	45	49	106	252	457	117	27	12	13
16	31	78	34	43	51	109	256	361	109	24	12	14
17	31	53	33	43	54	112	301	290	102	23	12	15
18	31	47	32	43	53	105	276	257	97	21	12	16
19	31	45	32	43	51	98	231	238	92	23	13	20
20	31	42	32	47	50	100	197	274	85	23	13	20
21	30	41	32	50	101	106	186	356	86	20	12	19
22	30	40	33	50	364	113	190	376	80	19	12	19
23	31	40	34	57	222	143	194	342	74	18	12	17
24	31	40	32	58	179	189	205	321	68	17	12	17
25	31	39	32	52	130	160	206	286	62	17	12	17
26	30	39	32	49	109	138	194	265	57	16	14	16
27	29	36	32	47	98	133	182	452	53	15	17	17
28	30	36	31	46	97	143	178	406	50	14	19	17
29	30	36	32	45	---	142	180	334	47	14	18	19
30	31	37	38	44	---	126	179	308	45	14	16	20
31	31	---	37	43	---	116	---	303	---	14	14	---
TOTAL	1025	1255	1050	1927	2261	3528	6204	9121	4260	800	414	447
MEAN	33.1	41.8	33.9	62.2	80.8	114	207	294	142	25.8	13.4	14.9
MAX	42	114	38	292	364	189	329	457	315	43	19	20
MIN	29	31	31	36	41	73	96	189	45	14	12	12
AC-FT	2030	2490	2080	3820	4480	7000	12310	18090	8450	1590	821	887

CAL YR 1976 TOTAL 61424 MEAN 168 MAX 1030 MIN 27 AC-FT 121800
WTR YR 1977 TOTAL 32292 MEAN 88.5 MAX 457 MIN 12 AC-FT 64050

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.
CHEMICAL ANALYSES: Water year 1977.
WATER TEMPERATURES: Water years 1960 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1959 to current year.

INSTRUMENTATION.--Temperature recorder since November 1959.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.5°C July 26, 27, 1976; minimum recorded, 4.5°C Jan. 21, 1967, Jan. 25, 1976.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 27.5°C on several days during July and August; minimum recorded, 5.0°C Jan. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	ALKALINITY AS CACO3 (MG/L)
JUL							
11...	1200	28	101	8.3	24.0	9.2	37
AUG							
11...	1100	14	106	8.3	23.5	9.1	44
SEP							
07...	1130	12	113	8.2	23.5	9.7	48

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

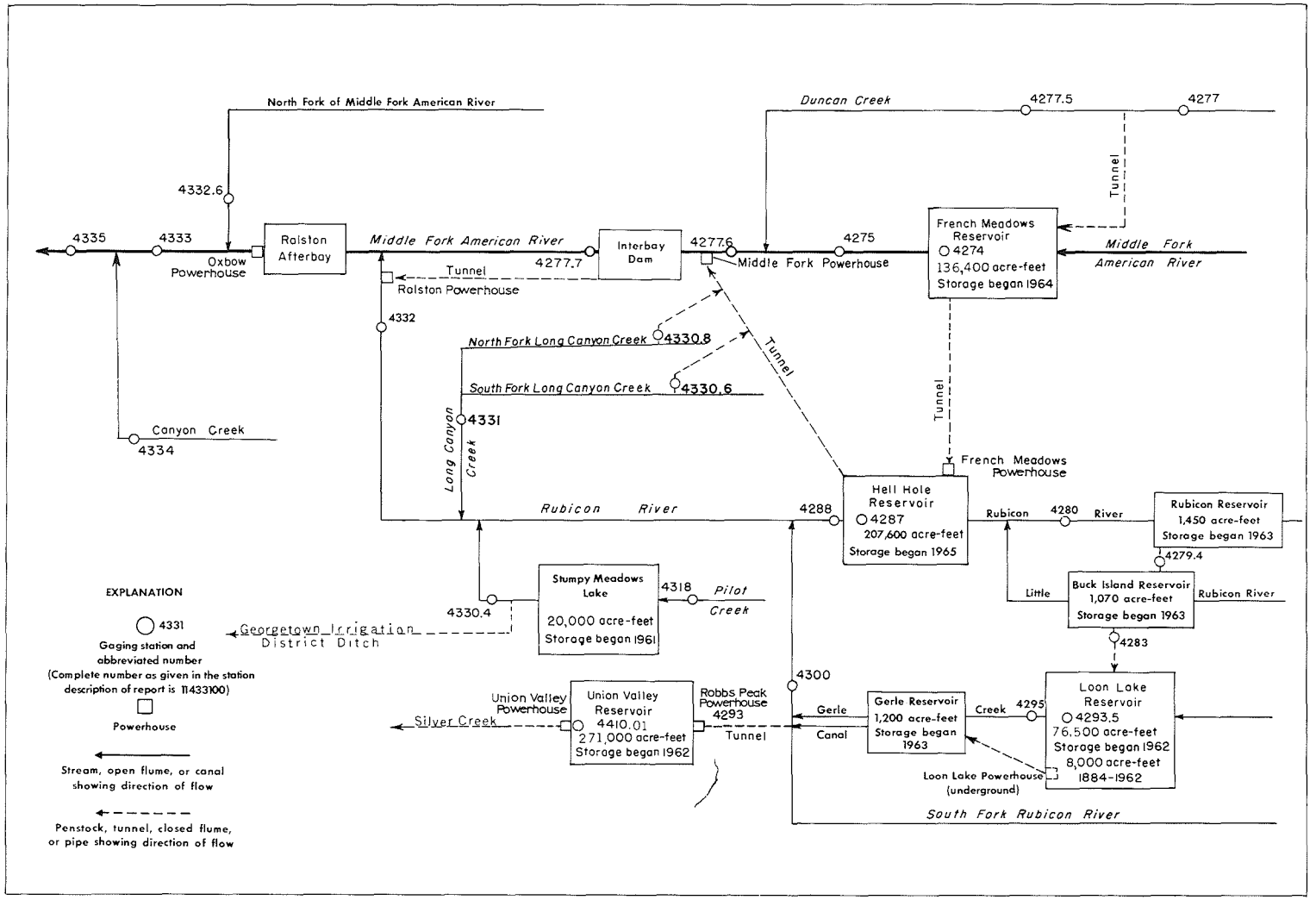

FIGURE 10.--Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

11427400 FRENCH MEADOWS RESERVOIR NEAR FORESTHILL, CA

LOCATION.--Lat 39°06'32", long 120°25'49", in SW¼NE¼ sec.32, T.15 N., R.14 E., Placer County, Tahoe National Forest, on left bank 2.2 mi (3.5 km) upstream from dam on Middle Fork American River, 6.9 mi (11.1 km) upstream from Chipmunk Creek, and 21 mi (34 km) northeast of Foresthill.

DRAINAGE AREA.--47.0 mi^2 (121.7 km^2).

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 21, 1964. Usable capacity, 125,601 acre-ft (155 hm^3) between elevations 5,125 ft (1,562.1 m), minimum operating level and 5,263 ft (1,604.2 m), top of radial gates. Dead storage, 10,804 acre-ft (13.3 hm^3). Reservoir is used to store water for hydroelectric power. Up to 400 ft^3/s (11.3 m^3/s) is diverted from Duncan Creek through a tunnel to reservoir. Water is released through a tunnel to French Meadows powerplant at Hell Hole Reservoir on the Rubicon River; releases began Dec. 13, 1965. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft (170 hm^3) May 19, 1966, elevation, 5,263.9 ft (1,604.44 m); minimum since reservoir first filled, 38,154 acre-ft (47.0 hm^3) Sept. 28, 1977, elevation, 5,171.45 ft (1,576.258 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 56,612 acre-ft (69.8 hm^3) July 3, elevation, 5,193.72 ft (1,583.046 m); minimum, 38,154 acre-ft (47.0 hm^3) Sept. 28, elevation, 5,171.45 ft (1,576.258 m).

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

5125	10804	5200	62447
5130	13075	5230	94074
5150	23743	5270	146502
5170	37085		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41257	40962	39841	39658	40002	40884	42243	46520	53654	56476	52887	40093
2	41280	40947	39841	39872	39994	40901	42296	46743	53947	56485	52449	39979
3	41280	40924	39841	39932	39994	40924	42327	46884	54177	56494	51967	39971
4	41280	40924	39818	39932	39994	40939	42390	46975	54417	56494	51532	39948
5	41280	40908	39811	39995	40002	40939	42547	47116	54641	56494	51056	39932
6	41280	40901	39811	39940	40002	40978	42737	47289	54882	56476	50582	39834
7	41280	40893	39811	39940	40017	41001	42951	47391	55079	56476	50130	39384
8	41280	40885	39796	39940	40078	41017	43205	47524	55267	56566	49671	38847
9	41280	40877	39773	39940	40093	41141	43372	47666	55420	56558	49190	38395
10	41280	40469	39765	39940	40085	41164	43468	47808	55636	56549	48733	38388
11	41249	40170	39757	39940	40093	41196	43612	47942	55753	56530	48269	38380
12	41211	39750	39757	39940	40101	41288	43771	48084	55843	56521	47800	38365
13	41203	39750	39757	39947	40109	41342	43932	48210	55942	56521	47324	38335
14	41203	39879	39750	39947	40124	41375	44129	48572	56005	56503	46867	38320
15	41195	39887	39742	39947	40141	41399	44285	48868	56087	56503	46454	38298
16	41172	39894	39742	39947	40157	41435	44495	49113	56150	56476	46000	39343
17	41172	39894	39742	39910	40185	41459	44689	49283	56195	56440	45543	38275
18	41156	39902	39734	39910	40201	41474	44835	49453	56240	56440	45062	38268
19	41141	39902	39734	39910	40224	41505	44964	49649	56286	56431	44617	38268
20	41133	39902	39734	39917	40239	41538	45078	49948	56313	56413	44205	38268
21	41118	39902	39711	39955	40546	41575	45200	50264	56349	56404	43763	38260
22	41110	39902	39703	39955	40616	41654	45339	50582	56377	56322	43309	38245
23	41094	39902	39696	39971	40731	41794	45461	50892	56413	56368	43015	38206
24	41079	39902	39681	39979	40754	41872	45600	51116	56440	56340	42721	38206
25	41063	39902	39672	39979	40770	41919	45755	51342	56431	56159	42462	38182
26	41025	39887	39672	39979	40777	41959	45862	51767	56440	55609	42186	38182
27	41025	39872	39658	39986	40800	42029	45976	52168	56458	55160	41888	38170
28	41017	39864	39658	39986	40870	42091	46091	52491	56467	54667	41592	38154
29	41009	39856	39650	39986	---	42154	46207	52735	56467	54221	41172	38170
30	40994	39856	39650	39986	---	42194	46289	53018	56467	53778	40731	38163
31	40978	---	39650	39994	---	42206	---	53327	---	53283	40400	---
MAX	41280	40962	39841	39995	40870	42206	46289	53327	56467	56566	52887	40093
MIN	40978	39750	39650	39658	39994	40884	42243	46520	53654	53283	40400	38154
†	5175.15	5173.69	4173.42	5173.87	5175.01	5176.75	5181.80	5190.05	5193.56	5190.00	5174.40	5171.45
‡	-240	-1122	-206	+344	+876	+1336	+4083	+7038	+3140	-3184	-12883	-2237

CAL YR 1976 ‡ -39990
WTR YR 1977 ‡ -3055

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

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA

LOCATION.--Lat 39°06'35", long 120°28'49", in SW¼NW¼ sec.36, T.15 N., R.13 E., Placer County, Tahoe National Forest, on left bank 0.6 mi (1.0 km) downstream from French Meadows Dam, 4.1 mi (6.6 km) upstream from Chipmunk Creek, and 14 mi (23 km) south of Cisco.

DRAINAGE AREA.--47.9 mi^2 (124.1 km^2).

PERIOD OF RECORD.--October 1951 to current year.

REVISED RECORDS.--WSP 1445: 1953-54. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,920 ft (1,500 m), from topographic map. Prior to Oct. 1, 1962, at site 0.8 mi (1.3 km) upstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) 0.6 mi (1.0 km) upstream beginning in December 1964. Diversions from Duncan Creek to French Meadows Reservoir since December 1964 and from French Meadows Reservoir to Hell Hole Reservoir since December 1965. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years (water years 1952-64, prior to regulation by French Meadows Reservoir), 149 ft^3/s (4.22 m^3/s), 107,900 acre-ft/yr (133.0 hm^3/yr); 13 years (water years 1965-77), 21.6 ft^3/s (0.612 m^3/s), 15,650 acre-ft/yr (19.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft^3/s (609 m^3/s) Jan. 31, 1963, gage height, 14.20 ft (4.328 m), from rating curve extended above 1,100 ft^3/s (31.2 m^3/s) on basis of maximum flow at former site; minimum, 0.3 ft^3/s (0.008 m^3/s) Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 1,310 ft^3/s (37.1 m^3/s) Apr. 30, 1965, gage height, 7.68 ft (2.341 m); minimum daily, 0.8 ft^3/s (0.023 m^3/s) Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24 ft^3/s (0.68 m^3/s) Sept. 1, gage height, 4.40 ft (1.341 m); minimum daily, 2.6 ft^3/s (0.074 m^3/s) Sept. 2-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	5.1	3.7	4.1	4.4	4.6	5.0	4.3	3.7	3.0	2.8	3.1
2	3.9	5.1	3.7	4.9	4.4	4.6	4.1	4.0	3.7	3.0	2.8	2.6
3	3.9	4.9	3.7	4.6	4.4	4.6	4.1	3.9	3.7	3.0	2.8	2.6
4	3.9	4.6	3.7	4.4	4.4	4.4	4.1	3.9	3.9	3.0	2.8	2.6
5	3.9	4.6	3.7	4.4	4.4	4.1	4.2	4.0	3.8	3.0	2.8	2.6
6	3.9	4.6	3.7	4.4	4.4	4.1	4.5	4.1	3.7	3.0	2.8	2.6
7	3.9	4.6	3.7	4.4	4.4	4.1	4.7	4.1	3.9	3.0	2.8	2.6
8	3.9	4.6	3.7	4.4	4.5	4.1	4.9	4.1	3.7	3.0	2.8	2.6
9	3.9	4.6	3.9	4.4	4.4	4.7	4.9	4.3	3.8	3.0	2.8	2.6
10	3.9	4.6	3.9	4.4	4.4	4.4	4.9	4.7	3.7	3.0	2.8	2.6
11	4.6	4.6	3.9	4.4	4.4	4.4	4.9	4.7	3.6	3.0	2.8	2.6
12	4.6	4.6	3.9	4.4	4.4	4.4	5.1	4.9	3.5	3.0	2.8	2.6
13	4.6	4.6	3.9	4.4	4.4	4.4	5.2	4.6	3.5	3.0	2.8	2.7
14	4.6	5.4	3.9	4.4	4.4	4.4	5.4	4.5	3.5	3.0	2.8	2.8
15	4.6	4.9	3.9	4.4	4.4	4.4	5.4	4.2	3.5	3.0	2.8	2.7
16	4.6	4.9	3.9	4.4	4.4	4.1	5.4	4.1	3.5	3.0	2.7	2.7
17	4.6	4.2	3.9	4.2	4.4	4.1	4.6	4.1	3.5	3.0	2.8	2.7
18	4.6	3.7	3.9	4.1	4.4	4.1	3.9	4.1	3.5	3.0	2.8	2.7
19	4.9	3.7	3.9	4.1	4.4	4.1	3.9	4.1	3.6	3.0	2.7	2.8
20	4.9	3.7	3.9	4.1	4.4	4.1	4.0	3.9	3.8	3.0	2.7	2.8
21	4.9	3.7	3.9	4.2	6.0	4.2	4.1	3.9	3.9	3.0	2.7	2.8
22	4.9	3.7	4.0	4.4	4.8	4.4	4.1	3.9	3.9	3.0	2.7	2.7
23	4.9	3.7	4.1	4.4	4.8	4.4	4.1	4.1	3.9	3.0	2.7	2.7
24	4.9	3.7	4.1	4.4	4.6	4.4	4.1	4.1	3.7	3.0	2.7	2.7
25	4.9	3.7	4.1	4.4	4.6	4.4	4.1	4.1	3.9	3.0	2.7	2.7
26	4.9	3.7	4.1	4.4	4.6	4.4	4.1	4.4	3.9	3.0	2.8	2.7
27	4.9	3.7	4.1	4.4	4.6	4.5	4.1	4.2	3.9	3.0	2.7	2.7
28	4.9	3.7	4.1	4.4	4.6	4.6	4.1	4.1	3.7	2.9	2.7	2.7
29	5.1	3.7	4.1	4.4	---	4.7	4.1	4.2	3.4	2.8	2.7	2.8
30	5.1	3.7	4.1	4.4	---	5.0	4.0	4.4	3.1	2.8	2.7	2.8
31	5.1	---	4.1	4.4	---	5.1	---	4.3	---	2.8	2.7	---
TOTAL	140.1	128.6	121.2	135.5	126.7	136.3	134.1	130.3	110.4	92.3	85.5	80.9
MEAN	4.52	4.29	3.91	4.37	4.53	4.40	4.47	4.20	3.68	2.98	2.76	2.70
MAX	5.1	5.4	4.1	4.9	6.0	5.1	5.4	4.9	3.9	3.0	2.8	3.1
MIN	3.9	3.7	3.7	4.1	4.4	4.1	3.9	3.9	3.1	2.8	2.7	2.6
AC-FT	278	255	240	269	251	270	266	258	219	183	170	160
‡	0	1150	0	0	0	0	16	0	0	2480	10820	1640

CAL YR 1976	TOTAL 2082.9	MEAN 5.69	MAX 11	MIN 2.7	AC-FT 4130			
WTR YR 1977	TOTAL 1421.9	MEAN 3.90	MAX 6.0	MIN 2.6	AC-FT 2820			

‡ Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant, furnished by Placer County Water Agency.

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°08'09", long 120°28'39", in NE¼NW¼ sec.24, T.15 N., R.13 E., Placer County, Tahoe National Forest, on left bank 0.2 mi (0.3 km) upstream from diversion dam, 0.5 mi (0.8 km) downstream from Little Duncan Creek, 2 mi (3 km) northwest of French Meadows, and 20 mi (32 km) northeast of Foresthill.

DRAINAGE AREA.--9.94 mi^2 (25.74 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,270 ft (1,606 m), from topographic map. Prior to Sept. 3, 1965, at site 150 ft (46 m) upstream at datum 9.56 ft (2.914 m) higher.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by the Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--17 years, 33.8 ft^3/s (0.957 m^3/s), 24,490 acre-ft/yr (30.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft^3/s (103 m^3/s) Dec. 22, 1964, gage height, 10.6 ft (3.23 m) from floodmarks, from rating curve extended above 400 ft^3/s (11.3 m^3/s) on basis of computation of flow over diversion dam; minimum daily, 0.10 ft^3/s (0.003 m^3/s) July 31, Aug. 1, 2, 8, 9, 13-16, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 70 ft^3/s (1.98 m^3/s) May 26, gage height, 6.29 ft (1.917 m), no peak above base of 250 ft^3/s (7.08 m^3/s); maximum gage height, 6.56 ft (1.999 m^3/s), backwater from ice; minimum daily discharge, 0.10 ft^3/s (0.003 m^3/s) July 31, Aug. 1, 2, 8, 9, 13-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	.48	.82	.80	2.0	4.2	5.5	16	16	1.1	.10	.27
2	3.0	.48	.82	1.3	1.9	3.8	5.6	12	14	1.1	.10	.20
3	1.8	.44	.79	2.5	1.8	3.4	6.4	11	12	1.2	.14	.20
4	1.2	.41	.81	2.8	1.7	3.4	10	10	11	1.1	.14	.27
5	1.0	.41	.82	1.8	1.8	4.0	15	9.5	9.1	.97	.14	.20
6	.87	.41	.72	1.6	1.9	4.8	17	9.7	8.1	.88	.14	.17
7	.71	.41	.74	1.4	2.2	4.8	20	9.4	7.2	.76	.14	.17
8	.71	.41	.84	1.4	2.6	4.8	17	11	6.4	.81	.10	.17
9	.74	.41	.82	1.4	2.6	4.8	15	13	6.9	.76	.10	.17
10	.74	.41	.76	1.7	2.8	5.0	13	12	7.3	.79	.12	.20
11	.72	.42	.81	1.8	2.9	5.3	13	10	6.1	.73	.12	.20
12	.65	.48	.78	1.5	3.0	5.9	15	11	5.3	.79	.12	.20
13	.42	.51	.74	1.4	3.1	6.3	17	18	4.8	.71	.10	.20
14	.48	3.4	.74	1.3	3.2	5.6	16	26	4.4	.65	.10	.20
15	.48	3.5	.74	1.4	3.3	4.3	17	23	4.1	.54	.10	.27
16	.48	3.4	.74	1.5	3.3	4.0	19	19	3.7	.46	.10	.41
17	.48	2.5	.74	1.8	3.3	3.9	17	17	3.4	.32	.12	.84
18	.48	1.9	.74	2.3	3.0	4.2	14	16	3.2	.26	.17	.64
19	.48	1.6	.74	2.7	2.9	5.1	12	19	3.2	.20	.17	.89
20	.48	1.3	.74	2.4	2.9	6.2	11	25	3.2	.17	.14	1.2
21	.48	1.2	.74	2.6	5.0	8.1	11	28	2.8	.14	.12	.72
22	.48	1.1	.74	3.3	5.0	11	12	26	2.5	.17	.12	.54
23	.48	1.1	.74	2.4	5.4	9.1	12	25	2.3	.14	.14	.49
24	.48	.99	.74	2.2	5.2	6.8	12	22	2.1	.14	.14	.34
25	.48	.99	.74	2.3	4.7	6.7	11	20	1.9	.12	.20	.34
26	.48	.91	.74	2.2	4.7	7.7	10	37	1.7	.12	.82	.27
27	.48	.71	.74	2.2	4.2	9.0	9.5	36	1.5	.14	.49	.27
28	.48	.74	.74	2.2	4.2	7.9	9.1	27	1.4	.14	.41	.26
29	.48	.74	.74	2.2	---	6.7	8.4	23	1.3	.12	.41	.79
30	.48	.83	.80	2.1	---	5.9	9.5	20	1.2	.12	.34	.85
31	.48	---	.80	2.2	---	5.5	---	18	---	.10	.27	---
TOTAL	21.90	32.59	23.71	60.70	90.6	178.2	380.0	579.6	158.1	15.75	5.92	11.94
MEAN	.71	1.09	.76	1.96	3.24	5.75	12.7	18.7	5.27	.51	.19	.40
MAX	3.0	3.5	.84	3.3	5.4	11	20	37	16	1.2	.82	1.2
MIN	.42	.41	.72	.80	1.7	3.4	5.5	9.4	1.2	.10	.10	.17
AC-FT	43	65	47	120	180	353	754	1150	314	31	12	24

CAL YR 1976 TOTAL 3311.53 MEAN 9.05 MAX 60 MIN .22 AC-FT 6570
WTR YR 1977 TOTAL 1559.01 MEAN 4.27 MAX 37 MIN .10 AC-FT 3090

11427750 DUNCAN CREEK BELOW DIVERSION DAM, NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°07'59", long 120°28'58", in NE¼SE¼ sec.23, T.15 N., R.13 E., Placer County, Tahoe National Forest, on right bank 800 ft (244 m) downstream from unnamed right bank tributary, 1,000 ft (305 m) downstream from Duncan Creek diversion dam, and 20 mi (32 km) northeast of Foresthill.

DRAINAGE AREA.--10.5 mi^2 (27.2 km^2).

PERIOD OF RECORD.--October 1964 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 5,210 ft (1,588 m), from topographic map.

REMARKS.--Flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft^3/s (11.3 m^3/s). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--13 years, 13.1 ft^3/s (0.371 m^3/s), 9,490 acre-ft/yr (11.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft^3/s (103 m^3/s) Dec. 22, 1964, gage height, 8.74 ft (2.664 m) in gage well, 10.0 ft (3.05 m) from floodmarks, from rating curve extended above 400 ft^3/s (11.3 m^3/s) on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.2 ft^3/s (0.20 m^3/s) Mar. 13, gage height, 1.46 ft (0.445 m); minimum daily, 0.21 ft^3/s (0.006 m^3/s) Aug. 23, 24, Sept. 9-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.74	.65	.84	.89	1.6	4.0	5.1	4.2	4.0	1.3	.31	.27
2	2.8	.65	.83	1.2	1.5	3.5	5.1	4.2	4.0	1.3	.31	.26
3	1.8	.65	.83	2.3	1.4	3.2	5.1	4.2	4.0	1.4	.31	.25
4	1.2	.65	.84	2.7	1.4	3.0	5.2	4.1	3.9	1.3	.29	.24
5	1.0	.65	.80	1.6	1.5	3.4	5.4	4.0	3.8	1.1	.28	.23
6	.90	.65	.77	1.5	1.5	4.3	5.5	4.2	3.8	1.1	.28	.22
7	.83	.65	.75	1.4	1.8	4.5	5.5	4.1	3.8	.97	.28	.22
8	.79	.65	.78	1.4	2.3	4.5	5.5	4.1	3.8	.94	.27	.22
9	.76	.65	.82	1.4	2.2	4.8	5.4	4.3	3.8	.88	.26	.21
10	.76	.65	.83	1.4	2.5	4.5	5.4	4.3	3.8	.82	.26	.21
11	.76	.65	.84	1.5	2.5	4.5	5.4	4.3	3.7	.81	.25	.21
12	.74	.67	.80	1.5	2.6	5.0	5.4	4.3	3.7	.75	.24	.21
13	.71	.72	.78	1.4	2.7	5.7	5.4	4.4	3.7	.79	.24	.22
14	.70	3.0	.74	1.3	2.9	5.0	5.2	5.0	3.7	.66	.24	.22
15	.71	3.2	.77	1.4	3.0	4.2	5.1	5.2	3.7	.65	.23	.22
16	.71	3.2	.76	1.5	3.0	3.7	5.1	5.0	3.7	.61	.22	.27
17	.71	2.5	.71	1.8	3.0	3.5	5.1	4.6	3.6	.58	.22	.50
18	.71	1.8	.70	2.3	2.7	3.7	5.1	4.5	3.2	.55	.25	.44
19	.71	1.5	.71	2.7	2.6	4.6	5.1	4.4	2.9	.52	.25	.59
20	.71	1.3	.70	2.4	2.7	4.7	5.1	4.3	3.0	.52	.23	.84
21	.71	1.2	.70	2.6	4.8	4.8	5.1	4.3	2.7	.49	.22	.58
22	.71	1.2	.73	3.3	4.9	5.1	5.1	4.2	2.5	.47	.22	.47
23	.71	1.1	.78	2.4	5.3	5.3	5.0	4.2	2.3	.44	.21	.43
24	.71	1.2	.67	2.2	5.0	5.1	4.9	4.2	2.1	.44	.21	.40
25	.71	1.4	.71	1.9	4.4	5.1	4.9	4.2	2.0	.40	.25	.40
26	.70	1.2	.72	1.7	4.2	5.1	4.9	4.4	1.8	.40	.58	.37
27	.65	.76	.68	1.7	4.0	5.4	4.9	4.6	1.7	.40	.41	.36
28	.65	.81	.70	1.7	4.0	5.6	4.9	4.3	1.6	.37	.37	.40
29	.65	.87	.72	1.7	---	5.4	4.6	4.2	1.5	.36	.32	.71
30	.65	.85	.78	1.7	---	5.4	4.1	4.2	1.4	.34	.29	.84
31	.65	---	.83	1.7	---	5.2	---	4.0	---	.32	.28	---
TOTAL	26.25	35.63	23.62	56.19	82.0	141.8	153.6	134.5	93.2	21.98	8.58	11.01
MEAN	.85	1.19	.76	1.81	2.93	4.57	5.12	4.34	3.11	.71	.28	.37
MAX	2.8	3.2	.84	3.3	5.3	5.7	5.5	5.2	4.0	1.4	.58	.84
MIN	.65	.65	.67	.89	1.4	3.0	4.1	4.0	1.4	.32	.21	.21
AC-FT	52	71	47	111	163	281	305	267	185	44	17	22

CAL YR 1976 TOTAL 1391.08 MEAN 3.80 MAX 14 MIN .47 AC-FT 2760
WTR YR 1977 TOTAL 788.36 MEAN 2.16 MAX 5.7 MIN .21 AC-FT 1560

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'31", long 120°35'40", in NW¼NW¼ sec.36, T.14 N., R.12 E., Placer County, Tahoe National Forest, on right bank 300 ft (91 m) upstream from Middle Fork powerhouse, 3.7 mi (6.0 km) upstream from Big Mosquito Creek, and 11 mi (18 km) east of Foresthill.

DRAINAGE AREA.--87.8 mi^2 (227.4 km^2).

PERIOD OF RECORD.--August 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft (774 m), from topographic map.

REMARKS.--Records good. Flow regulated by French Meadows Reservoir (station 11427400). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 90.9 ft^3/s (2.574 m^3/s), 65,860 acre-ft/yr (81.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,900 ft^3/s (110 m^3/s) Jan. 21, 1970, gage height, 8.00 ft (2.438 m); minimum daily, 12 ft^3/s (0.340 m^3/s) Aug. 31, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 97 ft^3/s (2.75 m^3/s) Feb. 21, gage height, 2.10 ft (0.640 m); minimum daily, 5.3 ft^3/s (0.15 m^3/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	12	13	12	14	21	22	23	19	11	6.8	6.3
2	16	12	13	24	14	19	22	20	19	11	6.8	6.1
3	16	12	13	32	14	20	22	18	18	11	6.8	6.7
4	14	12	13	18	14	17	22	18	18	11	6.7	6.1
5	12	12	12	16	14	17	22	17	18	10	6.5	6.2
6	13	12	12	15	14	18	22	21	17	10	6.4	5.9
7	12	12	12	14	14	19	22	20	17	9.8	6.4	5.7
8	12	12	12	14	16	19	22	19	16	9.6	6.5	5.7
9	12	12	12	13	18	29	24	21	17	9.5	6.5	5.7
10	12	12	13	14	16	25	21	27	19	9.3	6.4	5.4
11	12	12	12	14	16	22	21	25	18	9.2	6.3	5.3
12	12	12	12	14	15	23	20	26	17	9.1	6.2	5.5
13	11	12	12	14	15	23	19	24	16	8.9	6.1	5.5
14	11	25	12	14	16	21	18	23	16	8.9	6.1	5.4
15	11	21	12	14	16	21	18	23	16	8.7	6.1	5.7
16	11	16	12	14	16	21	18	23	16	8.4	5.9	6.6
17	11	16	12	14	16	21	18	23	15	8.3	5.7	7.3
18	11	15	12	15	15	19	18	23	15	8.1	5.9	6.9
19	11	14	12	16	15	21	18	22	15	8.1	6.5	7.6
20	12	13	12	16	15	21	18	21	15	8.0	6.1	8.4
21	12	13	12	16	46	22	18	20	14	7.9	6.0	7.5
22	12	13	12	20	32	22	17	19	14	7.7	5.8	7.4
23	12	13	12	18	28	25	17	20	13	7.5	5.7	7.1
24	12	13	12	16	23	26	17	20	13	7.4	5.6	7.1
25	12	13	12	15	21	24	17	19	13	7.3	5.8	7.0
26	12	13	12	15	20	24	17	23	12	7.2	6.2	6.9
27	12	12	12	15	20	23	17	25	12	7.1	7.9	6.8
28	12	12	12	14	23	23	17	22	12	7.1	7.2	7.0
29	12	13	12	14	---	23	17	21	12	7.0	6.8	8.6
30	12	13	12	14	---	22	17	20	11	6.9	6.8	8.3
31	13	---	12	14	---	22	---	20	---	6.8	6.5	---
TOTAL	377	404	377	488	516	673	578	666	463	267.8	197.0	197.7
MEAN	12.2	13.5	12.2	15.7	18.4	21.7	19.3	21.5	15.4	8.64	6.35	6.59
MAX	16	25	13	32	46	29	24	27	19	11	7.9	8.6
MIN	11	12	12	12	14	17	17	17	11	6.8	5.6	5.3
AC-FT	748	801	748	968	1020	1330	1150	1320	918	531	391	392

CAL YR 1976 TOTAL 9354.9 MEAN 25.6 MAX 91 MIN 9.6 AC-FT 18560
WTR YR 1977 TOTAL 5204.5 MEAN 14.3 MAX 46 MIN 5.3 AC-FT 10320

11427770 MIDDLE FORK AMERICAN RIVER BELOW INTERBAY DAM, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'35", long 120°36'09", in SW¼SE¼ sec.26, T.14 N., R.12 E., Placer County, Tahoe National Forest, on right bank 500 ft (152 m) downstream from Interbay Dam, 3.3 mi (5.3 km) upstream from Big Mosquito Creek, and 10.6 mi (17.1 km) east of Foresthill.

DRAINAGE AREA.--89.1 mi^2 (230.8 km^2).

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Altitude of gage is 2,470 ft (753 m), from topographic map.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400) and after Aug. 22, 1966, by Interbay Reservoir, capacity, 130 acre-ft (160,000 m^3) between normal operating limits of 2,502.0 ft (762.61 m) and 2,526.0 ft (769.92 m). Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant and re-diverted to Ralston powerplant. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 44.5 ft^3/s (1.260 m^3/s), 32,240 acre-ft/yr (39.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,770 ft^3/s (107 m^3/s) Jan. 21, 1970, gage height, 6.95 ft (2.118 m); minimum daily, 1.0 ft^3/s (0.028 m^3/s) Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 534 ft^3/s (15.1 m^3/s) May 6, gage height, 3.38 ft (1.030 m); minimum daily, 5.5 ft^3/s (0.16 m^3/s) Aug. 9, Sept. 20, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	11	11	12	11	11	12	11	11	7.8	5.7	5.7
2	12	11	11	12	11	11	12	11	11	7.9	5.7	5.8
3	12	11	11	12	11	11	12	11	11	7.7	5.7	5.7
4	12	11	11	12	11	11	12	11	11	7.7	5.7	5.7
5	12	11	11	12	11	11	12	11	11	7.9	5.7	5.7
6	11	11	11	12	11	11	12	13	11	7.9	5.8	5.8
7	11	11	11	12	11	11	12	11	11	7.9	5.8	5.7
8	11	11	11	11	11	11	12	11	11	7.9	5.8	5.7
9	11	11	11	11	11	11	12	11	11	7.9	5.5	5.7
10	11	11	11	11	11	11	12	11	11	7.9	5.9	5.7
11	11	11	12	11	11	11	12	11	11	7.9	5.9	5.7
12	11	11	12	11	11	11	12	11	11	7.9	6.0	5.7
13	11	11	12	11	11	11	12	11	11	7.8	6.0	5.7
14	11	11	12	11	11	11	12	11	12	7.6	5.9	5.7
15	11	11	12	11	11	11	12	11	12	7.6	5.9	5.7
16	11	11	12	11	11	11	12	11	12	7.7	6.0	5.7
17	11	11	12	11	11	11	12	11	12	7.9	6.0	5.7
18	11	11	12	11	11	11	12	11	12	7.9	5.9	5.7
19	11	11	12	11	11	11	12	11	12	7.4	5.9	5.7
20	11	11	12	11	11	11	11	11	12	7.6	6.0	5.5
21	11	11	12	11	11	11	11	11	12	7.6	6.0	5.6
22	11	11	12	11	12	11	11	11	12	7.6	6.0	5.7
23	11	11	12	11	12	11	11	11	12	7.6	6.0	5.7
24	11	11	12	11	11	11	11	11	12	7.6	6.0	5.7
25	11	11	12	11	11	11	11	11	12	7.6	6.0	5.7
26	11	11	12	11	11	12	11	11	12	7.7	6.0	5.7
27	11	11	12	11	11	12	11	11	12	7.8	5.8	5.7
28	11	11	12	11	11	12	11	11	12	6.6	5.8	5.6
29	11	11	12	11	---	12	11	11	9.6	5.7	5.8	5.5
30	11	11	12	11	---	12	11	11	7.8	5.7	5.8	5.5
31	11	---	12	11	---	12	---	11	---	5.7	5.8	---
TOTAL	346	330	362	348	310	347	349	343	340.4	233.0	181.8	170.4
MEAN	11.2	11.0	11.7	11.2	11.1	11.2	11.6	11.1	11.3	7.52	5.86	5.68
MAX	12	11	12	12	12	12	12	13	12	7.9	6.0	5.8
MIN	11	11	11	11	11	11	11	11	7.8	5.7	5.5	5.5
AC-FT	686	655	718	690	615	688	692	680	675	462	361	338
‡	8060	8320	4690	5370	3530	7340	1810	966	3450	10330	19690	12320

GAL YR 1976 TOTAL 5658.6 MEAN 15.5 MAX 28 MIN 7.6 AC-FT 11220
WTR YR 1977 TOTAL 3660.6 MEAN 10.0 MAX 13 MIN 5.5 AC-FT 7260

‡ Diversion, in acre-feet, to Ralston powerplant.

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'20", long 120°13'31", in NE¼SE¼ sec.8, T.13 N., R.16 E., El Dorado County, Eldorado National Forest, on right bank at tunnel intake 100 ft (30 m) upstream from diversion dam on Rubicon River, 2.5 mi (4.0 km) upstream from Rubicon Springs, and 6.5 mi (10.5 km) southwest of Meeks Bay.

PERIOD OF RECORD.--December 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,533.23 ft (1,991.328 m) above mean sea level (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 300 ft (91 m) downstream from tunnel outlet at different datum.

REMARKS.--Records good. Tunnel diverts water from Rubicon River to Rockbound Lake. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--14 years, 99.7 ft^3/s (2.824 m^3/s), 72,230 acre-ft/yr (89.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,120 ft^3/s (31.7 m^3/s) Dec. 23, 1964; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19				0	11	13	129	317	11	.04	.03
2	15				0	8.7	12	113	318	8.6	.04	.03
3	21				0	6.7	13	80	244	8.3	.04	.03
4	14				0	5.2	28	56	225	6.4	.04	.03
5	8.8				0	5.2	73	54	254	4.5	.04	.03
6	5.4				0	7.6	116	59	249	3.0	.04	.03
7	3.1				0	10	159	61	215	2.0	.04	.03
8	1.1				.04	10	188	56	192	1.1	.04	.03
9	.17				.35	14	132	70	255	.19	.04	.03
10	.02				1.1	12	87	64	237	.07	.04	.03
11	0				2.0	9.4	74	57	144	.06	.04	.02
12	0				3.0	11	91	55	112	.06	.04	.02
13	0				4.2	10	131	69	99	.06	.04	.02
14	0				5.8	7.8	136	131	88	.06	.04	.02
15	0				7.6	6.4	138	136	82	.06	.04	.02
16	0				10	5.9	184	96	52	.06	.04	.02
17	0				12	5.4	198	77	.30	.06	.04	.02
18	0				12	5.0	142	72	.20	.06	.04	.02
19	0				12	5.6	102	72	17	.06	.04	.02
20	0				13	8.4	96	121	35	.06	.04	.02
21	0				33	14	109	180	34	.05	.03	62
22	0				36	27	120	206	35	.05	.03	54
23	0				26	42	144	188	31	.05	.03	15
24	0				18	32	154	137	27	.05	.03	6.2
25	0				14	23	149	111	29	.05	.03	3.6
26	0				11	19	132	114	22	.05	.03	1.8
27	0				11	22	128	145	18	.05	.03	1.6
28	0				12	24	128	133	14	.05	.03	1.1
29	0				---	20	127	148	12	.05	.03	1.1
30	0				---	16	115	183	13	.05	.03	.89
31	0	---			---	13	---	245	---	.05	.03	---
TOTAL	68.78	0	0	0	244.09	417.3	3419	3418	3370.50	46.31	1.13	147.79
MEAN	2.22	0	0	0	8.72	13.5	114	110	112	1.49	.037	4.93
MAX	21	0	0	0	36	42	198	245	318	11	.04	62
MIN	0	0	0	0	0	5.0	12	54	.20	.05	.03	.02
AC-FT	136	0	0	0	484	828	6780	6780	6690	92	2.2	293

CAL YR 1976 TOTAL 13164.33 MEAN 36.0 MAX 404 MIN 0 AC-FT 26110
WTR YR 1977 TOTAL 11132.90 MEAN 30.5 MAX 318 MIN 0 AC-FT 22080

11428000 RUBICON RIVER AT RUBICON SPRINGS, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°01'10", long 120°14'46", in SW¼NE¼ sec.31, T.14 N., R.16 E., El Dorado County, Eldorado National Forest, on right bank 200 ft (61 m) downstream from Rubicon Springs, 0.7 mi (1.1 km) upstream from Miller Creek, and 7 mi (11 km) west of Meeks Bay.

DRAINAGE AREA.--31.4 mi^2 (81.3 km^2).

PERIOD OF RECORD.--February 1910 to March 1914 (published as "at Rubicon Springs"), October 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,052.97 ft (1,844.945 m) above mean sea level. Feb. 1, 1910, to Mar. 31, 1914, nonrecording gage or water-stage recorder at site 0.4 mi (0.6 km) downstream at different datum.

REMARKS.--Records good. Low summer flow, beginning in 1950, augmented by release from streamflow maintenance dams on Lakes Clyd, Lois, Middle Velma, and Schmidell, total controlled capacity, 555 acre-ft (684,000 m^3). Flow below 1,200 ft^3/s (34.0 m^3/s) controlled by Rubicon diversion dam 5.5 mi (8.8 km) upstream. Diversion to Rubicon-Rockbound tunnel began Dec. 26, 1963 (station 11427940). See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (adjusted for diversion to Rubicon-Rockbound tunnel).--24 years (water years 1911-13, 1957-77), 117 ft^3/s (3.313 m^3/s), 84,770 acre-ft/yr (105 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s (326 m^3/s) Feb. 1, 1963, gage height, 14.28 ft (4.353 m), from rating curve extended above 1,200 ft^3/s (34.0 m^3/s) on basis of slope-conveyance computation of maximum flow; no flow at times in some years prior to construction of Rubicon diversion dam in 1963 and in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of December 1955 reached a stage of 13.0 ft (3.96 m) from floodmarks, present site and datum, discharge, 9,270 ft^3/s (263 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 119 ft^3/s (3.37 m^3/s) Feb. 21, gage height, 3.16 ft (0.963 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	4.0	1.7	2.2	2.6	3.9	6.1	9.4	6.9	4.0	.39	0
2	12	4.2	1.9	3.3	2.5	3.5	6.1	9.3	6.6	4.2	.39	0
3	17	4.4	2.1	3.6	2.5	4.6	6.3	7.3	6.2	4.3	.41	0
4	11	4.6	2.1	2.9	2.3	4.5	13	6.5	5.9	4.2	.64	0
5	7.2	3.8	2.1	2.7	2.3	4.7	23	6.3	5.4	4.1	.58	0
6	4.4	2.7	2.0	2.6	2.4	5.8	25	9.3	5.4	4.2	.43	0
7	2.5	2.7	2.1	2.5	2.6	5.9	26	9.1	5.4	4.1	.38	0
8	2.2	2.8	2.1	2.5	3.0	6.0	22	11	5.2	4.0	.37	0
9	2.0	2.8	2.2	2.4	3.4	7.1	22	20	6.8	4.0	.36	0
10	1.9	2.9	2.0	2.5	3.3	6.2	14	16	7.7	4.0	.35	0
11	1.9	3.0	2.2	2.5	3.1	6.2	12	14	6.1	4.0	.32	0
12	1.8	3.5	2.1	2.5	3.1	7.3	14	16	5.4	4.0	.24	0
13	1.8	3.5	2.1	2.5	3.2	6.7	16	20	5.1	3.9	.17	0
14	1.8	6.4	2.0	2.3	3.3	5.8	15	29	4.7	3.8	.11	0
15	1.8	5.7	2.1	2.4	3.6	5.7	13	19	4.5	3.7	.09	0
16	1.8	4.6	2.1	2.5	3.6	5.7	15	16	4.3	3.7	.07	0
17	1.8	2.3	2.0	2.6	3.4	5.4	13	15	4.3	3.7	.06	0
18	1.8	1.9	2.0	3.1	3.0	5.3	10	13	4.4	3.7	.04	0
19	1.8	1.8	2.0	3.4	3.0	5.8	8.4	14	4.6	3.7	.03	0
20	1.7	1.8	2.0	3.3	3.0	6.9	7.7	17	4.6	2.2	.03	0
21	1.7	1.8	2.0	3.6	32	8.3	7.7	15	4.5	.96	.03	0
22	1.7	1.8	2.0	4.6	10	11	7.4	14	3.8	.79	0	.11
23	1.9	1.8	2.0	3.6	6.9	12	7.1	21	3.5	.60	0	.13
24	1.8	1.8	2.0	2.8	4.9	9.6	6.9	15	3.6	.51	0	.12
25	1.8	1.8	1.9	2.5	4.3	8.6	6.7	13	3.5	.47	0	.11
26	1.8	1.8	2.0	2.3	4.0	8.3	6.5	17	3.3	.43	0	.08
27	2.9	1.3	1.9	2.2	4.2	9.3	6.2	19	3.2	.43	0	.07
28	3.2	1.5	1.9	2.2	4.7	9.2	6.2	11	3.2	.42	0	.06
29	3.4	1.6	2.1	2.6	---	7.4	6.1	9.3	4.0	.40	0	.06
30	3.6	1.6	2.3	2.5	---	6.9	5.9	8.3	4.0	.40	0	.07
31	3.9	---	2.3	2.6	---	6.4	---	7.5	---	.39	0	---
TOTAL	108.7	86.2	63.3	85.8	130.2	210.0	354.3	427.3	146.1	83.30	5.49	.81
MEAN	3.51	2.87	2.04	2.77	4.65	6.77	11.8	13.8	4.87	2.69	.18	.027
MAX	17	6.4	2.3	4.6	32	12	26	29	7.7	4.3	.64	.13
MIN	1.7	1.3	1.7	2.2	2.3	3.5	5.9	6.3	3.2	.39	0	0
AC-FT	216	171	126	170	258	417	703	848	290	165	11	1.6
MEAN ‡	5.72	2.87	2.05	2.76	13.4	20.2	126	124	117	4.18	0.21	4.96
AC-FT ‡	352	171	126	170	742	240	7480	7630	6980	257	13.2	295

CAL YR 1976 TOTAL 3245.67 MEAN 8.87 MAX 48 MIN .58 AC-FT 6440 MEAN ‡ 44.8 AC-FT ‡ 32550
WTR YR 1977 TOTAL 1701.50 MEAN 4.66 MAX 32 MIN 0 AC-FT 3370 MEAN ‡ 35.2 AC-FT ‡ 25460

‡ Adjusted for diversion to Rubicon-Rockbound tunnel.

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'15", long 120°15'20", in SE¼NW¼ sec.6, T.13 N., R.16 E., El Dorado County, Eldorado National Forest, on right bank at tunnel intake near left abutment of diversion dam, 7.6 mi (12.2 km) southwest of Meeks Bay.

PERIOD OF RECORD.--November 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 6,425.0 ft (1,958.34 m) above mean sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Records good except those for the period June 1 to Sept. 20, which are fair. Tunnel diverts water from Buck Island Lake and discharges into Loon Lake. Gates are closed in the tunnel entrance during the summer and opened each fall to raise the level of Buck Island Lake for recreation purposes. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--14 years, 128 ft^3/s (3.625 m^3/s), 92,740 acre-ft/yr (114 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,240 ft^3/s (35.1 m^3/s) Dec. 23, 1964; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2			0	.05	18	19	168	359	14	.30	.23
2	3.7			0	.01	16	18	165	400	13	.30	.23
3	21			0	0	13	17	128	326	11	.30	.23
4	26			0	0	11	23	90	276	8.3	.29	.23
5	20			.05	0	8.5	65	74	303	6.6	.29	.22
6	14			.22	0	8.2	131	74	304	5.4	.29	.22
7	6.2			.54	0	9.5	188	80	275	4.4	.28	.22
8	1.6			.72	0	11	247	77	243	3.3	.28	.22
9	.06			.54	0	17	199	87	281	2.0	.28	.22
10	.72			.46	0	20	136	93	320	1.2	.27	.21
11	.82			.46	0	17	104	84	213	.86	.27	.21
12	.54			.46	.12	16	109	77	149	.46	.27	.21
13	.33			.39	1.0	18	153	87	124	.43	.27	.21
14	.22			.33	2.5	16	184	155	110	.41	.27	.21
15	.08			.33	4.2	13	182	192	100	.40	.26	.20
16	.03			.33	7.6	11	230	154	47	.39	.26	.20
17	0			.33	11	10	276	114	8.0	.39	.26	.20
18	0			.46	13	9.1	215	102	3.0	.38	.26	.20
19	0			.54	14	8.2	152	96	2.5	.37	.26	.18
20	0			.63	15	8.8	128	132	6.0	.36	.26	.17
21	0			.72	32	12	138	202	30	.35	.25	14
22	0			1.0	55	21	151	261	38	.34	.25	17
23	0			1.3	45	43	178	258	39	.34	.25	27
24	0			1.3	33	52	198	207	34	.33	.25	18
25	0			1.3	24	40	200	156	32	.33	.25	11
26	0			1.3	19	31	178	144	30	.32	.24	6.2
27	0			1.3	16	28	168	192	25	.32	.24	3.3
28	0			.92	17	29	164	176	21	.31	.24	1.9
29	0			.54	---	29	166	177	17	.31	.24	1.6
30	0			.39	---	27	156	211	14	.31	.24	.92
31	0	---		.14	---	22	---	275	---	.31	.24	---
TOTAL	96.50	0	0	17.00	309.48	593.3	4473	4488	4129.5	77.22	8.21	105.14
MEAN	3.11	0	0	.55	11.1	19.1	149	145	138	2.49	.26	3.50
MAX	26	0	0	1.3	55	52	276	275	400	14	.30	27
MIN	0	0	0	0	0	8.2	17	74	2.5	.31	.24	.17
AC-FT	191	0	0	34	614	1180	8870	8900	8190	153	16	209

CAL YR 1976 TOTAL 16776.26 MEAN 45.8 MAX 484 MIN 0 AC-FT 33280
WTR YR 1977 TOTAL 14297.35 MEAN 39.2 MAX 400 MIN 0 AC-FT 28360

11428700 HELL HOLE RESERVOIR NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'54", long 120°24'50", in SE¼NW¼ sec.16, T.14 N., R.14 E., Placer County, Eldorado National Forest, on right bank 0.3 mi (0.5 km) upstream from Hell Hole Dam on Rubicon River, and 15.6 mi (25.1 km) west of Meeks Bay.

DRAINAGE AREA.--114 mi^2 (295 km^2).

PERIOD OF RECORD.--December 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Placer County Water Agency).

REMARKS.--Reservoir is formed by rockfill dam with earth core. Storage began Dec. 6, 1965. Usable capacity, 207,342 acre-ft (256 hm^3) between elevations 4,287.65 ft (1,306.876 m), invert of river outlet and 4,630.0 ft (1,411.22 m), crest of ogee spillway, above mean sea level. Dead storage, 248 acre-ft (306,000 m^3). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 209,500 acre-ft (258 hm^3) June 17, 1967, elevation, 4,631.5 ft (1,411.68 m); minimum since reservoir first filled, 37,499 acre-ft (46.2 hm^3) Mar. 23, 1973, elevation, 4,428.28 ft (1,349.740 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 109,461 acre-ft (135 hm^3) Oct. 1, elevation, 4,534.10 ft (1,381.994 m); minimum, 77,661 acre-ft (95.8 hm^3) Sept. 30, elevation, 4,492.62 ft (1,369.351 m).

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

4340	5220	4500	83025
4360	9835	4550	122720
4380	16250	4600	171865
4400	24160	4650	233420
4450	49610		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107885	101359	94016	89485	84798	83437	79604	87836	100737	102676	94880	88504
2	107901	101233	93501	89606	84657	83025	79716	88158	101225	102779	94441	88407
3	107577	100956	92864	89719	84576	82716	79811	88407	101621	102803	94193	88203
4	106777	100853	92382	89425	84532	82473	79869	88610	102017	102811	94039	87722
5	106519	100246	92145	88715	84524	82100	80174	88858	102382	102811	93862	87445
6	106148	99821	91618	87632	84524	82048	80537	89062	102452	102811	93440	86794
7	105609	99813	91366	86958	84428	81266	81010	89213	101921	102811	93158	86524
8	105160	98878	91214	86734	84280	80828	81485	89591	102064	102819	93055	86077
9	104879	98361	90926	86584	83969	80610	81880	89984	102422	102819	92864	86271
10	104879	97830	90637	86308	83497	80246	82275	90370	102763	102819	92435	86196
11	104375	97074	90621	86166	83400	79173	82672	90722	103098	102811	92091	86174
12	103951	97596	90598	86136	83393	78943	83069	91045	103217	102803	91817	86286
13	103624	97252	90485	86039	83393	78877	83467	91466	103496	102620	91573	84924
14	103656	97307	90386	85987	83320	78884	83821	92069	103616	102509	91512	84332
15	103624	97252	90333	85920	83288	78840	84184	92558	103767	102406	91230	83851
16	103624	97284	90272	85913	83155	78870	84643	92941	103871	102168	90933	83320
17	103576	97225	90182	85838	83026	78870	85067	93125	103975	101898	90687	83283
18	103376	97330	90068	85815	83121	78510	85378	93478	104039	101668	90257	83253
19	102875	97035	90022	85794	83121	78150	85399	93893	104135	101510	89917	82672
20	102604	96957	89954	85690	83121	78222	85578	94386	104223	100759	89621	82144
21	102429	96863	89946	85660	83593	78294	85481	94949	104175	100041	89281	81609
22	102421	96412	89946	85683	83666	78366	85318	95521	103903	99200	88919	81266
23	102421	96180	89871	85712	83740	78645	85651	96125	103919	98440	88836	80784
24	102413	95978	89780	85690	83755	78805	85898	96591	103241	97681	88648	80683
25	102144	95978	89742	85563	83755	78914	86189	97027	103201	97089	88566	80658
26	102000	95668	89606	85489	83600	79015	86428	97689	103209	96599	88281	79934
27	102064	95318	89553	85318	83578	79159	86667	98463	103217	96412	88384	79521
28	102064	95203	89545	85184	83537	79290	86906	98988	102827	95908	88693	78856
29	101565	94943	89538	85006	---	79369	87138	99505	102835	95250	88448	78352
30	101565	94593	89493	84946	---	79449	87183	99994	102676	95459	88448	77661
31	101502	---	89485	84879	---	79376	---	100199	---	95366	88384	---
MAX	107901	101359	94016	89719	84798	83437	87183	100199	104223	102819	94880	88504
MIN	101502	94593	89485	84879	83026	78150	79604	87836	100737	95250	88281	77661
†	4524.19	4515.35	4508.66	4502.51	4500.69	4495.00	4505.60	4522.54	4525.67	4516.35	4507.20	4492.62
‡	-7967	-6909	-5108	-4606	-1342	-4161	+7807	+13016	+2477	-7310	-6982	-10723

CAL YR 1976 ‡ -61943
WTR YR 1977 ‡ -31808

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

11428800 RUBICON RIVER BELOW HELL HOLE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°03'24", long 120°24'25", in NE¼NE¼ sec.21, T.14 N., R.14 E., Placer County, Eldorado National Forest, on right bank 600 ft (183 m) downstream from outlet of dam, and 15.3 mi (24.6 km) west of Meeks Bay.

DRAINAGE AREA.--114 mi^2 (295 km^2).

PERIOD OF RECORD.--November 1965 to current year.

GAGE.--Water-stage recorder and V-notch sharp-crested weir. Datum of gage is 4,231.52 ft (1,289.767 m) above mean sea level (levels by Placer County Water Agency).

REMARKS.--Flow regulated by Hell Hole Reservoir (station 11428700) beginning December 1965. Water is diverted out of the basin above the station through Buck-Loon tunnel (station 11428300). Water is diverted from Middle Fork American River basin by tunnel from French Meadows Reservoir (station 11427400) to Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant. Diversion began Sept. 8, 1966. During years when Hell Hole Dam spills, records include flow which bypasses the station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--11 years, 23.6 ft^3/s (0.668 m^3/s), 17,100 acre-ft/yr (21.1 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,290 ft^3/s (64.8 m^3/s) June 18, 1967, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 8.2 ft^3/s (0.23 m^3/s) Oct. 1-4; minimum daily, 5.6 ft^3/s (0.16 m^3/s) Dec. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	7.4	8.0	5.9	6.1	6.3	7.8	7.9	7.7	7.3	6.5	6.5
2	8.2	7.4	8.0	6.4	6.1	6.0	7.8	7.9	7.7	7.3	6.5	6.5
3	8.2	7.4	7.9	6.3	6.1	5.9	7.8	8.0	7.7	7.3	6.5	6.5
4	8.2	7.4	7.8	6.2	6.2	6.0	7.8	8.0	7.7	7.3	6.5	6.5
5	8.1	7.4	7.7	6.1	6.1	6.3	7.8	8.0	7.7	7.3	6.5	6.5
6	8.1	7.4	7.6	6.1	6.1	6.3	7.8	8.0	7.7	7.3	6.5	6.5
7	8.1	7.4	7.7	6.1	6.1	6.3	7.8	8.1	7.7	7.3	6.5	6.5
8	8.1	7.4	7.7	6.1	6.1	6.3	7.8	8.1	7.7	7.3	6.5	6.5
9	8.0	7.4	7.7	6.2	6.1	6.3	7.8	8.1	7.8	7.3	6.5	6.5
10	8.0	7.4	7.8	6.3	6.2	6.3	7.8	8.1	7.8	7.3	6.5	6.5
11	8.0	7.4	7.8	6.4	6.3	6.3	7.8	8.1	7.8	7.3	6.5	6.4
12	8.0	7.4	7.8	6.3	6.3	6.2	7.8	8.1	7.7	7.3	6.5	6.4
13	8.0	7.4	7.8	6.3	6.3	6.2	7.8	8.1	7.7	7.1	6.5	6.4
14	8.0	7.4	7.8	6.3	6.3	6.2	7.8	8.0	7.7	7.1	6.5	6.4
15	7.9	7.4	7.8	6.3	6.3	6.2	7.8	8.0	7.7	7.1	6.5	6.4
16	7.9	7.4	7.9	6.3	6.3	6.2	7.8	8.0	7.5	6.9	6.5	6.4
17	7.9	7.4	7.9	6.3	6.3	6.2	7.7	8.0	7.5	6.7	6.5	6.4
18	7.8	7.4	8.0	6.3	6.3	6.2	7.7	7.9	7.5	6.5	6.5	6.4
19	7.8	7.4	8.0	6.3	6.3	6.2	7.7	7.9	7.5	6.5	6.5	6.4
20	7.8	7.4	8.1	6.3	6.3	6.2	7.7	7.9	7.5	6.7	6.5	6.4
21	7.7	7.5	8.1	6.3	7.5	6.1	7.7	7.9	7.5	6.9	6.5	6.4
22	7.7	7.5	8.1	6.3	6.9	6.1	7.7	7.8	7.5	6.9	6.5	6.4
23	7.7	7.5	8.1	6.3	6.7	6.1	7.7	7.8	7.8	6.9	6.5	6.4
24	7.7	7.6	8.1	6.3	6.6	6.3	7.7	7.8	8.0	6.5	6.5	6.4
25	7.7	7.7	8.1	6.3	6.5	6.5	7.8	7.8	8.1	6.5	6.5	6.4
26	7.5	7.8	8.1	6.2	6.4	6.5	7.8	7.7	8.1	6.5	6.5	6.4
27	7.2	7.9	8.1	6.2	6.3	6.5	7.8	7.7	8.1	6.5	6.5	6.4
28	7.3	7.9	8.1	6.2	6.3	6.5	7.8	7.7	8.1	6.5	6.5	6.4
29	7.4	8.0	7.1	6.2	---	6.5	7.9	7.7	8.1	6.5	6.5	6.4
30	7.4	8.0	5.6	6.2	---	7.1	7.9	7.7	7.6	6.5	6.5	6.4
31	7.4	---	5.8	6.1	---	7.8	---	7.7	---	6.5	6.5	---
TOTAL	243.0	225.4	240.1	193.4	177.4	196.1	233.4	245.5	232.2	214.9	201.5	193.0
MEAN	7.84	7.51	7.75	6.24	6.34	6.33	7.78	7.92	7.74	6.93	6.50	6.43
MAX	8.2	8.0	8.1	6.4	7.5	7.8	7.9	8.1	8.1	7.3	6.5	6.5
MIN	7.2	7.4	5.6	5.9	6.1	5.9	7.7	7.7	7.5	6.5	6.5	6.4
AC-FT	482	447	476	384	352	389	463	487	461	426	400	383
†	7960	7910	4570	5140	2970	6440	1250	381	3240	9980	19110	11870

CAL YR 1976 TOTAL 4254.2 MEAN 11.6 MAX 20 MIN 5.6 AC-FT 8440
WTR YR 1977 TOTAL 2595.9 MEAN 7.11 MAX 8.2 MIN 5.6 AC-FT 5150

† Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

11429300 ROBBS PEAK POWERPLANT NEAR KYBURZ, CA

LOCATION.--Lat 38°53'46", long 120°22'40", in SE¼SW¼ sec.11, T.12 N., R.14 E., El Dorado County, Eldorado National Forest, in powerhouse on shore of Union Valley Reservoir, 9.5 mi (15.3 km) northwest of Kyburz.

PERIOD OF RECORD.--October 1962 to current year. Prior to October 1965, published as Robbs Peak tunnel near Riverton.

GAGE.--Discharge computed from powerplant output. Altitude of gage is 4,880 ft (1,487 m), from topographic map. Prior to October 1965, water-stage recorder and concrete control in abandoned section of canal 0.5 mi (0.8 km) upstream at different datum.

REMARKS.--Tunnel diverts at South Fork Rubicon River diversion dam in NE¼ sec.27, T.13 N., R.14 E., and discharges into Union Valley Reservoir (station 11441001). Water is imported from Rubicon River basin via Rubicon-Rockbound tunnel and Buck-Loon tunnel to Loon Lake, then via Loon Lake powerplant or Gerle Creek to Robbs Peak tunnel and powerplant. The water is later used in the South Fork American River basin for power development. See schematic diagrams of Middle Fork American and Rubicon River basins and South Fork American River basin.

COOPERATION.--Records furnished by Sacramento Municipal Utility District, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--15 years, 228 ft^3/s (6.457 m^3/s) 165,200 acre-ft/yr (204 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,440 ft^3/s (40.8 m^3/s) Dec. 22-24, 1964; no flow many days during 1965-77.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0	0	0	0	32	69	89	0	223	400
2	0	0	0	38	0	0	32	66	18	0	114	242
3	0	49	0	0	17	31	0	47	47	0	0	0
4	0	0	0	10	0	0	33	22	33	0	31	0
5	0	24	31	25	0	45	57	19	48	0	0	200
6	0	0	11	13	22	0	91	37	1.0	0	0	420
7	0	0	0	0	0	39	74	30	55	0	0	366
8	0	245	244	0	9.0	0	81	55	0	0	0	389
9	0	275	296	15	0	31	85	54	123	0	0	258
10	0	322	114	0	31	41	72	70	114	0	0	0
11	0	305	0	17	0	0	44	66	10	0	0	95
12	0	327	0	0	18	46	39	70	58	0	0	250
13	0	299	31	9.0	0	0	107	84	0	69	0	143
14	0	316	0	0	31	39	63	187	47	17	0	0
15	0	268	0	0	0	0	56	87	3.0	0	97	0
16	0	226	0	0	21	40	53	80	0	0	0	0
17	0	265	34	0	0	0	63	110	0	0	0	0
18	0	265	0	0	16	26	50	66	0	153	0	0
19	0	273	0	40	0	0	55	44	0	0	21	0
20	0	257	0	0	31	46	48	109	0	0	0	0
21	0	273	0	0	62	40	0	95	211	0	0	0
22	17	245	14	0	38	50	49	77	163	0	206	0
23	0	266	0	55	36	47	9.0	85	21	0	317	0
24	0	241	0	0	0	37	82	96	97	0	205	0
25	0	240	0	5.0	26	39	53	75	0	0	125	0
26	0	254	24	17	0	0	0	71	0	0	81	0
27	0	265	0	0	21	46	7.0	177	0	0	0	0
28	0	0	0	0	29	43	67	23	0	0	0	0
29	0	0	0	19	---	26	0	73	0	191	366	0
30	0	0	21	0	---	58	58	56	0	107	332	0
31	0	---	0	21	---	4.0	---	80	---	1.0	226	---
TOTAL	17	5500	820	284.0	408.0	774.0	1460.0	2280	1138.0	538.0	2344	2763
MEAN	.55	183	26.5	9.16	14.6	25.0	48.7	73.5	37.9	17.4	75.6	92.1
MAX	17	327	296	55	62	58	107	187	211	191	366	420
MIN	0	0	0	0	0	0	0	19	0	0	0	0
AC-FT	34	10910	1630	563	809	1540	2900	4520	2260	1070	4650	5480

CAL YR 1976 TOTAL 43814.00 MEAN 120 MAX 401 MIN 0 AC-FT 86910
WTR YR 1977 TOTAL 18326.00 MEAN 50.2 MAX 420 MIN 0 AC-FT 36350

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 120°18'30", in SW¼NW¼ sec.4, T.13 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank at Loon Lake Dam on Gerle Creek, 2.3 mi (3.7 km) upstream from Jerrett Creek, and 11 mi (18 km) southwest of town of Meeks Bay.

DRAINAGE AREA.--7.96 mi^2 (20.62 km^2).

PERIOD OF RECORD.--December 1963 to current year.

REVISED RECORDS.--WDR CA-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Reservoir is formed by an earthfill dam completed Dec. 27, 1963. Storage began Dec. 5, 1963. Prior to September 1962, reservoir was formed by granite-block dam built in 1884, capacity, 8,000 acre-ft (9.86 hm^3). Usable capacity, 74,100 acre-ft (91.4 hm^3) between elevations 6,325 ft (1,927.9 m), invert of fishwater release valve and 6,410 ft (1,953.8 m) crest of spillway, above mean sea level. Dead storage, 2,360 acre-ft (2.91 hm^3). Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon tunnel (stations 11427940, 11428300). Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 77,700 acre-ft (95.8 hm^3) June 6, 1969, elevation, 6,411.1 ft (1,954.10 m); minimum since reservoir first filled, 3,690 acre-ft (4.55 hm^3) Nov. 3, 1970, elevation, 6,330.3 ft (1,929.48 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 37,500 acre-ft (46.2 hm^3) June 17, elevation, 6,379.0 ft (1,944.32 m); minimum, 4,770 acre-ft (5.88 hm^3) Jan. 24 to Feb. 22, elevation, 6,333.9 ft (1,930.57 m).

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

6330	3600
6340	7200
6350	12500
6360	19600
6370	28500
6390	50000
6412	79000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20500	19800	7800	5140	4770	5310	7380	18500	30000	37200	35000	29100
2	20500	19700	7750	5180	4770	5350	7430	18900	30900	37200	34800	28300
3	20500	19700	7750	5230	4770	5440	7480	19200	31600	37200	34700	28300
4	20600	19700	7750	5180	4770	5440	7570	19400	32100	37200	34700	28300
5	20600	19600	7710	5140	4770	5480	7750	19600	32700	37200	34700	27700
6	20600	19600	7660	5100	4770	5480	8170	19800	33300	37200	34600	26900
7	20500	19600	7610	5070	4770	5520	8670	19900	33900	37200	34600	26200
8	20500	18900	6190	5070	4770	5560	9320	20200	34600	37100	34600	25400
9	20500	18300	5860	5040	4770	5690	9920	20400	35300	37100	34600	24800
10	20500	17600	5810	5010	4770	5730	10400	20800	36100	37100	34500	24800
11	20400	16900	5770	5010	4770	5810	10600	21000	36500	37100	34500	24700
12	20400	16200	5770	4980	4770	5900	10900	21200	36800	37000	34500	24000
13	20400	15400	5730	4980	4770	5980	11400	21500	37100	37000	34400	24000
14	20400	15000	5690	4950	4770	6030	11800	22000	37200	37000	34400	23900
15	20400	14500	5650	4920	4770	6070	12200	22500	37300	36800	34400	23900
16	20400	14100	5600	4920	4770	6110	12700	22900	37400	36800	34300	23900
17	20300	13600	5600	4890	4770	6150	13300	23100	37500	36700	34300	23900
18	20200	13100	5440	4860	4770	6150	13700	23300	37400	36700	34300	23900
19	20200	12600	5440	4860	4770	6190	14000	23500	37400	36700	34000	23900
20	20100	12000	5480	4830	4770	6190	14200	23800	37400	36700	34000	23900
21	20100	11400	5480	4830	4770	6280	14500	24400	37200	36600	34000	23900
22	20000	10900	5390	4800	4770	6320	14800	24900	37000	36600	33400	23900
23	20000	10300	5390	4800	4890	6490	15100	25600	37100	36600	32800	23900
24	19900	9620	5350	4770	5010	6700	15500	26200	37000	36600	32300	23900
25	19900	9040	5310	4770	5070	6820	16000	26500	37000	36500	32100	23900
26	19900	8530	5310	4770	5140	6910	16500	27000	37000	36300	32000	23900
27	19900	7890	5270	4770	5180	6990	16800	27500	37100	36300	31900	23900
28	19900	7840	5230	4770	5270	7120	17200	27800	37100	36300	31900	23900
29	19800	7840	5180	4770	---	7200	17600	28200	37100	35700	31100	23900
30	19800	7800	5180	4770	---	7250	18000	28700	37100	35600	30400	23900
31	19800	---	5180	4770	---	7340	---	29200	---	35500	29800	---
MAX	20600	19800	7800	5230	5270	7340	18000	29200	37500	37200	35000	29100
MIN	19800	7800	5180	4770	4770	5310	7380	18500	30000	35500	29800	23900
†	6360.2	6341.3	6335.2	6333.9	6335.4	6340.3	6358.1	3670.7	6378.6	6377.1	6371.4	6365.1
‡	-32100	-12000	-2620	-410	+500	+2070	+10660	+11200	+7900	-1600	-5700	-5900

CAL YR 1976 ‡ -33700
WTR YR 1977 ‡ +3400

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

11429500 GERLE CREEK BELOW LOON LAKE DAM, NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'20", long 120°18'52", in NE¼NE¼ sec.5, T.13 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank 0.3 mi (0.5 km) downstream from Loon Lake Dam, and 11 mi (18 km) southwest of Meeks Bay.

DRAINAGE AREA.--8.01 mi^2 (20.7 km^2).

PERIOD OF RECORD.--July 1910 to April 1914 (fragmentary), August 1962 to current year. Prior to August 1962, published as "near Rubicon Springs."

GAGE.--Water-stage recorder and V-notch concrete weir. Altitude of gage is 6,250 ft (1,905 m), from topographic map. Prior to August 1962, nonrecording gage at site 1,400 ft (427 m) upstream at different datum.

REMARKS.--Records excellent. Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam which was completed Dec. 27, 1963. Storage began Dec. 5, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon tunnel (stations 11427940, 11428300). Diversion to Loon Lake powerplant starting August 1971, bypasses station and returns to Gerle Creek at Gerle Creek Dam. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--9 years (water years, 1911, 1963-70, prior to diversion to Loon Lake powerplant), 132 ft^3/s (3.738 m^3/s), 95,630 acre-ft/yr (118 hm^3/yr); 7 years (water years 1971-77), 19.7 ft^3/s (0.558 m^3/s), 14,270 acre-ft/yr (17.6 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft^3/s (91.8 m^3/s), unregulated, Feb. 1, 1963, gage height, 12.65 ft (3.856 m), from rating curve extended above 600 ft^3/s (17.0 m^3/s) on basis of slope-area measurement of maximum flow; no flow Oct. 15, 1913. Maximum discharge since construction of Loon Lake Dam in 1963, 1,050 ft^3/s (29.7 m^3/s) June 5, 1969, gage height, 9.03 ft (2.752 m); minimum daily, 3.6 ft^3/s (0.10 m^3/s) Sept. 27, 28, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17 ft^3/s (0.48 m^3/s) June 8, gage height, 2.20 ft (0.671 m); minimum daily, 3.6 ft^3/s (0.10 m^3/s) Sept. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	8.0	7.5	8.9	9.2	9.0	4.2	5.2	4.2	4.3	4.3	4.0
2	8.5	8.0	7.5	8.9	9.2	8.9	4.2	4.8	4.2	4.3	4.3	4.0
3	8.2	8.0	7.7	8.9	9.2	7.3	4.3	4.7	4.2	4.3	4.3	4.0
4	8.2	8.0	7.7	8.9	9.2	4.3	4.4	4.7	4.2	4.3	4.3	4.0
5	8.2	8.0	7.7	8.9	9.2	4.3	4.1	4.8	4.2	4.3	4.3	4.1
6	8.2	8.0	7.7	9.2	9.2	4.3	4.1	4.9	4.2	4.3	4.2	4.0
7	8.2	8.0	7.7	9.2	9.3	4.3	4.2	4.9	4.2	4.3	4.2	4.0
8	8.2	8.0	7.7	9.2	9.3	4.4	4.2	4.9	4.8	4.3	4.2	4.0
9	8.2	8.2	7.6	9.2	9.2	4.3	4.3	5.1	5.0	4.3	4.2	4.0
10	8.2	8.2	7.6	9.2	9.2	4.3	4.2	5.0	4.1	4.3	4.2	4.0
11	8.2	8.2	8.0	9.2	9.2	4.3	4.2	5.0	4.0	4.3	4.2	4.1
12	8.2	8.0	8.0	9.2	9.2	4.3	4.2	5.1	4.0	4.3	4.2	4.2
13	8.2	8.0	8.0	9.2	9.3	4.2	4.3	5.2	4.0	4.3	4.2	4.2
14	8.2	8.2	8.2	9.2	9.3	4.2	4.2	5.2	4.0	4.3	4.0	4.4
15	8.2	8.2	8.2	9.2	9.3	4.2	4.2	5.1	4.0	4.3	4.0	4.7
16	8.2	8.1	8.2	9.2	9.2	4.2	4.2	4.9	4.0	4.3	4.0	4.8
17	8.2	7.9	8.4	9.2	9.2	4.2	4.2	4.7	4.0	4.3	3.8	4.2
18	8.2	7.9	8.7	9.2	9.2	4.2	4.2	4.7	4.0	4.3	4.0	3.8
19	8.2	8.2	8.7	9.2	9.2	4.2	4.2	4.4	4.0	4.3	4.0	3.8
20	8.2	8.2	8.7	9.2	8.9	4.2	4.2	4.2	4.0	4.3	4.0	3.9
21	8.1	8.2	8.7	9.2	9.8	4.2	4.2	4.0	4.0	4.3	4.0	3.8
22	8.0	8.1	8.7	9.2	9.2	4.3	4.2	4.1	4.0	4.3	4.0	3.8
23	8.2	8.0	8.7	9.2	9.2	4.2	4.2	4.3	4.0	4.3	4.0	3.8
24	8.2	8.0	8.7	9.2	9.2	4.2	4.2	4.2	4.0	4.3	4.0	3.8
25	8.2	7.8	8.7	9.2	9.2	4.2	4.2	4.2	4.0	4.3	4.0	3.8
26	8.2	7.7	8.9	9.2	9.2	4.2	4.3	4.5	4.0	4.3	4.0	3.8
27	8.2	7.5	8.9	9.0	9.3	4.4	4.4	4.2	4.1	4.3	4.0	3.6
28	8.1	7.5	8.9	8.9	9.2	4.7	4.6	4.2	4.2	4.3	4.0	3.6
29	8.0	7.5	8.9	8.9	---	4.5	4.7	4.2	4.2	4.3	4.0	3.7
30	8.0	7.5	8.9	9.2	---	4.2	4.8	4.2	4.2	4.3	4.0	3.8
31	8.0	---	8.9	9.2	---	4.2	---	4.2	---	4.3	4.0	---
TOTAL	253.7	239.1	256.4	282.9	258.5	144.9	128.1	143.8	124.0	133.3	126.9	119.7
MEAN	8.18	7.97	8.27	9.13	9.23	4.67	4.27	4.64	4.13	4.30	4.09	3.99
MAX	8.5	8.2	8.9	9.2	9.8	9.0	4.8	5.2	5.0	4.3	4.3	4.8
MIN	8.0	7.5	7.5	8.9	8.9	4.2	4.1	4.0	4.0	4.3	3.8	3.6
AC-FT	503	474	509	561	513	287	254	285	246	264	252	237
‡	58	11010	1530	0	0	0	0	29	934	1120	4610	5650

CAL YR 1976 TOTAL 3011.4 MEAN 8.23 MAX 9.1 MIN 7.5 AC-FT 5970
WTR YR 1977 TOTAL 2211.3 MEAN 6.06 MAX 9.8 MIN 3.6 AC-FT 4390

‡ Diversion, in acre-feet, to Loon Lake powerplant, furnished by Sacramento Municipal Utility District.

11430000 SOUTH FORK RUBICON RIVER BELOW GERLE CREEK, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°57'17", long 120°24'02", in SW¼SW¼ sec.22, T.13 N., R.14 E., El Dorado County, Eldorado National Forest, on left bank 600 ft (183 m) downstream from Gerle Creek, and 18 mi (29 km) east of Georgetown.

DRAINAGE AREA.--47.6 mi^2 (123 km^2).

PERIOD OF RECORD.--February 1910 to June 1914 (published as Little South Fork Rubicon River below Gerle Creek near Quintette), August 1961 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,970 ft (1,515 m), from topographic map. Feb. 1, 1910, to June 21, 1914, nonrecording gage at site about 700 ft (213 m) downstream at different datum.

REMARKS.--Records good. Beginning in 1884, flow regulated by Loon Lake (station 11429350). Original dam was dismantled during September and October 1962 to permit construction of a new earthfill dam which was completed Dec. 27, 1963. Loon Lake receives water from Rubicon River via Rubicon-Rockbound tunnel to Buck Island Lake and from Buck Island Lake to Loon Lake via Buck-Loon tunnel (stations 11427940, 11428300). Prior to Dec. 3, 1961, water was diverted out of the basin in Georgetown Divide ditch. Robbs Peak tunnel 1.2 mi (1.9 km) upstream (station 11429800) began diversion of up to 1,320 ft^3/s (37.4 m^3/s) to Silver Creek basin October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (unadjusted).--15 years (water years 1962-77), 20.0 ft^3/s (0.566 m^3/s), 14,490 acre-ft/yr (17.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft^3/s (326 m^3/s) Jan. 31, 1963, gage height, 12.32 ft (3.755 m), from rating curve extended above 2,500 ft^3/s (70.8 m^3/s) on basis of slope-area measurement of maximum flow; minimum, 0.8 ft^3/s (0.023 m^3/s) Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33 ft^3/s (0.93 m^3/s) Sept. 13, gage height, 2.27 ft (0.692 m); minimum daily, 1.5 ft^3/s (0.04 m^3/s) July 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.9	6.0	5.0	5.0	5.0	5.3	2.5	2.8	2.2	2.4	2.1	1.9
2	6.5	5.7	5.0	6.9	5.0	5.3	2.5	2.3	2.2	2.6	2.1	1.8
3	6.0	5.8	5.3	6.0	5.0	4.7	2.5	2.2	2.2	2.6	2.0	1.8
4	5.9	5.0	5.5	5.4	5.0	3.1	2.6	2.2	2.2	2.6	1.9	1.8
5	5.7	4.8	5.4	5.4	5.0	3.1	2.6	2.2	2.2	2.7	1.8	1.8
6	5.8	4.8	5.0	5.3	5.0	3.1	2.6	2.5	2.2	2.8	1.7	1.8
7	5.5	4.8	5.0	5.2	5.0	3.1	2.5	2.4	2.2	2.8	1.7	1.8
8	5.7	4.9	5.3	5.2	5.3	3.1	2.6	2.4	2.2	2.9	1.6	1.7
9	5.7	5.1	5.6	5.2	5.2	4.1	2.9	2.6	2.3	2.8	1.6	1.7
10	5.7	5.0	5.3	5.2	5.2	3.5	2.5	3.0	2.1	2.9	1.7	1.7
11	5.7	4.9	5.2	5.1	5.0	3.3	2.4	3.0	2.0	2.9	1.8	1.8
12	5.7	5.1	5.6	5.0	5.0	3.1	2.4	2.9	2.0	2.8	2.3	1.6
13	5.7	5.0	5.5	5.0	5.0	3.1	2.4	2.6	2.0	2.8	2.3	3.7
14	5.7	7.3	5.1	5.0	5.1	2.9	2.4	2.5	2.0	2.4	2.3	2.3
15	5.7	5.2	5.0	5.0	5.0	2.8	2.4	2.5	2.5	2.1	2.3	2.4
16	5.8	5.1	5.0	5.0	5.0	2.8	2.3	2.5	2.4	2.4	1.9	2.2
17	6.1	5.0	5.0	5.0	5.0	2.8	2.3	2.4	2.4	2.7	1.9	2.0
18	6.2	5.0	4.9	5.1	5.0	2.6	2.3	2.3	2.5	2.6	1.9	1.9
19	6.2	5.0	4.9	5.7	5.0	2.6	2.2	2.3	2.6	1.9	2.0	2.0
20	6.0	4.9	4.9	5.2	5.1	2.7	2.2	2.2	2.9	1.6	2.0	2.4
21	5.5	5.4	4.9	5.3	8.7	2.7	2.2	2.2	3.1	1.5	2.1	2.2
22	5.5	5.0	4.9	5.6	6.2	2.8	2.2	2.2	2.5	1.5	2.1	2.1
23	5.5	5.4	4.9	5.6	5.8	2.9	2.2	2.4	2.1	2.0	2.3	2.0
24	5.5	5.3	4.9	5.2	5.5	2.9	2.2	2.2	2.0	2.0	2.3	2.0
25	5.5	5.3	4.8	5.2	5.4	2.6	2.1	2.2	2.4	1.9	2.3	2.0
26	5.5	5.5	4.8	5.2	5.3	2.6	2.1	2.5	2.3	1.9	2.3	2.0
27	5.5	5.1	4.8	5.1	5.4	2.6	2.1	2.4	2.2	2.0	2.2	1.9
28	5.5	5.1	4.9	5.0	5.5	2.6	2.1	2.3	2.3	2.3	2.2	1.8
29	5.7	5.0	5.0	5.0	---	2.6	2.1	2.2	2.3	2.2	2.1	1.7
30	5.9	5.0	5.0	5.0	---	2.6	2.2	2.2	2.3	2.4	2.1	1.9
31	6.1	---	5.0	5.0	---	2.5	---	2.3	---	2.2	2.0	---
TOTAL	178.9	156.5	157.4	163.1	148.7	96.5	70.6	74.9	68.8	73.2	62.9	59.7
MEAN	5.77	5.22	5.08	5.26	5.31	3.11	2.35	2.42	2.29	2.36	2.03	1.99
MAX	6.5	7.3	5.6	6.9	8.7	5.3	2.9	3.0	3.1	2.9	2.3	3.7
MIN	5.5	4.8	4.8	5.0	5.0	2.5	2.1	2.2	2.0	1.5	1.6	1.6
AC-FT	355	310	312	324	295	191	140	149	136	145	125	118

GAL YR 1976 TOTAL 2046.9 MEAN 5.59 MAX 8.9 MIN 4.8 AC-FT 4060
WTR YR 1977 TOTAL 1311.2 MEAN 3.59 MAX 8.7 MIN 1.5 AC-FT 2600

11431800 PILOT CREEK ABOVE STUMPY MEADOWS LAKE, CA

LOCATION.--Lat 38°53'41", long 120°34'02", in NE¼NW¼ sec.18, T.12 N., R.13 E., El Dorado County, on right bank 2.1 mi (3.4 km) upstream from Stumpy Meadows Dam, and 12.5 mi (20.1 km) east of Georgetown.

DRAINAGE AREA.--11.7 mi^2 (30.3 km^2).

PERIOD OF RECORD.--October 1960 to current year. Prior to October 1971, published as "above Stumpy Meadows Reservoir."

GAGE.--Water-stage recorder. Altitude of gage is 4,280 ft (1,305 m), from topographic map.

REMARKS.--Records good. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--17 years, 23.0 ft^3/s (0.651 m^3/s), 16,660 acre-ft/yr (20.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,380 ft^3/s (67.4 m^3/s) Dec. 23, 1964, gage height, 5.92 ft (1.804 m) in gage well, 6.6 ft (2.01 m) from floodmarks, from rating curve extended above 170 ft^3/s (4.81 m^3/s) on basis of slope-area measurement of maximum flow; maximum gage height, 8.05 ft (2.454 m) Jan. 31, 1963; minimum daily discharge, 0.14 ft^3/s (0.004 m^3/s) Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 40 ft^3/s (1.13 m^3/s) Feb. 21, gage-height, 1.82 ft (0.555 m), no peak above base of 100 ft^3/s (2.83 m^3/s); minimum daily, 0.14 ft^3/s (0.004 m^3/s) Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.1	2.4	4.3	3.1	4.6	3.7	5.0	2.7	1.1	.23	.17
2	7.8	2.0	2.5	12	3.4	4.5	3.7	4.0	2.6	1.2	.23	.17
3	4.5	2.0	2.5	12	3.4	4.0	3.6	3.1	2.5	1.2	.22	.17
4	3.3	2.0	2.5	6.2	3.1	3.7	3.8	3.0	2.5	1.2	.17	.17
5	3.0	1.9	2.5	4.3	3.1	3.6	4.3	3.0	2.4	1.1	.17	.16
6	2.8	1.8	2.3	14	3.0	3.6	4.6	3.4	2.2	1.0	.17	.16
7	2.6	1.8	2.3	23	3.0	3.6	4.6	3.4	2.2	.96	.17	.19
8	2.5	1.8	2.4	25	3.7	3.6	4.7	3.6	2.2	.91	.17	.18
9	2.4	1.8	2.5	23	4.0	8.4	5.9	4.8	2.3	.89	.17	.18
10	2.4	1.9	2.4	10	3.4	7.3	4.9	7.3	2.5	.85	.17	.18
11	2.3	2.0	2.4	3.8	3.3	6.0	4.0	7.0	2.5	.82	.16	.17
12	2.2	2.3	2.3	3.5	3.3	5.8	3.6	7.2	2.2	.75	.15	.19
13	2.1	2.3	2.4	3.5	3.3	5.3	3.5	6.1	2.1	.71	.15	.20
14	2.1	11	2.6	3.5	3.3	6.2	3.4	5.6	2.1	.68	.15	.24
15	2.1	6.5	3.3	3.4	3.3	4.5	3.2	4.9	1.9	.64	.15	.30
16	2.0	3.6	4.0	3.7	3.3	4.3	3.1	4.3	1.8	.56	.14	.51
17	2.1	3.2	4.4	3.9	3.2	4.0	3.1	3.9	1.8	.53	.15	.75
18	2.1	3.0	4.5	3.3	3.2	3.9	2.9	3.8	1.6	.50	.15	.74
19	2.1	2.9	4.5	3.3	3.1	4.0	2.8	3.7	1.7	.45	.17	.75
20	2.0	2.7	4.7	3.3	3.1	4.1	2.7	3.4	2.2	.43	.17	1.1
21	2.0	2.6	4.8	3.6	18	4.4	2.7	3.2	1.8	.41	.17	.91
22	2.0	2.6	4.5	4.8	11	4.8	2.6	3.1	1.7	.38	.17	.81
23	2.0	2.5	2.4	4.0	8.4	5.9	2.5	3.4	1.6	.34	.16	.74
24	2.1	2.5	3.9	3.6	6.4	5.9	2.5	3.2	1.4	.31	.17	.76
25	2.1	2.5	3.1	3.4	5.8	5.1	2.5	3.2	1.4	.31	.17	.72
26	2.1	2.5	5.1	3.3	5.0	4.9	2.5	3.6	1.3	.30	.24	.72
27	2.0	2.4	5.6	3.3	4.7	5.1	2.5	3.8	1.2	.29	.32	.73
28	2.0	2.4	4.8	3.3	5.0	5.2	2.4	3.2	1.2	.27	.26	.78
29	2.1	2.5	4.4	3.5	---	4.7	2.4	3.0	1.2	.23	.18	.96
30	2.1	2.5	2.6	4.1	---	4.3	2.6	2.9	1.2	.23	.17	1.1
31	2.2	---	3.4	3.1	---	4.0	---	2.8	---	.23	.17	---
TOTAL	78.0	83.6	104.0	209.0	129.9	149.3	101.3	125.9	58.0	19.78	5.59	14.91
MEAN	2.52	2.79	3.35	6.74	4.64	4.82	3.38	4.06	1.93	.64	.18	.50
MAX	7.8	11	5.6	25	18	8.4	5.9	7.3	2.7	1.2	.32	1.1
MIN	2.0	1.8	2.3	3.1	3.0	3.6	2.4	2.8	1.2	.23	.14	.16
AC-FT	155	166	206	415	258	296	201	250	115	39	11	30

CAL YR 1976 TOTAL 1797.01 MEAN 4.91 MAX 24 MIN .86 AC-FT 3560
WTR YR 1977 TOTAL 1079.28 MEAN 2.96 MAX 25 MIN .14 AC-FT 2140

11433040 PILOT CREEK BELOW MUTTON CANYON, NEAR GEORGETOWN, CA

LOCATION.--Lat 38°55'25", long 120°38'27", in NE¼NW¼ sec.4, T.12 N., R.12 E., El Dorado County, Eldorado National Forest, on left bank 450 ft (137 m) downstream from Mutton Canyon, 500 ft (150 m) downstream from Georgetown Divide diversion dam, 2.5 mi (4.0 km) downstream from Stumpy Meadows Dam, and 10 mi (16 km) east of Georgetown.

DRAINAGE AREA.--21.1 mi^2 (54.6 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 3,760 ft (1,146 m), from topographic map.

REMARKS.--Records good. Flow regulated by Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm^3) completed in November 1961. Georgetown Irrigation District ditch, capacity, about 20 ft^3/s (0.57 m^3/s) diverts water out of Pilot Creek, 500 ft (150 m) above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--16 years, 27.2 ft^3/s (0.770 m^3/s), 19,710 acre-ft/yr (24.3 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft^3/s (154 m^3/s) Dec. 22, 1964, gage height, 9.60 ft (2.926 m), from rating curve extended above 300 ft^3/s (8.50 m^3/s) on basis of slope-area measurement at gage height 5.00 ft (1.524 m); maximum gage height, 10.06 ft (3.066 m) Dec. 23, 1964; minimum daily discharge, 0.20 ft^3/s (0.006 m^3/s) Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14 ft^3/s (0.40 m^3/s) Feb. 21, gage height, 2.88 ft (0.878 m); minimum daily, 0.33 ft^3/s (0.009 m^3/s) Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.85	.66	.74	.77	.83	1.3	1.0	1.4	.79	.53	.40	.36
2	1.3	.66	.74	4.8	.83	1.1	1.0	1.0	.77	.55	.40	.36
3	.83	.66	.74	2.2	.83	1.1	1.0	1.3	.76	.55	.40	.37
4	3.5	.66	.74	1.2	.49	1.0	1.0	1.0	.75	.54	.38	.36
5	5.4	.66	.74	1.0	.83	1.0	.97	.98	.73	.54	.39	.36
6	3.8	.66	.74	.91	.83	1.0	.95	1.1	.72	.49	.40	.35
7	1.9	.66	.74	.89	.83	1.0	.93	1.2	.71	.47	.40	.34
8	.84	.65	.74	.83	1.1	.97	.94	1.2	.70	.46	.40	.33
9	.70	.66	.74	.83	1.2	2.4	1.2	1.3	.73	.46	.40	.33
10	.70	.66	.74	.83	.98	1.6	.95	2.3	.74	.46	.39	.34
11	.70	.68	.74	.83	.93	1.3	.88	1.5	.75	.45	.39	.34
12	.69	.70	.74	.83	.90	1.2	.86	1.6	.72	.45	.38	.34
13	.68	.75	.74	.83	.89	1.2	.83	1.3	.70	.45	.38	.35
14	.67	4.6	.74	.83	.89	1.1	.82	1.2	.69	.44	.38	.36
15	.67	1.2	.74	.74	.90	1.1	.79	1.1	.68	.44	.38	.40
16	.67	.86	.74	.42	.89	1.1	.78	1.0	.65	.43	.38	.41
17	.67	.81	.73	.49	.89	1.1	.76	1.0	.64	.43	.41	.41
18	.67	.78	.72	.83	.83	1.1	.73	1.0	.64	.43	.40	.40
19	.66	.78	.71	.83	.83	1.1	1.2	.99	.64	.43	.39	.40
20	.66	.75	.72	.84	.83	1.2	2.0	.95	.64	.41	.38	.41
21	.66	.74	.72	.93	5.1	1.2	2.0	.89	.61	.41	.37	.40
22	.66	.75	.73	1.1	2.2	1.2	1.9	.89	.60	.41	.35	.38
23	.67	.74	.74	1.0	1.6	1.4	.74	.94	.58	.40	.35	.36
24	.67	.74	.74	.90	1.4	1.4	.73	.91	.57	.41	.36	.36
25	.67	.74	.74	.89	1.2	1.3	.73	.89	.57	.41	.38	.36
26	.67	.74	.74	.83	1.1	1.3	.74	1.2	.55	.41	.40	.35
27	.66	.74	.74	.83	1.1	1.2	.73	1.2	.55	.40	.40	.35
28	.66	.74	.72	.83	1.4	1.2	.72	.94	.55	.41	.38	.37
29	.66	.74	.73	.83	---	1.1	.70	.89	.55	.41	.36	.41
30	.67	.74	.80	.83	---	1.1	.77	.84	.54	.40	.35	.39
31	.66	---	.78	.83	---	1.1	---	.82	---	.40	.35	---
TOTAL	33.87	25.91	22.90	31.53	32.63	37.47	29.35	34.83	19.82	13.88	11.88	11.05
MEAN	1.09	.86	.74	1.02	1.17	1.21	.98	1.12	.66	.45	.38	.37
MAX	5.4	4.6	.80	4.8	5.1	2.4	2.0	2.3	.79	.55	.41	.41
MIN	.66	.65	.71	.42	.49	.97	.70	.82	.54	.40	.35	.33
AC-FT	67	51	45	63	65	74	58	69	39	28	24	22

CAL YR 1976 TOTAL 597.93 MEAN 1.63 MAX 14 MIN .62 AC-FT 1190
WTR YR 1977 TOTAL 305.12 MEAN .84 MAX 5.4 MIN .33 AC-FT 605

11433060 SOUTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°03'04", long 120°28'14", in SW¼NE¼ sec.24, T.14 N., R.13 E., Placer County, Eldorado National Forest, on right bank at diversion dam, 3.3 mi (5.3 km) upstream from confluence with North and South Forks Long Canyon Creek, and 17.2 mi (27.7 km) east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and sharp-crested weir. Altitude of gage is 4,630 ft (1,411 m), from topographic map.

REMARKS.--Tunnel completed in September 1965; diversion began in February 1966. Flow is diverted from South Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork powerplant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 8.57 ft^3/s (0.243 m^3/s), 6,210 acre-ft/yr (7.66 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft^3/s (7.11 m^3/s) Nov. 12, 1973; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0			0	0	0	2.2	3.3			
2		0			0	0	0	2.0	3.0			
3		0			0	0	0	1.8	2.8			
4		0			0	0	0	1.6	2.4			
5		0			0	0	0	1.6	2.2			
6		0			0	0	0	1.8	2.0			
7		0			0	0	0	2.0	1.8			
8		0			0	0	0	2.2	1.6			
9		0			0	.22	0	3.0	2.0			
10		0			0	0	0	3.5	2.4			
11		0			0	0	0	3.5	2.0			
12		0			0	0	0	3.8	1.6			
13		0			0	0	.54	3.8	1.2			
14		.33			0	0	1.6	4.5	.84			
15		0			0	0	1.6	3.8	.11			
16		0			0	0	1.8	3.8	0			
17		0			0	0	1.8	3.8	.84			
18		0			0	0	1.8	3.5	.65			
19		0			0	0	1.6	3.3	0			
20		0			0	0	1.6	3.3	0			
21		0			.65	0	1.6	3.0	0			
22		0			0	0	1.4	3.0	0			
23		0			0	0	1.4	3.8	0			
24		0			0	0	1.4	3.8	0			
25		0			0	0	1.2	3.8	0			
26		0			0	0	1.0	4.8	0			
27		0			0	0	.65	6.2	0			
28		0			0	0	.22	4.8	0			
29		0			---	0	0	4.3	0			
30		0			---	0	.22	3.8	0			
31		---			---	0	---	3.5	---			---
TOTAL	0	.33	0	0	.65	.22	21.43	103.6	30.74	0	0	0
MEAN	0	.011	0	0	.023	.007	.71	3.34	1.02	0	0	0
MAX	0	.33	0	0	.65	.22	1.8	6.2	3.3	0	0	0
MIN	0	0	0	0	0	0	0	1.6	0	0	0	0
AC-FT	0	.7	0	0	1.3	.4	43	205	61	0	0	0

CAL YR 1976	TOTAL 600.21	MEAN 1.64	MAX 12	MIN 0	AC-FT 1190			
WTR YR 1977	TOTAL 156.97	MEAN .43	MAX 6.2	MIN 0	AC-FT 311			

11433080 NORTH FORK LONG CANYON CREEK DIVERSION TUNNEL NEAR VOLCANOVILLE, CA

LOCATION.--Lat 39°02'57", long 120°28'56", in SW¼NW¼ sec.24, T.14 N., R.13 E., Placer County, Eldorado National Forest, on left bank at diversion dam, 3.2 mi (5.1 km) upstream from confluence of North and South Forks Long Canyon Creek, and 16.9 mi (27.2 km) east of Volcanoville.

PERIOD OF RECORD.--October 1965 to current year.

GAGE.--Water-stage recorder and Parshall flume. Altitude of gage is 4,700 ft (1,430 m), from topographic map.

REMARKS.--No regulation or diversion above station. Tunnel completed in September 1965 and diversions began in February 1966. Flow is diverted from North Fork Long Canyon Creek to a tunnel from Hell Hole Reservoir to Middle Fork powerplant on the Middle Fork American River. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 2.93 ft^3/s (0.083 m^3/s), 2,120 acre-ft/yr (2.61 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 55 ft^3/s (1.56 m^3/s) May 18, 1975; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	0		0				
2					0	0		0				
3					0	0		0				
4					0	0		0				
5					0	0		0				
6					0	0		0				
7					0	0		0				
8					0	0		0				
9					0	0		0				
10					0	0		0				
11					0	0		0				
12					0	0		0				
13					0	0		0				
14					0	0		.25				
15					0	0		0				
16					0	0		0				
17					0	0		0				
18					0	0		0				
19					0	0		0				
20					.12	0		0				
21					.45	.05		0				
22					0	.05		0				
23					0	0		0				
24					0	0		0				
25					0	0		0				
26					0	0		.30				
27					0	0		1.0				
28					0	0		.30				
29					---	0		.15				
30					---	0		0				
31		---			---	0	---	0	---			---
TOTAL	0	0	0	0	.57	.10	0	2.00	0	0	0	0
MEAN	0	0	0	0	.020	.003	0	.065	0	0	0	0
MAX	0	0	0	0	.45	.05	0	1.0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	0	1.1	.2	0	4.0	0	0	0	0

CAL YR 1976 TOTAL 54.88 MEAN .15 MAX 3.4 MIN 0 AC-FT 109
WTR YR 1977 TOTAL 2.67 MEAN .007 MAX 1.0 MIN 0 AC-FT 5

11433100 LONG CANYON CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°01'16", long 120°30'53", in SE¼NW¼ sec.34, T.14 N., R.13 E., Placer County, Eldorado National Forest, on right bank 75 ft (23 m) downstream from North Fork Long Canyon, 6.5 mi (10.5 km) south of French Meadows, and 18 mi (29 km) east of Foresthill.

DRAINAGE AREA.--18.0 mi^2 (46.6 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 4,100 ft (1,250 m), from topographic map.

REMARKS.--Water is diverted above this station to a diversion tunnel from Hell Hole Reservoir to Middle Fork American River powerplant via South Fork and North Fork Long Canyon diversion tunnels (stations 11433060, 11433080); diversions began in February 1966. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (since diversion to Middle Fork American River powerplant).--11 years (water years 1967-77), 28.5 ft^3/s (0.807 m^3/s) 20,650 acre-ft/yr (25.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,690 ft^3/s (133 m^3/s) Dec. 23, 1964, gage height, 11.20 ft (3.414 m), from rating curve extended above 300 ft^3/s (8.50 m^3/s) on basis of slope-area measurements at gage heights 6.62 ft (2.018 m) and 10.27 ft (3.130 m); minimum daily, 0.08 ft^3/s (0.002 m^3/s) Sept. 27, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft^3/s (0.37 m^3/s) Jan. 2, gage height, 2.61 ft (0.796 m); minimum daily, 0.11 ft^3/s (0.003 m^3/s) Sept. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.85	1.4	1.2	2.1	4.9	4.7	4.6	3.3	1.2	.26	.14
2	2.3	.81	1.4	5.0	2.1	4.0	4.5	4.2	3.2	1.3	.22	.14
3	1.7	.81	1.4	5.1	2.0	3.8	4.3	3.6	3.0	1.3	.21	.14
4	1.2	.81	1.4	2.5	2.0	3.4	4.4	3.5	2.9	1.2	.20	.15
5	1.1	.81	1.4	2.0	1.9	3.3	5.6	3.4	2.8	1.2	.20	.13
6	1.1	.81	1.3	2.0	1.9	4.0	6.4	4.0	2.8	1.1	.21	.12
7	1.1	.81	1.3	2.0	1.9	4.5	6.3	4.0	2.7	1.0	.23	.12
8	1.1	.81	1.3	2.4	2.3	4.3	6.7	4.4	2.6	.98	.21	.11
9	1.1	.81	1.4	2.3	2.6	8.5	7.2	6.4	3.1	.93	.19	.11
10	1.1	.83	1.4	2.0	2.3	7.3	5.9	7.7	3.1	.89	.19	.12
11	1.1	.92	1.4	1.7	2.3	5.6	5.1	6.8	2.8	.83	.18	.13
12	.92	1.1	1.4	1.5	2.3	7.2	4.8	7.1	2.7	.74	.16	.14
13	.92	1.1	1.4	1.4	2.2	6.0	4.7	7.6	2.6	.68	.15	.14
14	.91	4.5	1.3	1.4	2.2	6.0	4.0	8.5	2.5	.56	.14	.13
15	.92	2.3	1.3	1.4	2.2	4.6	3.8	7.9	2.5	.57	.14	.14
16	.92	1.6	1.4	1.4	2.1	4.5	3.7	7.1	2.4	.52	.13	.21
17	.92	1.5	1.4	1.6	2.1	4.4	3.7	6.4	2.2	.49	.14	.31
18	.92	1.4	1.3	1.7	2.0	4.3	3.4	6.1	2.2	.45	.18	.37
19	.92	1.2	1.3	1.8	1.9	5.1	3.2	5.6	2.2	.43	.16	.58
20	.92	1.2	1.3	1.9	1.9	6.6	3.0	5.2	2.2	.42	.15	.74
21	.92	1.1	1.3	2.1	11	7.4	2.9	5.0	2.1	.42	.14	.63
22	.92	1.1	1.3	2.8	10	8.4	2.9	4.6	1.9	.42	.13	.54
23	.92	1.1	1.2	2.5	7.3	9.5	2.9	4.8	1.9	.37	.12	.47
24	1.1	1.1	1.2	2.4	5.0	8.0	2.9	4.8	1.7	.37	.12	.42
25	.81	1.1	1.1	2.4	4.4	7.1	2.8	4.4	1.6	.37	.16	.37
26	.85	1.0	1.2	2.4	4.2	7.5	2.9	4.8	1.5	.37	.26	.32
27	.84	1.2	1.1	2.3	4.8	8.2	2.8	7.3	1.4	.37	.23	.37
28	.82	1.3	1.2	2.2	6.5	7.7	2.8	5.2	1.4	.32	.21	.37
29	.92	1.4	1.2	2.1	---	6.5	2.7	4.6	1.3	.32	.22	.68
30	.92	1.4	1.2	2.1	---	5.7	2.9	4.2	1.2	.29	.21	.68
31	.92	---	1.2	2.1	---	5.0	---	3.8	---	.26	.21	---
TOTAL	32.21	36.78	40.4	67.7	95.5	183.3	123.9	167.6	69.8	20.67	5.66	9.02
MEAN	1.04	1.23	1.30	2.18	3.41	5.91	4.13	5.41	2.33	.67	.18	.30
MAX	2.3	4.5	1.4	5.1	11	9.5	7.2	8.5	3.3	1.3	.26	.74
MIN	.81	.81	1.1	1.2	1.9	3.3	2.7	3.4	1.2	.26	.12	.11
AC-FT	64	73	80	134	189	364	246	332	138	41	11	18

CAL YR 1976 TOTAL 2402.43 MEAN 6.56 MAX 28 MIN .81 AC-FT 4770
WTR YR 1977 TOTAL 852.54 MEAN 2.34 MAX 11 MIN .11 AC-FT 1690

11433200 RUBICON RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 38°59'33", long 120°43'14", in SE¼NW¼ sec.11, T.13 N., R.11 E., Placer County, Eldorado National Forest, on right bank 0.6 mi (1.0 km) upstream from Ralston powerhouse, 1.2 mi (1.9 km) upstream from confluence of Rubicon River and Middle Fork American River, and 5.6 mi (9.0 km) southeast of Foresthill.

DRAINAGE AREA.--315 mi^2 (816 km^2).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (366 m), from topographic map. October 1958 to May 17, 1963, at site 2.0 mi (3.2 km) upstream, 150 ft (46 m) downstream from Ralston Bridge, and May 17, 1963, to Mar. 30, 1965, at site 2.1 mi (3.4 km) upstream, 100 ft (30 m) upstream from Ralston Bridge at datum 1,362.20 ft (415.199 m) above mean sea level.

REMARKS.--Flow regulated by Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), and Stumpy Meadows Lake, capacity, 20,000 acre-ft (24.7 hm^3). Water is imported from French Meadows Reservoir on Middle Fork American River through a tunnel to French Meadows powerplant on shore of Hell Hole Reservoir. Water is diverted from Hell Hole Reservoir through a tunnel to Middle Fork powerplant on Middle Fork American River. Robbs Peak tunnel and powerplant (station 11429800) divert water to South Fork American River basin. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (prior to construction of Hell Hole Dam).--7 years (water years 1959-65), 609 ft^3/s (17.2 m^3/s), 440,900 acre-ft/yr (544 hm^3/yr); 12 years (water years 1966-77), 264 ft^3/s (7.476 m^3/s), 191,300 acre-ft/yr (236 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, Dec. 23, 1964, gage height, 55.4 ft (16.89 m) from floodmarks, caused by overtopping of the partly constructed Hell Hole Dam; next highest peak discharge, 83,000 ft^3/s (2,350 m^3/s) Feb. 1, 1963, gage height, 35.0 ft (10.67 m) former site and datum; minimum daily, 10 ft^3/s (0.28 m^3/s) Sept. 20-27, 1962. Maximum discharge since construction of Hell Hole Dam in 1965, 15,100 ft^3/s (428 m^3/s) Jan. 21, 1970, gage height, 14.60 ft (4.450 m); minimum daily, 7.4 ft^3/s (0.21 m^3/s) Sept. 11, 12, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of December 1937, November 1950, and December 1955 had approximate discharges of 44,000 ft^3/s (1,250 m^3/s), 56,000 ft^3/s (1,590 m^3/s), and 73,000 ft^3/s (2,070 m^3/s), respectively, on basis of 1958-64 stage-discharge relation and U.S. Forest Service floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 164 ft^3/s (4.64 m^3/s) Feb. 21, gage height, 7.60 ft (2.316 m); minimum daily, 7.4 ft^3/s (0.21 m^3/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	24	25	26	24	45	35	35	26	16	9.2	9.2
2	40	24	24	44	24	40	35	40	26	16	9.2	9.2
3	44	24	24	129	24	37	35	36	25	16	9.2	9.0
4	37	24	24	68	24	36	34	32	24	16	9.2	8.3
5	34	24	24	45	24	33	34	29	23	16	9.2	8.3
6	34	24	24	37	23	32	35	36	23	14	9.2	8.3
7	33	24	24	32	23	31	35	39	22	14	9.2	8.3
8	30	24	24	28	25	31	35	37	22	14	9.2	8.3
9	28	24	24	27	30	43	40	36	22	13	8.7	8.3
10	27	24	24	27	31	58	39	46	23	13	8.2	8.0
11	27	24	24	27	29	46	36	49	24	13	8.9	7.4
12	27	24	24	27	29	44	34	49	24	13	8.9	7.4
13	26	25	24	27	25	49	32	48	23	13	8.3	9.1
14	26	48	24	27	24	44	31	45	22	13	8.1	9.2
15	26	64	24	27	24	40	31	42	21	11	7.9	9.2
16	26	43	24	27	24	39	29	39	21	11	8.3	9.8
17	26	34	24	27	24	39	29	39	20	11	8.3	13
18	26	30	24	27	24	38	29	37	20	11	8.3	13
19	26	29	24	27	24	37	29	37	20	10	8.3	13
20	26	29	24	27	24	37	26	35	20	10	8.3	14
21	26	26	24	27	76	37	27	33	20	10	8.3	14
22	26	26	24	30	104	37	27	32	20	10	8.3	13
23	26	26	24	32	72	38	26	31	19	10	8.3	13
24	26	26	24	32	62	44	24	31	19	10	8.3	13
25	26	26	24	32	48	45	23	31	18	9.2	8.3	11
26	25	26	24	31	41	42	23	31	18	9.2	9.1	11
27	24	26	24	31	39	40	23	35	18	9.2	10	11
28	24	26	24	29	41	39	23	35	18	9.2	10	10
29	24	26	24	27	---	37	22	33	18	9.2	10	11
30	24	26	25	26	---	37	23	30	17	9.2	10	13
31	24	---	26	25	---	37	---	28	---	9.2	9.2	---
TOTAL	873	850	748	1055	986	1232	904	1136	636	368.4	273.9	310.3
MEAN	28.2	28.3	24.1	34.0	35.2	39.7	30.1	36.6	21.2	11.9	8.84	10.3
MAX	44	64	26	129	104	58	40	49	26	16	10	14
MIN	24	24	24	25	23	31	22	28	17	9.2	7.9	7.4
AC-FT	1730	1690	1480	2090	1960	2440	1790	2250	1260	731	543	615

CAL YR 1976	TOTAL	19063.0	MEAN 52.1	MAX 241	MIN 22	AC-FT	37810
WTR YR 1977	TOTAL	9372.6	MEAN 25.7	MAX 129	MIN 7.4	AC-FT	18590

11433260 NORTH FORK OF MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'27", long 120°43'03", in NE¼NW¼ sec.35, T.14 N., R.11 E., Placer County, Tahoe National Forest, on right bank 1.0 mi (1.6 km) downstream from El Dorado Canyon, and 4.8 mi (7.7 km) east of Foresthill.

DRAINAGE AREA.--88.9 mi^2 (230.3 km^2).

PERIOD OF RECORD.--July 1965 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,300 ft (396 m), from topographic map.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--12 years, 237 ft^3/s (6.712 m^3/s), 171,700 acre-ft/yr (212 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,600 ft^3/s (385 m^3/s) Jan. 21, 1970, gage height, 12.80 ft (3.901 m) in gage well, 13.5 ft (4.11 m) from floodmarks; minimum daily, 7.1 ft^3/s (0.20 m^3/s) Sept. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 323 ft^3/s (9.15 m^3/s) Feb. 21, gage height, 5.21 ft (1.588 m); minimum daily, 7.1 ft^3/s (0.20 m^3/s) Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	18	19	18	22	43	41	45	34	13	9.6	9.8
2	21	18	19	41	22	35	39	43	33	14	9.2	9.4
3	22	18	19	128	21	34	38	34	31	14	9.1	9.3
4	22	18	19	43	21	32	37	33	30	14	9.1	8.9
5	22	17	19	31	21	30	41	31	29	13	9.1	7.6
6	19	17	19	28	22	30	49	39	28	13	9.1	7.6
7	19	17	18	25	22	29	52	40	27	12	9.4	7.4
8	19	16	17	24	23	29	55	35	26	12	9.7	7.2
9	19	16	17	23	30	58	58	39	25	11	9.6	7.1
10	19	16	17	23	27	71	48	70	27	12	9.6	7.2
11	19	16	17	23	25	46	44	66	27	11	9.5	7.3
12	18	17	17	23	24	45	43	66	26	11	8.8	7.6
13	18	18	17	24	24	47	42	58	24	11	8.5	7.6
14	17	51	17	24	24	40	43	62	24	11	8.3	7.4
15	17	52	17	23	24	41	41	69	23	10	8.6	7.7
16	17	27	17	23	24	39	40	59	22	10	8.6	8.1
17	17	24	17	22	24	40	41	52	21	9.7	8.7	9.4
18	17	22	17	23	24	38	38	47	21	9.1	9.0	10
19	17	21	17	24	23	37	36	45	20	8.9	9.3	11
20	17	20	17	26	23	39	33	45	21	9.2	8.9	11
21	17	20	17	26	79	42	32	47	21	9.3	8.3	12
22	17	20	17	32	120	45	32	45	20	8.9	8.2	11
23	17	19	18	33	63	54	31	45	19	8.9	7.9	9.9
24	17	19	18	29	53	64	30	43	18	9.0	7.6	9.1
25	18	19	17	26	38	53	30	41	17	9.2	7.5	8.8
26	18	19	17	25	36	49	29	42	15	9.3	9.2	8.7
27	18	19	17	24	34	51	29	68	14	9.2	13	8.5
28	18	19	17	24	37	54	28	48	14	8.9	12	8.5
29	18	19	17	23	---	50	27	42	14	8.5	11	11
30	18	19	18	22	---	46	27	38	14	8.5	11	16
31	18	---	19	22	---	43	---	36	---	9.6	10	---
TOTAL	570	631	545	905	930	1354	1154	1473	685	328.2	287.4	272.1
MEAN	18.4	21.0	17.6	29.2	33.2	43.7	38.5	47.5	22.8	10.6	9.27	9.07
MAX	22	52	19	128	120	71	58	70	34	14	13	16
MIN	17	16	17	18	21	29	27	31	14	8.5	7.5	7.1
AC-FT	1130	1250	1080	1800	1840	2690	2290	2920	1360	651	570	540

CAL YR 1976 TOTAL 21554.0 MEAN 58.9 MAX 396 MIN 16 AC-FT 42750
WTR YR 1977 TOTAL 9134.7 MEAN 25.0 MAX 128 MIN 7.1 AC-FT 18120

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 39°00'23", long 120°45'40", in NW¼NW¼ sec.4, T.13 N., R.11 E., Placer County, Tahoe National Forest, on right bank 1.7 mi (2.7 km) downstream from Oxbow powerhouse, and 3.2 mi (5.1 km) east of Foresthill.

DRAINAGE AREA.--524 mi^2 (1,357 km^2).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,060 ft (323 m), from topographic map. Prior to Oct. 22, 1965, at site 3.2 mi (5.1 km) downstream at different datum.

REMARKS.--Flow regulated by French Meadows Reservoir (station 11427400), Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm^3), and Ralston and Oxbow powerplants. Robbs Peak tunnel (station 11429800) and Georgetown Divide ditch, capacity, about 25 ft^3/s (0.71 m^3/s) divert water out of basin above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE.--19 years, 1,048 ft^3/s (29.68 m^3/s), 759,300 acre-ft/yr (936 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft^3/s (8,780 m^3/s) Dec. 23, 1964, gage height, 69.0 ft (21.03 m) from floodmarks, site and datum then in use, caused by overtopping of the partly constructed Hell Hole Dam on the Rubicon River, from rating curve extended above 28,000 ft^3/s (793 m^3/s) on basis of slope-area measurement at gage height 38.0 ft (11.58 m) and slope-conveyance study at gage height 69.0 ft (21.03 m) at site and datum then in use; next highest peak, 113,000 ft^3/s (3,200 m^3/s) Feb. 1, 1963, gage height, 38.00 ft (11.582 m) site and datum then in use; minimum, 35 ft^3/s (0.99 m^3/s) Oct. 10, 20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,160 ft^3/s (32.9 m^3/s) Mar. 11, gage height, 7.27 ft (2.216 m); minimum daily, 41 ft^3/s (1.16 m^3/s) Oct. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	929	98	341	79	84	221	84	89	148	83	519	86
2	136	97	359	100	179	322	83	100	95	83	357	196
3	291	100	400	349	119	300	82	80	71	83	294	87
4	497	104	340	329	79	254	235	78	70	83	222	245
5	203	110	230	462	81	307	82	76	67	80	272	232
6	170	102	120	637	81	131	90	84	383	77	376	350
7	284	71	200	443	81	516	95	116	375	78	426	440
8	173	506	180	212	221	375	99	81	74	78	160	420
9	122	352	80	148	194	354	103	115	545	75	383	120
10	41	492	120	214	275	570	94	175	338	73	498	90
11	322	510	80	136	139	462	443	155	53	71	433	90
12	214	112	80	81	82	293	94	137	50	74	284	190
13	227	254	80	142	82	546	80	137	57	72	262	279
14	73	182	120	82	132	306	81	168	68	75	196	340
15	434	202	80	129	82	206	79	140	70	79	368	173
16	576	91	80	108	191	79	77	133	68	80	284	304
17	267	86	80	76	81	224	78	126	66	86	288	93
18	98	84	110	76	121	81	77	258	65	91	466	94
19	59	253	80	76	80	82	74	85	63	93	311	242
20	87	141	80	144	82	560	232	87	67	92	284	202
21	84	80	80	132	317	80	72	86	76	229	291	207
22	78	321	80	89	358	85	162	86	84	422	430	255
23	90	316	79	95	223	93	75	85	91	350	203	183
24	87	233	77	153	174	106	76	84	100	307	204	91
25	86	78	77	111	204	98	76	111	107	301	133	92
26	94	80	79	133	247	93	75	115	107	504	239	187
27	91	199	78	125	108	319	198	107	91	365	350	180
28	86	87	77	172	203	103	69	119	86	482	90	233
29	90	198	78	166	---	92	70	111	86	656	259	218
30	103	296	77	91	---	89	70	109	85	224	253	392
31	102	---	80	128	---	86	---	282	---	82	204	---
TOTAL	6194	5835	4102	5418	4300	7433	3305	3715	3706	5528	9339	6311
MEAN	200	195	132	175	154	240	110	120	124	178	301	210
MAX	929	510	400	637	358	570	443	282	545	656	519	440
MIN	41	71	77	76	79	79	69	76	50	71	90	86
AC-FT	12290	11570	8140	10750	8530	14740	6560	7370	7350	10960	18520	12520

CAL YR 1976 TOTAL 149537 MEAN 409 MAX 1580 MIN 41 AC-FT 296600
WTR YR 1977 TOTAL 65186 MEAN 179 MAX 929 MIN 41 AC-FT 129300

11433400 CANYON CREEK NEAR GEORGETOWN, CA

LOCATION.--Lat 38°56'03", long 120°52'21", in SW¼NW¼ sec.33, T.13 N., R.10 E., El Dorado County, Eldorado National Forest, on right bank 0.7 mi (1.1 km) downstream from West Canyon, and 2.6 mi (4.2 km) northwest of Georgetown.

DRAINAGE AREA.--12.5 mi^2 (32.4 km^2)

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 1,995 ft (608 m), from topographic map.

REMARKS.--Records good. Small diversions above station for irrigation and domestic purposes. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--11 years, 17.8 ft^3/s (0.504 m^3/s), 12,900 acre-ft/yr (15.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft^3/s (36.8 m^3/s) Jan. 21, 1970, gage height, 11.01 ft (3.356 m); minimum daily, 0.03 ft^3/s (0.001 m^3/s) Aug. 23, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 26 ft^3/s (0.74 m^3/s) Jan. 3, gage height, 5.38 ft (1.640 m), no peak above base of 170 ft^3/s (4.81 m^3/s); minimum daily, 0.03 ft^3/s (0.001 m^3/s) Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	1.9	1.8	1.6	1.9	3.8	1.8	7.7	1.3	.39	.71	.13
2	5.2	1.9	2.3	8.7	1.7	2.7	1.8	3.7	1.1	.46	.27	.12
3	3.9	1.8	4.8	16	1.7	2.3	1.7	2.2	1.1	.48	.14	.12
4	2.5	1.7	5.1	8.4	1.6	2.2	1.7	2.0	1.1	.43	.10	.12
5	2.0	1.7	4.2	4.1	1.6	2.1	1.7	1.8	1.0	.42	.08	.10
6	1.7	1.8	4.2	2.9	1.6	2.0	1.7	2.6	.99	.36	.08	.10
7	1.5	1.7	4.1	2.5	1.6	1.9	1.6	2.9	.96	.33	.08	.10
8	2.3	1.7	4.4	2.3	2.0	1.8	1.6	2.4	.92	.30	.08	.10
9	2.8	1.8	3.9	2.2	2.3	3.5	1.7	2.8	.93	.28	.09	.10
10	2.2	1.9	3.6	2.1	2.2	6.4	1.6	4.3	1.1	.27	.28	.10
11	2.4	2.1	2.3	2.0	1.9	2.8	1.6	3.0	1.1	.25	.51	.11
12	2.4	2.3	2.1	2.5	1.7	4.2	1.6	2.7	1.0	.24	.29	.12
13	2.4	2.5	2.2	2.4	1.7	4.8	1.5	2.3	.95	.23	.18	1.1
14	2.4	12	3.9	1.9	1.7	3.9	1.5	2.0	.92	.22	.13	5.6
15	2.1	6.1	3.8	1.8	1.6	3.6	1.5	2.6	.87	.24	.10	1.1
16	2.2	3.1	3.3	2.0	1.6	3.5	1.4	1.9	.84	.20	.06	.67
17	2.2	2.5	1.8	2.2	1.6	3.3	1.4	1.8	.82	.17	.07	.67
18	2.1	2.2	1.6	1.9	1.6	2.9	1.4	1.8	.81	.15	.07	.61
19	2.1	1.9	1.6	1.8	1.5	2.6	1.3	1.8	.77	.16	.04	.61
20	2.0	1.8	1.5	1.7	1.5	2.3	1.3	1.7	.76	.14	.04	.72
21	2.0	1.7	3.0	1.7	10	2.2	1.3	1.6	.70	.13	.04	.61
22	2.2	1.7	7.1	1.8	11	2.1	1.3	1.6	.60	.12	.04	.52
23	2.2	1.7	2.5	1.8	11	2.4	1.3	1.7	.51	.11	.03	.48
24	2.4	1.7	1.7	1.7	7.5	2.7	1.3	1.7	.48	.10	.04	.44
25	2.0	1.6	2.1	1.7	3.7	2.5	1.3	1.6	.49	.10	.06	.44
26	2.2	1.6	2.7	1.7	2.8	2.2	1.3	1.7	.43	.10	.12	.44
27	2.2	1.7	2.9	1.7	2.5	2.1	1.3	1.9	.39	.09	.10	.44
28	2.3	1.6	3.0	1.7	2.7	2.0	1.2	1.6	.40	.08	.17	.48
29	2.5	1.6	2.0	1.7	---	1.9	1.2	1.5	.43	.07	.18	.67
30	2.1	1.7	1.8	1.7	---	1.9	1.8	1.4	.38	.05	.16	.84
31	1.9	---	1.6	1.9	---	1.9	---	1.4	---	.20	.14	---
TOTAL	72.5	71.0	92.9	90.1	85.8	86.5	44.7	71.7	24.15	6.87	4.48	17.76
MEAN	2.34	2.37	3.00	2.91	3.06	2.79	1.49	2.31	.81	.22	.14	.59
MAX	5.2	12	7.1	16	11	6.4	1.8	7.7	1.3	.48	.71	5.6
MIN	1.5	1.6	1.5	1.6	1.5	1.8	1.2	1.4	.38	.05	.03	.10
AC-FT	144	141	184	179	170	172	89	142	48	14	8.9	35

CAL YR 1976	TOTAL	1454.38	MEAN 3.97	MAX 27	MIN .80	AC-FT 2880			
WTR YR 1977	TOTAL	668.46	MEAN 1.83	MAX 16	MIN .03	AC-FT 1330			

11433400 CANYON CREEK NEAR GEORGETOWN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: July 1966 to current year.
INSTRUMENTATION.--Temperature recorder since July 1966.
EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 23.5°C July 22, 1966; minimum recorded, 0.5°C Jan. 2, 3, 31, Feb. 1, 1975, Dec. 27-29, 1976, Jan. 8, 9, 1977.
EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 21.5°C June 25-27; minimum recorded, 0.5°C Dec. 27-29, Jan. 8, 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11433420 MAINE BAR CANYON CREEK NEAR GREENWOOD, CA

LOCATION.--Lat 38°55'34", long 120°56'51", in NW¼NW¼ sec.2, T.12 N., R.9 E., El Dorado County, on right bank 2.8 mi (4.5 km) northwest of Greenwood, and 4.5 mi (7.2 km) northeast of Cool.

DRAINAGE AREA.--0.76 mi^2 (1.97 km^2).

PERIOD OF RECORD.--March to September 1972 (discharge measurements only), October 1972 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,520 ft (463 m), from topographic map.

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

AVERAGE DISCHARGE.--5 years, 0.78 ft^3/s (0.022 m^3/s), 565 acre-ft/yr (697,000 m^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79 ft^3/s (2.24 m^3/s) Jan. 12, 1973, gage height, 1.82 ft (0.555 m); no flow July 26-28, 1976, June 22 to Sept. 1, Sept. 6, 7, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4.6 ft^3/s (0.13 m^3/s) Jan. 2, gage height, 0.64 ft (0.195 m), no peak above base of 20 ft^3/s (0.57 m^3/s); no flow June 22 to Sept. 1, Sept. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.13	.15	.10	.07	.08	.07	.32	.02			0
2	.05	.13	.11	1.8	.07	.07	.07	.13	.02			.19
3	.04	.13	.11	.86	.07	.11	.07	.07	.02			1.7
4	.03	.13	.11	.47	.07	.11	.07	.06	.01			.08
5	.03	.13	.13	.24	.07	.11	.07	.07	.01			.01
6	.02	.06	.15	.16	.07	.10	.07	.12	.01			0
7	.02	.06	.15	.15	.07	.10	.07	.11	.01			0
8	.02	.06	.15	.12	.12	.10	.08	.10	.01			.15
9	.02	.06	.15	.07	.10	.28	.09	.16	.02			1.7
10	.03	.06	.13	.07	.07	.17	.08	.20	.03			1.6
11	.04	.10	.11	.07	.03	.14	.07	.13	.02			1.4
12	.04	.15	.11	.07	.03	.22	.07	.13	.02			.29
13	.02	.20	.11	.07	.03	.25	.07	.10	.02			.04
14	.01	.97	.11	.07	.03	.23	.06	.09	.02			.02
15	.01	.14	.11	.07	.03	.19	.06	.08	.01			.01
16	.01	.07	.11	.07	.03	.23	.06	.08	.01			.01
17	.02	.06	.11	.07	.03	.20	.06	.07	.01			.01
18	.02	.04	.12	.07	.03	.19	.06	.07	.01			.01
19	.02	.05	.07	.07	.03	.17	.06	.06	.01			.01
20	.04	.05	.07	.07	.03	.11	.03	.06	.01			.01
21	.04	.05	.11	.07	.73	.11	.03	.06	.01			.01
22	.05	.05	.11	.07	.21	.10	.03	.07	0			.01
23	.07	.08	.11	.07	.71	.15	.03	.07	0			.01
24	.07	.07	.11	.07	.25	.13	.03	.06	0			.01
25	.07	.07	.11	.07	.13	.12	.03	.06	0			.01
26	.07	.12	.11	.07	.09	.11	.04	.09	0			.01
27	.10	.15	.09	.07	.07	.09	.03	.08	0			.01
28	.13	.15	.07	.07	.12	.09	.03	.05	0			.01
29	.14	.15	.07	.07	---	.07	.03	.05	0			.02
30	.14	.15	.15	.07	---	.07	.12	.04	0			.01
31	.13	---	.10	.07	---	.07	---	.03	---			---
TOTAL	1.55	3.82	3.51	5.51	3.39	4.27	1.74	2.87	.31	0	0	7.35
MEAN	.050	.13	.11	.18	.12	.14	.058	.093	.010	0	0	.25
MAX	.14	.97	.15	1.8	.73	.28	.12	.32	.03	0	0	1.7
MIN	.01	.04	.07	.07	.03	.07	.03	.03	0	0	0	0
AC-FT	3.1	7.6	7.0	11	6.7	8.5	3.5	5.7	.6	0	0	15

GAL YR 1976 TOTAL 49.12 MEAN .13 MAX 1.7 MIN 0 AC-FT 97
WTR YR 1977 TOTAL 34.32 MEAN .094 MAX 1.8 MIN 0 AC-FT 68

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA

LOCATION.--Lat 38°55'05", long 121°00'51", in NE¼SW¼ sec.6, T.12 N., R.9 E., Placer County, on right bank at Mountain Quarry Co. plant, 1.4 mi (2.2 km) upstream from mouth, and 3.3 mi (5.3 km) northeast of Auburn.

DRAINAGE AREA.--614 mi^2 (1,590 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1911 to current year. Prior to October 1934, published as "near East Auburn."

REVISED RECORDS.--WSP 861: 1928. WSP 1315-A: 1913-15, 1919, 1921, 1923(M), 1929(M), 1930. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 552.35 ft (168.356 m) above mean sea level (levels by Murray Engineers). Prior to December 1930, nonrecording gages near present site at different datums. December 1930 to Mar. 1, 1963, water-stage recorder at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Records good. Natural flow of stream affected by French Meadows Reservoir (station 11427400), Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm^3), diversion dams on Rubicon and Little Rubicon Rivers, and Ralston and Oxbow powerplants. Robbs Peak powerplant (station 11429300) diverts water out of basin. See schematic diagram of Middle Fork American and Rubicon River basin.

AVERAGE DISCHARGE.--66 years, 1,310 ft^3/s (37.10 m^3/s), 949,100 acre-ft/yr (1.17 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 253,000 ft^3/s (7,160 m^3/s) Dec. 23, 1964, gage height, 60.4 ft (18.41 m) from floodmarks, from rating curve extended above 69,000 ft^3/s (1,950 m^3/s) on basis of slope-area measurement of maximum flow (caused by overtopping of the partly constructed Hell Hole Dam); next highest peak, 121,000 ft^3/s (3,430 m^3/s) Feb. 1, 1963, gage height, 43.1 ft (13.14 m) from floodmarks, site and datum then in use; minimum, 20 ft^3/s (0.57 m^3/s) Sept. 6, 1931, Sept. 19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft^3/s (29.5 m^3/s) July 30, gage height, 7.28 ft (2.219 m); minimum daily, 56 ft^3/s (1.59 m^3/s) June 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	890	98	317	85	140	210	92	110	277	81	212	168
2	435	96	290	119	101	225	89	114	127	82	482	122
3	162	97	318	342	182	356	87	98	87	81	415	107
4	427	98	386	278	125	274	86	87	73	80	300	84
5	250	100	473	365	93	263	223	84	71	78	333	232
6	215	107	95	576	91	220	90	85	69	75	415	222
7	262	87	242	536	92	315	95	96	418	73	333	358
8	289	173	232	368	94	399	98	118	294	74	349	525
9	220	384	100	146	221	385	103	110	238	74	298	258
10	172	484	102	222	364	529	102	132	571	72	469	123
11	64	422	118	175	224	526	146	166	92	69	393	88
12	331	304	84	122	140	342	367	158	60	69	350	84
13	222	163	83	97	89	420	89	161	56	70	315	269
14	211	261	86	143	87	488	84	150	59	69	349	339
15	199	200	129	102	127	271	84	137	67	71	286	336
16	547	148	85	144	101	218	82	137	68	74	319	272
17	408	94	83	108	160	102	83	127	68	78	396	195
18	131	88	82	90	87	225	83	173	66	81	429	89
19	82	145	133	90	115	98	80	166	65	87	395	95
20	69	151	84	90	86	262	130	92	65	89	401	318
21	88	130	82	147	143	370	164	90	68	89	354	239
22	83	151	83	143	432	100	79	90	74	238	402	222
23	83	250	86	108	283	100	152	90	80	475	329	207
24	89	246	82	107	223	112	82	90	87	373	190	229
25	87	172	82	155	181	112	78	89	95	462	219	88
26	89	84	83	133	221	104	77	128	100	415	243	93
27	92	82	83	131	169	100	125	117	99	424	231	315
28	89	175	83	154	150	310	125	129	82	330	90	318
29	86	99	83	176	---	104	74	101	81	534	86	310
30	93	205	85	167	---	98	75	99	81	578	243	340
31	98	---	85	96	---	94	---	107	---	89	227	---
TOTAL	6563	5294	4439	5715	4521	7732	3324	3631	3738	5534	9853	6645
MEAN	212	176	143	184	161	249	111	117	125	179	318	222
MAX	890	484	473	576	432	529	367	173	571	578	482	525
MIN	64	82	82	85	86	94	74	84	56	69	86	84
AC-FT	13020	10500	8800	11340	8970	15340	6590	7200	7410	10980	19540	13180

CAL YR 1976 TOTAL 140832 MEAN 385 MAX 1530 MIN 60 AC-FT 279300
WTR YR 1977 TOTAL 66989 MEAN 184 MAX 890 MIN 56 AC-FT 132900

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977.
CHEMICAL ANALYSES: Water years 1958-66, 1977.
SEDIMENT RECORDS: Water years 1957-67.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	ALKALINITY AS CACO3 (MG/L)
JUL							
11...	0930	69	80	8.0	23.5	8.8	31
AUG							
11...	1000	238	47	7.5	16.0	10.2	16
SEP							
07...	0955	294	56	7.5	17.0	10.1	21

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA

LOCATION.--Lat 38°52'20", long 121°03'18", in SE¼SW¼ sec.23, T.12 N., R.8 E., Placer County, on right bank 1,080 ft (329 m) upstream from Knickerbocker Creek, and 2.0 mi (3.2 km) southeast of Auburn.

DRAINAGE AREA.--973 mi^2 (2,520 km^2).

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and diversions (see REMARKS for stations 11427000, 11433500).

AVERAGE DISCHARGE.--5 years, 1,668 ft^3/s (47.2 m^3/s), 1,208,000 acre-ft/yr (1.49 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,100 ft^3/s (966 m^3/s) Jan. 17, 1974, gage height, 79.37 ft (24.192 m); minimum daily, 51 ft^3/s (1.44 m^3/s) July 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Mar. 21, Apr. 12, gage height, 62.54 ft (19.062 m); minimum daily, 51 ft^3/s (1.44 m^3/s) July 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	933	125	248	121	172	342	207	362	567	58	90	151
2	561	124	248	190	135	326	199	444	455	102	447	74
3	164	124	255	634	218	432	193	368	375	85	411	114
4	457	126	264	458	162	350	187	310	314	82	319	60
5	355	126	370	456	133	321	337	282	304	76	282	202
6	251	131	137	504	130	367	303	285	294	69	364	141
7	294	122	236	515	129	316	380	301	586	65	355	327
8	313	136	247	433	133	516	425	315	554	62	331	479
9	311	449	145	231	272	438	415	296	324	62	255	317
10	240	476	136	230	377	623	370	423	786	60	360	103
11	98	453	152	239	338	649	343	464	288	56	386	68
12	334	399	118	194	200	472	600	418	185	51	353	59
13	289	159	117	143	143	432	315	415	156	52	336	199
14	244	382	120	190	140	531	339	490	144	52	323	287
15	140	322	163	139	178	391	341	585	145	54	224	303
16	579	262	119	180	143	331	332	513	138	58	328	230
17	477	150	116	156	241	224	373	430	131	58	356	241
18	181	134	114	132	147	335	364	417	131	61	355	70
19	125	146	165	132	171	205	316	461	117	64	385	68
20	96	237	116	131	140	258	300	359	110	69	374	245
21	116	171	114	195	207	580	370	435	108	67	334	221
22	115	152	116	185	770	220	258	464	116	175	386	245
23	110	264	120	158	558	238	337	437	117	419	390	212
24	116	204	114	163	451	311	279	414	119	361	165	211
25	116	173	114	203	331	302	279	378	123	396	214	72
26	115	124	115	174	355	262	268	385	125	398	168	64
27	121	117	115	174	326	245	273	525	120	423	270	249
28	119	201	114	194	254	454	334	547	121	297	82	275
29	116	126	115	210	---	266	243	439	128	462	69	306
30	119	208	123	196	---	237	240	420	107	660	217	292
31	126	---	122	138	---	221	---	411	---	82	211	---
TOTAL	7731	6323	4868	7398	6954	11195	9520	12793	7288	5036	9140	5885
MEAN	249	211	157	239	248	361	317	413	243	162	295	196
MAX	933	476	370	634	770	649	600	585	786	660	447	479
MIN	96	117	114	121	129	205	187	282	107	51	69	59
AC-FT	15330	12540	9660	14670	13790	22210	18880	25370	14460	9990	18130	11670

CAL YR 1976 TOTAL 200155 MEAN 547 MAX 2630 MIN 89 AC-FT 397000
WTR YR 1977 TOTAL 94131 MEAN 258 MAX 933 MIN 51 AC-FT 186700

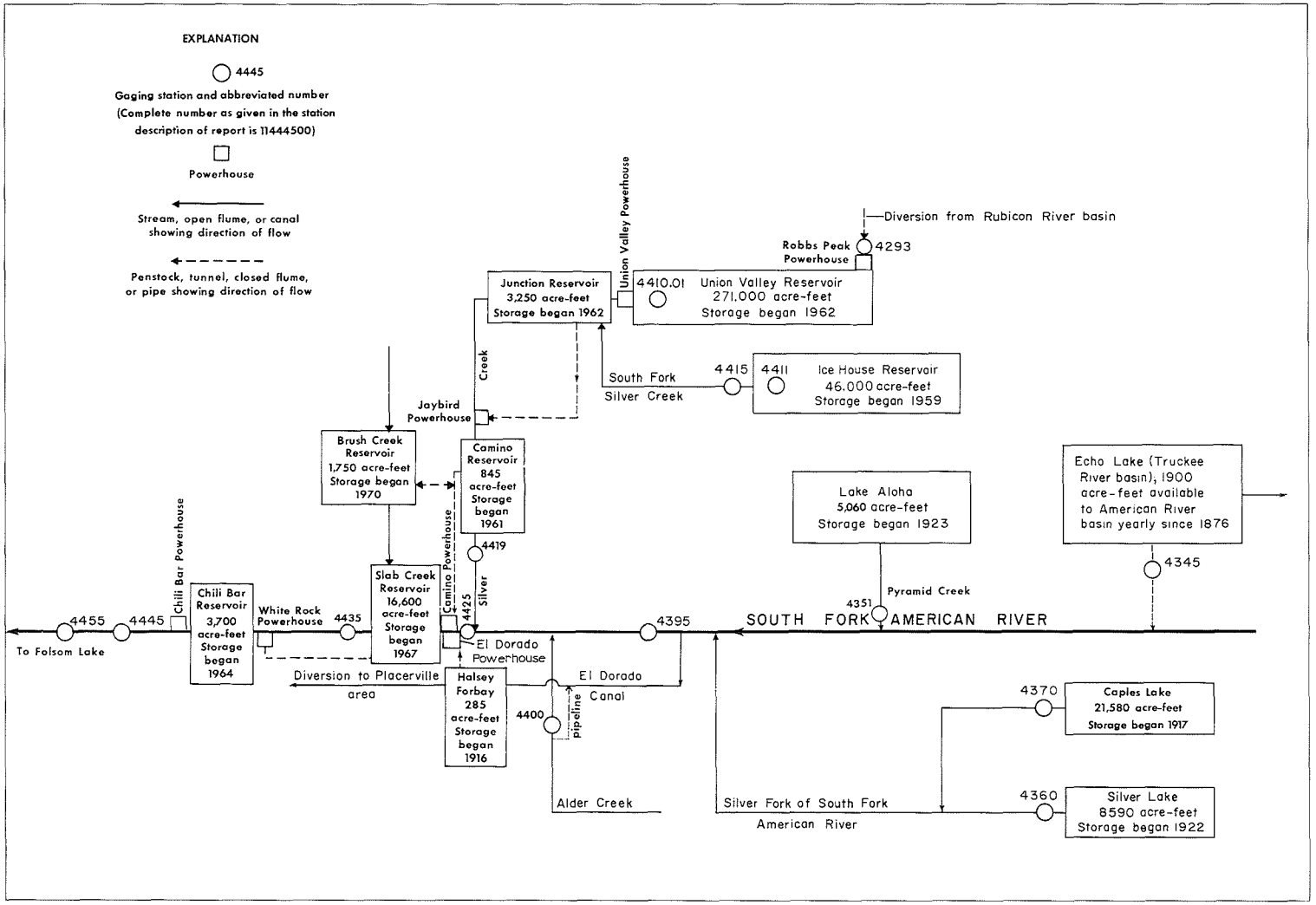

FIGURE 11.--Schematic diagram showing diversions and storage in South Fork American River basin.

11434500 ECHO LAKE CONDUIT NEAR PHILLIPS, CA

LOCATION.--Lat 38°49'52", long 120°02'12", in NW¼ sec.6, T.11 N., R.18 E., El Dorado County, Eldorado National Forest, on right bank in Berkeley Municipal Camp, 0.5 mi (0.8 km) downstream from intake, and 2.4 mi (3.9 km) northeast of Phillips.

PERIOD OF RECORD.--August 1923 to current year. Prior to October 1974 diversion seasons only. Monthly discharge only for July 1933, published in WSP 1315-A. Published as Echo Lake flume near Vade prior to 1943 and as Echo Lake conduit near Vade for seasons 1944-53.

GAGE.--Water-stage recorder. Altitude of gage is 7,420 ft (2,262 m), from topographic map. Prior to July 16, 1929, nonrecording gage at site 0.4 mi (0.6 km) upstream at different datum.

REMARKS.--Conduit diverts from Echo Lake, capacity, 1,900 acre-ft (2.34 hm^3) in Truckee River basin into basin of South Fork American River for power and irrigation. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 31 ft^3/s (0.88 m^3/s) Sept. 10, 1963, Sept. 13-15, 1971; no flow for most of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	7.0	2.5			0	4.0					0
2	26	6.4	2.4			0	4.0					0
3	26	6.0	2.3			0	4.0					0
4	27	5.6	1.0			0	3.9					0
5	27	5.2	0			0	3.9					0
6	26	4.9	0			0	3.9					16
7	26	4.5	0			0	4.0					29
8	26	4.3	0			0	4.2					26
9	27	4.1	0			0	4.5					29
10	26	3.8	0			0	4.9					28
11	26	3.6	0			.50	5.3					28
12	25	3.4	0			.50	5.6					27
13	25	3.1	0			.50	6.1					26
14	25	3.5	0			5.0	6.6					26
15	24	3.8	0			4.7	7.2					25
16	23	3.9	0			4.5	7.8					25
17	23	3.8	0			4.3	8.4					24
18	22	3.6	0			4.1	0					24
19	21	3.5	0			3.9	0					24
20	20	3.4	0			3.8	0					23
21	18	3.2	0			3.6	0					22
22	17	3.1	0			3.5	0					22
23	16	2.9	0			3.5	0					21
24	14	2.8	0			3.5	0					12
25	13	2.8	0			3.5	0					.58
26	11	2.7	0			3.5	0					.32
27	10	2.7	0			3.5	0					0
28	9.5	2.6	0			3.5	0					0
29	8.8	2.5	0		---	3.5	0					0
30	8.1	2.5	0		---	3.5	0					0
31	7.5	---	0		---	4.0	---		---			---
TOTAL	630.9	115.2	8.2	0	0	70.90	88.3	0	0	0	0	457.90
MEAN	20.4	3.84	.26	0	0	2.29	2.94	0	0	0	0	15.3
MAX	27	7.0	2.5	0	0	5.0	8.4	0	0	0	0	29
MIN	7.5	2.5	0	0	0	0	0	0	0	0	0	0
AC-FT	1250	228	16	0	0	141	175	0	0	0	0	908

CAL YR 1976 TOTAL 1458.50 MEAN 3.99 MAX 27 MIN 0 AC-FT 2890
WTR YR 1977 TOTAL 1371.40 MEAN 3.76 MAX 29 MIN 0 AC-FT 2720

11435100 PYRAMID CREEK AT TWIN BRIDGES, CA

LOCATION.--Lat 38°48'57", long 120°06'58", in NW¼SW¼ sec.9, T.11 N., R.17 E., El Dorado County, Eldorado National Forest, on right bank 0.5 mi (0.8 km) northeast of Twin Bridges, and 2.2 mi (3.5 km) west of Phillips.

DRAINAGE AREA.--8.76 mi^2 (22.69 km^2).

PERIOD OF RECORD.--October 1970 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 6,320 ft (1,926 m), from topographic map.

REMARKS.--Flow regulated by Lake Aloha, capacity, 5,060 acre-ft (6.24 hm^3); 558 acre-ft (688,000 m^3) Sept. 30, 1976, and no contents Sept. 30, 1977. Lake of the Woods, Ropi Lake, and Toem Lakes (unknown capacities) are also regulated at times. See schematic diagram of South Fork American 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.--7 years, 36.2 ft^3/s (1.025 m^3/s), 26,230 acre-ft/yr (32.3 hm^3/yr). The figure not previously published in 1976 report, 6 years, 39.7 ft^3/s (1.124 m^3/s), 28,760 acre-ft/yr (35.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 858 ft^3/s (24.3 m^3/s) June 26, 1971, gage height, 4.62 ft (1.408 m), from rating curve extended above 160 ft^3/s (4.53 m^3/s); minimum daily, 0.22 ft^3/s (0.006 m^3/s) Sept. 25, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 106 ft^3/s (3.00 m^3/s) June 9, gage height, 2.13 ft (0.649 m); minimum daily, 0.57 ft^3/s (0.016 m^3/s) Sept. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	2.6	2.4	1.3	2.8	6.6	6.7	28	70	6.0	25	.98
2	68	2.5	2.3	2.1	3.1	5.5	6.8	25	61	7.9	12	.93
3	52	2.5	2.2	9.3	2.9	4.6	7.3	20	48	7.1	5.5	.90
4	42	2.4	2.2	9.6	2.7	4.4	14	16	47	5.9	10	.86
5	39	2.3	2.1	5.8	2.6	5.1	26	16	48	5.4	6.3	.85
6	35	2.2	2.0	5.2	2.6	5.3	35	20	36	5.2	3.6	.93
7	33	2.2	2.0	5.2	2.9	5.1	44	19	23	13	3.0	.97
8	30	2.1	2.0	5.2	3.1	4.9	38	19	33	53	2.7	.91
9	26	2.0	2.1	5.2	3.6	5.5	28	22	85	52	2.6	.83
10	11	1.9	2.1	5.1	3.6	6.4	20	21	56	54	2.5	.80
11	5.0	1.9	2.1	5.1	3.7	6.1	19	18	32	56	2.4	.75
12	3.5	1.9	2.1	5.0	4.1	5.6	24	19	25	76	2.3	.75
13	3.1	1.9	2.1	4.1	4.7	6.3	29	29	22	83	2.2	.70
14	3.0	3.9	2.0	2.9	5.0	6.1	26	40	20	82	2.1	.65
15	2.9	5.7	2.0	2.9	5.7	5.4	34	33	18	81	2.0	.57
16	2.9	8.5	2.0	3.1	6.6	4.6	47	25	17	81	1.8	.57
17	2.9	11	2.0	3.4	6.5	4.4	43	22	16	80	1.8	.65
18	2.8	11	2.0	3.7	5.7	4.4	32	21	14	78	1.8	.61
19	2.8	9.5	2.0	3.7	5.6	5.3	23	25	13	77	1.7	.75
20	2.8	8.0	2.0	3.6	4.8	6.4	24	39	12	78	1.6	1.7
21	2.8	7.4	2.0	3.6	8.0	9.3	27	49	11	86	1.5	1.8
22	2.8	6.6	2.0	3.8	8.7	14	31	50	11	84	1.5	1.7
23	2.9	5.7	1.8	3.5	7.1	15	36	41	10	82	1.4	1.6
24	2.8	5.0	1.9	3.4	6.9	11	37	30	9.2	80	1.2	1.4
25	2.7	4.4	1.8	3.4	5.6	9.7	36	26	8.7	79	1.2	1.3
26	2.6	3.9	1.6	3.5	6.3	9.7	33	30	8.3	79	1.2	1.1
27	2.6	3.1	1.6	3.4	6.7	10	32	30	7.8	79	1.2	1.0
28	2.5	2.9	1.5	3.3	5.9	9.6	34	33	7.2	70	1.1	.87
29	2.5	2.8	1.3	3.2	---	9.7	32	40	6.8	57	1.1	.85
30	2.6	2.5	1.3	3.1	---	7.3	27	49	6.4	49	1.1	.80
31	2.7	---	1.4	2.9	---	7.7	---	60	---	38	1.0	---
TOTAL	447.2	130.3	59.9	128.6	137.5	221.0	851.8	915	782.4	1764.5	106.4	29.08
MEAN	14.4	4.34	1.93	4.15	4.91	7.13	28.4	29.5	26.1	56.9	3.43	.97
MAX	68	11	2.4	9.6	8.7	15	47	60	85	86	25	1.8
MIN	2.5	1.9	1.3	1.3	2.6	4.4	6.7	16	6.4	5.2	1.0	.57
AC-FT	887	258	119	255	273	438	1690	1810	1550	3500	211	58

CAL YR 1976 TOTAL 7287.00 MEAN 19.9 MAX 131 MIN 1.2 AC-FT 14450
WTR YR 1977 TOTAL 5573.68 MEAN 15.3 MAX 86 MIN .57 AC-FT 11060

11436000 SILVER LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.--Lat 38°40'17", long 120°07'18", in SW¼ sec.32, T.10 N., R.17 E., Amador County, Eldorado National Forest, on right bank 1,000 ft (305 m) downstream from Silver Lake Dam, and 3.5 mi (5.6 km) southwest of Kirkwood.

DRAINAGE AREA.--15.2 mi^2 (39.4 km^2).

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1923 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WDR CA-75-4: 1927(M), 1929(M), 1932(M), 1937-38(M), 1940-45(M), 1950-53(M), 1955-58(M), 1963(M), 1965(M), 1967(M), 1969-70(M), 1973(M).

GAGE.--Water-stage recorder. Datum of gage is 7,199.5 ft (2,194.41 m) above mean sea level, unadjusted.

REMARKS.--Flow regulated by Silver Lake 1,000 ft (305 m) upstream, capacity, 3,840 acre-ft (4.73 hm^3) at spillway level and 8,590 acre-ft (10.6 hm^3) with 11 ft (3.4 m) of flashboards; contents in Silver Lake, 4,450 acre-ft (5.49 hm^3) Sept. 30, 1976, and 1,820 acre-ft (2.24 hm^3) Sept. 30, 1977. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation. See schematic diagram of South Fork American 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.--55 years, 33.8 ft^3/s (0.957 m^3/s), 24,490 acre-ft/yr (30.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft^3/s (31.2 m^3/s) Nov. 21, 1950, gage height, 6.03 ft (1.838 m), from rating curve extended above 430 ft^3/s (12.2 m^3/s); no flow many days in February, March 1948, Jan. 13, 14, 1954, Nov. 3, 1959, to Feb. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 85 ft^3/s (2.41 m^3/s) Sept. 4, gage height, 1.93 ft (0.588 m); minimum daily, 0.34 ft^3/s (0.010 m^3/s) on several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	45	3.1	.94	.42	.94	1.4	1.4	1.5	1.7	.77	2.8
2	2.4	44	2.7	.94	.42	1.1	1.4	1.4	1.5	1.7	.93	47
3	2.4	42	2.5	.94	.42	1.1	1.2	1.4	1.3	1.7	.97	73
4	2.2	41	2.3	.82	.39	1.2	1.1	1.4	1.1	1.7	.82	77
5	2.2	39	1.9	.82	.34	1.2	.94	1.4	1.1	1.7	.76	79
6	2.2	38	1.6	.71	.34	1.4	.82	1.5	1.1	1.7	.71	75
7	8.1	37	1.5	.71	.34	1.4	.71	1.5	1.1	1.5	1.3	71
8	13	36	1.4	.82	.36	1.5	.60	1.5	1.1	1.5	2.2	66
9	16	34	1.2	.82	.42	1.5	.51	1.5	1.4	1.5	2.2	66
10	31	33	.93	.82	.42	1.7	.42	1.6	1.5	1.5	2.2	65
11	31	32	.50	.71	.40	1.7	.39	1.7	1.5	1.5	2.2	64
12	39	30	.38	.82	.36	1.7	.36	1.7	1.5	1.5	2.2	64
13	43	29	.34	.82	.34	1.7	.35	1.6	1.5	1.4	2.2	63
14	42	28	.45	.94	.37	1.7	.34	1.5	1.5	1.4	2.2	63
15	42	26	.60	.94	.41	1.7	.36	1.5	1.5	1.4	2.0	63
16	57	25	.60	.82	.42	1.7	.35	1.5	1.5	1.3	2.0	61
17	50	24	.60	.82	.45	1.5	.34	1.3	1.5	1.2	2.2	59
18	42	22	.60	.71	.51	1.5	.34	1.1	1.5	1.2	2.2	60
19	41	20	.60	.71	.51	1.5	.34	1.1	1.5	1.2	1.9	58
20	41	19	.51	.71	.46	1.5	.34	1.1	1.5	1.2	1.4	56
21	40	16	.42	.71	.51	1.5	.34	1.1	1.5	1.2	1.4	56
22	39	14	.42	.71	.60	1.5	.34	1.1	1.5	1.2	1.4	54
23	44	12	.51	.71	.60	1.5	.34	1.1	1.5	1.2	1.4	51
24	47	9.7	.60	.71	.71	1.5	.34	1.1	1.5	1.2	1.4	49
25	50	8.1	.60	.71	.71	1.5	.34	1.2	1.5	1.2	1.5	26
26	51	7.0	.60	.71	.82	1.5	.74	1.2	1.5	1.1	1.5	1.7
27	50	5.9	.71	.71	.82	1.5	1.1	1.2	1.5	1.1	1.5	1.1
28	48	4.6	.94	.71	.94	1.4	1.1	1.3	1.5	1.1	1.5	1.1
29	49	4.1	1.1	.60	---	1.4	1.1	1.5	1.6	.95	1.5	1.1
30	48	3.5	.94	.51	---	1.4	1.1	1.5	1.7	.94	3.0	1.1
31	47	---	.94	.47	---	1.4	---	1.5	---	.78	3.0	---
TOTAL	1022.7	728.9	32.09	23.60	13.81	45.34	19.45	42.5	43.0	41.47	52.46	1474.9
MEAN	33.0	24.3	1.04	.76	.49	1.46	.65	1.37	1.43	1.34	1.69	49.2
MAX	57	45	3.1	.94	.94	1.7	1.4	1.7	1.7	1.7	3.0	79
MIN	2.2	3.5	.34	.47	.34	.94	.34	1.1	1.1	.78	.71	1.1
AC-FT	2030	1450	64	47	27	90	39	84	85	82	104	2930

CAL YR 1976 TOTAL 3179.79 MEAN 8.69 MAX 59 MIN .34 AC-FT 6310
WTR YR 1977 TOTAL 3540.22 MEAN 9.70 MAX 79 MIN .34 AC-FT 7020

11437000 CAPLES LAKE OUTLET NEAR KIRKWOOD, CA

LOCATION.--Lat 38°42'29", long 120°03'00", in SW¼SW¼ sec.18, T.10 N., R.18 E., Alpine County, Eldorado National Forest, on right bank 500 ft (152 m) downstream from main dam and outlet gate of Caples Lake, and 1.3 mi (2.1 km) east of Kirkwood.

DRAINAGE AREA.--13.5 mi^2 (35.0 km^2).

PERIOD OF RECORD.--September 1922 to current year. Records for water year 1945 incomplete, yearly estimate published in WSP 1315-A. Prior to October 1969, published as Twin Lakes Outlet near Kirkwood.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,700 ft (2,347 m), from topographic map.

REMARKS.--Flow regulated by Caples Lake 500 ft (152 m) upstream, capacity, 19,750 acre-ft (24.4 hm^3), spillway level, 21,580 acre-ft (26.6 hm^3) with 3 ft (0.9 m) of flashboards, contents of which were 11,700 acre-ft (14.4 hm^3) Sept. 30, 1976, and 5,620 acre-ft (6.93 hm^3) Sept. 30, 1977. There was no flow over Caples Lake spillway during current year. No diversion above station. See schematic diagram of South Fork American 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 (including flow over Caples Lake spillway).--55 years, 36.6 ft^3/s (1.037 m^3/s), 26,520 acre-ft/yr (32.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum combined daily discharge for outlet and spillway, 669 ft^3/s (18.9 m^3/s) June 3, 1969; minimum daily, 0.1 ft^3/s (0.003 m^3/s) Mar. 25-31, 1944, Nov. 27, 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum combined daily discharge for outlet and spillway, 102 ft^3/s (2.89 m^3/s) Aug. 11; minimum daily, 0.83 ft^3/s (0.024 m^3/s) Apr. 29, 30, May 4, 6, 7, Sept. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.5	15	65	9.9	5.7	1.2	1.4	.87	1.2	1.8	56	91
2	3.5	11	65	9.9	5.5	1.2	1.4	.86	1.2	1.8	64	53
3	3.5	16	64	9.7	4.8	1.2	1.4	.84	1.2	1.7	80	26
4	3.4	20	67	9.2	3.8	1.2	1.5	.83	1.2	18	90	24
5	3.4	26	69	9.1	3.8	1.2	1.5	.84	1.2	31	89	23
6	3.4	30	69	8.9	3.8	1.2	1.3	.83	1.3	31	89	14
7	3.4	30	62	8.6	3.2	1.1	1.1	.83	1.3	31	88	1.3
8	3.4	30	51	8.5	2.6	.98	1.0	.84	1.4	16	88	1.3
9	3.4	30	45	19	2.6	.99	.87	1.3	1.5	1.7	89	10
10	3.4	30	44	46	2.6	.98	.85	1.8	1.6	1.7	99	22
11	3.4	30	43	45	3.2	1.0	.86	1.8	1.5	1.7	102	16
12	3.4	30	43	31	3.6	1.0	.88	1.8	1.5	1.7	96	9.5
13	3.4	29	42	18	3.6	1.0	.89	1.8	1.5	1.7	91	9.5
14	3.4	29	51	27	3.6	1.0	.89	1.9	1.5	1.7	92	14
15	3.4	29	60	37	2.4	1.0	.90	1.9	1.5	1.7	93	18
16	30	22	59	37	1.4	1.0	.91	1.9	1.5	1.7	92	17
17	17	14	58	25	1.4	1.0	.90	1.9	1.5	1.7	94	14
18	3.6	14	57	16	1.4	1.3	.88	1.5	1.5	1.7	95	14
19	3.6	19	56	16	1.2	1.5	.86	1.2	1.5	1.7	94	14
20	3.6	24	55	11	1.2	1.5	.87	1.2	1.5	1.7	93	13
21	3.6	24	55	7.0	1.2	1.4	.88	1.2	1.5	1.7	92	12
22	3.6	32	55	7.0	1.2	1.5	.88	1.2	1.5	1.7	98	6.9
23	3.6	38	52	7.0	1.2	1.5	.88	1.2	1.5	1.7	101	2.2
24	3.6	47	36	6.9	1.3	1.4	.88	1.2	1.6	1.7	99	1.4
25	3.6	55	20	6.9	1.2	1.4	.88	1.2	1.6	1.7	97	.83
26	3.6	54	20	6.5	1.2	1.4	.88	1.2	1.5	1.7	96	1.4
27	3.6	53	19	6.2	1.2	1.4	.88	1.1	11	1.7	96	1.8
28	3.6	60	19	6.2	1.2	1.4	.87	1.1	32	10	98	1.8
29	6.0	66	14	6.1	---	1.4	.83	1.2	32	32	97	1.8
30	14	66	9.9	6.1	---	1.4	.83	1.2	20	43	95	1.8
31	17	---	9.9	6.0	---	1.4	---	1.2	---	43	93	---
TOTAL	174.9	973	1434.8	473.7	71.1	38.15	29.85	39.74	132.3	292.6	2836	436.53
MEAN	5.64	32.4	46.3	15.3	2.54	1.23	1.00	1.28	4.41	9.44	91.5	14.6
MAX	30	66	69	46	5.7	1.5	1.5	1.9	32	43	102	91
MIN	3.4	11	9.9	6.0	1.2	.98	.83	.83	1.2	1.7	56	.83
AC-FT	347	1930	2850	940	141	76	59	79	262	580	5630	866

CAL YR 1976 TOTAL 10386.10 MEAN 28.4 MAX 98 MIN 2.3 AC-FT 20600
WTR YR 1977 TOTAL 6932.67 MEAN 19.0 MAX 102 MIN .83 AC-FT 13750

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA

LOCATION.--Lat 38°45'49", long 120°19'39", in SW¼SW¼ sec.29, T.11 N., R.15 E., El Dorado County, Eldorado National Forest, on right bank beside U.S. Highway 50, 0.8 mi (1.3 km) downstream from Silver Fork of South Fork, and 1.9 mi (3.1 km) southwest of Kyburz.

DRAINAGE AREA.--193 mi^2 (500 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August to December 1907, October 1922 to current year. Prior to October 1956, records for river and El Dorado Canal published separately; combined flow only, October 1956 to September 1960.

REVISED RECORDS.--WSP 1445: 1923(M), 1925(M), 1927(M), 1928 (river only), 1935-37(M). WSP 1515: 1928 (combined). WSP 1931: Drainage area.

GAGE.--Water-stage recorder on river; water-stage recorder for canal diversion. Altitude of gage is 3,840 ft (1,170 m), from topographic map. Prior to Oct. 1, 1962, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Flow at low and medium stages greatly regulated by four reservoirs since beginning of record, total capacity, 37,100 acre-ft (45.7 hm^3). See schematic diagram of South Fork American River basin. For records of combined discharge of river and canal, see following page.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--River only: 55 years (water years 1923-77), 284 ft^3/s (8.043 m^3/s), 205,800 acre-ft/yr (254 hm^3/yr).
Combined river and diversion: 55 years (water years 1923-77), 399 ft^3/s (11.30 m^3/s), 289,100 acre-ft/yr (356 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 17,400 ft^3/s (493 m^3/s) Dec. 23, 1964, gage height, 10.92 ft (3.328 m), from rating curve extended above 6,300 ft^3/s (178 m^3/s) on basis of contracted-opening measurement at gage height 10.40 ft (3.170 m); minimum daily, 0.3 ft^3/s (0.008 m^3/s) Nov. 9-11, 1928.
Combined flow, maximum discharge, 17,500 ft^3/s (496 m^3/s) Dec. 23, 1964; minimum daily, 10 ft^3/s (0.28 m^3/s) Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 547 ft^3/s (15.5 m^3/s) June 10, gage height 3.87 ft (1.180 m), no peak above base of 2,000 ft^3/s (57 m^3/s); minimum daily, 1.9 ft^3/s (0.054 m^3/s) Mar. 2.
Combined flow, maximum discharge, 713 ft^3/s (20.2 m^3/s) June 10; minimum daily, 14 ft^3/s (0.40 m^3/s) Sept. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	9.2	9.0	2.4	5.3	2.3	6.7	33	176	6.5	7.7	8.5
2	54	9.1	8.9	6.5	5.2	1.9	6.7	36	160	5.6	7.8	13
3	10	9.1	8.9	5.6	5.1	3.3	6.7	31	114	6.8	7.7	12
4	9.2	9.1	8.9	3.9	5.3	4.4	6.7	6.8	107	5.7	7.9	12
5	9.2	9.2	8.9	3.8	5.3	4.5	8.5	6.9	116	7.0	8.0	11
6	9.2	9.2	8.9	2.7	5.3	4.9	29	6.9	120	8.1	7.8	11
7	9.1	9.2	8.9	3.9	5.3	5.0	55	7.1	92	8.4	7.8	9.4
8	9.4	9.2	8.9	3.6	5.6	5.0	88	6.7	63	8.8	7.8	9.0
9	9.3	9.2	9.0	3.1	5.4	6.6	52	7.2	303	8.1	7.7	8.8
10	9.4	9.2	9.0	4.5	5.4	7.4	16	9.5	316	8.3	7.8	9.1
11	9.3	9.2	9.1	13	5.4	6.7	6.9	7.2	115	8.3	7.8	9.0
12	9.4	9.2	9.1	8.1	5.4	6.9	15	12	61	8.3	8.0	9.1
13	9.4	9.3	9.1	8.1	5.4	6.8	52	21	38	8.3	7.9	9.0
14	9.4	11	9.2	8.2	5.4	7.3	50	105	18	8.0	7.9	9.2
15	9.2	9.3	9.3	8.3	5.4	6.7	54	115	7.8	7.9	8.5	9.1
16	9.0	9.2	9.4	8.3	5.4	6.8	103	61	7.1	7.9	8.3	9.3
17	8.9	9.2	9.3	8.4	4.5	6.7	114	27	7.0	7.9	9.2	9.0
18	8.8	9.2	9.1	13	3.8	6.9	80	19	7.1	7.8	8.9	9.0
19	8.8	9.2	9.5	7.4	3.3	6.6	25	14	7.1	7.8	9.6	9.7
20	8.9	9.2	9.7	7.7	3.6	6.6	16	69	7.1	7.9	9.7	9.1
21	8.9	9.2	9.7	7.5	8.9	6.6	26	136	7.0	7.9	8.8	7.8
22	8.9	9.1	9.8	7.0	7.1	6.7	33	148	7.0	7.8	8.9	7.8
23	8.9	9.0	9.8	6.5	6.4	7.6	50	145	6.9	7.9	9.5	7.8
24	8.8	9.0	9.6	6.4	4.4	7.1	55	103	7.0	7.7	9.6	7.8
25	8.9	8.9	10	6.1	3.4	6.7	55	71	7.0	7.6	9.5	7.4
26	8.9	9.0	9.0	5.8	3.3	6.7	46	63	6.8	7.6	9.4	17
27	9.1	9.0	6.4	5.2	3.1	6.6	37	86	6.3	7.8	9.2	16
28	9.2	9.0	4.0	5.4	3.7	6.6	32	75	6.6	7.7	9.2	14
29	9.2	9.2	7.6	5.2	---	6.7	29	85	7.1	7.8	9.0	15
30	9.2	9.1	2.3	5.3	---	6.7	14	107	7.1	12	9.2	15
31	9.1	---	7.0	5.4	---	6.8	---	142	---	7.7	9.0	---
TOTAL	334.0	276.2	267.3	196.3	141.1	188.1	1168.2	1762.3	1911.0	242.9	265.1	310.9
MEAN	10.8	9.21	8.62	6.33	5.04	6.07	38.9	56.8	63.7	7.84	8.55	10.4
MAX	54	11	10	13	8.9	7.6	114	148	316	12	9.7	17
MIN	8.8	8.9	2.3	2.4	3.1	1.9	6.7	6.7	6.3	5.6	7.7	7.4
AC-FT	662	548	530	389	280	373	2320	3500	3790	482	526	617

CAL YR 1976 TOTAL 15356.9 MEAN 42.0 MAX 448 MIN 2.3 AC-FT 30460
WTR YR 1977 TOTAL 7063.4 MEAN 19.4 MAX 316 MIN 1.9 AC-FT 14010

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SOUTH FORK AMERICAN RIVER AND EL DORADO CANAL NEAR KYBURZ, CA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	87	84	30	30	41	58	187	336	80	92	102
2	161	82	82	45	28	38	53	192	324	65	97	110
3	126	77	81	44	29	42	53	188	280	79	86	115
4	102	82	80	37	30	36	63	141	273	63	109	110
5	95	83	85	38	30	37	120	142	282	75	113	114
6	89	90	81	37	30	42	178	139	286	83	107	110
7	84	89	79	38	30	44	210	146	257	80	104	102
8	87	87	70	43	34	45	243	136	228	110	103	107
9	88	85	67	45	31	51	204	152	469	106	102	101
10	87	84	62	39	31	44	161	158	481	92	109	113
11	84	83	63	79	31	46	144	150	280	96	119	126
12	81	82	60	76	32	51	164	160	227	111	116	110
13	90	79	60	53	34	45	207	171	204	117	106	106
14	89	102	59	44	36	48	205	259	183	116	104	104
15	88	91	71	54	37	48	209	269	163	114	107	110
16	92	93	70	60	40	48	258	215	150	112	104	113
17	139	82	67	61	42	48	269	181	139	110	106	110
18	90	78	67	52	39	45	235	174	128	107	110	104
19	84	71	70	47	38	49	180	168	121	105	108	109
20	82	74	69	49	38	52	169	224	121	103	106	115
21	80	73	69	46	70	57	181	291	111	114	104	102
22	78	70	69	44	62	72	188	303	101	112	104	96
23	78	78	68	41	54	104	206	300	92	109	114	87
24	83	75	67	36	43	77	210	258	85	106	112	79
25	81	84	48	34	44	69	212	226	85	102	111	68
26	83	82	41	33	42	62	204	218	77	104	108	30
27	80	73	39	32	42	71	195	241	71	101	106	16
28	78	75	39	31	48	75	192	230	81	95	108	14
29	76	88	42	32	---	64	189	240	99	87	108	15
30	78	85	36	32	---	60	172	262	111	108	106	15
31	86	---	27	33	---	53	---	300	---	107	105	---
TOTAL	2819	2464	1972	1365	1075	1664	5332	6421	5845	3069	3294	2713
MEAN	90.9	82.1	63.6	44.0	38.4	53.7	178	207	195	99.0	106	90.4
MAX	161	102	85	79	70	104	269	303	481	117	119	126
MIN	76	70	27	30	28	36	53	136	71	63	86	14
AC-FT	5590	4890	3910	2710	2130	3300	10580	12740	11590	6090	6530	5380

CAL YR 1976 TOTAL 54976 MEAN 150 MAX 604 MIN 27 AC-FT 109000
WTR YR 1977 TOTAL 38033 MEAN 104 MAX 481 MIN 14 AC-FT 75440

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: August 1966 to current year.

INSTRUMENTATION.--Temperature recorder since August 1966.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 25.0°C July 16-18, 1972; minimum recorded, 0.0°C on many days in most years.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 24.0°C June 27; minimum recorded, 0.0°C Dec. 19.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11440000 ALDER CREEK NEAR WHITE HALL, CA

LOCATION.--Lat 38°45'19", long 120°22'17", in NE¼SE¼ sec.35, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on right bank 0.9 mi (1.4 km) upstream from mouth, and 2.2 mi (3.5 km) southeast of White Hall.

DRAINAGE AREA.--22.1 mi^2 (57.2 km^2).

PERIOD OF RECORD.--October 1922 to current year (includes diversions by pipeline).

REVISED RECORDS.--WSP 1215: 1928(M). WSP 1445: 1925(M), 1929, 1935-36(M), 1938(M), 1940-43(M), 1945(M).

GAGE.--Water-stage recorder. Broad-crested weir with V-notch since Aug. 28, 1964. Altitude of gage is 3,840 ft (1,170 m), from topographic map. Prior to July 23, 1924, nonrecording gage at same site and datum.

REMARKS.--Records include flow diverted 1,300 ft (396 m) above station by pipeline into El Dorado Canal from Oct. 2 to June 14.

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 (including diversions by pipeline).--55 years, 36.8 ft^3/s (1.042 m^3/s), 26,660 acre-ft/yr (32.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 5,500 ft^3/s (156 m^3/s) Dec. 23, 1955, gage height, 8.40 ft (2.560 m) from floodmarks, from rating curve extended above 600 ft^3/s (17.0 m^3/s); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 20 ft^3/s (0.57 m^3/s) Feb. 21, gage height, 2.24 ft (0.683 m), no peak above base of 170 ft^3/s (4.8 m^3/s); minimum daily, 0.04 ft^3/s (0.001 m^3/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	1.3	1.3	1.3	1.6	4.0	7.9	8.3	6.2	1.1	.49	.37
2	4.1	1.3	1.3	1.8	1.6	2.8	7.6	8.3	5.4	1.1	.50	.37
3	3.3	1.3	1.3	2.4	1.6	3.8	7.3	7.1	5.1	1.2	.48	.37
4	3.2	1.3	1.3	3.0	1.6	3.8	8.1	6.3	4.9	1.2	.47	.36
5	3.0	1.3	1.3	3.0	1.6	3.8	8.6	5.4	4.8	1.2	.46	.35
6	2.3	1.3	1.3	3.0	1.6	3.8	10	5.4	4.6	1.2	.46	.34
7	1.7	1.3	1.3	3.6	1.6	3.8	11	5.4	4.3	1.1	.46	.34
8	1.7	1.3	1.3	3.7	2.4	3.8	12	6.3	3.8	1.2	.46	.34
9	1.7	1.3	1.3	3.7	2.4	13	13	7.3	4.1	1.1	.47	.34
10	1.7	1.3	1.3	3.3	2.4	11	11	9.3	5.4	1.1	.46	.34
11	1.7	1.3	1.3	3.0	2.8	9.3	10	9.0	4.8	1.1	.46	.34
12	1.7	1.3	1.3	2.6	2.7	5.4	11	10	4.0	1.0	.45	.34
13	1.7	1.3	1.3	2.3	2.7	5.4	10	10	3.8	.99	.44	.35
14	1.7	4.5	1.3	2.3	2.8	4.8	12	10	4.5	.97	.43	.36
15	1.6	3.1	1.3	2.2	2.8	4.6	7.6	10	2.1	.92	.43	.38
16	1.6	2.4	1.3	2.2	2.8	5.4	9.6	10	2.0	.88	.41	.43
17	1.5	2.4	1.3	2.2	2.8	5.3	9.7	10	1.5	.84	.42	.48
18	1.5	2.4	1.3	2.2	2.8	5.3	9.0	10	1.5	.80	.48	.46
19	1.5	2.3	1.3	2.4	2.8	5.3	9.5	10	1.5	.78	.47	.60
20	1.3	2.2	1.3	2.4	2.8	6.3	7.9	9.4	1.5	.73	.44	.79
21	1.3	2.1	1.3	3.1	14	6.7	7.9	8.9	1.5	.72	.43	.55
22	1.3	1.8	1.3	2.7	11	7.8	7.1	8.9	1.5	.69	.40	.48
23	1.3	1.7	1.4	2.4	7.9	8.8	6.3	9.9	1.5	.66	.38	.46
24	1.3	1.6	1.3	2.4	5.7	8.6	6.3	10	1.3	.61	.39	.46
25	1.3	1.3	1.3	2.2	3.9	8.4	6.3	9.4	1.3	.60	.43	.45
26	1.3	1.3	1.3	2.7	2.8	8.3	6.3	9.4	1.3	.59	.46	.46
27	1.3	1.3	1.3	1.7	3.8	9.0	6.2	10	1.2	.57	.45	.46
28	1.3	1.3	1.1	1.7	4.6	9.5	5.4	8.7	1.2	.53	.42	.47
29	1.3	1.3	1.1	1.7	---	8.5	5.4	8.7	1.2	.51	.40	.63
30	1.3	1.3	1.1	1.7	---	8.3	5.4	7.3	1.2	.52	.38	.58
31	1.3	---	1.1	1.7	---	7.1	---	6.7	---	.56	.36	---
TOTAL	53.10	51.2	39.6	76.6	99.9	201.7	255.4	265.4	89.0	27.07	13.64	13.05
MEAN	1.71	1.71	1.28	2.47	3.57	6.51	8.51	8.56	2.97	.87	.44	.44
MAX	4.1	4.5	1.4	3.7	14	13	13	10	6.2	1.2	.50	.79
MIN	.30	1.3	1.1	1.3	1.6	2.8	5.4	5.4	1.2	.51	.36	.34
AC-FT	105	102	79	152	198	400	507	526	177	54	27	26

CAL YR 1976 TOTAL 3103.85 MEAN 8.48 MAX 43 MIN .20 AC-FT 6160
WTR YR 1977 TOTAL 1185.66 MEAN 3.25 MAX 14 MIN .30 AC-FT 2350

11441001 UNION VALLEY RESERVOIR NEAR RIVERTON, CA

LOCATION.--Lat 38°51'49", long 120°26'15", in NW¼NW¼ sec.29, T.12 N., R.14 E., El Dorado County, Eldorado National Forest, in valve control house near left bank at Union Valley Dam on Silver Creek, 0.7 mi (1.1 km) upstream from Little Silver Creek, and 6.6 mi (10.6 km) north of Riverton.

DRAINAGE AREA.--83.6 mi^2 (216.5 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Reservoir is formed by earthfill dam completed in December 1962. Storage began in May 1962. Usable capacity, 264,000 acre-ft (326 hm^3) between elevations 4,645.0 ft (1,415.80 m), minimum operating level and 4,870.0 ft (1,484.38 m), top of radial spillway gates, above mean sea level. Dead storage, 7,000 acre-ft (8.63 hm^3). Reservoir receives water from the South Fork Rubicon River via Robbs Peak powerplant (station 11429800). Water is used for power development in the South Fork American River basin. See schematic diagram of Middle Fork American and Rubicon River basins and South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 272,600 acre-ft (336 hm^3) July 9, 1974, elevation, 4,870.6 ft (1,484.56 m); minimum since reservoir first filled, 18,300 acre-ft (22.6 hm^3) Jan. 13, 1977, elevation, 4,683.3 ft (1,427.47 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 62,100 acre-ft (76.6 hm^3) Aug. 26-28, elevation, 4,756.8 ft (1,449.87 m); minimum, 18,300 acre-ft (22.6 hm^3) Jan. 13, elevation, 4,683.3 ft (1,427.47 m).

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

4680	17000	4780	88000
4700	25000	4800	117000
4720	35000	4820	153000
4740	48000	4840	196000
4760	65000	4870	271000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33200	24500	34800	22400	19700	23600	29200	40200	54400	61000	61600	60600
2	32800	24500	34200	22500	19700	23700	29400	40600	54800	61000	61800	61000
3	32600	24600	33800	22200	19800	23900	29400	40800	55200	61000	61500	61000
4	32100	24600	33200	21700	19900	23900	29700	41000	55400	61000	61400	61000
5	31700	24700	33100	21200	19900	24100	30200	41400	55800	61000	61400	60500
6	31400	24700	32600	20600	20100	24200	30800	41600	56000	61000	61400	60000
7	31000	24700	32200	20000	20100	24300	31400	41900	56400	61000	61400	59500
8	30500	25600	32200	19500	20200	24400	32000	42200	56500	61000	61400	59400
9	30000	26200	32500	19300	20300	24700	32400	42500	57700	61000	61400	59000
10	29700	27000	32200	18800	20400	24800	32800	43000	58300	61000	61400	59000
11	29200	27600	32000	18500	20500	25000	33200	43400	58600	61000	61400	59200
12	28700	28300	32300	18400	20600	25200	33600	43700	58900	61000	61400	58600
13	28200	28800	31200	18300	20700	25300	34000	44200	59100	61100	61400	58900
14	27600	29400	30700	18400	20900	25500	34500	45000	59200	61200	61400	58900
15	27100	30100	30200	18400	21000	25600	34900	45600	59300	61200	61500	58900
16	26400	30600	29700	18400	21100	25800	35400	46000	59400	61200	61500	58900
17	26400	31200	29200	18500	21200	26000	35900	46500	59400	61200	61500	58900
18	26200	31700	28600	18600	21400	26100	36300	46900	59600	61400	61500	58900
19	26000	32200	28400	18700	21500	26200	36600	47200	59700	61400	61500	58700
20	25600	32800	28000	18800	21600	26400	37000	47700	59800	61400	61500	57700
21	25000	33300	27400	18800	22200	26600	37200	48500	60200	61400	61500	57600
22	24800	33800	26900	18900	22500	26900	37500	49100	60600	61400	61200	57600
23	24400	34200	26400	19100	22800	27300	37800	49800	60700	61400	61500	57600
24	24400	34600	25700	19200	22900	27600	38200	50200	60900	61400	61800	57600
25	24400	35100	25500	19200	23000	27800	38600	50700	60900	61400	61900	57600
26	24400	35500	25300	19200	23200	28000	38800	51200	61000	61400	62100	57600
27	24400	36000	24800	19300	23300	28200	39000	52000	61000	61400	62100	57400
28	24500	35700	24200	19400	23600	28500	39300	52400	61000	61400	62100	57100
29	24500	35400	23700	19400	---	28700	39400	52900	61000	61600	61700	57400
30	24500	35100	23200	19500	---	28900	39800	53400	61000	61400	61500	57400
31	24500	---	22600	19600	---	29000	---	53800	---	61400	61100	---
MAX	33200	36000	34800	22500	23600	29000	39800	53800	61000	61600	62100	61000
MIN	24400	24500	22600	18300	19700	23600	29200	40200	54400	61000	61100	57100
†	4698.8	4720.1	4694.1	4686.6	4696.4	4708.0	4728.0	4747.3	4755.6	4756.0	4755.7	4751.6
‡	-9200	+10600	-12500	-3000	+4000	+5400	+10800	+14000	+7200	+400	-300	-3700

CAL YR 1976 -102300
WTR YR 1977 +23700

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

11441100 ICE HOUSE RESERVOIR NEAR KYBURZ, CA

LOCATION.--Lat 38°49'26", long 120°21'34", in SE¼SW¼ sec.1, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on left bank at Ice House Dam on South Fork Silver Creek, 0.5 mi (0.8 km) upstream from Peavine Creek, and 4.8 mi (7.7 km) northwest of Kyburz.

DRAINAGE AREA.--27.2 mi^2 (70.4 km^2).

PERIOD OF RECORD.--October 1959 to current year.

REVISED RECORDS.--WSP 1931: 1960.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Sacramento Municipal Utility District).

REMARKS.--Reservoir is formed by earthfill dam. Storage began Dec. 15, 1959. Usable capacity, 45,800 acre-ft (56.5 hm^3) between elevations 5,327.5 ft (1,623.82 m), centerline of fishwater outlet, and 5,450.0 ft (1,661.16 m), top of spillway gates. Dead storage, 160 acre-ft (197,000 m^3). Reservoir is used to store water for power development. See schematic diagram of South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 46,400 acre-ft (57.2 hm^3) June 27, 1971, elevation, 5,450.6 ft (1,661.34 m); minimum since reservoir first filled, 1,740 acre-ft (2.15 hm^3) Oct. 5-9, 1962, elevation, 5,349.85 ft (1,630.634 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,100 acre-ft (23.6 hm^3) Oct. 1, elevation, 5,403.3 ft (1,646.93 m); minimum, 4,630 acre-ft (5.71 hm^3) Dec. 30, 31, Jan. 1; elevation, 5,363.3 ft (1,634.73 m).

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

5349	1600	5400	17600
5350	1760	5420	27400
5360	3840	5450	46000
5380	9600		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19000	12700	4940	4630	4700	5120	5880	9390	13500	16500	16200	15900
2	18900	12700	4800	4680	4700	5140	5900	9500	13700	16500	16200	15800
3	18800	12700	4800	4700	4700	5140	5930	9600	13900	16400	16200	15800
4	18700	12700	4800	4700	4700	5170	5990	9700	14100	16400	16200	15800
5	18500	12600	4800	4700	4700	5200	6040	9780	14200	16400	16100	15800
6	18400	12600	4800	4700	4700	5200	6190	9880	14400	16500	16100	15800
7	18300	12600	4780	4700	4700	5220	6430	9950	14500	16500	16100	15800
8	18100	12400	4780	4680	4700	5250	6610	10000	14600	16500	16100	15800
9	18000	12000	4780	4680	4700	5250	6730	10100	15100	16500	16100	15800
10	17800	11700	4780	4700	4730	5270	6820	10200	15400	16500	16100	15700
11	17600	11400	4780	4680	4750	5300	6940	10300	15600	16500	16100	15700
12	17400	11000	4780	4700	4750	5330	7060	10300	15700	16400	16100	15700
13	17200	10600	4750	4680	4780	5350	7180	10500	15700	16400	16100	15700
14	17100	10300	4750	4680	4780	5380	7300	10700	15800	16400	16100	15700
15	16900	9980	4750	4680	4800	5380	7450	10800	15900	16400	16100	15600
16	16700	9700	4750	4680	4800	5400	7630	10900	16000	16400	16000	15600
17	16600	9360	4730	4680	4820	5430	7780	11000	16000	16400	16000	15600
18	16500	9040	4730	4680	4850	5430	7930	11100	16100	16400	16000	15600
19	16300	8720	4700	4680	4870	5460	8020	11200	16100	16300	16000	15600
20	16100	8380	4700	4680	4870	5480	8140	11400	16200	16300	16000	15600
21	16000	8050	4700	4680	4920	5510	8240	11600	16200	16300	16000	15600
22	15800	7780	4680	4680	4970	5560	8380	11700	16300	16300	16000	15600
23	15700	7450	4680	4680	5020	5590	8520	11900	16300	16300	16000	15600
24	15500	7150	4680	4700	5040	5640	8620	12100	16300	16300	15900	15600
25	15300	6850	4680	4700	5070	5690	8720	12200	16400	16300	15900	15600
26	14700	6490	4680	4700	5090	5720	8830	12300	16400	16300	15900	15600
27	14100	6130	4680	4700	5090	5740	8970	12500	16400	16300	15900	15600
28	13600	5850	4660	4700	5120	5770	9040	12700	16400	16300	15900	15500
29	13000	5560	4660	4700	---	5790	9180	12800	16400	16300	15900	15500
30	12700	5250	4630	4700	---	5820	9250	13000	16500	16200	15900	15500
31	12700	---	4630	4700	---	5850	---	13200	---	16200	15900	---
MAX	19000	12700	4940	4700	5120	5850	9250	13200	16500	16500	16200	15900
MIN	12700	5250	4630	4630	4700	5120	5880	9390	13500	16200	15900	15500
†	5387.9	5365.8	5363.3	5363.6	5365.3	5368.1	5379.0	5389.3	5397.4	5396.8	5395.9	5395.1
‡	-6400	-7450	-620	+70	+420	+730	+3400	+3950	+3300	-300	-300	-400

CAL YR 1976 ‡ -15170
WTR YR 1977 ‡ -3600

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

11441500 SOUTH FORK SILVER CREEK NEAR ICE HOUSE, CA

LOCATION.--Lat 38°49'08", long 120°21'51", in NW¼NW¼ sec.12, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, on right bank 300 ft (91 m) upstream from Peavine Creek, 0.4 mi (0.6 km) downstream from Ice House Dam, and 4.8 mi (7.7 km) northwest of Kyburz.

DRAINAGE AREA.--27.5 mi^2 (71.2 km^2).

PERIOD OF RECORD.--October 1924 to current year.

REVISED RECORDS.--WSP 1395: 1928, 1938. WSP 1635: Drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,290 ft (1,612 m), from topographic map. Prior to Oct. 1, 1959, at site 0.3 mi (0.5 km) upstream at different datum.

REMARKS.--Records good. Flow regulated by Ice House Reservoir beginning in December 1959 (station 11441100). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (adjusted for change in contents in Ice House Reservoir).--53 years, 73.9 ft^3/s (2.093 m^3/s), 53,540 acre-ft/yr (66.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft^3/s (112 m^3/s) Dec. 23, 1955, gage height, 6.71 ft (2.045 m) site and datum then in use, from rating curve extended above 540 ft^3/s (15.3 m^3/s) on basis of slope-area measurement at gage height 6.69 ft (2.039 m); no flow Oct. 31 to Nov. 9, 1958. Maximum discharge since construction of Ice House Dam in 1959, 1,800 ft^3/s (51.0 m^3/s) Jan. 22, 1970, gage height, 5.66 ft (1.725 m), from rating curve extended above 620 ft^3/s (17.6 m^3/s) on basis of computation of flow over dam of peak flow; minimum daily, 1.2 ft^3/s (0.03 m^3/s) Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 296 ft^3/s (8.38 m^3/s) Oct. 26, gage height, 4.09 ft (1.247 m); minimum daily, 2.2 ft^3/s (0.062 m^3/s) Apr. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	5.8	161	6.7	7.0	6.2	2.9	5.5	3.7	3.9	3.9	3.8
2	84	5.9	83	6.9	7.1	6.2	2.9	4.9	3.7	4.0	3.9	3.9
3	84	5.9	7.8	6.8	6.6	5.1	2.9	4.2	3.8	4.0	3.9	4.1
4	84	6.9	7.8	6.7	6.7	4.0	2.8	3.9	3.9	5.3	3.9	4.1
5	84	7.8	7.8	6.7	6.7	3.8	2.8	3.9	4.1	5.3	3.9	4.1
6	84	7.6	7.8	6.7	6.8	3.8	2.6	4.1	4.0	4.5	3.9	4.1
7	84	7.8	7.6	6.7	6.8	3.8	2.5	4.0	3.8	3.9	3.9	4.1
8	84	99	7.6	6.9	7.0	3.9	2.6	4.1	3.5	3.9	3.9	4.1
9	84	185	7.6	6.9	6.3	4.0	2.7	4.2	3.6	3.9	3.9	4.1
10	83	151	7.6	6.8	6.3	3.9	2.7	4.4	3.8	3.9	3.9	4.1
11	84	182	7.6	6.9	6.3	3.9	2.8	4.6	3.9	3.9	3.9	4.1
12	84	179	7.6	6.7	6.3	3.9	2.7	4.6	3.9	3.9	3.9	4.0
13	84	178	7.6	6.7	6.3	3.9	2.8	4.4	3.8	3.9	3.9	3.9
14	84	177	7.1	6.7	6.2	3.9	2.3	4.3	3.7	3.9	3.9	3.9
15	84	177	6.7	6.7	6.1	3.9	2.3	4.4	3.7	3.9	3.8	3.9
16	83	177	6.7	6.6	6.1	3.9	2.2	4.3	3.7	3.9	3.7	3.9
17	83	176	6.7	6.8	6.3	3.8	2.2	4.3	3.7	3.9	3.7	3.9
18	84	175	6.7	6.7	6.4	3.7	2.7	4.2	3.7	3.9	3.7	3.9
19	84	173	6.6	6.7	6.4	3.8	2.7	4.1	3.8	4.1	3.7	4.0
20	84	172	6.6	6.7	6.4	4.0	2.7	3.9	3.9	3.9	3.7	4.0
21	84	170	6.7	6.8	7.1	3.8	2.7	3.9	3.9	3.9	3.7	3.9
22	84	171	6.7	6.9	6.7	3.8	2.7	3.9	3.8	3.9	3.7	3.9
23	84	170	6.4	7.0	6.7	3.2	2.7	4.0	3.7	3.9	3.7	3.9
24	84	170	6.7	7.0	6.7	2.7	2.7	3.9	3.7	3.9	3.7	3.9
25	142	167	6.6	6.9	6.7	2.7	3.0	3.9	3.7	3.9	3.7	3.9
26	293	164	6.6	6.9	6.8	2.8	3.5	4.0	3.9	3.9	3.7	3.9
27	292	164	6.5	6.7	6.7	2.7	3.4	4.0	3.9	3.9	3.7	3.9
28	289	164	6.9	7.0	6.5	2.7	4.2	3.9	3.9	3.9	3.7	3.9
29	288	164	7.0	7.1	---	2.7	5.3	3.9	3.9	3.9	3.7	3.9
30	174	164	6.7	7.1	---	2.8	5.2	3.9	3.9	3.9	3.7	3.9
31	5.6	---	6.7	7.1	---	2.9	---	3.8	---	3.9	3.7	---
TOTAL	3495.6	3916.7	449.0	211.5	184.0	116.2	88.2	129.4	114.0	124.7	117.6	119.0
MEAN	113	131	14.5	6.82	6.57	3.75	2.94	4.17	3.80	4.02	3.79	3.97
MAX	293	185	161	7.1	7.1	6.2	5.3	5.5	4.1	5.3	3.9	4.1
MIN	5.6	5.8	6.4	6.6	6.1	2.7	2.2	3.8	3.5	3.9	3.7	3.8
AC-FT	6930	7770	891	420	365	230	175	257	226	247	233	236

CAL YR 1976 TOTAL 17463.9 MEAN 47.7 MAX 293 MIN 4.2 AC-FT 34640 MEAN ‡ 26.8 AC-FT ‡ 19470
WTR YR 1977 TOTAL 9065.9 MEAN 24.8 MAX 293 MIN 2.2 AC-FT 17980 MEAN ‡ 19.9 AC-FT ‡ 14380

‡ Adjusted for change in contents in Ice House Reservoir.

11441900 SILVER CREEK BELOW CAMINO DIVERSION DAM, CA

LOCATION.--Lat 38°49'26", long 120°32'18", on line between secs.4 and 5, T.11 N., R.13 E., El Dorado County, Eldorado National Forest, on right bank 300 ft (91 m) downstream from Round Tent Canyon, 0.4 mi (0.6 km) downstream from diversion dam, and 5 mi (8 km) northeast of Pollock Pines.

DRAINAGE AREA.--171 mi^2 (443 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft (839.438 m) above mean sea level (Sacramento Municipal Utility District bench mark).

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. Records not adjusted for diversions or changes in storage. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--17 years, 88.1 ft^3/s (2.495 m^3/s), 63,830 acre-ft/yr (78.7 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft^3/s (547 m^3/s) Jan. 31, 1963, gage height, 11.28 ft (3.438 m) in gage well, 11.9 ft (3.63 m) from floodmarks, from rating curve extended above 1,500 ft^3/s (42.5 m^3/s) on basis of slope-area measurement of peak flow; minimum daily, 2.0 ft^3/s (0.057 m^3/s) Mar. 7, 8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 159 ft^3/s (4.50 m^3/s) Nov. 10, gage height, 3.64 ft (1.109 m); minimum daily, 2.0 ft^3/s (0.057 m^3/s) Mar. 7, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.3	5.4	5.1	5.1	5.6	3.4	3.9	3.2	3.0	3.2	3.1
2	6.0	5.3	5.4	6.4	5.1	4.9	3.4	3.3	3.3	2.9	3.2	3.1
3	5.8	5.3	5.4	6.0	5.1	3.1	3.5	3.0	3.3	2.9	3.1	3.2
4	5.8	5.3	5.4	5.4	5.1	2.3	3.5	3.0	3.3	2.9	3.1	3.2
5	5.6	7.1	5.4	5.2	5.1	2.2	3.4	3.0	3.2	2.9	2.9	3.1
6	5.6	5.4	5.6	5.1	5.1	2.1	3.4	3.3	3.2	2.9	2.9	3.2
7	5.6	5.4	5.4	5.0	5.1	2.0	3.3	3.2	3.1	2.9	3.0	3.1
8	5.6	5.5	5.7	5.0	5.3	2.0	3.4	3.1	3.1	3.1	3.1	3.0
9	5.5	5.5	5.5	5.1	5.3	5.1	3.5	3.0	3.2	3.1	3.1	3.0
10	5.5	8.7	5.3	5.1	5.3	4.5	3.4	3.6	3.4	3.1	3.0	3.0
11	5.6	6.1	5.4	5.0	5.2	3.8	3.3	3.7	3.6	3.0	3.1	3.2
12	5.5	5.6	5.6	5.2	5.1	3.8	3.3	3.9	3.5	3.0	3.1	3.2
13	5.5	5.7	5.4	5.2	5.1	3.8	3.1	3.7	3.5	3.0	3.0	3.2
14	5.4	6.7	5.4	5.2	5.2	3.6	2.9	3.6	3.4	3.0	3.1	3.2
15	5.4	6.3	5.4	5.2	5.1	3.2	3.0	3.6	3.4	3.0	3.1	3.1
16	5.5	5.9	5.3	5.1	5.1	3.3	3.1	3.5	3.3	3.1	3.0	3.2
17	5.6	5.6	5.3	5.1	5.1	3.5	3.0	3.3	3.4	3.0	3.0	3.2
18	5.6	5.5	5.2	5.1	5.1	3.4	3.0	3.2	3.3	3.0	3.0	3.2
19	5.5	5.5	5.2	5.1	5.1	3.5	2.9	3.4	3.3	3.1	3.0	3.2
20	5.6	5.6	5.4	5.1	5.1	3.5	2.9	3.3	3.4	3.1	3.0	3.2
21	5.5	5.7	5.5	5.1	8.2	3.5	2.8	3.2	3.4	3.0	3.1	3.3
22	5.5	5.7	5.4	5.3	6.6	3.5	2.8	3.2	3.4	2.9	3.1	3.3
23	5.6	5.6	5.5	5.3	6.4	3.6	2.7	3.3	3.4	2.9	3.3	3.3
24	5.6	5.7	5.4	5.2	5.8	3.9	2.8	3.3	3.4	2.9	3.2	3.3
25	5.6	5.6	5.5	5.2	5.8	3.7	2.8	3.2	3.4	2.9	3.2	3.2
26	5.6	5.6	5.5	5.1	5.6	3.8	2.8	3.2	3.3	2.9	3.3	3.2
27	5.6	5.6	5.5	5.1	5.6	3.9	3.0	3.2	3.2	2.9	3.3	3.2
28	5.5	5.5	5.4	5.1	5.7	3.9	3.1	3.1	3.0	2.9	3.2	3.2
29	5.6	5.4	5.2	5.1	---	3.8	3.2	3.1	2.9	3.0	3.2	3.2
30	5.6	5.4	5.2	5.1	---	3.8	3.4	3.0	2.9	3.0	3.2	3.2
31	5.5	---	5.0	5.1	---	3.7	---	3.0	---	3.1	3.2	---
TOTAL	173.0	173.1	167.2	161.4	152.5	110.3	94.1	102.4	98.7	92.4	96.3	95.3
MEAN	5.58	5.77	5.39	5.21	5.45	3.56	3.14	3.30	3.29	2.98	3.11	3.18
MAX	6.0	8.7	5.7	6.4	8.2	5.6	3.5	3.9	3.6	3.1	3.3	3.3
MIN	5.4	5.3	5.0	5.0	5.1	2.0	2.7	3.0	2.9	2.9	2.9	3.0
AC-FT	343	343	332	320	302	219	187	203	196	183	191	189

CAL YR 1976 TOTAL 2705.6 MEAN 7.39 MAX 19 MIN 3.9 AC-FT 5370
WTR YR 1977 TOTAL 1516.7 MEAN 4.16 MAX 8.7 MIN 2.0 AC-FT 3010

11442500 SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES, CA

LOCATION.--Lat 38°47'37", long 120°37'02", in NE¼NE¼ sec.22, T.11 N., R.12 E., El Dorado County, Eldorado National Forest, on right bank 350 ft (107 m) upstream from El Dorado powerhouse, 2.4 mi (3.9 km) downstream from Silver Creek, and 2.8 mi (4.5 km) northwest of Pollock Pines.

DRAINAGE AREA.--449 mi^2 (1,163 km^2).

PERIOD OF RECORD.--August to December 1923 (published as "below Silver Creek"), November 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,862.79 ft (567.778 m) above mean sea level. Aug. 11 to Dec. 16, 1923, nonrecording gage at same site at different datum.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--7 years, 361 ft^3/s (10.22 m^3/s), 261,500 acre-ft/yr (32.2 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,200 ft^3/s (629 m^3/s) Jan. 21, 1970, gage height, 15.22 ft (4.639 m); minimum daily, 13 ft^3/s (0.37 m^3/s) on many days in 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 571 ft^3/s (16.2 m^3/s) June 10, gage height, 6.78 ft (2.067 m); minimum daily, 13 ft^3/s (0.37 m^3/s) many days during July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	18	20	17	21	26	22	37	198	14	16	14
2	64	18	21	35	19	23	21	55	213	15	14	14
3	61	18	24	66	19	20	21	50	157	14	14	14
4	26	18	20	39	19	18	20	39	127	14	13	19
5	21	18	20	25	19	17	20	22	145	14	13	16
6	20	20	19	20	20	17	28	26	128	13	13	16
7	19	18	20	19	20	17	60	26	144	13	13	16
8	19	18	20	17	20	17	104	24	93	14	13	15
9	19	18	25	22	22	26	102	23	211	14	13	14
10	19	21	20	29	21	33	58	32	407	15	13	14
11	19	21	20	31	20	25	32	30	197	14	13	14
12	19	20	19	62	20	26	23	33	104	14	13	14
13	18	20	20	26	20	30	41	33	64	14	13	14
14	18	45	19	23	20	27	70	78	43	14	13	14
15	18	41	19	22	20	25	64	155	27	14	13	14
16	18	25	20	21	20	24	103	105	21	14	13	15
17	18	22	19	22	20	26	154	69	19	14	13	16
18	19	21	19	24	20	24	120	39	18	14	13	16
19	19	21	18	26	18	23	68	34	18	14	14	16
20	19	21	19	24	18	22	35	39	18	14	14	20
21	19	21	20	24	56	22	26	141	18	14	14	19
22	19	21	21	27	73	22	35	180	17	14	14	16
23	20	21	24	26	47	23	50	175	16	14	14	15
24	19	20	19	23	39	37	66	158	16	14	14	15
25	19	20	20	22	28	32	69	106	15	13	14	15
26	19	20	30	21	24	27	64	83	15	13	15	16
27	19	20	19	21	23	26	51	105	15	13	15	22
28	18	20	17	21	23	26	46	100	15	13	15	22
29	18	19	20	20	---	26	41	100	14	13	15	20
30	18	20	22	19	---	25	37	120	14	13	15	20
31	18	---	17	22	---	24	---	155	---	15	14	---
TOTAL	693	644	630	816	709	756	1651	2372	2507	429	426	485
MEAN	22.4	21.5	20.3	26.3	25.3	24.4	55.0	76.5	83.6	13.8	13.7	16.2
MAX	64	45	30	66	73	37	154	180	407	15	16	22
MIN	18	18	17	17	18	17	20	22	14	13	13	14
AC-FT	1370	1280	1250	1620	1410	1500	3270	4700	4970	851	845	962
†	18318	8702	15515	6173	2038	1672	1349	1649	832	914	4624	10062
‡	4494	4183	2984	1818	1593	3216	8384	9571	6241	3063	3361	2877

CAL YR 1976 TOTAL 26893 MEAN 73.5 MAX 577 MIN 17 AC-FT 53340
WTR YR 1977 TOTAL 12118 MEAN 33.2 MAX 407 MIN 13 AC-FT 24040

† Diversion, in acre-feet, to Camino powerplant, furnished by Sacramento Municipal Utility District.
‡ Diversion, in acre-feet, to El Dorado powerplant, furnished by Pacific Gas and Electric Co.

11443500 SOUTH FORK AMERICAN RIVER NEAR CAMINO, CA

LOCATION.--Lat 38°46'23", long 120°42'02", in NE¼SW¼ sec.25, T.11 N., R.11 E., El Dorado County, on right bank 500 ft (152 m) downstream from Slab Creek Dam, 500 ft (152 m) upstream from Iowa Canyon Creek, and 2.8 mi (4.5 km) northwest of Camino.

DRAINAGE AREA.--493 mi^2 (1,277 km^2).

PERIOD OF RECORD.--October 1922 to current year. Monthly discharge only for October 1922, published in WSP 1315-A. Records for the river and the American River flume, published separately October 1922 to September 1956, October 1962 to December 1964 when flume was destroyed. Records of river and flume combined October 1956 to September 1962.

REVISED RECORDS.--WSP 931: 1928, 1938, 1940(M). WSP 1931: Drainage area at former site.

GAGE.--Water-stage recorder. Altitude of gage is 1,620 ft (494 m), from topographic map. See WSP 2131 for history of changes prior to Oct. 12, 1966.

REMARKS.--Records good. Flow regulated by six reservoirs, total usable capacity, 347,000 acre-ft (428 hm^3) and since 1967 diversion from Slab Creek Dam to White Rock powerplant which bypass this station. Echo Lake conduit (station 11434500) imports up to 1,900 acre-ft (2.34 hm^3) each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft^3/s (1.13 m^3/s) May to October, and about 7 ft^3/s (0.20 m^3/s) remainder of the year, diverted for irrigation and domestic use between Pollock Pines and Placerville. Water from Jenkinson Lake in North Fork Consumnes River basin diverted to Camino and substituted for flow from El Dorado Canal in some years. Since October 1962 water is imported from the Upper Rubicon River basin by way of Robbs Peak tunnel (station 11429800). See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--37 years (water years 1923-59, prior to extensive regulation and transbasin diversion in South Fork American River basin), 961 ft^3/s (27.22 m^3/s), 695,700 acre-ft/yr (858 hm^3/yr), combined flow of South Fork American River and American River flume; 8 years (water years 1960-67, transition period prior to bypass to White Rock powerplant), 1,062 ft^3/s (30.08 m^3/s), 769,400 acre-ft/yr (949 hm^3/yr); 10 years (water years 1968-77), 133 ft^3/s (3.767 m^3/s) 96,360 acre-ft/yr (119 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft^3/s (1,410 m^3/s) Dec. 23, 1955, gage height, 32.6 ft (9.94 m) from floodmarks, site and datum then in use, from rating curve extended above 24,000 ft^3/s (680 m^3/s) on basis of computation of maximum flow over dam; minimum daily, 1.3 ft^3/s (0.037 m^3/s) Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft^3/s (0.85 m^3/s) Sept. 13, gage height, 5.49 ft (1.673 m); minimum daily, 7.1 ft^3/s (0.20 m^3/s) May 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	21	16	16	17	16	9.7	11	10	10	9.7	10
2	24	16	16	16	17	16	10	11	10	9.9	9.6	11
3	24	16	16	16	17	13	9.7	11	10	10	9.5	11
4	24	16	16	16	17	12	10	11	10	10	9.5	10
5	24	16	16	16	15	12	11	11	10	10	11	10
6	24	16	16	16	12	12	11	8.2	10	10	14	10
7	24	16	16	16	12	12	11	8.0	10	10	14	9.8
8	24	16	16	16	12	12	11	8.0	10	10	12	9.5
9	24	16	16	15	12	12	11	8.2	10	10	10	9.6
10	25	15	16	16	15	12	11	9.0	10	10	10	9.4
11	24	15	16	16	17	11	11	9.4	10	10	10	9.2
12	24	15	14	16	16	11	11	9.3	10	10	10	11
13	24	15	14	16	16	11	11	9.1	9.5	10	10	12
14	24	15	14	16	16	11	11	9.0	10	10	10	10
15	25	15	14	16	16	11	11	8.9	10	10	10	10
16	25	15	14	16	16	11	11	8.9	10	10	11	10
17	25	15	14	16	16	11	11	8.9	9.9	10	11	10
18	25	15	14	16	16	11	11	8.0	9.5	10	10	10
19	25	15	14	16	16	11	11	7.1	9.2	10	11	9.9
20	25	16	14	16	16	11	11	9.1	9.1	9.9	11	9.7
21	25	16	14	16	16	11	11	9.7	9.1	9.5	10	9.8
22	25	16	14	16	16	11	11	9.7	9.0	9.5	10	10
23	25	16	14	16	16	11	11	10	10	10	10	10
24	25	16	14	16	16	11	11	11	11	10	10	10
25	25	16	14	16	16	11	11	11	11	10	10	10
26	25	16	14	16	16	11	11	11	11	10	10	10
27	25	16	15	16	16	11	11	11	11	10	10	10
28	26	16	16	16	16	10	11	11	10	9.8	10	9.9
29	26	16	16	16	---	9.1	11	11	10	9.7	10	10
30	26	16	16	16	---	9.1	11	11	10	9.7	9.9	9.8
31	26	---	16	16	---	9.1	---	11	---	9.7	9.4	---
TOTAL	766	475	465	495	435	353.3	325.4	301.5	299.3	307.7	322.6	301.6
MEAN	24.7	15.8	15.0	16.0	15.5	11.4	10.8	9.73	9.98	9.93	10.4	10.1
MAX	26	21	16	16	17	16	11	11	11	10	14	12
MIN	24	15	14	15	12	9.1	9.7	7.1	9.0	9.5	9.4	9.2
AC-FT	1520	942	922	982	863	701	645	598	594	610	640	598

CAL YR 1976 TOTAL 7869.0 MEAN 21.5 MAX 27 MIN 14 AC-FT 15610
WTR YR 1977 TOTAL 4847.4 MEAN 13.3 MAX 26 MIN 7.1 AC-FT 9610

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.--Lat 38°46'16", long 120°48'55", in NE¼SW¼ sec.25, T.11 N., R.10 E., El Dorado County, on right bank 700 ft (213 m) downstream from Chili Bar Dam, 0.5 mi (0.8 km) upstream from Big Canyon, and 2.5 mi (4.0 km) north of Placerville.

DRAINAGE AREA.--598 mi^2 (1,549 km^2).

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft (283.784 m) above mean sea level (levels by Pacific Gas and Electric Co.). Aug. 11, 1911, to July 31, 1920, nonrecording gage 0.6 mi (1.0 km) downstream at different datum.

REMARKS.--Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Power Commission Project.

AVERAGE DISCHARGE (prior to extensive regulation and transbasin diversion).--9 years (water years 1912-20), 1,132 ft^3/s (32.06 m^3/s), 820,100 acre-ft/yr (1.01 km^3/yr); 13 years (water years 1965-77), 1,412 ft^3/s (39.99 m^3/s), 1,023,000 acre-ft/yr (1.26 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft^3/s (1,340 m^3/s) Dec. 23, 1964, gage height, 17.4 ft (5.30 m) from floodmarks, from rating curve extended above 18,000 ft^3/s (510 m^3/s) on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 ft^3/s (0.006 m^3/s) Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,730 ft^3/s (49.0 m^3/s) June 7, gage height, 5.17 ft (1.576 m); minimum daily, 15 ft^3/s (0.42 m^3/s) Sept. 3-5, 15-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	442	108	338	153	102	663	422	45	66	40	19	631
2	400	105	162	440	102	101	39	750	477	40	393	586
3	189	102	875	369	102	52	40	154	611	40	22	15
4	252	100	212	399	102	41	44	43	431	40	22	15
5	579	98	154	412	102	41	48	43	50	39	22	15
6	506	316	395	366	101	41	552	652	52	38	22	791
7	482	91	357	363	100	42	437	38	613	41	22	1100
8	563	98	163	328	112	43	298	38	684	45	22	848
9	546	416	572	274	102	266	46	557	53	45	22	389
10	472	364	158	174	59	43	47	46	585	45	22	28
11	327	160	655	393	20	303	592	46	464	29	22	24
12	402	334	172	100	17	45	53	65	52	19	22	20
13	631	381	445	92	17	45	638	775	53	21	22	20
14	268	325	281	92	21	558	44	482	346	21	22	253
15	359	368	395	92	19	81	632	39	346	21	22	15
16	223	417	453	92	16	30	53	495	52	21	22	15
17	1290	279	233	91	29	30	54	871	457	21	21	15
18	132	309	150	93	57	157	680	141	52	21	21	15
19	105	447	148	98	485	50	49	30	50	275	21	210
20	111	405	152	98	40	50	49	45	51	40	21	973
21	338	157	181	98	40	50	838	446	53	40	21	95
22	585	339	184	98	599	50	618	443	630	32	693	35
23	372	341	156	98	776	335	40	59	65	19	608	31
24	549	265	343	284	112	44	40	541	203	19	337	31
25	160	162	353	123	65	396	40	63	60	396	23	31
26	365	160	243	106	65	84	41	427	60	22	23	31
27	354	427	371	103	65	40	308	720	60	381	23	31
28	332	654	423	102	65	40	425	266	60	19	23	166
29	379	261	441	102	---	40	444	57	60	303	737	576
30	592	151	366	102	---	40	42	59	48	41	803	316
31	124	---	389	102	---	41	---	700	---	561	292	---
TOTAL	12429	8140	9920	5837	3492	3842	7653	9136	6844	2735	4387	7321
MEAN	401	271	320	188	125	124	255	295	228	88.2	142	244
MAX	1290	654	875	440	776	663	838	871	684	561	803	1100
MIN	105	91	148	91	16	30	39	30	48	19	19	15
AC-FT	24650	16150	19680	11580	6930	7620	15180	18120	13580	5420	8700	14520

CAL YR 1976 TOTAL 218225 MEAN 596 MAX 1380 MIN 91 AC-FT 432800
WTR YR 1977 TOTAL 81736 MEAN 224 MAX 1290 MIN 15 AC-FT 162100

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA

LOCATION.--Lat 38°49'07", long 120°56'45", in NW¼SW¼ sec.11, T.11 N., R.9 E., El Dorado County, on left bank 0.4 mi (0.6 km) downstream from Greenwood Creek, 2.4 mi (3.9 km) northwest of Lotus, and 3.3 mi (5.3 km) northwest of Coloma.

DRAINAGE AREA.--673 mi^2 (1,743 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1951 to current year.

REVISED RECORDS.--WSP 1931: Drainage area. WDR CA-75-4: 1964, 1966, 1970.

GAGE.--Water-stage recorder. Altitude of gage is 635 ft (194 m), from topographic map.

REMARKS.--Records good. Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE.--11 years (water years 1952-62, prior to extensive regulation and transbasin diversion), 1,109 ft^3/s (31.41 m^3/s), 802,900 acre-ft/yr (990 hm^3/yr); 15 years (water years 1963-77), 1,413 ft^3/s (40.02 m^3/s), 1,024,000 acre-ft/yr (1.26 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft^3/s (2,030 m^3/s) Dec. 23, 1955, gage height, 21.37 ft (6.514 m); minimum daily, 14 ft^3/s (0.40 m^3/s) July 13, 15-18, 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1862 and prior to beginning of record, 20.4 ft (6.22 m) from floodmarks, Nov. 21, 1950, discharge, 64,500 ft^3/s (1,830 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,700 ft^3/s (48.1 m^3/s) Sept. 7, 8, gage height, 6.67 ft (2.033 m); minimum daily, 14 ft^3/s (0.40 m^3/s) July 13, 15-18, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	409	118	291	200	106	599	363	50	160	37	172	392
2	560	117	219	302	108	200	100	626	411	34	288	865
3	319	107	641	498	108	78	48	274	549	34	106	95
4	386	105	300	413	106	54	46	54	464	33	20	20
5	560	104	170	417	105	53	53	51	92	33	18	16
6	494	303	380	409	104	53	500	566	51	30	19	406
7	445	108	365	383	101	51	416	100	480	29	19	1110
8	583	105	237	367	119	54	355	45	646	34	17	1000
9	540	420	536	320	108	254	78	475	80	38	17	517
10	474	470	203	200	102	84	56	70	540	39	17	84
11	333	202	460	536	37	288	506	57	470	36	17	33
12	395	336	250	132	24	87	100	60	100	24	17	26
13	605	386	449	100	20	70	538	646	53	14	18	22
14	291	346	255	97	19	449	90	578	291	15	19	219
15	356	398	357	97	21	222	517	84	332	14	18	56
16	231	431	424	96	22	53	141	420	81	14	18	18
17	1040	302	522	95	17	50	60	665	367	14	18	16
18	250	325	319	93	29	134	583	379	114	14	18	15
19	114	452	170	104	425	89	136	40	51	201	19	22
20	120	418	278	103	101	64	54	35	48	75	19	819
21	179	189	380	103	50	61	639	401	48	35	19	420
22	685	340	340	104	509	61	733	420	470	34	288	50
23	396	362	359	104	700	313	94	86	100	25	912	36
24	523	258	343	260	390	82	46	488	175	14	222	34
25	194	180	362	180	80	302	43	134	84	270	181	34
26	362	170	307	117	76	186	43	375	56	112	27	33
27	356	425	302	115	72	51	274	639	54	264	25	33
28	334	600	415	112	71	47	406	340	53	113	24	128
29	378	400	415	112	---	47	420	88	52	295	375	527
30	562	173	422	111	---	47	75	59	51	375	1030	186
31	178	---	368	108	---	46	---	538	---	392	281	---
TOTAL	12652	8650	10839	6388	3730	4229	7513	8843	6523	2691	4258	7232
MEAN	408	288	350	206	133	136	250	285	217	86.8	137	241
MAX	1040	600	641	536	700	599	733	665	646	392	1030	1110
MIN	114	104	170	93	17	46	43	35	48	14	17	15
AC-FT	25100	17160	21500	12670	7400	8390	14900	17540	12940	5340	8450	14340

CAL YR 1976 TOTAL 217284 MEAN 594 MAX 1280 MIN 104 AC-FT 431000
WTR YR 1977 TOTAL 83548 MEAN 229 MAX 1110 MIN 14 AC-FT 165700

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-68, 1970 to current year.
CHEMICAL ANALYSES: Water years 1958-66.
WATER TEMPERATURES: Water years 1960-68, 1970 to current year.
SEDIMENT RECORDS: Water years 1957-62.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: December 1959 to September 1968, February 1970 to current year.

INSTRUMENTATION.--Temperature recorder December 1959 to September 1968, and since February 1970.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 29.5°C July 20, 1960, Aug. 12, 22, 1977; minimum recorded, 1.0°C on several days in 1960 and 1962.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 29.5°C Aug. 12, 22; minimum recorded, 4.0°C Dec. 27, 28, Jan. 7-11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11446200 FOLSOM LAKE NEAR FOLSOM, CA

LOCATION.--Lat 38°42'29", long 121°09'22", in NW¼NE¼ sec.24, T.10 N., R.7 E., Sacramento County, near center of dam on American River, 0.7 mi (1.1 km) downstream from South Fork American River, and 2.3 mi (3.7 km) northeast of Folsom.

DRAINAGE AREA.--1,861 mi^2 (4,820 km^2).

PERIOD OF RECORD.--February 1955 to current year. Prior to October 1959, published as Folsom Reservoir near Folsom.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete gravity-type dam with rolled-earth-wing dams, auxiliary dams, and dikes, completed May 14, 1956; storage began Feb. 25, 1955. Total capacity, 1,010,300 acre-ft (1.25 km^3) between elevations 205.5 ft (62.64 m) invert of lower tier of river outlets and 466.0 ft (142.04 m) gross pool elevation, all of which is available for release. Spillway design flood pool elevation, 475.4 ft (144.90 m), capacity, 1,120,200 acre-ft (1.38 km^3). Records, including extremes, represent usable contents at 2400 hours. See schematic diagram of South Fork American River basin.

COOPERATION.--Records furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,024,400 acre-ft (1.26 km^3) June 15, 1963, elevation, 467.23 ft (142.412 m); minimum since storage pool first filled, 146,700 acre-ft (181 hm^3) Sept. 28, 1977, elevation, 349.58 ft (106.552 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 422,600 acre-ft (521 hm^3) Oct. 18, elevation, 404.11 ft (123.173 m); minimum, 146,700 acre-ft (181 hm^3) Sept. 28, elevation, 349.58 ft (106.552 m).

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

345	133100	400	393300
350	148000	420	548300
360	181900	440	732900
370	222300	460	942600
380	270700	480	1176000
390	327800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	418000	416000	392800	315700	290800	271600	285600	298100	304500	250000	198700	163200
2	419200	414400	392400	314700	289600	273200	285800	298500	303600	247500	197100	164000
3	419200	413300	391900	315200	288600	274200	285600	299100	302700	244900	196400	163200
4	419400	412000	392200	315500	287500	274800	285300	298900	301600	242500	195100	161900
5	419900	410300	391800	315500	286300	274000	285500	298200	299900	240300	193600	160700
6	420000	409200	390300	316000	285100	274800	286000	298500	297600	238300	192200	159500
7	420200	407900	387400	316300	283500	275300	286900	298900	297500	236800	191000	160900
8	420600	406500	385100	316300	282400	275000	288000	298700	296800	235300	189700	162300
9	421300	406000	382200	315800	281500	276000	288600	298800	294800	233300	188300	162800
10	421500	405900	379200	315100	280700	277400	288600	299200	294800	231500	186900	162200
11	421000	405900	376600	315100	279900	277600	289300	299100	294200	229700	185800	161000
12	421000	405400	374700	314300	278600	279300	290400	298900	292700	227600	184500	159800
13	421700	405000	371000	312900	276900	280100	291100	299600	290400	225800	183100	158700
14	421500	405400	367800	311600	275600	282100	291500	301100	287500	224000	181400	158000
15	420800	404900	365000	310400	274300	282300	292000	301600	285700	222300	179600	157500
16	421000	404500	361900	309300	273200	282000	292500	301900	283600	220400	178200	156600
17	422300	403700	359000	307900	272600	281600	292600	302400	281100	218300	177000	155900
18	422600	403900	356100	306500	271700	282300	293200	303600	279300	216400	175800	154800
19	421800	402200	352700	305200	271300	283000	293600	303500	277000	214600	174700	153900
20	420800	401800	349300	303900	270700	282400	293600	302600	274500	213200	173500	153700
21	420000	400900	346100	302900	270200	283800	294200	303000	272100	211200	172200	153900
22	420000	399900	342900	302000	271200	283200	295700	303600	269900	209500	170700	153300
23	420000	399300	340200	301000	272300	283400	296100	303900	268300	208300	171900	152400
24	419800	398600	337100	299900	273200	283600	296500	303800	266000	207200	170400	151400
25	419600	397800	334000	299300	272800	284500	297100	303400	263800	206100	169700	150100
26	419000	396500	331000	298200	272300	284700	296800	303100	261500	205500	168500	148700
27	418400	395400	327800	297100	272100	285200	297100	304100	259200	204500	167300	147700
28	418400	394700	324700	295900	271500	285300	297600	305000	256900	203600	165300	146700
29	418000	394700	321600	294600	---	285100	298000	305500	254700	202700	163500	146800
30	417600	393700	319200	293100	---	284900	297900	305100	252500	202200	164200	147000
31	417300	---	317000	292000	---	285300	---	303900	---	200100	163600	---
MAX	422600	416000	392800	316300	290800	285300	298000	305500	304500	250000	198700	164000
MIN	417300	393700	317000	292000	270200	271600	285300	298100	252500	200100	163500	146700
†	403.38	400.06	388.22	383.90	380.16	383.71	384.95	386.00	376.45	364.73	354.83	349.67
‡	+900	-23600	-76700	-25000	-20500	+13800	+12600	+6000	-51400	-52400	-36500	-16600
††	2450	1070	780	260	640	1410	2680	2330	3690	3270	2390	1480

CAL YR 1976 ‡ -255200
WTR YR 1977 ‡ -269400

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

11446500 AMERICAN RIVER AT FAIR OAKS, CA

LOCATION.--Lat 38°38'08", long 121°13'36", in SE¼NE¼ sec.17, T.9 N., R.7 E., Sacramento County, on right bank 2,100 ft (640 m) downstream from Nimbus Dam, 2.4 mi (3.9 km) east of Fair Oaks, 8.1 mi (13.0 km) downstream from South Fork, and at mile 22.2 (35.7 km).

DRAINAGE AREA.--1,888 mi^2 (4,890 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1904 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1181: 1928(M). WSP 1515: 1907(M), 1910, 1931(M), 1943(M). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 71.53 ft (21.802 m) above mean sea level. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--Records excellent. Flow regulated by Folsom Lake beginning Feb. 25, 1955 (station 11446200). Some minor regulation of high flows by temporary pondage during period of construction January 1953 to February 1955. Diurnal fluctuations from Folsom powerplant re-regulated by Nimbus Reservoir, capacity, 2,800 acre-ft (3.45 hm^3) between normal operating elevations, 118.5 ft (36.12 m) and 125.0 ft (38.10 m) and powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, Cordova Water Service, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River basins.

AVERAGE DISCHARGE (adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955).--73 years, 3,741 ft^3/s (105.9 m^3/s), 2,710,000 acre-ft/yr (3.34 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft^3/s (5,100 m^3/s) Nov. 21, 1950, gage height, 31.85 ft (9.708 m) site and datum then in use; minimum, 3.6 ft^3/s (0.10 m^3/s) Aug. 16, 1924. Maximum discharge since construction of Folsom Dam in 1953, 115,000 ft^3/s (3,260 m^3/s) Dec. 23-25, 1964, gage height, 27.65 ft (8.428 m), present datum; minimum, 86 ft^3/s (2.44 m^3/s) Apr. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,920 ft^3/s (54.4 m^3/s) Dec. 6, 7, gage height, 6.56 ft (1.999 m); minimum daily, 215 ft^3/s (6.09 m^3/s) Apr. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	840	810	813	1300	808	539	254	401	643	1150	1140	611
2	816	811	861	1050	814	329	253	407	1140	1140	964	595
3	821	811	837	821	821	272	250	425	1140	1140	808	594
4	828	809	799	800	821	275	249	472	1140	1130	831	595
5	820	808	826	842	825	268	249	474	1150	720	832	595
6	798	808	1040	846	821	263	249	475	1120	682	832	597
7	811	812	1820	832	819	260	249	473	1160	769	833	598
8	816	809	1810	827	826	263	251	473	1160	801	834	600
9	816	809	1800	838	812	268	253	470	1160	811	834	595
10	809	807	1800	828	812	268	251	469	1150	804	834	595
11	811	806	1800	832	812	265	249	477	1140	807	834	592
12	810	809	1800	827	812	269	248	482	1140	819	834	591
13	812	822	1790	828	812	264	248	489	1140	818	851	590
14	812	820	1800	831	812	261	256	493	1140	818	1070	589
15	814	825	1800	832	784	273	267	491	1150	836	959	596
16	815	827	1800	828	661	263	258	498	1150	806	839	603
17	816	828	1800	828	637	262	251	510	1160	807	838	592
18	816	825	1800	830	643	264	245	519	1160	816	837	593
19	821	819	1800	830	637	259	229	519	1160	817	835	606
20	807	825	1800	831	631	255	215	563	1160	818	834	641
21	799	825	1790	831	637	256	220	581	1170	825	834	635
22	800	827	1810	833	637	253	247	582	1160	817	816	634
23	800	829	1800	828	631	258	263	628	1160	811	814	627
24	800	823	1800	827	631	260	261	626	1160	811	824	627
25	800	820	1800	824	592	263	259	627	1160	807	827	628
26	799	817	1800	825	557	258	257	601	1160	801	823	628
27	800	819	1810	824	556	257	256	580	1140	819	822	594
28	805	816	1810	825	557	258	257	584	1160	821	823	587
29	795	814	1810	823	---	258	319	581	1160	839	823	576
30	801	815	1790	826	---	258	422	576	1150	1140	822	557
31	804	---	1570	817	---	256	---	582	---	1130	818	---
TOTAL	25112	24505	49986	26364	20218	8475	7735	16128	34043	26930	26519	18061
MEAN	810	817	1612	850	722	273	258	520	1135	869	855	602
MAX	840	829	1820	1300	826	539	422	628	1170	1150	1140	641
MIN	795	806	799	800	556	253	215	401	643	682	808	557
AC-FT	49810	48610	99150	52290	40100	16810	15340	31990	67520	53420	52600	35820
MEAN ‡	987	528	469	522	431	591	620	752	466	225	444	455
AC-FT ‡	60680	31390	28810	32080	23920	36310	36880	46250	27710	13850	27330	27070
†	7517	5311	5576	4530	3685	4288	6258	5930	7899	9563	8840	6366

CAL YR 1976	TOTAL	541003	MEAN	1478	MAX	3070	MIN 795	AC-FT	1073000	MEAN ‡	1308	AC-FT ‡ 949700
WTR YR 1977	TOTAL	284076	MEAN	778	MAX	1820	MIN 215	AC-FT	563500	MEAN ‡	542	AC-FT ‡ 392300

‡ Adjusted for change in contents, diversions, and evaporation from Folsom Lake.
† Diversions, in acre-feet, from Folsom-Nimbus Dam complex furnished by Bureau of Reclamation.

11446500 AMERICAN RIVER AT FAIR OAKS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-07, 1951-58, 1960 to current year.
CHEMICAL ANALYSES: Water years 1906-07, 1951-62.
WATER TEMPERATURES: Water years 1951-58, 1960 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: January to December 1906, March 1951 to September 1958, November 1959 to September 1962.
SPECIFIC CONDUCTANCE: March 1951 to September 1958, November 1959 to September 1962.
WATER TEMPERATURES: March 1951 to September 1958, November 1959 to current year.

INSTRUMENTATION.--Temperature recorder March 1951 to September 1958, and since November 1959.

REMARKS.--Water temperatures affected by construction of Folsom Dam beginning in February 1955. Extremes are given for two separate periods -- 1951-55, and 1956 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD (see REMARKS above):
WATER TEMPERATURES (1951-55): Maximum recorded, 27.0°C July 27, Aug. 3, 1954; minimum recorded, 3.5°C Oct. 30, 31, 1954.
(1956 to current year): Maximum recorded, 26.0°C Sept. 28, 1961; minimum recorded, 0.0°C on several days in 1957 and 1958.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 22.5°C on several days during September; minimum recorded, 6.0°C on several days during January.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11446500 AMERICAN RIVER AT FAIR OAKS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

11447360 ARCADE CREEK NEAR DEL PASO HEIGHTS, CA

LOCATION.--Lat 38°38'28", long 121°22'38", in Del Paso Grant, Sacramento County, on right bank 1,200 ft (366 m) upstream from bridge on Interstate Highway 80, and 1.6 mi (2.6 km) east of city limits of Del Paso Heights.

DRAINAGE AREA.--31.5 mi^2 (81.6 km^2).

PERIOD OF RECORD.--July 1963 to current year.

GAGE.--Water-stage recorder and concrete low-water control. Datum of gage is 47.98 ft (14.624 m) above mean sea level (levels by county of Sacramento).

REMARKS.--Records fair. Low summer flow sustained by residential and industrial waste water.

AVERAGE DISCHARGE.--14 years, 16.1 ft^3/s (0.456 m^3/s), 11,660 acre-ft/yr (14.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,170 ft^3/s (61.5 m^3/s) Feb. 27, 1973, gage height, 14.29 ft (4.356 m); maximum gage height, 14.42 ft (4.395 m) Jan. 21, 1967; no flow for many days in 1963-66, 1971-73, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 345 ft^3/s (9.77 m^3/s) May 1, gage height, 8.92 ft (2.719 m), no peak above base of 500 ft^3/s (14.2 m^3/s); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	1.8	.50	1.5	.17	.10	.03	121			.02	0
2	1.6	1.7	.61	112	.47	.19	.02	43			0	0
3	1.4	1.5	.68	92	.24	.03	0	5.1			0	0
4	1.5	2.1	.72	4.4	.16	.09	0	.21			0	0
5	2.2	2.0	.66	1.8	.21	.75	0	.09			0	0
6	2.0	3.1	.72	1.1	.22	.49	0	.03			0	0
7	2.3	3.8	.77	.64	.17	.06	0	1.3			0	0
8	1.9	3.2	.58	.49	4.5	.12	.07	.26			0	0
9	1.8	2.9	.59	.96	4.3	8.3	1.6	.07			0	0
10	2.0	2.8	.53	.59	.70	3.8	.18	5.3			.01	0
11	1.5	2.6	.64	.48	.31	1.4	.05	.73			0	0
12	1.6	4.3	1.5	2.6	.24	2.7	0	.09			0	0
13	2.1	3.1	2.6	1.7	.11	2.4	.13	.01			.01	0
14	2.0	53	.91	.56	.07	.64	.10	0			0	0
15	1.9	17	.69	.44	.07	.19	.14	0			0	0
16	2.0	2.2	.66	.39	.24	74	.70	0			0	0
17	2.1	.94	.83	.40	.32	9.0	.07	0			0	0
18	1.7	.69	.82	.38	.30	1.4	.01	0			0	0
19	1.7	.44	.93	.56	.03	.44	0	0			0	28
20	1.6	.74	1.0	.46	20	.14	0	0			0	6.3
21	1.3	.38	1.1	.36	67	.03	0	0			0	.72
22	1.8	.37	1.5	.62	15	.32	0	0			0	.09
23	1.2	.40	1.5	.44	43	.94	.35	0			0	.03
24	1.5	.43	1.5	.40	7.4	4.9	.02	0			0	0
25	1.5	.50	.96	.33	1.8	4.3	0	0			0	0
26	1.2	.36	.69	.28	.87	.53	0	0			0	0
27	.90	.18	.79	.27	.39	.09	0	0			0	0
28	1.1	.11	1.0	.26	.21	.02	0	0			0	0
29	1.8	.83	1.3	.23	---	.02	0	0			0	0
30	1.7	.73	37	.25	---	0	0	0			0	0
31	1.8	---	4.5	.21	---	0	---	0	---		0	---
TOTAL	52.70	114.20	68.78	227.10	168.50	117.39	3.47	177.19	0	0	.04	35.14
MEAN	1.70	3.81	2.22	7.33	6.02	3.79	.12	5.72	0	0	.001	1.17
MAX	2.3	53	37	112	67	74	1.6	121	0	0	.02	28
MIN	.90	.11	.50	.21	.03	0	0	0	0	0	0	0
AC-FT	105	227	136	450	334	233	6.9	351	0	0	.08	70

CAL YR 1976 TOTAL 1887.48 MEAN 5.16 MAX 132 MIN .11 AC-FT 3740
WTR YR 1977 TOTAL 964.51 MEAN 2.64 MAX 121 MIN 0 AC-FT 1910

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA

LOCATION.--Lat 38°35'12", long 121°30'16", Sacramento County, on left bank 1,000 ft (300 m) upstream from I Street Bridge, in city of Sacramento, and 0.5 mi (0.8 km) downstream from American River.

DRAINAGE AREA.--23,502 mi^2 (60,870 km^2).

REVISED RECORDS.--WDR CA-76-4: Drainage area.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Gage heights collected in this vicinity November 1879 to May 1888, December 1890 to September 1963 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. Prior to Oct. 15, 1912, nonrecording gage in vicinity of I Street Bridge. Oct. 15, 1912, to Nov. 16, 1956, water-stage recorder at various sites in vicinity of I Street Bridge. Prior to Nov. 16, 1956, datum of gages at low-water mark of Oct. 23, 1856, 0.12 ft (0.037 m) above mean sea level. Auxiliary water-stage recorder on right bank 10.8 mi (17.4 km) downstream near Freeport.

REMARKS.--Records good above 8,000 ft^3/s (227 m^3/s) and fair below. Natural flow of stream affected by storage reservoirs, power development, diversions for irrigation, and return flow from irrigated areas. Flood flows bypass station through Yolo Bypass (stations 11426000, 11453000).

AVERAGE DISCHARGE.--29 years (water years 1949-77), 23,760 ft^3/s (673 m^3/s), 17,214,000 acre-ft/yr (21.2 km^3/yr).

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 104,000 ft^3/s (2,950 m^3/s) Nov. 21, 1950, elevation, 30.14 ft (9.187 m) site and datum then in use; minimum daily, 5,200 ft^3/s (147 m^3/s) Apr. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft^3/s (2,920 m^3/s) Jan. 17, 1909, elevation, 29.6 ft (9.02 m) present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 13,700 ft^3/s (388 m^3/s) Jan. 5; minimum daily, 5,200 ft^3/s (147 m^3/s) Apr. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10600	7860	8130	8990	9100	6690	5760	7700	5800	7840	8300	7640
2	10200	7670	8190	10300	8930	6200	5850	8610	5800	8590	8340	7390
3	9770	7550	7980	10900	8590	5650	6100	8690	5810	8930	8380	7310
4	9480	7310	7740	12200	8580	5600	6150	8910	5730	9030	8460	7460
5	9260	7220	7570	13700	8510	5500	6010	8640	5730	8710	8410	7630
6	9040	7320	7500	12300	8590	5800	5700	8250	6100	8320	8560	7590
7	8810	7340	7990	10700	8570	6040	5630	7480	6310	8080	8240	7270
8	8620	7270	8020	9500	8760	6370	5600	7330	6410	8010	8010	7230
9	8340	7140	7770	9060	8880	6630	5500	7460	6590	8220	8080	7510
10	7940	7320	7940	8600	8780	6260	5400	8000	6060	7970	8020	7790
11	7760	7290	7710	8370	8560	6230	5800	8490	6140	8100	7720	7640
12	7680	7460	7740	8420	8080	6300	6100	8670	6460	8200	7590	7300
13	7570	7790	7810	8750	7760	6360	6150	9200	6900	8100	7650	7000
14	7380	8190	7850	8970	7520	6270	5250	9900	6940	7900	7560	7020
15	7480	8200	7810	9160	7470	6590	5200	8540	6510	7600	7370	6450
16	7400	8170	7510	9340	7340	6840	5700	8090	6870	7600	7180	6290
17	7240	8180	7250	9470	7040	7800	6120	7440	7440	7600	7220	6150
18	7230	8240	7320	9310	6970	8220	6150	7000	7290	7800	7070	6150
19	7280	8420	7510	9210	6740	8210	6200	6610	7560	7900	7070	6840
20	6920	8260	7550	9170	7010	8120	6350	6950	7540	7860	7190	7090
21	7140	8060	7510	9180	7540	7750	6100	6990	7260	8070	6990	6820
22	7500	8020	7560	9400	7940	6900	5800	7370	7300	8350	7040	7300
23	7740	8150	7620	9700	8310	6870	5280	7100	7310	8560	7260	7190
24	8060	8000	7820	9810	8330	6600	5750	6570	7180	9040	7840	6410
25	7980	8170	7870	10000	8240	6400	6340	6760	7230	9040	7610	5940
26	7510	8020	7900	10300	7890	6650	6190	6670	7780	8930	7460	6060
27	7760	7800	7980	10300	7280	6650	6460	6680	8170	8680	7690	5820
28	7820	8170	7740	10000	6770	6500	6620	6700	8030	8460	7390	5650
29	7890	8070	7460	9700	---	6200	6700	6500	7970	8100	7500	5840
30	7910	8040	7620	9580	---	5950	6870	6200	7740	7990	7570	5360
31	7880	---	8060	9460	---	5610	---	6000	---	8120	7520	---
TOTAL	251190	234700	240030	303850	224080	203760	178830	235500	205960	255700	238290	205140
MEAN	8103	7823	7743	9802	8003	6573	5961	7597	6865	8248	7687	6838
MAX	10600	8420	8190	13700	9100	8220	6870	9900	8170	9040	8560	7790
MIN	6920	7140	7250	8370	6740	5500	5200	6000	5730	7600	6990	5360
AC-FT	498200	465500	476100	602700	444500	404200	354700	467100	408500	507200	472600	406900

CAL YR 1976 TOTAL 4228690 MEAN 11550 MAX 27500 MIN 6920 AC-FT 8388000
WTR YR 1977 TOTAL 2777030 MEAN 7608 MAX 13700 MIN 5200 AC-FT 5508000

NOTE.--Gage affected by tidal action the entire year.

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1906-8, 1951 to current year.
CHEMICAL ANALYSES: Water years 1906-8, 1951-60. Published as "above Sacramento" in 1906-8.
WATER TEMPERATURES: Water years 1955 to current year.
SEDIMENT RECORDS: Water years 1957 to current year.
TURBIDITY: Water years 1972 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: May 1955 to May 1960.
WATER TEMPERATURES: May 1955 to current year.
SEDIMENT RECORDS: October 1956 to current year.

REMARKS.--Unpublished records of daily specific conductance for period May 1955 to May 1960, and water temperatures for period May 1955 to September 1960 available in files of district office.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURES: Maximum recorded, 28.0°C on several days in 1969 and 1970; minimum recorded, 3.0°C Dec. 14, 1973.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,960 mg/L Dec. 24, 1964; minimum daily mean, 8 mg/L Dec. 29, 30, 1976.
SEDIMENT DISCHARGE: Maximum daily, 525,000 tons (476,000 tonnes) Dec. 24, 1964; minimum daily, 161 tons 146 tonnes), Dec. 29, 1976.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 94 mg/L Jan. 7; minimum daily mean, 8 mg/L Dec. 29, 30.
SEDIMENT DISCHARGE: Maximum daily, 2,860 tons (2,590 tonnes) Jan. 6; minimum daily, 161 tons (146 tonnes) Dec. 29.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	8.0	---	---	---	18.0	22.5	---	25.0	---
2	---	---	10.5	---	7.5	11.5	---	---	---	---	---	23.5
3	19.0	17.0	---	9.5	---	---	16.0	---	---	---	---	---
4	19.0	---	---	8.0	---	12.0	---	---	21.5	21.5	---	---
5	---	15.0	---	8.0	---	---	---	17.5	---	---	---	26.0
6	21.0	17.0	---	---	---	---	18.0	15.5	22.0	---	---	---
7	---	---	9.5	8.0	---	---	17.0	---	---	25.0	---	26.0
8	---	14.0	---	---	---	---	---	16.0	---	24.5	---	26.0
9	19.0	---	---	---	---	---	---	---	21.5	23.5	---	---
10	---	---	10.0	---	---	12.0	17.0	---	---	---	---	23.5
11	---	---	---	7.0	---	---	---	15.5	19.5	25.5	---	---
12	20.0	---	---	7.0	---	---	17.5	---	20.0	---	---	23.0
13	---	---	10.0	---	---	---	17.5	---	---	24.0	22.5	23.0
14	---	---	---	---	---	---	---	18.0	---	---	---	---
15	20.0	15.0	9.5	7.5	---	10.0	19.0	18.0	21.5	---	---	---
16	---	---	---	---	---	---	---	---	21.5	---	---	---
17	20.0	15.5	---	5.5	---	---	---	---	20.5	---	23.0	---
18	---	---	9.0	---	---	12.5	17.5	17.5	---	25.0	---	---
19	---	---	9.0	---	---	---	---	---	---	---	---	20.0
20	---	---	9.5	---	---	13.5	17.5	---	23.5	24.0	24.0	19.5
21	17.0	---	10.0	---	---	---	19.0	20.0	25.5	24.5	---	---
22	---	12.0	---	---	---	---	---	---	---	---	25.5	22.0
23	---	---	9.5	---	---	13.0	18.5	---	---	---	---	---
24	---	11.0	---	---	---	---	---	21.5	25.0	22.5	---	---
25	---	---	---	---	---	---	17.5	---	---	---	---	---
26	16.0	---	9.0	---	---	---	---	---	24.5	25.0	22.5	20.0
27	---	---	8.5	---	---	16.0	17.5	20.0	25.0	---	---	---
28	---	9.5	8.0	7.5	---	---	---	---	25.0	---	---	20.0
29	15.0	10.0	9.0	---	---	---	17.0	---	---	---	---	---
30	14.5	10.0	---	---	---	---	17.5	22.0	25.0	26.0	25.0	21.0
31	---	---	---	---	---	---	---	---	---	---	24.0	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER		
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	10600	30	859	7860	18	382	8130	14	307
2	10200	30	826	7670	16	331	8190	14	310
3	9770	30	791	7550	16	326	7980	14	302
4	9480	28	717	7310	16	316	7740	14	293
5	9260	26	650	7220	16	312	7570	14	286
6	9040	24	586	7320	16	316	7500	14	283
7	8810	24	571	7340	16	317	7990	14	302
8	8620	24	559	7270	16	314	8020	14	303
9	8340	24	540	7140	16	308	7770	14	294
10	7940	24	515	7320	16	316	7940	14	300
11	7760	25	524	7290	16	315	7710	14	291
12	7680	25	518	7460	16	322	7740	14	293
13	7570	24	491	7790	16	337	7810	14	295
14	7380	22	438	8190	14	310	7850	14	297
15	7480	18	364	8200	14	310	7810	14	295
16	7400	18	360	8170	14	309	7510	14	284
17	7240	18	352	8180	14	309	7250	14	274
18	7230	18	351	8240	14	311	7320	12	237
19	7280	18	354	8420	14	318	7510	12	243
20	6920	18	336	8260	14	312	7550	12	245
21	7140	18	347	8060	16	348	7510	10	203
22	7500	18	364	8020	16	346	7560	10	204
23	7740	18	376	8150	16	352	7620	10	206
24	8060	18	392	8000	16	346	7820	10	211
25	7980	18	388	8170	16	353	7870	10	212
26	7510	18	365	8020	16	346	7900	10	213
27	7760	18	377	7800	16	337	7980	10	215
28	7820	18	380	8170	16	353	7740	10	209
29	7890	18	383	8070	16	349	7460	8	161
30	7910	20	427	8040	16	347	7620	8	165
31	7880	22	468	---	---	---	8060	10	218
TOTAL	251190	---	14969	234700	---	9868	240030	---	7951

	JANUARY			FEBRUARY			MARCH		
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	8990	10	243	9100	24	590	6690	22	397
2	10300	20	556	8930	30	723	6200	20	335
3	10900	34	1000	8590	30	696	5650	20	305
4	12200	55	1810	8580	28	649	5600	20	302
5	13700	70	2590	8510	28	643	5500	22	327
6	12300	86	2860	8590	26	603	5800	24	376
7	10700	94	2720	8570	26	602	6040	26	424
8	9500	60	1540	8760	26	615	6370	28	482
9	9060	34	832	8880	26	623	6630	30	537
10	8600	30	697	8780	26	616	6260	32	541
11	8370	20	452	8560	26	601	6230	30	505
12	8420	16	364	8080	26	567	6300	30	510
13	8750	16	378	7760	26	545	6360	28	481
14	8970	20	484	7520	26	528	6270	26	440
15	9160	22	544	7470	26	524	6590	24	427
16	9340	20	504	7340	24	476	6840	24	443
17	9470	20	511	7040	24	456	7800	26	548
18	9310	20	503	6970	24	452	8220	28	621
19	9210	20	497	6740	24	437	8210	32	709
20	9170	20	495	7010	24	454	8120	34	745
21	9180	20	496	7540	24	489	7750	32	670
22	9400	20	508	7940	24	515	6900	30	559
23	9700	20	524	8310	24	538	6870	28	519
24	9810	20	530	8330	24	540	6600	30	535
25	10000	20	540	8240	24	534	6400	30	518
26	10300	20	556	7890	24	511	6650	30	539
27	10300	20	556	7280	24	472	6650	32	575
28	10000	20	540	6770	24	439	6500	32	562
29	9700	20	524	---	---	---	6200	32	536
30	9580	22	569	---	---	---	5950	32	514
31	9460	22	562	---	---	---	5610	32	485
TOTAL	303850	---	25485	224080	---	15438	203760	---	15467

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	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	5760	32	498	7700	24	499	5800	26	407
2	5850	32	505	8610	26	604	5800	26	407
3	6100	32	527	8690	34	798	5810	26	408
4	6150	30	498	8910	50	1200	5730	26	402
5	6010	28	454	8640	70	1630	5730	26	402
6	5700	28	431	8250	76	1690	6100	24	395
7	5630	32	486	7480	72	1450	6310	24	409
8	5600	30	454	7330	58	1150	6410	24	415
9	5500	28	416	7460	58	1170	6590	26	463
10	5400	30	437	8000	56	1210	6060	26	425
11	5800	36	564	8490	48	1100	6140	26	431
12	6100	36	593	8670	46	1080	6460	26	453
13	6150	26	432	9200	46	1140	6900	26	484
14	5250	24	340	9900	46	1230	6940	26	487
15	5200	24	337	8540	44	1010	6510	26	457
16	5700	24	369	8090	38	830	6870	26	482
17	6120	28	463	7440	36	723	7440	24	482
18	6150	42	697	7000	38	718	7290	24	472
19	6200	38	636	6610	40	714	7560	26	531
20	6350	30	514	6950	44	826	7540	34	692
21	6100	32	527	6990	48	906	7260	34	666
22	5800	36	564	7370	48	955	7300	32	631
23	5280	38	542	7100	42	805	7310	32	632
24	5750	36	559	6570	36	639	7180	30	582
25	6340	30	514	6760	32	584	7230	36	703
26	6190	26	435	6670	34	612	7780	42	882
27	6460	30	523	6680	30	541	8170	34	750
28	6620	34	608	6700	30	543	8030	28	607
29	6700	34	615	6500	32	562	7970	30	646
30	6870	32	594	6200	32	536	7740	36	752
31	---	---	---	6000	28	454	---	---	---
TOTAL	178830	---	15132	235500	---	27909	205960	---	15955

	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	7840	36	762	8300	34	762	7640	42	866
2	8590	36	835	8340	36	811	7390	36	718
3	8930	36	868	8380	38	860	7310	36	711
4	9030	36	878	8460	42	959	7460	36	725
5	8710	36	847	8410	44	999	7630	46	948
6	8320	36	809	8560	36	832	7590	48	984
7	8080	38	829	8240	34	756	7270	38	746
8	8010	34	735	8010	36	779	7230	38	742
9	8220	32	710	8080	36	785	7510	44	892
10	7970	34	732	8020	40	866	7790	40	841
11	8100	34	744	7720	42	875	7640	46	949
12	8200	32	708	7590	38	779	7300	44	867
13	8100	32	700	7650	36	744	7000	50	945
14	7900	32	683	7560	42	857	7020	50	948
15	7600	32	657	7370	42	836	6450	50	871
16	7600	32	657	7180	42	814	6290	48	815
17	7600	32	657	7220	34	663	6150	40	664
18	7800	32	674	7070	38	725	6150	36	598
19	7900	32	683	7070	34	649	6840	36	665
20	7860	32	679	7190	34	660	7090	34	651
21	8070	42	915	6990	36	679	6820	32	589
22	8350	46	1040	7040	36	684	7300	34	670
23	8560	48	1110	7260	36	706	7190	36	699
24	9040	60	1460	7840	36	762	6410	40	692
25	9040	52	1270	7610	44	904	5940	40	642
26	8930	46	1110	7460	44	886	6060	44	720
27	8680	44	1030	7690	44	914	5820	44	691
28	8460	40	914	7390	50	998	5650	42	641
29	8100	30	656	7500	52	1050	5840	42	662
30	7990	32	690	7570	48	981	5360	44	637
31	8120	32	702	7520	44	893	---	---	---
TOTAL	255700	---	25744	238290	---	25468	205140	---	22789
YEAR	2777030		222175						

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM
JAN							
05...	1600	8.0	11900	80	2570	--	--
FEB							
15...	1008	12.5	8790	33	783	--	--
APR							
13...	1310	17.5	2510	24	163	30	48
MAY							
05...	1745	17.5	8460	73	1670	--	--
JUL							
25...	1745	22.5	9720	32	840	--	--
AUG							
01...	0910	25.5	9420	20	509	--	--
01...	1118	25.5	9940	29	778	--	--
01...	1715	26.0	7800	43	906	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM
JAN							
05...	--	--	--	90	99	100	--
FEB							
15...	--	--	--	92	96	100	--
APR							
13...	68	77	84	87	95	98	100
MAY							
05...	--	--	--	86	90	93	100
JUL							
25...	--	--	--	99	100	--	--
AUG							
01...	--	--	--	98	99	100	--
01...	--	--	--	98	100	--	--
01...	--	--	--	98	100	--	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	INSTANTANEOUS DISCHARGE (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
OCT							
12...	1500	20.0	5	8560	3	10	18
12...	1502	--	--	--	2	10	15
12...	1504	--	--	--	40	80	83
12...	1506	--	--	--	37	78	85
12...	1508	--	--	--	3	16	32
JUL							
25...	1800	24.0	5	9560	11	20	46
25...	1802	--	--	--	29	43	53
25...	1805	--	--	--	17	27	35
25...	1808	--	--	--	20	34	42
25...	1810	--	--	--	18	32	48
AUG							
01...	0956	26.0	5	9610	7	10	32
01...	1008	--	--	--	19	26	34
01...	1010	--	--	--	10	19	26
01...	1011	--	--	--	9	18	24
01...	1014	26.0	--	--	0	1	3

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	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM
OCT							
12...	24	28	30	32	47	50	100
12...	43	47	48	52	60	100	--
12...	88	95	99	100	--	--	--
12...	90	95	99	99	100	--	--
12...	95	99	100	--	--	--	--
JUL							
25...	97	98	100	--	--	--	--
25...	84	92	99	100	--	--	--
25...	83	97	99	100	--	--	--
25...	84	91	96	98	100	--	--
25...	75	90	97	99	100	--	--
AUG							
01...	99	100	--	--	--	--	--
01...	88	98	100	--	--	--	--
01...	87	98	100	--	--	--	--
01...	85	96	98	100	--	--	--
01...	5	5	6	8	16	46	100

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	TURBIDITY (JTU)
OCT						
03...	0910	19.0	11100	36	1080	10
04...	1550	19.0	8250	22	490	9
06...	1330	21.0	10300	32	888	9
09...	1815	19.0	5940	22	353	8
12...	0940	20.0	6100	18	296	7
15...	1730	20.0	8410	11	250	5
17...	1745	20.0	7420	20	401	7
22...	1945	17.0	7440	11	221	4
26...	2100	16.0	3100	10	84	6
29...	1330	15.0	5520	11	164	5
30...	2130	14.5	8960	28	677	10
NOV						
03...	1700	17.0	5810	10	157	4
05...	2000	15.0	8500	12	275	6
06...	1530	17.5	4670	12	151	6
08...	1030	14.0	7800	12	253	6
15...	1645	15.0	8760	16	378	7
17...	1230	15.5	6370	17	292	7
22...	1730	12.0	3790	12	123	6
24...	1800	11.0	4910	18	239	7
28...	1800	9.5	9400	20	508	8
29...	1510	10.0	7890	13	277	6
30...	1205	10.0	5690	12	184	5
DEC						
02...	1645	10.5	7720	11	229	5
07...	2010	9.5	9050	10	244	5
10...	1645	10.0	7620	11	226	5
13...	1810	10.0	9280	24	601	5
15...	1225	9.5	4390	8	95	4
18...	2115	9.0	9910	8	214	4
19...	2015	9.0	9450	6	153	4
20...	1315	9.5	7140	10	193	4
21...	1600	10.0	3580	8	77	4
23...	1710	9.5	5030	7	95	4
26...	1730	9.0	9250	9	225	4
27...	1730	8.5	9370	10	253	4
28...	1345	8.0	6340	7	120	4
29...	1630	9.0	8480	6	137	3
JAN						
01...	1515	8.0	6220	9	151	4
03...	1630	9.5	8200	30	664	15
04...	1430	8.0	11000	56	1660	15
07...	1730	8.0	8150	94	2070	30
11...	1730	8.0	9680	20	523	8
12...	1200	7.0	5680	14	215	7
15...	2105	7.5	11200	24	724	8
17...	2045	5.5	10860	23	674	8
28...	1330	7.5	8290	20	448	9
FEB						
02...	1030	7.5	9950	33	887	20
MAR						
02...	1745	11.5	6460	18	314	8
04...	1245	12.0	6430	24	417	8
10...	1815	12.0	7640	32	660	10
15...	1915	10.0	8390	20	453	9
18...	1730	12.5	5450	28	412	15
20...	1754	13.5	6360	31	532	10
23...	2015	13.0	4820	26	338	10
27...	1600	16.0	8300	37	829	15
APR						
03...	1630	16.0	3670	32	317	10
06...	1645	18.0	7690	49	1020	10
07...	1700	17.0	8160	36	793	10
10...	1730	17.0	7490	34	688	10
12...	1730	17.5	7680	36	746	10
13...	1310	17.5	2510	24	163	7
15...	1600	19.0	1990	20	107	7
18...	1330	17.5	7190	46	893	15
20...	1930	17.5	4010	27	292	9
21...	1800	19.0	9450	41	1050	10
23...	1810	18.5	7390	40	798	15
25...	1945	17.5	7550	27	550	10
27...	1930	17.5	8350	34	767	10
29...	1915	17.0	8060	34	740	9
30...	1815	17.5	8250	20	445	8
MAY						
01...	1915	18.0	8190	22	486	8
06...	1820	15.5	9990	78	2100	25
08...	1930	16.0	9230	57	1420	15

11447500 SACRAMENTO RIVER AT SACRAMENTO, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	TURBIDITY (JTU)
MAY						
11...	1930	15.5	10100	45	1230	15
14...	1830	18.0	9290	48	1200	15
15...	1930	18.0	6820	34	626	10
18...	1730	17.5	7290	40	787	15
21...	1830	20.0	8490	56	1280	15
24...	2030	21.5	7360	35	696	10
27...	1830	20.0	8600	28	650	10
30...	1830	22.0	4420	32	382	10
JUN						
01...	2000	22.5	485	22	29	5
04...	2010	21.5	4490	28	339	8
06...	1515	22.0	8040	22	478	5
09...	1830	21.5	7830	27	571	7
11...	2030	19.5	7340	27	535	9
12...	1945	20.0	7320	22	435	7
15...	2045	21.5	5580	25	377	8
16...	1930	21.5	5250	23	326	8
17...	1945	20.5	5600	18	272	7
20...	1930	23.5	6860	38	704	15
21...	2010	25.5	6480	32	560	10
24...	1815	25.0	8600	30	697	10
26...	2030	24.5	8500	40	918	15
27...	2030	25.0	9130	28	690	10
28...	2100	25.0	9020	30	731	9
30...	1620	25.0	8450	42	958	15
JUL						
04...	2030	21.5	7330	33	653	10
07...	1700	25.0	9160	40	989	10
08...	1730	24.5	8650	30	701	8
09...	1930	23.5	8940	34	821	9
11...	1610	25.5	5080	32	439	10
13...	1745	24.0	5730	46	712	15
18...	1630	25.0	8440	48	1090	15
20...	2030	24.0	6070	28	459	10
21...	1745	24.5	9470	50	1280	15
24...	2030	22.5	9580	66	1710	15
25...	1700	24.0	9550	38	980	15
26...	2030	25.0	9640	37	963	10
28...	2115	26.0	9070	27	661	10
30...	1300	26.0	10300	40	1110	15
AUG						
01...	0810	25.0	8180	22	486	8
03...	1930	25.0	7370	38	756	10
06...	1920	23.0	9360	32	809	10
08...	1800	24.0	8240	39	868	10
11...	1400	24.0	9120	46	1130	15
13...	2015	22.5	6600	24	428	10
17...	1830	23.0	6040	20	326	8
20...	1530	24.0	8450	40	913	10
22...	1950	25.5	7710	41	853	15
26...	2350	22.5	8940	54	1300	15
30...	1730	25.0	6880	54	1000	15
31...	1700	24.0	8220	47	1040	15
SEP						
02...	1830	23.5	6950	28	525	10
05...	1930	26.0	8230	54	1200	15
07...	1430	26.0	5340	26	375	10
08...	2100	26.0	8390	40	906	15
10...	1930	23.5	7510	26	527	10
12...	1600	23.0	6560	48	850	15
13...	1500	23.0	7070	46	878	15
19...	1610	20.0	8140	27	593	10
20...	1615	19.5	7550	26	530	9
22...	1330	22.0	6380	30	517	10
26...	1245	20.0	8060	50	1090	30
28...	1545	20.0	6680	41	739	25
30...	1630	21.0	6370	48	826	20

11447650 SACRAMENTO RIVER AT FREEPORT, CA
(National stream-quality accounting network, radiochemical, and pesticide station)

LOCATION.--Lat 38°27'20", long 121°30'07", in SE¼SE¼ sec.14, T.7 N., R.4 E., Sacramento County, at drawbridge at Freeport, 8.4 mi (13.5 km) south of State Capitol Building in Sacramento.

PERIOD OF RECORD.--Water years 1959 to current year.
CHEMICAL ANALYSES: Water years 1959 to current year.
BIOLOGICAL DATA: Water years 1974 to current year.
WATER TEMPERATURES: Water years 1960 to current year.

PERIOD OF DAILY RECORD.--
CHEMICAL ANALYSES: June 1960 to June 1963.
SPECIFIC CONDUCTANCE: June 1960 to June 1963, February 1974 to July 1975.
WATER TEMPERATURES: June 1960 to current year.

INSTRUMENTATION.--Temperature recorder since June 1960.

REMARKS.--Records of discharge given for Sacramento River at Sacramento (station 11447500). Unpublished records of daily specific conductance readings for period June 1960 to June 1963 available in files of district office. Temperature recorder located on right bank 1.9 mi (3.1 km) northwest of Freeport, and 7.4 mi (11.9 km) southwest of State Capitol Building in Sacramento.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 27.0°C Sept. 8, 1977; minimum recorded, 4.5°C Dec. 12-15, 1972.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 27.0°C Sept. 8; minimum recorded, 6.0°C Jan. 10, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	FECAL COLI-FORM (COL. PER 100 ML)	FECAL COLI-FORM .7UM-MF (COL./ 100 ML)	STREP-TOCOCCI (COL-ONIES PER 100 ML)	FECAL STREP-TOCOCCI KF AGAR (COL. PER 100 ML)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
OCT												
13...	1030	7570	174	7.8	19.5	--	33	--	22	--	--	--
NOV												
16...	1100	8170	161	7.7	15.0	5	130	--	66	--	61	3
DEC												
14...	1330	7850	143	7.5	9.5	--	--	7	3	--	--	--
JAN												
18...	1100	9310	143	7.6	7.0	--	--	26	25	--	--	--
FEB												
16...	1100	7340	173	7.2	12.0	1	--	53	--	B10	60	0
MAR												
15...	1100	6590	153	8.0	11.0	--	--	B18	--	22	--	--
APR												
11...	1100	5800	163	7.5	17.0	--	--	10	--	B13	--	--
MAY												
10...	1200	8000	138	8.1	16.0	10	--	47	--	43	68	0
JUN												
15...	1030	6510	152	8.2	20.5	--	--	32	--	660	--	--
JUL												
12...	1130	8200	130	7.8	23.0	--	--	24	--	120	--	--
AUG												
10...	1230	8020	154	7.8	23.5	--	--	25	--	43	--	--
SEP												
14...	1115	7020	270	7.7	22.0	--	--	80	--	320	--	--

DATE	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM AD-SORP-TION RATIO	DIS-SOLVED PO-TAS-SIUM (K) (MG/L)	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED SULFATE (SO4) (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED FLUO-RIDE (F) (MG/L)
OCT												
13...	--	--	--	--	--	--	--	--	--	--	--	--
NOV												
16...	12	7.6	12	29	.7	1.6	71	0	58	15	7.5	.1
DEC												
14...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
18...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
16...	12	7.4	13	31	.7	1.8	85	0	70	9.5	8.3	.1
MAR												
15...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
11...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
10...	14	8.0	16	33	.8	1.5	89	0	73	18	9.9	.1
JUN												
15...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
12...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
10...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
14...	--	--	--	--	--	--	--	--	--	--	--	--

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SILICA (SIO2) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)	DIS-SOLVED SOLIDS (SUM OF CONSTI-TUENTS) (MG/L)	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	TOTAL NON-FILT-RABLE RESIDUE (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)
OCT											
13...	--	--	--	--	--	--	.09	--	.16	.55	.64
NOV											
16...	16	112	107	.15	2470	--	.30	--	.18	.37	.67
DEC											
14...	--	--	--	--	--	--	.12	--	.21	.52	.64
JAN											
18...	--	--	--	--	--	12	.15	--	.11	.45	.60
FEB											
16...	23	118	117	.16	2340	--	.15	--	.16	.16	.31
MAR											
15...	--	--	--	--	--	--	.05	--	.14	.38	.43
APR											
11...	--	--	--	--	--	--	.03	--	.10	.35	.38
MAY											
10...	19	121	130	.16	2610	--	.12	--	.11	1.0	1.1
JUN											
15...	--	--	--	--	--	--	.03	--	.14	.44	.47
JUL											
12...	--	--	--	--	--	--	.03	--	.14	.18	.21
AUG											
10...	--	--	--	--	--	--	.05	--	.16	.66	.71
SEP											
14...	--	--	--	--	--	--	.09	.31	.18	.61	.70

DATE	TIME	TOTAL ARSENIC (AS) (UG/L)	SUS-PENDED ARSENIC (AS) (UG/L)	DIS-SOLVED ARSENIC (AS) (UG/L)	TOTAL CAD-MIUM (CD) (UG/L)	SUS-PENDED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	TOTAL CHRO-MIUM (CR) (UG/L)	SUS-PENDED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	TOTAL COBALT (CO) (UG/L)	SUS-PENDED COBALT (CO) (UG/L)
NOV												
16...	1100	2	0	2	<10	<10	0	0	0	0	<50	<50
FEB												
16...	1100	2	0	2	<10	<8	2	0	0	0	<50	<50
MAY												
10...	1200	2	--	2	<10	<10	0	0	--	0	<50	--
AUG												
10...	1230	2	0	2	<10	<10	0	5	5	0	<50	<49

DATE	DIS-SOLVED COBALT (CO) (UG/L)	TOTAL COPPER (CU) (UG/L)	SUS-PENDED COPPER (CU) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	TOTAL IRON (FE) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	TOTAL LEAD (PB) (UG/L)	SUS-PENDED LEAD (PB) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	TOTAL MAN-GANESE (MN) (UG/L)	SUS-PENDED MAN-GANESE (MN) (UG/L)
NOV											
16...	0	<10	<6	4	590	50	<100	<98	2	30	30
FEB											
16...	0	10	5	5	1100	40	<100	<97	3	50	20
MAY											
10...	0	10	6	4	750	20	<100	<99	1	40	--
AUG											
10...	1	10	8	2	770	40	<100	<100	0	50	50

DATE	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	SUS-PENDED MERCURY (HG) (UG/L)	DIS-SOLVED MERCURY (HG) (UG/L)	TOTAL SELE-NIUM (SE) (UG/L)	SUS-PENDED SELE-NIUM (SE) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ZINC (ZN) (UG/L)	SUS-PENDED ZINC (ZN) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)
NOV											
16...	0	--	--	1.2	0	0	0	10	10	0	1.9
FEB											
16...	30	.2	.2	.0	0	0	0	20	10	10	2.3
MAY											
10...	8	.0	--	.0	0	0	0	20	--	6	3.7
AUG											
10...	0	.0	.0	.0	5	4	1	30	30	0	2.4

DATE	TIME	DIS-SOLVED GROSS ALPHA AS U-NAT. (UG/L)	SUS-PENDED GROSS ALPHA AS U-NAT. (UG/L)	DIS-SOLVED GROSS BETA AS CS-137 (PC/L)	SUS-PENDED GROSS BETA AS CS-137 (PC/L)	DIS-SOLVED GROSS BETA AS SR90 /Y90 (PC/L)	SUS-PENDED GROSS BETA AS SR90 /Y90 (PC/L)	DIS-SOLVED RA-226 (RADON METHOD) (PC/L)	DIS-SOLVED URANIUM (U) (UG/L)
JAN									
18...	1100	<1.4	<.4	1.6	<.4	1.3	<.4	.06	.10

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	AROCLOR (1254 PCB) IN BOTTOM MATERIAL (UG/KG)	TOTAL ALDRIN (UG/L)	ALDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ATRAZINE (UG/L)	ATRAZINE IN BOTTOM MATERIAL (UG/KG DRY SOLIDS)	TOTAL CHLORDANE (UG/L)	CHLORDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDD (UG/L)	DDD IN BOTTOM MATERIAL (UG/KG)
DEC										
14...	1330	7	ND	ND	ND	ND	ND	6	ND	ND
FEB										
16...	1100	--	ND	--	ND	--	ND	--	ND	--
MAY										
10...	1200	--	ND	--	ND	--	ND	--	ND	--
AUG										
10...	1230	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL DDE (UG/L)	P,P' DDE IN BOTTOM MATERIAL (UG/KG)	TOTAL DDT (UG/L)	DDT IN BOTTOM MATERIAL (UG/KG)	TOTAL DIAZINON (UG/L)	DIAZINON IN BOTTOM MATERIAL (UG/KG)	TOTAL DIELDRIN (UG/L)	DIELDRIN IN BOTTOM MATERIAL (UG/KG)	TOTAL ENDRIN (UG/L)	ENDRIN IN BOTTOM MATERIAL (UG/KG)
DEC										
14...	ND	.7	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
16...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
10...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG										
10...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL ETHION (UG/L)	ETHION IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR (UG/L)	HEPTACHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL HEPTACHLOR EPOXIDE (UG/L)	HEPTACHLOR EPOXIDE IN BOTTOM MATERIAL (UG/KG)	TOTAL LINDANE (UG/L)	LINDANE IN BOTTOM MATERIAL (UG/KG)	TOTAL MALATHION (UG/L)	MALATHION IN BOTTOM MATERIAL (UG/KG)
DEC										
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
16...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
10...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG										
10...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL METHOXYCHLOR (UG/L)	METHOXYCHLOR IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL PARATHION (UG/L)	METHYL PARATHION IN BOTTOM MATERIAL (UG/KG)	TOTAL METHYL TRITHION (UG/L)	METHYL TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL TRITHION (UG/L)	TRITHION IN BOTTOM MATERIAL (UG/KG)	TOTAL PARATHION (UG/L)	PARATHION IN BOTTOM MATERIAL (UG/KG)
DEC										
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
16...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
10...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG										
10...	ND	--	ND	--	ND	--	ND	--	ND	--

DATE	TOTAL TOXAPHENE (UG/L)	TOXAPHENE IN BOTTOM MATERIAL (UG/KG)	SIMAZINE TOTAL COULSON COND. (UG/L)	SIMAZINE IN BOTTOM MATERIAL (UG/KG DRY SOLIDS)	TOTAL SILVEX (UG/L)	SILVEX IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4-D (UG/L)	2,4-D IN BOTTOM MATERIAL (UG/KG)	TOTAL 2,4,5-T (UG/L)	2,4,5-T IN BOTTOM MATERIAL (UG/KG)
DEC										
14...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
FEB										
16...	ND	--	ND	--	ND	--	ND	--	ND	--
MAY										
10...	ND	--	ND	--	ND	--	ND	--	ND	--
AUG										
10...	ND	--	ND	--	ND	--	ND	--	ND	--

ND Material specifically analyzed for but not detected.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE	OCT 13,76		NOV 16,76		DEC 14,76		JAN 18,77		FEB 16,77	
TIME	1030		1100		1330		1100		1100	
TOTAL CELLS/ML	2200		2100		8000		1900		4900	
DIVERSITY: DIVISION	0.9		1.4		0.8		1.5		0.8	
.CLASS	0.9		1.4		0.8		1.5		0.8	
..ORDER	1.4		2.2		1.4		1.9		1.4	
...FAMILY	1.7		2.7		1.7		2.8		1.6	
....GENUS	1.9		3.3		1.9		3.2		2.1	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	--	-
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	*	0	--	-	58	3	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	63	3	85	4	--	-	17	1	74	2
....CHODATELLA	--	-	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	*	0	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	21	1	--	-	--	-	--	-
...SCENEDESMACEAE										
....ACTINASTRUM	--	-	--	-	--	-	--	-	--	-
....CRUCIGENIA	--	-	42	2	--	-	--	-	--	-
....SCENEDESMUS	730#	34	230	11	250	3	190	10	510	11
....TETRASTRUM	--	-	--	-	--	-	33	2	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	11	1	--	-	17	1	--	-
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	1100#	50	42	2	4900#	62	100	5	2800#	58
....MELOSIRA	63	3	110	5	250	3	67	4	370	8
....STEPHANODISCUS	--	-	460#	22	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	32	1	11	1	250	3	42	2	--	-
....COCCONEIS	--	-	11	1	--	-	17	1	--	-
....RHOICOSPHENIA	*	0	11	1	--	-	200	11	--	-
...CYMBELLACEAE										
....CYMBELLA	*	0	11	1	62	1	17	1	--	-
....EPITHEMIA	*	0	11	1	--	-	17	1	--	-
....RHOPALODIA	--	-	--	-	--	-	--	-	--	-
...DIATOMACEAE										
....DIATOMA	32	1	--	-	62	1	17	1	--	-
...FRAGILARIACEAE										
....ASTERIONELLA	--	-	--	-	--	-	17	1	74	2
....FRAGILARIA	--	-	21	1	--	-	33	2	440	9
....SYNEDRA	32	1	21	1	--	-	--	-	110	2
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	21	1	--	-	25	1	--	-
...NAVICULACEAE										
....GYROSIGMA	32	1	--	-	--	-	--	-	--	-
....NAVICULA	63	3	11	1	250	3	120	6	--	-
...NITZSCHIACEAE										
....NITZSCHIA	32	1	480#	23	620	8	180	9	150	3
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	--	-	--	-	37	1
...TABELLARIACEAE										
....TABELLARIA	--	-	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	--	-	--	-	--	-

See footnotes at end of table.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE	OCT 13,76		NOV 16,76		DEC 14,76		JAN 18,77		FEB 16,77	
TIME	1030		1100		1330		1100		1100	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCACEAE										
....ANACYSTIS	--	-	120	6	--	-	--	-	260	5
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	--	-	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	290	14	1300#	16	700#	38	--	-
....SPIRULINA	--	-	64	3	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	--	-

DATE	MAY 10,77		JUN 15,77		JUL 12,77		AUG 10,77		SEP 14,77	
TIME	1200		1030		1130		1230		1115	
TOTAL CELLS/ML	21000		30000		9700		3400		2800	
DIVERSITY: DIVISION	1.3		0.9		0.9		0.3		1.6	
.CLASS	1.3		0.9		1.0		0.3		1.6	
..ORDER	2.0		1.0		1.5		1.2		2.2	
...FAMILY	2.7		1.2		1.9		1.4		3.3	
....GENUS	3.2		1.6		2.8		1.8		3.7	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
CHLOROPHYTA (GREEN ALGAE)										
.CHLOROPHYCEAE										
..CHLOROCOCCALES										
...CHARACIACEAE										
....SCHROEDERIA	--	-	--	-	--	-	--	-	47	2
...COELASTRACEAE										
....COELASTRUM	--	-	5300#	18	--	-	--	-	--	-
...HYDRODICTYACEAE										
....PEDIASTRUM	--	-	--	-	--	-	--	-	190	7
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	--	-	--	-	23	1
....MICRACTINIUM	*	0	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	910	4	250	1	59	1	79	2	100	4
....CHODATELLA	--	-	--	-	59	1	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	120	1	32	1	23	1
....TETRAEDRON	--	-	--	-	180	2	--	-	23	1
....TREUBARIA	--	-	--	-	--	-	--	-	*	0
...SCENEDESMACEAE										
....ACTINASTRUM	450	2	--	-	*	0	--	-	--	-
....CRUCIGENIA	--	-	--	-	--	-	--	-	--	-
....SCENEDESMUS	780	4	910	3	470	5	63	2	700#	25
....TETRASTRUM	--	-	--	-	240	2	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	--	-	180	2	--	-	70	3
CHRYSOPHYTA										
.BACILLARIOPHYCEAE										
..CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	3400#	16	3500	12	3100#	32	250	7	210	8
....MELOSIRA	4500#	22	19000#	63	3300#	34	2000#	57	270	10
....STEPHANODISCUS	--	-	--	-	*	0	--	-	35	1
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	450	2	--	-	240	2	--	-	58	2
....COCCONEIS	--	-	--	-	--	-	--	-	58	2
....RHOICOSPHENIA	190	1	--	-	240	2	--	-	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-	--	-	23	1

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1976 TO SEPTEMBER 1977

DATE TIME	MAY 10,77 1200		JUN 15,77 1030		JUL 12,77 1130		AUG 10,77 1230		SEP 14,77 1115	
ORGANISM	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT	CELLS /ML	PER-CENT
....RHOPALODIA	--	-	--	-	120	1	--	-	--	-
...DIATOMACEAE										
....DIATOMA	--	-	--	-	--	-	--	-	70	3
...FRAGILARIACEAE										
....ASTERIONELLA	190	1	--	-	--	-	--	-	--	-
....FRAGILARIA	1300	6	--	-	--	-	880#	26	--	-
....SYNEDRA	--	-	--	-	240	2	--	-	47	2
...GOMPHONEMATACEAE										
....GOMPHONEMA	--	-	--	-	120	1	--	-	--	-
...NAVICULACEAE										
....GYROSIGMA	--	-	--	-	--	-	--	-	--	-
....NAVICULA	*	0	--	-	240	2	--	-	58	2
...NITZSCHIACEAE										
....NITZSCHIA	1900	9	170	1	*	0	140	4	70	3
...SURIRELLACEAE										
....SURIRELLA	--	-	--	-	--	-	--	-	--	-
...TABELLARIACEAE										
....TABELLARIA	130	1	--	-	--	-	--	-	--	-
.CHRYSOPHYCEAE										
..CHRYSOMONADALES										
...OCHROMONADACEAE										
....DINOBRYON	--	-	--	-	59	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)										
.CYANOPHYCEAE										
..CHROCCOCCALES										
...CHROCCOCCACEAE										
....ANACYSTIS	910	4	990	3	710	7	--	-	160	6
..HORMOGONALES										
...NOSTOCACEAE										
....ANABAENA	970	5	--	-	--	-	--	-	70	3
...OSCILLATORIACEAE										
....OSCILLATORIA	4500#	22	--	-	--	-	--	-	450#	16
....SPIRULINA	--	-	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
.EUGLENOPHYCEAE										
..EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	*	0	*	0

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	LENGTH OF EXPOSURE (DAYS)	BIOMASS CHLOROPHYLL RATIO PERIPHYTON (UNITS)	CHLOR-A PHYTOPLANKTON CHROMO FLUOROM (UG/L)	CHLOR-B PHYTOPLANKTON CHROMO FLUOROM (UG/L)	CHLOR-A PERIPHYTON CHROMOSPECTMETRIC (MG/M2)	CHLOR-B PERIPHYTON CHROMOSPECTMETRIC (MG/M2)	CHLOR-A PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)	CHLOR-B PERIPHYTON CHROMOGRAPHIC FLUOROM (MG/M2)
DEC 14...	29	26630	--	--	.260	.136	--	--
JUN 14...	--	2194	2.17	.002	--	--	2.17	.002
JUL 12...	29	6172	--	--	--	--	.956	.023

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

BENTHIC INVERTEBRATES

Date	Time	Length of exposure (days)	Organism	Common name	Organism count	Sampling method
July 12 (sample no. 1)	--	29	ANNELIDA			Suspended jumbo multiplate sampler
			.Oligochaeta	Aquatic earthworms	80	
			ARTHROPODA	Atrhropods		
			.Arachnoidea			
			..Hydracarina	Water mites	63	
			.Insecta			
			..Diptera			
			...Phoridae	Hump-backed flies		
			....Diploneura		818	
			..Ephemeroptera	Mayflies	6	
			..Trichoptera	Caddisflies	14	
			NEMATODA	Nematodes	8	
			TOTAL		989	
DIVERSITY:						
.Phylum		0.5				
..Insecta (to Order level)		0.2				
July 12 (Sample No. 2)	--	29	ARTHROPODA	Arthropods		Suspended jumbo multiplate sampler
			.Arachnoidea			
			..Hydracarina	Water mites	17	
			.Insecta			
			..Diptera			
			...Chironomidae	Midges	999	
			..Trichoptera	Caddisflies	9	
			NEMATODA	Nematodes	11	
			TOTAL		1036	
DIVERSITY:						
.Phylum		0.1				
..Insecta (to Order level)		0.1				
Aug. 10	1200	35	ANNELIDA			Suspended jumbo multiplate sampler
			.Oligochaeta	Aquatic earthworms	600	
			ARTHROPODA	Arthropods		
			.Arachnoidea			
			..Hydracarina	Water mites	4	
			.Insecta			
			..Collembola	Springtails	4	
			..Diptera			
			...Phoridae	Hump-backed flies		
			....Diploneura		67	
			NEMATODA	Nematodes	12	
			TOTAL		687	
DIVERSITY:						
.Phylum		0.6				
..Insecta (to Generic level)		0.3				

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	SUS-PENDED SEDI-MENT (MG/L)	SUS-PENDED SEDI-MENT DIS-CHARGE (T/DAY)	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM
OCT					
13...	1030	7570	20	409	95
NOV					
16...	1100	8170	13	287	89
DEC					
14...	1330	7850	9	191	85
JAN					
18...	1100	9310	16	402	86
MAR					
15...	1100	6590	25	445	82
APR					
11...	1100	5800	23	360	95
MAY					
10...	1200	8000	23	497	92
JUN					
15...	1030	6510	29	510	82
JUL					
12...	1130	8200	37	819	87
AUG					
10...	1230	8020	33	715	91
SEP					
14...	1115	7020	30	569	90

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

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

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

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA

LOCATION.--Lat 38°20'45", long 121°32'42", in SW¼NE¼ sec.28, T.6 N., R.4 E., Sacramento County, on left bank 2.2 mi (3.5 km) upstream from Sutter Slough, and 1.6 mi (2.6 km) northeast of Courtland.

PERIOD OF RECORD.--Water years 1953-58, 1971 to current year.
CHEMICAL ANALYSES: Water years 1953-58, 1971 to current year. Published as "at Snodgrass Slough, near Courtland" in 1953-58.
SPECIFIC CONDUCTANCE: Water years 1974 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1973 to current year.

COOPERATION.--Chemical-quality records furnished by California Department of Water Resources. Specific conductance data furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum recorded, 400 micromhos Aug. 31, 1977; minimum recorded, 71 micromhos Apr. 2, 3, 1974.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum recorded, 400 micromhos Aug. 31; minimum recorded, 130 micromhos Oct. 26.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)
OCT										
20...	1215	159	7.4	19.5	8	8.5	63	0	10	9.2
NOV										
17...	0915	172	7.1	15.0	10	9.0	61	0	12	7.5
DEC										
15...	1310	154	7.4	10.0	10	11.0	56	0	11	6.9
JAN										
19...	0900	169	7.3	7.0	10	12.4	60	0	10	8.5
FEB										
16...	1330	185	7.4	14.0	12	10.8	61	0	13	6.9
MAR										
16...	0815	170	7.4	11.0	10	11.4	59	0	10	8.3
APR										
20...	0830	158	7.4	18.0	11	8.9	53	0	8.3	7.9
MAY										
18...	1230	206	7.4	19.0	13	8.8	65	0	11	9.1
JUN										
15...	1200	173	7.4	23.0	9	8.4	53	0	8.8	7.5
JUL										
20...	1000	152	7.4	25.0	14	7.6	51	0	7.7	7.8
AUG										
17...	1240	197	7.4	24.0	11	6.4	60	0	10	8.5
SEP										
01...	0915	229	7.3	24.0	--	5.9	77	0	14	10
14...	0930	244	7.4	22.5	--	5.7	83	0	16	10
21...	1130	245	7.4	21.0	14	7.8	82	0	14	11

DATE	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT										
20...	9.0	--	.5	74	0	61	9.7	11	.1	116
NOV										
17...	11	--	.6	78	0	64	8.9	8.1	.0	85
DEC										
15...	9.6	--	.6	74	0	61	6.4	6.8	.1	96
JAN										
19...	12	--	.7	77	0	63	12	8.8	.0	111
FEB										
16...	14	--	.8	84	0	69	8.2	8.2	.1	114
MAR										
16...	12	--	.7	81	0	66	7.7	8.6	.0	104
APR										
20...	10	--	.6	75	0	62	8.6	6.7	.1	93
MAY										
18...	18	--	1.0	90	0	74	13	12	.1	120
JUN										
15...	12	--	.7	73	0	60	5.8	7.9	.1	100
JUL										
20...	10	--	.6	71	0	58	5.8	6.1	.1	80
AUG										
17...	14	--	.8	86	0	71	11	10	.1	107
SEP										
01...	18	33	.9	106	0	87	12	10	--	140
14...	18	32	.9	109	0	89	12	12	--	146
21...	20	--	1.0	111	0	91	13	14	.1	152

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRATE (N) (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT									
20...	.16	.11	.12	--	.19	.20	.26	.13	100
NOV									
17...	.12	.18	.19	--	.20	.30	.21	.15	100
DEC									
15...	.13	.18	.19	--	.27	.30	.25	.12	100
JAN									
19...	.15	.16	.17	--	.21	.50	.35	.12	100
FEB									
16...	.16	--	.20	--	.24	.20	.15	.11	100
MAR									
16...	.14	--	.08	--	.25	.40	.29	.16	200
APR									
20...	.13	--	.10	--	.23	.50	.28	.14	0
MAY									
18...	.16	--	.12	--	.23	.60	.20	.13	0
JUN									
15...	.14	--	.06	--	.21	.04	.20	.12	100
JUL									
20...	.11	--	.11	--	.17	.70	.23	.09	0
AUG									
17...	.15	--	.05	--	.13	.30	.18	.10	100
SEP									
01...	.19	.07	.06	.02	.14	.40	.15	.14	100
14...	.20	--	.09	.02	.26	.40	.18	.13	0
21...	.21	.23	.22	--	.20	.40	.19	.16	200

DATE	HEXA-VALENT CHRO-MIUM (CR6) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	DIS-SOLVED ZINC (ZN) (UG/L)	PHENOLS (UG/L)
OCT									
20...	--	10	20	0	0	--	0	0	--
NOV									
17...	--	10	10	0	0	--	0	0	--
DEC									
15...	--	10	10	0	0	--	0	0	--
JAN									
19...	--	10	10	0	0	--	0	0	--
FEB									
16...	0	10	10	0	0	.0	0	0	1
MAR									
16...	--	10	10	0	10	--	10	0	--
APR									
20...	--	10	0	0	0	--	0	0	--
MAY									
18...	--	10	10	0	0	--	0	0	--
JUN									
15...	--	10	10	0	0	--	0	10	--
JUL									
20...	--	10	20	0	0	--	0	0	--
AUG									
17...	--	0	10	0	0	--	0	30	--
SEP									
01...	--	--	--	--	--	--	--	--	--
14...	--	--	--	--	--	--	--	--	--
21...	0	0	0	0	0	--	10	--	0

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	145	195	165	220	230	230	180	---	145	150	290
2	165	150	185	170	220	225	230	170	---	140	145	230
3	170	160	180	190	200	220	230	170	285	140	140	230
4	170	165	185	185	190	235	220	180	180	130	150	235
5	180	160	185	215	190	220	220	200	170	130	150	240
6	175	165	180	220	200	220	210	250	160	140	150	240
7	160	165	180	215	200	210	200	240	150	140	145	255
8	160	160	180	230	200	225	200	240	150	145	150	255
9	165	160	185	225	200	220	195	215	155	145	150	245
10	160	180	165	215	195	220	190	220	160	150	165	230
11	160	180	170	220	205	215	180	235	150	160	160	245
12	160	180	180	220	195	210	180	240	150	170	170	260
13	160	180	170	215	190	215	185	240	150	170	185	260
14	155	180	175	215	195	200	185	240	150	180	190	230
15	155	180	170	200	200	200	185	245	150	185	180	235
16	160	180	170	190	200	200	185	245	155	155	180	235
17	155	190	170	180	210	200	180	220	160	150	190	240
18	150	195	165	185	220	205	175	250	155	150	185	235
19	145	200	170	185	235	235	165	250	160	150	190	235
20	155	190	160	190	235	240	165	250	155	150	195	240
21	155	210	165	195	230	220	165	245	165	150	200	230
22	135	200	165	190	205	210	170	255	175	145	205	220
23	140	185	165	195	220	210	175	260	170	140	210	215
24	130	185	170	200	230	220	175	275	150	140	220	205
25	145	190	165	220	235	220	175	280	155	140	210	200
26	130	195	165	230	235	210	170	290	155	140	200	185
27	135	195	170	240	230	220	175	---	150	150	220	190
28	150	195	165	255	235	230	170	---	150	150	290	200
29	160	195	170	255	---	225	175	---	160	150	355	205
30	180	200	175	235	---	220	180	---	150	150	380	210
31	160	---	165	225	---	230	---	---	---	150	400	---
MONTH	156	181	173	209	211	218	188	234	162	149	200	231

11448500 ADOBE CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'37", long 122°52'47", in SE¼SE¼ sec.32, T.13 N., R.9 W., Lake County, on left bank 2.3 mi (3.7 km) upstream from Highland Creek, and 4.2 mi (6.8 km) southwest of Kelseyville.

DRAINAGE AREA.--6.36 mi^2 (16.47 km^2).

PERIOD OF RECORD.--October 1954 to current year.

REVISED RECORDS.--WSP 2131: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,476.06 ft (449.903 m) above mean sea level.

REMARKS.--Records good except those for period of no gage-height record May 6 to June 9, which are poor. Some regulation and diversions above station for irrigation of about 200 acres (809,000 m^2).

AVERAGE DISCHARGE.--23 years, 11.7 ft^3/s (0.331 m^3/s), 8,480 acre-ft/yr (10.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,570 ft^3/s (44.5 m^3/s) Jan. 16, 1974, gage height, 8.92 ft (2.719 m); maximum gage height, 9.22 ft (2.810 m) Jan. 31, 1963; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32 ft^3/s (0.91 m^3/s) Jan. 2, gage height, 4.53 ft (1.381 m), no peak above base of 400 ft^3/s (11 m^3/s); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.11	.67	.11	.42	.54	.09	.02			
2		0	.11	12	.11	.42	.48	.11	.02			
3		0	.15	4.8	.11	.33	.39	.11	.02			
4		0	.11	1.5	.11	.33	.37	.09	.02			
5		0	.09	.55	.11	.33	.36	.04	.01			
6		0	.09	.25	.11	.25	.39	.09	.01			
7		0	.09	.25	.11	.25	.28	.10	.01			
8		0	.09	.20	2.6	.25	.27	.12	.01			
9		0	.09	.20	1.5	.42	.28	.32	.01			
10		0	.11	.20	.55	.33	.24	.20	0			
11		0	.11	.20	.25	.33	.18	.12	0			
12		0	.11	.24	.25	.33	.05	.08	0			
13		0	.11	.20	.20	.32	0	.06	0			
14		.11	.11	.17	.20	.30	0	.05	0			
15		.09	.20	.16	.20	7.6	0	.04	0			
16		.06	.20	.18	.15	11	0	.04	0			
17		.04	.20	.15	.15	8.4	0	.04	0			
18		.02	.20	.15	.15	5.4	0	.05	0			
19		.02	.20	.15	.15	3.4	.05	.04	0			
20		.02	.20	.15	.20	1.9	.06	.04	0			
21		.02	.20	.15	13	1.5	.07	.04	0			
22		.02	.11	.15	6.9	.95	.09	.04	0			
23		.02	.20	.15	4.9	.97	.05	.04	0			
24		.02	.20	.11	2.3	5.9	.05	.04	0			
25		.02	.20	.11	1.0	4.5	.05	.04	0			
26		.02	.20	.15	.69	2.2	.04	.04	0			
27		.06	.20	.15	.55	1.7	.05	.04	0			
28		.06	.20	.15	.55	1.1	.04	.03	0			
29		.06	.33	.11	---	.95	.04	.03	0			
30		.11	1.8	.11	---	.91	.04	.03	0			
31		---	.42	.11	---	.71	---	.02	---			---
TOTAL	0	.77	6.74	23.82	37.21	63.70	4.46	2.22	.13	0	0	0
MEAN	0	.026	.22	.77	1.33	2.05	.15	.072	.004	0	0	0
MAX	0	.11	1.8	12	13	11	.54	.32	.02	0	0	0
MIN	0	0	.09	.11	.11	.25	0	.02	0	0	0	0
AC-FT	0	1.5	13	47	74	126	8.8	4.4	.3	0	0	0

CAL YR 1976 TOTAL 341.48 MEAN .93 MAX 44 MIN 0 AC-FT 677
WTR YR 1977 TOTAL 139.05 MEAN .38 MAX 13 MIN 0 AC-FT 276

11448900 HIGHLAND CREEK ABOVE HIGHLAND CREEK DAM, CA

LOCATION.--Lat 38°55'48", long 122°55'11", in NW¼SE¼ sec.36, T.13 N., R.10 W., Lake County, on left bank 100 ft (30 m) downstream from Pipeline Creek, 1.7 mi (2.7 km) upstream from Highland Creek Dam, and 5.7 mi (9.2 km) southwest of Kelseyville.

DRAINAGE AREA.--11.9 mi^2 (30.8 km^2).

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

GAGE.--Water-stage recorder. Datum of gage is 1,490.07 ft (454.173 m) above mean sea level.

REMARKS.--Records good except those for period of no gage-height record Jan. 21 to Feb. 24, which are fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--15 years, 20.0 ft^3/s (0.566 m^3/s), 14,490 acre-ft/yr (17.9 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,140 ft^3/s (88.9 m^3/s) Jan. 16, 1974, gage height, 10.91 ft (3.325 m); maximum gage height, 12.15 ft (3.703 m) Dec. 22, 1964; no flow at times in most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 85 ft^3/s (2.41 m^3/s) Jan. 2, gage height, 4.82 ft (1.469 m), no peak above base of 1,200 ft^3/s (34 m^3/s); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.05	.21	1.5	.45	.52	1.1	.68	.23			0
2	.09	.06	.21	28	.44	.48	.97	.57	.22			0
3	.09	.06	.21	16	.44	.44	.87	.52	.21			0
4	.07	.06	.23	5.2	.44	.37	.78	.48	.18			0
5	.06	.05	.24	2.4	.44	.34	.74	.48	.16			0
6	.03	.06	.24	1.5	.47	.34	.77	.57	.14			0
7	.01	.06	.23	1.1	.50	.32	.71	.62	.12			0
8	0	.06	.27	.88	3.9	.32	.74	.62	.10			0
9	0	.07	.27	.73	1.9	.48	.71	2.2	.10			0
10	0	.08	.23	.62	1.2	.34	.66	1.2	.13			0
11	0	.30	.23	.62	.95	.32	.62	.90	.18			0
12	0	.16	.23	.74	.82	.37	.58	.80	.16			0
13	0	.14	.27	.62	.77	.34	.54	.62	.14			0
14	0	.96	.27	.58	.70	.32	.54	.53	.12			0
15	0	.41	.27	.57	.66	17	.75	.50	.10			0
16	0	.25	.27	.52	.63	23	.67	.47	.09			0
17	0	.21	.27	.52	.60	25	.53	.42	.05			0
18	0	.19	.27	.52	.58	14	.45	.50	.03			0
19	0	.18	.27	.52	.56	7.7	.42	.50	0			.03
20	0	.17	.27	.52	.90	4.6	.44	.40	0			0
21	0	.17	.32	.52	22	3.1	.41	.37	0			0
22	0	.17	.32	.52	13	2.0	.40	.39	0			0
23	0	.17	.32	.51	7.5	2.2	.38	.41	0			0
24	0	.19	.32	.50	2.4	6.0	.38	.38	0			0
25	0	.19	.32	.49	1.4	6.6	.47	.36	0			0
26	0	.19	.32	.54	.90	4.2	.44	.48	0			0
27	.01	.18	.32	.57	.68	2.7	.39	.43	0			0
28	.01	.18	.32	.51	.62	2.0	.38	.34	0			.34
29	.01	.19	.57	.49	---	1.6	.41	.30	0			.57
30	.02	.21	2.0	.47	---	1.4	.44	.28	0			.20
31	.03	---	1.2	.45	---	1.2	---	.25	---			---
TOTAL	.43	5.42	11.29	69.23	65.85	129.60	17.69	17.57	2.46	0	0	1.14
MEAN	.014	.18	.36	2.23	2.35	4.18	.59	.57	.082	0	0	.038
MAX	.09	.96	2.0	28	22	25	1.1	2.2	.23	0	0	.57
MIN	0	.05	.21	.45	.44	.32	.38	.25	0	0	0	0
AC-FT	.9	11	22	137	131	257	35	35	4.9	0	0	2.3

CAL YR 1976 TOTAL 688.76 MEAN 1.88 MAX 99 MIN 0 AC-FT 1370
WTR YR 1977 TOTAL 320.68 MEAN .88 MAX 28 MIN 0 AC-FT 636

11449010 HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°56'54", long 122°54'03", in NE¼ sec.30, T.13 N., R.9 W., Lake County, on left bank 500 ft (152 m) downstream from Highland Creek Dam, and 4.0 mi (6.4 km) southwest of Kelseyville.

DRAINAGE AREA.--14.2 mi^2 (36.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1965 to September 1977 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,416.52 ft (431.755 m) above mean sea level.

REMARKS.--Records good except those below 1.0 ft^3/s (0.028 m^3/s), which are poor. Flow completely regulated by Highland Creek Dam 500 ft (152 m) upstream, capacity, 3,500 acre-ft (4.32 hm^3). No diversion above station.

AVERAGE DISCHARGE (unadjusted).--11 years (water years 1967-77), 22.4 ft^3/s (0.634 m^3/s), 16,230 acre-ft/yr (20.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 765 ft^3/s (21.7 m^3/s) Dec. 3, 1970, gage height, 4.78 ft (1.457 m); maximum gage height, 5.09 ft (1.551 m) Jan. 16, 1974; no flow many days in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft^3/s (0.566 m^3/s) Mar. 16, gage height, 2.95 ft (0.899 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	0		0	.67	.86	0		0		
2	0	0	0		0	.51	.76	0		0		
3	0	0	0		0	.44	.59	0		0		
4	0	0	0		0	.37	.51	0		0		
5	.02	0	0		0	.37	.37	0		0		
6	0	0	0		0	.31	.26	0		0		
7	0	0	0		0	.26	.21	0		0		
8	0	0	0		0	.26	.11	0		0		
9	0	0	0		0	.51	.11	.35		.01		
10	0	0	0		0	.51	.07	.44		.11		
11	0	.06	0		0	.37	.03	.26		.06		
12	0	.09	0		0	.44	0	.21		0		
13	0	.09	0		0	.44	0	.11		0		
14	0	.11	0		0	.37	0	.02		0		
15	0	.09	0		0	4.9	0	0		0		
16	0	.09	0		0	15	0	0		0		
17	0	.11	0		0	16	0	0		0		
18	0	.11	.01		0	11	0	0		0		
19	0	.09	.02		0	5.6	0	0		0		
20	0	.07	0		0	2.0	0	0		0		
21	0	.05	0		0	.96	0	0		0		
22	0	.02	0		0	.86	0	0		0		
23	0	0	0		1.2	.96	0	0		0		
24	0	0	0		2.9	3.0	0	0		0		
25	0	0	0		2.0	4.6	0	0		0		
26	0	0	0		1.3	3.8	0	0		0		
27	0	0	0		.96	2.5	0	0		0		
28	0	0	0		.78	1.6	0	0		0		
29	0	0	0		---	1.2	0	0		0		
30	0	0	0		---	1.2	0	0		0		
31	0	---	0		---	.96	---	0	---	0		---
TOTAL	.02	.98	.03	0	9.14	81.97	3.88	1.39	0	.18	0	0
MEAN	.0006	.033	.001	0	.33	2.64	.13	.045	0	.006	0	0
MAX	.02	.11	.02	0	2.9	16	.86	.44	0	.11	0	0
MIN	0	0	0	0	0	.26	0	0	0	0	0	0
AC-FT	.04	1.9	.06	0	18	163	7.7	2.8	0	.4	0	0

CAL YR 1976 TOTAL 566.28 MEAN 1.55 MAX 92 MIN 0 AC-FT 1120
WTR YR 1977 TOTAL 97.59 MEAN .27 MAX 16 MIN 0 AC-FT 194

11449010 HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to September 1977 (discontinued).
CHEMICAL ANALYSES: Water years 1968 to September 1977 (discontinued). Published as station 11448900 "above Highland Creek Dam" in 1968.
WATER TEMPERATURES: Water years 1967 to September 1977 (discontinued).
SEDIMENT RECORDS: Water years 1966 to September 1977 (discontinued).

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1966 to September 1977 (discontinued).
SEDIMENT RECORDS: December 1965 to September 1977 (discontinued).

REMARKS.--Bed at sampling point is concrete outlet from dam with no material over concrete.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 300 mg/L Jan. 18, 1973; minimum daily mean, no flow for many days in 1966-77.
SEDIMENT DISCHARGE: Maximum daily, 390 tons (354 tonnes) Jan. 18, 1973; minimum daily, 0 tons (0 tonnes) on many days in 1966-77.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 9 mg/L Mar. 16; minimum daily mean, no flow for many days.
SEDIMENT DISCHARGE: Maximum daily, 0.36 tons (0.33 tonnes) Mar. 16; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
FEB 24...	1420	3.0	10.0	290	0	51	39	20

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)
FEB 24...	13	.5	1.8	374	307	16	7.9

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	---	---					
2					---	---	---					
3					---	---	---					
4					---	---	---					
5					---	---	18.0					
6					---	---	---					
7					---	---	---					
8					---	---	---					
9					---	---	---					
10					---	---	---					
11					---	---	---					
12					---	---	---					
13					---	---	---					
14					---	---	---					
15					---	---	---					
16					---	---	---					
17					---	---	---					
18					---	---	---					
19					---	---	---					
20					---	---	---					
21					---	---	---					
22					---	---	---					
23					---	---	---					
24					10.0	---	---					
25					---	---	---					
26					---	---	---					
27					---	---	---					
28					---	---	---					
29					---	13.0	---					
30					---	---	---					
31					---	---	---					
MONTH					---	---	---					

11449010 HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER			NOVEMBER			DECEMBER		
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	0			0			0		
2	0			0			0		
3	0			0			0		
4	0			0			0		
5	.02			0			0		
6	0			0			0		
7	0			0			0		
8	0			0			0		
9	0			0			0		
10	0			0			0		
11	0			.06			0		
12	0			.09			0		
13	0			.09			0		
14	0			.11			0		
15	0			.09			0		
16	0			.09			0		
17	0			.11			0		
18	0			.11			.01		
19	0			.09			.02		
20	0			.07			0		
21	0			.05			0		
22	0			.02			0		
23	0			0			0		
24	0			0			0		
25	0			0			0		
26	0			0			0		
27	0			0			0		
28	0			0			0		
29	0			0			0		
30	0			0			0		
31	0			---			0		
TOTAL	.02	0	0	.98	0	0	.03	0	0

	JANUARY			FEBRUARY			MARCH		
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				0	0	0	.67	1	0
2				0	0	0	.51	1	0
3				0	0	0	.44	1	0
4				0	0	0	.37	1	0
5				0	0	0	.37	1	0
6				0	0	0	.31	1	0
7				0	0	0	.26	1	0
8				0	0	0	.26	1	0
9				0	0	0	.51	1	0
10				0	0	0	.51	1	0
11				0	0	0	.37	1	0
12				0	0	0	.44	1	0
13				0	0	0	.44	1	0
14				0	0	0	.37	1	0
15				0	0	0	4.9	4	.10
16				0	0	0	15	9	.36
17				0	0	0	16	8	.35
18				0	0	0	11	7	.21
19				0	0	0	5.6	6	.09
20				0	0	0	2.0	4	.02
21				0	0	0	.96	2	.01
22				0	0	0	.86	1	0
23				1.2	3	.02	.96	1	0
24				2.9	6	.05	3.0	2	.02
25				2.0	4	.02	4.6	4	.05
26				1.3	2	.01	3.8	3	.03
27				.96	1	0	2.5	2	.01
28				.78	1	0	1.6	2	.01
29				---	---	---	1.2	2	.01
30				---	---	---	1.2	2	.01
31				---	---	---	.96	1	0
TOTAL	0	0	0	9.14	---	.10	81.97	---	1.28

11449010 HIGHLAND CREEK BELOW HIGHLAND CREEK DAM, NEAR KELSEYVILLE, CA--Continued

	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	.86	1		0					
2	.76	1		0					
3	.59	1		0					
4	.51	1		0					
5	.37	1		0					
6	.26	1		0					
7	.21	1		0					
8	.11	1		0					
9	.11	1		.35					
10	.07	1		.44					
11	.03	1		.26					
12	0	0		.21					
13	0	0		.11					
14	0	0		.02					
15	0	0		0					
16	0	0		0					
17	0	0		0					
18	0	0		0					
19	0	0		0					
20	0	0		0					
21	0	0		0					
22	0	0		0					
23	0	0		0					
24	0	0		0					
25	0	0		0					
26	0	0		0					
27	0	0		0					
28	0	0		0					
29	0	0		0					
30	0	0		0					
31	---	---		0					
TOTAL	3.88	---	0	1.39	0	0	0	0	0

	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	0								
2	0								
3	0								
4	0								
5	0								
6	0								
7	0								
8	0								
9	.01								
10	.11								
11	.06								
12	0								
13	0								
14	0								
15	0								
16	0								
17	0								
18	0								
19	0								
20	0								
21	0								
22	0								
23	0								
24	0								
25	0								
26	0								
27	0								
28	0								
29	0								
30	0								
31	0								
TOTAL	.18	0	0	0	0	0	0	0	0
YEAR	97.59		1.38						

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE¼SE¼ sec.34, T.13 N., R.9 W., Lake County, on left bank 1.6 mi (2.6 km) downstream from Widow Creek, and 3.5 mi (5.6 km) south of Kelseyville.

DRAINAGE AREA.--36.6 mi^2 (94.8 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1285: 1947-48(M), 1950-52(P). WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,475.44 ft (449.714 m) above mean sea level. Prior to July 16, 1955, at site 600 ft (183 m) upstream at different datum.

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

AVERAGE DISCHARGE.--31 years, 71.6 ft^3/s (2.028 m^3/s), 51,870 acre-ft/yr (64.0 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft^3/s (249 m^3/s) Dec. 21, 1955, gage height, 12.80 ft (3.901 m); maximum gage height, 13.48 ft (4.109 m) Jan. 5, 1965; minimum daily discharge, 0.18 ft^3/s (0.005 m^3/s) Aug. 15-23, 25, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 101 ft^3/s (2.86 m^3/s) Jan. 2, gage height, 4.28 ft (1.305 m), no peak above base of 2,400 ft^3/s (68 m^3/s); minimum daily, 0.18 ft^3/s (0.005 m^3/s) Aug. 15-23, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	2.4	5.0	8.4	5.3	8.8	8.9	4.8	3.5	.83	.25	.21
2	8.0	2.6	5.0	4.0	5.1	8.0	8.5	8.5	3.3	.78	.23	.21
3	7.2	2.7	5.1	35	5.0	7.7	8.0	6.6	3.1	.73	.22	.21
4	6.5	2.7	5.2	16	5.0	7.3	7.6	5.9	2.7	.69	.20	.21
5	5.6	2.8	5.2	11	4.9	6.9	7.2	5.4	2.5	.64	.21	.22
6	5.0	2.6	5.2	9.1	4.9	6.8	8.4	6.0	2.4	.62	.20	.22
7	4.4	2.4	5.0	8.0	5.0	6.6	6.5	6.6	2.3	.58	.20	.22
8	3.8	2.4	4.9	7.4	6.7	6.5	6.5	6.4	2.2	.55	.20	.22
9	3.5	2.7	4.9	6.8	9.1	7.3	6.9	9.0	2.2	.51	.19	.22
10	3.2	3.1	5.0	6.9	8.8	7.4	6.4	12	2.4	.51	.19	.22
11	3.0	6.0	5.0	6.8	7.5	6.6	6.0	8.8	2.3	.48	.19	.22
12	2.8	8.1	5.0	6.9	6.9	6.4	5.9	8.2	2.2	.45	.19	.21
13	2.5	5.4	5.0	6.8	6.5	6.4	5.5	7.6	2.1	.45	.19	.21
14	2.2	9.1	5.0	6.5	6.3	6.3	5.5	6.6	2.1	.43	.19	.21
15	2.0	11	5.0	7.3	6.0	13	5.3	6.0	2.0	.43	.18	.22
16	1.8	7.3	5.0	6.5	5.6	22	5.0	5.7	2.0	.42	.18	.22
17	1.5	6.1	5.1	6.1	5.5	22	4.8	5.4	1.8	.40	.18	.23
18	1.4	5.6	5.2	6.0	5.5	24	4.8	5.5	1.9	.38	.18	.23
19	1.4	5.5	5.1	6.0	5.3	18	4.8	6.0	1.7	.39	.18	.86
20	1.5	5.3	5.1	5.9	5.3	16	4.5	5.7	1.6	.38	.18	6.4
21	2.0	5.2	5.0	5.9	25	13	4.4	5.1	1.6	.38	.18	3.3
22	2.1	5.1	4.9	5.9	28	12	4.4	4.8	1.6	.36	.18	2.7
23	2.2	5.1	5.0	5.8	19	11	4.4	5.0	1.6	.36	.18	2.4
24	2.3	5.0	5.1	5.6	16	15	4.2	5.1	1.5	.36	.19	2.3
25	2.3	5.0	5.1	5.5	13	19	4.5	4.6	1.4	.36	.18	2.3
26	2.2	5.1	5.2	5.5	11	15	4.7	5.3	1.3	.35	.20	2.1
27	2.2	4.9	5.2	5.5	9.8	13	4.3	5.5	1.2	.35	.20	2.1
28	2.3	4.9	5.2	5.5	9.1	11	4.1	4.9	1.1	.33	.21	3.0
29	2.3	4.9	5.2	5.5	---	11	4.0	4.4	.95	.31	.21	9.2
30	2.2	4.9	9.4	5.4	---	10	4.2	4.2	.89	.29	.21	7.0
31	2.2	---	11	5.3	---	9.5	---	4.0	---	.27	.21	---
TOTAL	101.1	145.9	167.3	238.8	251.1	353.5	170.2	189.6	59.44	14.37	6.08	47.57
MEAN	3.26	4.86	5.40	7.70	8.97	11.4	5.67	6.12	1.98	.46	.20	1.59
MAX	9.5	11	11	35	28	24	8.9	12	3.5	.83	.25	9.2
MIN	1.4	2.4	4.9	4.0	4.9	6.3	4.0	4.0	.89	.27	.18	.21
AC-FT	201	289	332	474	498	701	338	376	118	29	12	94

CAL YR 1976 TOTAL 3126.77 MEAN 8.54 MAX 266 MIN .65 AC-FT 6200
WTR YR 1977 TOTAL 1744.96 MEAN 4.78 MAX 35 MIN .18 AC-FT 3460

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
AUG 09...	1010	.19	391	7.7	19.0	7.6	200	0	23

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)
AUG 09...	35	11	11	.3	1.9	270	0	220	3.6

DATE	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
AUG 09...	7.0	.1	15	230	.31	.12	.01	160	40

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.--Lat 39°02'21", long 122°54'44", in NE¼NE¼ sec.25, T.14 N., R.10 W., Lake County, on private pier at 410 Esplanada Street in Lakeport.

DRAINAGE AREA.--528 mi^2 (1,368 km^2).

WATER GAGE-HEIGHT RECORDS

PERIOD OF RECORD.--1874-1900 (incomplete), January 1913 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,318.65 ft (401.925 m) above mean sea level. Prior to July 8, 1947, nonrecording gage and July 8, 1947, to Mar. 17, 1949, at municipal wharf at foot of Third Street in Lakeport at datum 0.06 ft (0.018 m) lower. Mar. 18, 1949, to Sept. 30, 1967, at private pier at foot of Fourth Street at datum 0.06 ft (0.018 m) lower.

REMARKS.--This natural lake is regulated by gates on a dam at outlet, completed in 1915. Capacity between gage heights 0.00 and 7.56 ft (2.304 m), limits stipulated by court decree of 1920, about 319,000 acre-ft (393 hm^3). Water is released down natural channel of Cache Creek from which it is diverted for irrigation (station 11451000).

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height observed, 11.12 ft (3.389 m) Jan. 28, 1914; minimum observed, -3.50 ft (-1.067 m) Sept. 24-27, 1920.

EXTREMES FOR CURRENT YEAR.--Maximum gage height observed, -0.28 ft (-0.085 m) Oct. 5; minimum observed, -3.08 ft (-0.939 m) Sept. 26.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	-.59	---	---	-.56	-.35	---	---	-.96	---	-2.15	---
2	---	---	---	---	---	---	---	-.63	-.96	---	---	---
3	---	---	---	-.48	---	---	-.46	---	-1.00	---	---	---
4	---	---	---	---	---	---	-.46	---	---	-1.54	---	---
5	-.28	---	---	-.49	---	---	---	---	---	---	---	---
6	---	---	-.51	---	---	-.45	---	---	-1.00	---	---	-2.83
7	---	-.60	---	---	---	---	-.50	---	---	---	---	---
8	---	---	---	---	---	---	---	---	-1.02	---	-2.28	---
9	---	---	-.54	---	---	---	---	---	---	---	---	---
10	---	---	---	-.51	-.54	---	---	-.78	-1.02	---	---	---
11	---	---	---	---	---	---	-.50	---	---	-1.65	---	---
12	-.35	-.51	---	---	---	---	---	---	---	---	---	-2.94
13	---	---	-.52	-.50	---	---	---	---	-1.11	---	---	---
14	---	---	---	---	-.48	-.49	---	---	---	---	---	-2.87
15	---	-.54	---	---	-.48	---	-.55	---	---	---	-2.43	---
16	---	---	---	-.51	-.48	---	---	-.88	---	---	---	---
17	---	---	---	---	-.48	---	---	---	-1.18	---	---	---
18	-.45	---	---	---	-.44	---	-.62	---	---	-1.82	---	---
19	---	---	---	---	---	---	---	---	-1.24	---	---	-3.01
20	---	-.50	-.52	---	---	---	-.60	---	---	---	---	---
21	---	---	---	---	---	-.49	-.60	---	---	---	---	---
22	-.52	-.52	---	---	-.31	---	-.62	---	---	---	-2.54	---
23	---	---	---	---	---	-.44	---	-.90	---	---	---	---
24	---	---	---	-.52	-.44	---	---	---	---	---	---	---
25	-.53	-.48	---	---	---	---	-.62	---	---	-1.97	---	---
26	---	-.48	---	---	---	---	-.65	---	---	---	---	-3.08
27	---	-.50	-.60	---	---	---	-.64	---	-1.33	---	---	---
28	---	-.50	---	---	---	---	---	---	---	---	---	---
29	-.59	-.52	---	---	---	-.34	---	---	---	---	-2.72	---
30	---	---	---	---	---	-.38	---	---	---	---	---	---
31	---	---	---	-.55	---	---	---	-.96	---	---	---	---
MEAN	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	---
MIN	---	---	---	---	---	---	---	---	---	---	---	---

11450000 CLEAR LAKE AT LAKEPORT, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1951-67, 1977.

AT LAKE CENTER (Lat 39°04'29", long 122°49'30")

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SAMPLING DEPTH (METER)1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
SEP						
27...	0915	.5	339	7.8	19.0	5.7
27...	0916	1.0	339	7.8	19.0	5.6
27...	0917	2.0	339	7.8	19.0	5.6
27...	0918	3.0	339	7.8	19.0	5.6
27...	0919	4.0	339	7.8	19.0	5.6
27...	0920	5.0	339	7.8	19.0	5.6
27...	0921	6.0	339	7.8	19.0	5.6
27...	0922	7.0	339	7.8	19.0	5.5

DATE	TIME	SAMPLING DEPTH (METER)1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
SEP											
27...	0935	1.0	339	7.8	19.0	5.7	170	0	33	21	15

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SEP											
27...	16	.5	2.6	210	0	170	8.5	8.7	.2	14	209

DATE	DISSOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
SEP											
27...	.28	.23	.21	.28	.54	.82	1.1	.19	.19	1300	40

1 To convert meters to feet, multiply by 3.281.

11451000 CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.--Lat 38°55'27", long 122°33'53", in sec.6, T.12 N., R.6 W., Lake County, on left bank 500 ft (152 m) downstream from Clear Lake Dam, 1.9 mi (3.1 km) downstream from Copsey Creek, and 2.5 mi (4.0 km) northeast of Lower Lake.

DRAINAGE AREA.--528 mi^2 (1,368 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1944 to current year.

GAGE.--Water-stage recorder and rain gage. Datum of gage is 1,280.34 ft (390.248 m) above mean sea level.

REMARKS.--Records fair. Flow completely regulated by Clear Lake (station 11450000) 500 ft (152 m) upstream.

AVERAGE DISCHARGE (unadjusted).--33 years, 344 ft^3/s (9.742 m^3/s), 249,200 acre-ft/yr (307 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft^3/s (227 m^3/s) Feb. 24, 1958, gage height, 9.40 ft (2.865 m); minimum daily, 0.20 ft^3/s (0.006 m^3/s) Dec. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9.1 ft^3/s (0.258 m^3/s) Dec. 24, gage height, 0.74 ft (0.226 m); minimum daily, 0.20 ft^3/s (0.006 m^3/s) Dec. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.76	.83	.76	.97	.70	.47	.57	.71	.83	.44	.58	.53
2	.75	.83	.83	1.2	.64	.47	.56	.73	.83	.44	.56	.53
3	.76	.97	.76	1.3	.64	.47	.64	.70	.80	.47	.54	.53
4	.70	.97	.83	1.0	.64	.47	.64	.70	.77	.38	.58	.47
5	.68	.83	.76	.97	.64	.47	.67	.70	.72	.36	.58	.47
6	.65	.90	.76	.90	.64	.48	.74	.74	.70	.45	.64	.53
7	.64	.90	.70	.90	.58	.49	.72	.70	.71	.41	.58	.51
8	.65	.97	.70	.90	.68	.53	.63	.69	.71	.40	.64	.53
9	.70	1.0	.76	.90	.58	.57	.64	.74	.77	.37	.70	.47
10	.70	1.2	.70	.97	.58	.57	.69	.74	.70	.42	.76	.53
11	.70	1.4	.64	.90	.58	.53	.66	.76	.69	.42	.82	.47
12	.59	1.5	.64	.90	.64	.57	.66	.76	.67	.37	.89	.47
13	.59	1.4	.53	.97	.64	.55	.69	.76	.64	.33	.90	.47
14	.63	1.4	.47	.83	.58	.53	.64	.76	.61	.30	.96	.53
15	.70	1.4	.53	.83	.58	.65	.64	.73	.59	.36	.84	.53
16	.70	1.4	.47	.83	.53	.55	.61	.75	.64	.33	.88	.53
17	.76	1.3	.42	.83	.53	.53	.65	.77	.61	.24	.83	.53
18	.70	1.3	.47	.83	.58	.53	.62	.76	.58	.28	.83	.53
19	.76	1.3	.28	.76	.58	.53	.56	.74	.59	.30	.76	.53
20	.83	1.2	.20	.76	.58	.57	.58	.75	.61	.37	.70	.58
21	.78	1.0	.24	.76	.61	.57	.58	.81	.60	.37	.70	.58
22	.83	1.1	.33	.76	.53	.58	.58	.79	.58	.40	.76	.58
23	.83	1.0	.33	.76	.50	.58	.58	.77	.50	.37	.76	.58
24	.90	1.0	3.3	.64	.47	.50	.64	.76	.53	.42	.69	.58
25	.97	1.0	5.2	.64	.48	.47	.64	.71	.53	.47	.64	.59
26	.76	1.0	3.6	.64	.47	.47	.64	.76	.51	.47	.71	.63
27	.76	.90	2.3	.64	.47	.51	.64	.80	.43	.51	.70	.65
28	.70	.76	.90	.64	.47	.48	.67	.83	.47	.51	.64	.64
29	.83	.76	.90	.64	---	.48	.67	.83	.47	.53	.53	.64
30	.83	.76	1.0	.58	---	.53	.64	.83	.48	.58	.58	.65
31	.83	---	.97	.64	---	.53	---	.83	---	.58	.58	---
TOTAL	22.97	32.28	31.28	25.79	16.14	16.23	19.09	23.41	18.87	12.65	21.86	16.39
MEAN	.74	1.08	1.01	.83	.58	.52	.64	.76	.63	.41	.71	.55
MAX	.97	1.5	5.2	1.3	.70	.65	.74	.83	.83	.58	.96	.65
MIN	.59	.76	.20	.58	.47	.47	.56	.69	.43	.24	.53	.47
AC-FT	46	64	62	51	32	32	38	46	37	25	43	33
(†)	.26	1.17	.98	1.67	1.92	2.64	.03	1.95	.30	0	0	1.54

CAL YR 1976 TOTAL 755.99 MEAN 2.07 MAX 5.2 MIN .20 AC-FT 1500
WTR YR 1977 TOTAL 256.96 MEAN .70 MAX 5.2 MIN .20 AC-FT 510

† Precipitation, in inches.

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

WATER-QUALTY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1951-67, 1974 to current year.

COOPERATION.--Records were furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)
OCT												
07...	0845	.64	372	7.9	17.5	10	7.8	--	--	160	0	--
DEC												
08...	1430	.70	382	8.2	8.0	4	11.8	--	--	170	6	29
JAN												
07...	0930	.90	364	8.4	1.1	3	12.5	--	--	--	--	--
FEB												
03...	1600	.64	387	8.2	9.0	1	13.0	--	--	180	0	--
MAR												
10...	1030	.58	433	8.0	10.0	5	9.8	14	3.3	190	0	--
APR												
07...	0945	.76	467	7.8	14.5	6	7.9	--	--	200	3	--
MAY												
05...	0845	.70	493	8.0	15.0	6	8.0	--	--	210	0	--
JUN												
16...	0845	.64	532	7.8	21.0	3	6.6	--	--	220	0	--
JUL												
14...	0915	.33	556	8.0	23.0	5	4.6	--	--	200	0	--
AUG												
11...	0900	.83	515	8.4	25.0	6	5.6	--	--	--	--	--
SEP												
22...	0815	.58	551	--	--	6	--	--	--	--	--	--

DATE	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)
OCT											
07...	--	18	--	.6	--	210	0	180	--	12	--
DEC											
08...	24	18	18	.6	2.5	200	0	170	26	12	216
JAN											
07...	--	--	--	--	--	--	--	--	--	--	--
FEB											
03...	--	17	--	.6	--	230	0	190	--	12	--
MAR											
10...	--	21	--	.7	--	240	0	200	--	18	--
APR											
07...	--	21	--	.6	--	240	0	200	--	22	--
MAY											
05...	--	25	--	.8	--	270	0	220	--	28	--
JUN											
16...	--	29	--	.9	--	260	4	220	--	40	--
JUL											
14...	--	33	--	1.0	--	270	0	220	--	39	--
AUG											
11...	--	--	--	--	--	--	--	--	--	--	--
SEP											
22...	--	--	--	--	--	--	--	--	--	--	--

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	SUS-PENDED SOLIDS (MG/L)	DIS-SOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO PHOS-PHATE (P04) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
OCT											
07...	--	--	--	.11	--	--	.90	.10	.02	.06	1500
DEC											
08...	.29	.41	--	.04	--	--	.70	.07	.00	.00	1500
JAN											
07...	--	--	--	.02	--	--	.70	.03	.00	.00	--
FEB											
03...	--	--	--	.10	.09	.50	.59	.15	.00	.00	1500
MAR											
10...	--	--	23	.11	.07	.70	.77	.08	.00	.00	1700
APR											
07...	--	--	--	.11	.12	.60	.72	.08	.01	.03	1700
MAY											
05...	--	--	--	.09	.07	.60	.67	.08	.00	.00	2100
JUN											
16...	--	--	--	.13	.08	.50	.58	.07	.01	.03	2400
JUL											
14...	--	--	--	.17	.09	.70	.79	.11	.00	.00	2600
AUG											
11...	--	--	--	--	--	--	--	--	--	--	--
SEP											
22...	--	--	--	--	--	--	--	--	--	--	--

DATE	TIME	DIS-SOLVED ARSENIC (AS) (UG/L)	DIS-SOLVED BARIUM (BA) (UG/L)	DIS-SOLVED CAD-MIUM (CD) (UG/L)	DIS-SOLVED CHRO-MIUM (CR) (UG/L)	DIS-SOLVED COPPER (CU) (UG/L)	DIS-SOLVED IRON (FE) (UG/L)
MAR							
10...	1030	0	100	0	10	0	0

DATE	DIS-SOLVED LEAD (PB) (UG/L)	DIS-SOLVED MAN-GANESE (MN) (UG/L)	TOTAL MERCURY (HG) (UG/L)	DIS-SOLVED SELE-NIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHY-LENE BLUE ACTIVE SUB-STANCE (MG/L)
MAR						
10...	0	40	.0	0	8.2	.00

11451100 NORTH FORK CACHE CREEK AT HOUGH SPRINGS, NEAR CLEARLAKE OAKS, CA

LOCATION.--Lat 39°09'56", long 122°37'08", in SE¼NW¼ sec.10, T.15 N., R.7 W., Lake County, on right bank 0.5 mi (0.8 km) upstream from Spanish Creek, 0.9 mi (1.4 km) upstream from Hough Springs, and 10 mi (16 km) northeast of Clearlake Oaks.

DRAINAGE AREA.--60.2 mi^2 (155.9 km^2).

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft (561 m), from topographic map. Recording rain gage 9 mi (14 km) southwest of gage. Altitude of gage is 3,450 ft (1,052 m), from topographic map.

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

AVERAGE DISCHARGE.--6 years, 78.1 ft^3/s (2.212 m^3/s), 56,580 acre-ft/yr (69.8 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft^3/s (226 m^3/s) Jan. 16, 1974, gage height, 9.23 ft (2.813 m) from floodmarks, from rating curve extended above 2,400 ft^3/s (68.0 m^3/s) on basis of slope-area measurement of maximum flow; no flow for many days in 1972, 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 231 ft^3/s (6.54 m^3/s) Jan. 2, gage height, 2.48 ft (0.756 m), no peak above base of 1,500 ft^3/s (42 m^3/s); no flow on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.0	1.0	1.7	4.1	6.6	9.4	4.2	2.7	.86		0
2	1.5	1.0	1.1	72	4.1	6.0	8.9	4.2	2.4	.84		0
3	2.0	1.0	1.1	75	4.1	6.0	7.6	3.6	2.4	.79		0
4	1.2	1.0	1.1	19	4.1	5.6	7.2	3.5	2.3	.66		0
5	.50	1.0	1.1	11	4.1	5.2	6.9	3.3	2.3	.63		0
6	.40	1.0	1.1	8.7	4.4	5.2	6.8	3.4	2.2	.60		0
7	.40	.90	1.1	6.6	4.4	5.2	6.3	3.7	2.1	.61		0
8	.40	.90	1.1	6.0	6.0	5.2	6.0	5.3	2.0	.50		0
9	.40	1.0	1.1	6.0	6.0	6.0	6.0	5.6	2.0	.27		0
10	.40	1.0	1.1	6.0	5.6	5.6	5.9	5.9	2.0	.05		0
11	.40	1.3	1.1	6.0	5.2	5.6	5.8	5.3	2.1	0		0
12	.40	1.4	1.0	5.6	4.8	5.2	5.3	5.1	2.0	0		0
13	.51	1.3	1.1	4.8	4.8	5.2	4.9	4.7	1.9	0		0
14	.70	2.3	1.0	4.8	4.8	5.2	4.9	4.4	1.8	0		0
15	.70	1.9	1.0	4.4	4.8	7.9	4.9	4.0	1.9	0		0
16	.70	1.4	1.0	4.4	4.8	15	4.6	3.6	1.8	0		0
17	.70	1.1	1.1	4.4	4.8	19	4.5	3.6	1.8	0		.03
18	.70	1.1	1.0	4.4	4.8	19	4.3	3.8	1.7	0		.69
19	.80	1.0	1.1	4.4	4.8	17	4.2	4.2	1.7	0		1.6
20	.80	1.0	1.0	4.4	4.8	17	4.2	3.8	1.6	0		.82
21	.80	1.0	1.0	4.4	68	15	3.9	3.5	1.5	0		.56
22	.80	1.0	1.0	4.4	58	13	3.6	3.4	1.3	0		.48
23	.80	1.0	1.0	4.4	19	11	3.5	3.5	1.3	0		.46
24	.80	1.0	1.0	4.4	15	12	3.5	3.5	1.1	0		.46
25	.80	1.0	1.0	4.4	12	14	3.6	3.4	.99	0		.43
26	.80	1.0	1.0	4.4	9.5	14	3.5	3.5	.90	0		.37
27	.80	.90	1.0	4.4	7.9	12	3.5	3.5	.87	0		.36
28	.90	.90	1.0	4.4	7.3	9.5	3.3	3.2	.78	0		.85
29	.90	1.0	1.1	4.1	---	12	3.5	3.2	.63	0		1.1
30	.90	1.0	4.1	4.1	---	11	3.5	3.0	.71	0		.81
31	.90	---	1.9	4.4	---	10	---	2.9	---	0		---
TOTAL	23.81	33.40	36.4	307.4	292.0	306.2	154.0	121.8	50.78	5.81	0	9.02
MEAN	.77	1.11	1.17	9.92	10.4	9.88	5.13	3.93	1.69	.19	0	.30
MAX	2.0	2.3	4.1	75	68	19	9.4	5.9	2.7	.86	0	1.6
MIN	.40	.90	1.0	1.7	4.1	5.2	3.3	2.9	.63	0	0	0
AC-FT	47	66	72	610	579	607	305	242	101	12	0	18
(†)	.97	6.99	.64	6.68	2.01	2.06	.23	3.63	0	0	0	2.33

CAL YR 1976 TOTAL 4987.74 MEAN 13.6 MAX 338 MIN 0 AC-FT 9890
WTR YR 1977 TOTAL 1340.62 MEAN 3.67 MAX 75 MIN 0 AC-FT 2660

† Precipitation, in inches.

11451500 NORTH FORK CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.--Lat 39°01'09", long 122°34'04", in NE¼ sec.31, T.14 N., R.6 W. (unsurveyed), Lake County, on right bank 500 ft (152 m) upstream from Sweet Hollow Creek, 5 mi (8 km) upstream from mouth, and 7 mi (11 km) northeast of Lower Lake.

DRAINAGE AREA.--197 mi^2 (510 km^2).

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

REVISED RECORDS.--WSP 831: 1932(M). WSP 1315-A: 1935(M), 1937-38(M).

GAGE.--Water-stage recorder. Datum of gage is 1,034.60 ft (315.346 m) above mean sea level. Prior to June 15, 1939, at datum 2.00 ft (0.610 m) higher. June 15, 1939, to Mar. 17, 1976, at datum 1.00 ft (0.305 m) higher.

REMARKS.--Records good except those below 10 ft^3/s (0.28 m^3/s), which are fair. Flow regulated by Indian Valley Reservoir 8 mi (13 km) upstream beginning in June 1974, capacity, 296,000 acre-ft (365 hm^3). Several small diversions for irrigation of about 150 acres (607,000 m^2) above station.

AVERAGE DISCHARGE (unadjusted).--44 years (1931-74), 199 ft^3/s (5.636 m^3/s), 144,200 acre-ft/yr (178 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft^3/s (575 m^3/s) Dec. 11, 1937, gage height, 14.98 ft (4.566 m) present datum, from floodmarks, from rating curve extended above 7,600 ft^3/s (215 m^3/s) on basis of slope-area measurement at gage height 14.9 ft (4.54 m), present datum for peak of Feb. 28, 1940; no flow at times in 1930-36, 1949-50, 1956-57, 1977. Maximum discharge since construction of Indian Valley Dam in 1974, 2,490 ft^3/s (70.5 m^3/s) Feb. 12, 1975, gage height, 5.67 ft (1.728 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 121 ft^3/s (3.43 m^3/s) Jan. 2, gage height, 2.51 ft (0.765 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.2	1.8	2.2	2.0	2.4	3.4	1.7	.68	.10	.02	
2	2.2	1.2	1.8	39	1.9	2.3	3.4	1.9	.63	.10	0	
3	1.7	1.3	1.8	31	1.9	2.2	3.0	1.8	.60	.10	0	
4	1.5	1.2	1.8	11	1.9	2.1	2.9	1.6	.59	.08	0	
5	1.3	1.2	1.8	4.6	1.9	2.1	2.9	1.4	.57	.08	0	
6	1.2	1.7	1.7	3.4	2.0	2.2	2.8	1.5	.52	.08	0	
7	1.1	1.4	1.7	2.7	2.0	2.2	2.7	1.6	.51	.08	0	
8	1.1	1.4	1.7	2.7	3.0	2.1	2.6	1.9	.48	.08	0	
9	1.1	1.1	1.7	2.4	13	2.3	2.6	2.4	.48	.08	0	
10	1.1	1.2	1.7	2.3	3.7	2.3	2.4	2.2	.51	.08	0	
11	1.0	1.7	1.8	2.3	2.2	2.4	2.4	1.8	.51	.06	0	
12	1.0	2.0	1.9	2.4	2.0	2.4	9.5	1.7	.49	.06	0	
13	.97	2.0	1.7	2.3	1.8	2.4	5.1	1.5	.46	.06	0	
14	.91	3.0	1.8	2.3	1.8	2.3	2.5	1.4	.39	.06	0	
15	.97	2.8	1.8	2.2	1.7	6.1	2.1	1.4	.27	.06	0	
16	1.0	2.4	1.8	2.2	1.7	29	2.1	1.2	.27	.06	0	
17	1.1	2.2	1.8	2.2	1.6	19	2.0	1.3	.27	.06	0	
18	1.1	2.0	2.2	2.3	1.5	15	1.9	1.4	.27	.06	0	
19	1.1	2.0	1.8	2.2	1.6	6.8	1.8	1.5	.24	.06	0	
20	1.1	1.9	1.8	2.2	1.7	4.6	1.7	1.4	.21	.06	0	
21	1.1	1.9	1.8	2.3	5.0	5.2	1.8	1.2	.21	.06	0	
22	1.1	1.8	1.9	2.3	13	4.9	1.7	1.2	.15	.06	0	
23	1.3	1.8	1.8	2.3	5.5	4.8	1.7	1.2	.18	.06	0	
24	1.1	1.8	2.0	2.2	3.4	6.6	1.7	1.1	.15	.06	0	
25	1.2	1.8	1.9	2.2	2.8	12	1.7	1.1	.15	.06	0	
26	1.2	1.9	1.8	2.2	2.6	7.7	1.5	1.1	.12	.04	0	
27	1.1	2.2	1.8	2.2	2.4	5.7	1.4	1.2	.10	.04	0	
28	1.1	1.6	1.8	2.2	2.5	4.6	1.4	1.1	.08	.04	0	
29	1.1	1.7	1.8	2.2	---	4.1	1.5	1.0	.08	.04	0	
30	1.1	1.8	2.5	2.0	---	4.1	1.6	.89	.08	.02	0	
31	1.1	---	2.3	2.0	---	3.7	---	.72	---	.02	0	---
TOTAL	36.95	53.2	57.3	148.0	88.1	175.6	75.8	44.41	10.25	1.96	.02	0
MEAN	1.19	1.77	1.85	4.77	3.15	5.66	2.53	1.43	.34	.063	.0006	0
MAX	2.2	3.0	2.5	39	13	29	9.5	2.4	.68	.10	.02	0
MIN	.91	1.1	1.7	2.0	1.5	2.1	1.4	.72	.08	.02	0	0
AC-FT	73	106	114	294	175	348	150	88	20	3.9	.04	0

CAL YR 1976 TOTAL 54722.79 MEAN 150 MAX 475 MIN .82 AC-FT 108500
WTR YR 1977 TOTAL 691.59 MEAN 1.89 MAX 39 MIN 0 AC-FT 1370

11451720 BEAR CREEK NEAR RUMSEY, CA

LOCATION.--Lat 38°56'47", long 122°20'48", in NE¼SW¼ sec.30, T.13 N., R.4 W., Colusa County, on left bank 0.3 mi (0.5 km) downstream from Brophy Canyon, 1.4 mi (2.3 km) upstream from mouth, and 7.3 mi (11.7 km) northwest of Rumsey.

DRAINAGE AREA.--100 mi^2 (259 km^2).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 750 ft (229 m), from topographic map.

REMARKS.--No regulation or diversion above station.

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--19 years, 44.1 ft^3/s (1.249 m^3/s), 31,950 acre-ft/yr (39.4 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,720 ft^3/s (275 m^3/s) Jan. 5, 1965, gage height, 11.93 ft (3.636 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1955, 12.33 ft (3.758 m) Feb. 24, 1958, discharge, 9,350 ft^3/s (265 m^3/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18 ft^3/s (0.510 m^3/s) Jan. 2, gage height, 1.62 ft (0.494 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.0	.90	2.5	1.3	1.5	1.2	.70	.20			
2	1.0	1.0	.90	6.2	1.3	1.5	1.2	.90	.10			
3	1.1	1.1	1.0	12	1.3	1.4	1.1	1.1	.10			
4	.90	1.1	1.0	5.6	1.3	1.2	1.0	.90	0			
5	.70	1.1	.90	3.1	1.3	1.2	.90	.80	0			
6	.60	1.1	.90	2.3	1.3	1.1	.90	.70	0			
7	.50	1.2	.90	1.9	1.3	1.1	.90	1.0	0			
8	.50	1.2	.90	1.6	1.6	1.1	.80	1.4	0			
9	.50	1.2	.90	1.5	2.3	1.2	.80	1.6	0			
10	.40	1.2	.80	1.4	2.3	1.2	.80	1.8	0			
11	.40	1.5	.90	1.3	1.9	1.2	.80	1.8	0			
12	.40	1.7	.80	1.5	1.7	1.0	.80	1.5	0			
13	.40	1.8	.80	1.6	1.6	1.0	.70	1.5	0			
14	.40	2.2	.90	1.5	1.5	1.1	.60	1.4	0			
15	.30	2.9	1.0	1.3	1.5	2.0	.60	1.1	0			
16	.40	2.4	1.0	1.3	1.4	12	.60	.90	0			
17	.50	1.8	1.0	1.2	1.4	9.3	.50	.90	0			
18	.50	1.5	1.0	1.2	1.4	6.7	.40	.90	0			
19	.50	1.4	1.0	1.2	1.3	4.2	.40	1.0	0			
20	.60	1.3	1.0	1.2	1.4	2.9	.40	.80	0			
21	.60	1.2	.90	1.2	3.6	2.4	.30	.80	0			
22	.80	1.2	.90	1.3	5.8	2.0	.30	.60	0			
23	1.0	1.2	1.0	1.4	3.7	1.8	.30	.50	0			
24	.80	1.2	1.0	1.3	2.6	1.9	.30	.50	0			
25	.90	1.1	1.0	1.2	2.2	2.4	.30	.50	0			
26	.80	1.0	1.0	1.2	1.9	2.9	.30	.60	0			
27	.70	.90	.90	1.3	1.7	2.1	.30	.50	0			
28	.70	.90	.90	1.2	1.6	1.6	.40	.50	0			
29	.80	.90	1.0	1.2	---	1.4	.30	.50	0			
30	.90	.80	2.2	1.2	---	1.4	.40	.40	0			
31	.90	---	3.3	1.2	---	1.3	---	.30	---			---
TOTAL	20.60	40.10	32.60	65.1	53.5	75.1	18.60	28.40	.40	0	0	0
MEAN	.66	1.34	1.05	2.10	1.91	2.42	.62	.92	.013	0	0	0
MAX	1.1	2.9	3.3	12	5.8	12	1.2	1.8	.20	0	0	0
MIN	.30	.80	.80	1.2	1.3	1.0	.30	.30	0	0	0	0
AC-FT	41	80	65	129	106	149	37	56	.8	0	0	0

CAL YR 1976 TOTAL 490.00 MEAN 1.34 MAX 6.5 MIN 0 AC-FT 972
WTR YR 1977 TOTAL 334.40 MEAN .92 MAX 12 MIN 0 AC-FT 663

11451760 CACHE CREEK AT RUMSEY, CA

LOCATION.--Lat 38°53'25", long 122°14'13", T.12 N., R.3 W., Yolo County, in Canada De Capay Grant, on downstream side of bridge on Arbuckle Road, 800 ft (244 m) north of Rumsey.

DRAINAGE AREA.--964 mi^2 (2,497 km^2).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to September 1962, June 1965 to September 1973, December 1975 to September 1977. Prior to September 1973, published as "above Rumsey".

GAGE.--Water-stage recorder. Altitude of gage is 420 ft (128 m), from topographic map. Prior to September 1973, at site 3.0 mi (4.8 km) upstream at different datum.

REMARKS.--Flow partly regulated by Clear Lake (station 11450000) beginning in 1915. Flow also regulated by Indian Valley Reservoir beginning in June 1974, capacity, 296,000 acre-ft (365 hm^3).

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--11 years (water years 1961-62, 1966-77), 678 ft^3/s (19.20 m^3/s), 491,200 acre-ft/yr ((606 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft^3/s (1,230 m^3/s), Jan. 24, 1970, gage height, 19.59 ft (5.971 m), from rating curve extended above 14,000 ft^3/s (396 m^3/s) on basis of slope-area measurement at gage height 21.42 ft (6.529 m); no flow for many days in 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 5, 1965, reached a stage of 21.42 ft (6.529 m) from floodmarks, discharge, 59,000 ft^3/s (1,670 m^3/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 98 ft^3/s (2.78 m^3/s) Jan. 3, gage height, 9.50 ft (2.896 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.0	2.4	2.7	1.6	2.3	2.9	.80	.30			
2	1.6	1.3	2.6	11	1.7	2.3	3.0	.90	.30			
3	1.7	1.5	2.5	63	3.6	2.0	2.9	.70	.30			
4	2.0	1.2	2.5	50	2.0	2.1	2.7	.60	.30			
5	1.8	.90	2.1	28	1.9	1.9	2.3	.60	.30			
6	1.5	.90	2.2	19	1.7	1.8	2.0	.60	.40			
7	1.4	1.2	2.3	13	1.8	1.6	1.9	.60	.40			
8	1.2	.80	2.6	6.0	2.2	1.8	1.9	.60	.50			
9	1.2	.90	2.8	4.6	2.3	2.8	1.9	.60	.70			
10	1.1	1.0	2.6	4.0	2.7	1.6	1.6	.70	.80			
11	1.1	1.1	2.5	3.3	5.3	1.4	1.7	.70	.90			
12	.80	1.5	2.5	3.1	4.0	1.7	1.4	.60	.80			
13	.80	2.6	2.5	3.0	2.9	1.8	1.3	.60	.70			
14	.90	4.4	2.5	2.9	2.4	1.8	1.2	.60	.80			
15	.70	5.7	2.4	2.9	2.1	2.2	1.6	.60	.80			
16	.80	7.8	2.8	2.6	1.9	22	1.5	.60	.90			
17	.70	8.4	2.5	2.6	1.7	52	.80	.60	1.0			
18	.70	6.6	2.6	2.3	2.0	36	.50	.60	1.0			
19	.70	5.4	1.5	2.3	1.8	24	.30	.50	.80			
20	.80	4.6	1.1	3.4	1.4	17	.20	.50	.70			
21	.90	4.2	1.0	5.1	3.1	11	.20	.60	.50			
22	1.0	3.9	1.0	5.1	10	6.5	.10	.60	.30			
23	1.1	2.6	1.0	5.6	17	5.4	.30	.50	.10			
24	1.2	2.2	1.0	5.7	12	5.1	.30	.60	0			
25	1.3	2.3	1.0	5.7	7.0	5.2	.10	.50	0			
26	1.1	2.4	1.0	5.6	4.3	6.2	.10	.50	0			
27	1.2	2.2	1.0	5.4	3.0	8.1	.10	.40	0			
28	1.5	2.3	1.2	5.3	2.5	5.4	0	.40	0			
29	1.6	2.3	1.6	5.5	---	4.4	0	.40	0			
30	1.7	2.3	2.9	5.1	---	3.9	.40	.40	0			
31	1.3	---	3.5	2.0	---	3.4	---	.30	---			---
TOTAL	37.00	85.50	63.7	285.8	105.9	244.7	35.20	17.80	13.60	0	0	0
MEAN	1.19	2.85	2.05	9.22	3.78	7.89	1.17	.57	.45	0	0	0
MAX	2.0	8.4	3.5	63	17	52	3.0	.90	1.0	0	0	0
MIN	.70	.80	1.0	2.0	1.4	1.4	0	.30	0	0	0	0
AC-FT	73	170	126	567	210	485	70	35	27	0	0	0

CAL YR 1976 TOTAL 55954.70 MEAN 153 MAX 462 MIN .70 AC-FT 111000
WTR YR 1977 TOTAL 889.20 MEAN 2.44 MAX 63 MIN 0 AC-FT 1760

11451760 CACHE CREEK AT RUMSEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-70, 1976 to current year.
CHEMICAL ANALYSES: December 1976 to September 1977.
WATER TEMPERATURES: Water years 1960-70, 1976.
SEDIMENT RECORDS: Water years 1960-63, 1965-70, 1976.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: January 1960 to September 1970, December 1975 to September 1976.
SEDIMENT RECORDS: January 1960 to September 1963, June 1965 to September 1970, December 1975 to September 1976.

COOPERATION.--Records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	HARD-NESS (CA,MG) (MG/L)	NON-CAR-BONATE HARD-NESS (MG/L)
DEC									
08...	1100	2.6	1007	8.0	8.0	1	9.9	342	67
JAN									
06...	0915	19	1260	8.1	4.5	0	12.6	370	88
FEB									
10...	1000	2.7	2012	8.0	11.5	--	12.1	--	--
MAR									
10...	1400	1.6	1970	8.6	14.0	--	17.2	--	--
APR									
14...	1315	1.2	1820	8.2	21.0	--	11.5	--	--
MAY									
20...	1000	.50	1910	7.5	21.5	0	11.5	509	220

DATE	DIS-SOLVED CAL-CIUM (CA) (MG/L)	DIS-SOLVED MAG-NE-SIUM (MG) (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED SOLIDS (RESI-DUE AT 180 C) (MG/L)
DEC									
08...	40	--	89	--	335	0	275	169	534
JAN									
06...	51	59	129	2.9	344	0	282	234	752
FEB									
10...	--	--	--	--	--	--	--	--	--
MAR									
10...	--	--	--	--	--	--	--	--	--
APR									
14...	--	--	--	--	--	--	--	--	--
MAY									
20...	76	--	192	--	355	0	291	416	1020

DATE	DIS-SOLVED SOLIDS (TONS PER AC-FT)	DIS-SOLVED SOLIDS (TONS PER DAY)	DIS-SOLVED NITRATE (N) (MG/L)	DIS-SOLVED NITRITE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO, PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
DEC									
08...	.73	3.75	--	--	--	--	--	--	--
JAN									
06...	1.02	38.6	--	--	--	--	--	--	--
FEB									
10...	--	--	1.1	.05	.02	.10	.01	.01	8800
MAR									
10...	--	--	.28	.00	.02	.30	.01	.00	--
APR									
14...	--	--	.05	.00	.04	.30	.07	.01	--
MAY									
20...	1.39	1.38	.10	.00	.10	.20	.01	.00	--

11452500 CACHE CREEK AT YOLO, CA

LOCATION.--Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, on left bank 35 ft (11 m) upstream from highway bridge, 0.5 mi (0.8 km) south of Yolo, and 7.3 mi (11.7 km) downstream from Moore Dam.

DRAINAGE AREA.--1,139 mi^2 (2,950 km^2).

PERIOD OF RECORD.--January 1903 to current year. Records for water year 1903 incomplete, yearly estimate published in WSP 1315-A.

REVISED RECORDS.--WSP 1315-A: 1914(M). WSP 1345: 1906. WSP 1445: 1955. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level. See WSP 2131 for history of changes prior to Apr. 25, 1969. Apr. 25, 1969, to July 1976, at mean sea level datum at site 765 ft (233 m) upstream.

REMARKS.--Records good. Flow regulated by Clear Lake beginning in 1915 (station 11450000). Diversions for irrigation of about 30,000 acres (121 hm^3) between Capay and Yolo, from data furnished by Clear Lake Water Co.

AVERAGE DISCHARGE.--75 years, 518 ft^3/s (14.67 m^3/s), 375,300 acre-ft/yr (463 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft^3/s (1,170 m^3/s) Feb. 25, 1958, gage height, 85.35 ft (26.015 m) present datum; maximum stage observed, 88.44 ft (26.957 m) present datum, Mar. 10, 1904; no flow at times in each year.

EXTREMES FOR CURRENT YEAR.--No flow since Apr. 21, 1976.

11453000 YOLO BYPASS NEAR WOODLAND, CA

LOCATION.--Lat 38°40'40", long 121°38'35", unsurveyed, Yolo County, on left bank 300 ft (91 m) upstream from Sacramento and Woodland railroad bridge, 6 mi (10 km) upstream from Sacramento Bypass, 6 mi (10 km) downstream from Fremont weir, and 7 mi (11 km) east of Woodland.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 3.41 ft (1.039 m) below mean sea level. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft (0.222 m) higher. A supplementary water-stage recorder 6 mi (10 km) downstream at different datum is used for records of low flow.

REMARKS.--Records poor. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir; during the summer months, the flow consists largely of return water from irrigation. There is some diversion for irrigation between the main and supplementary gage which affects the low-flow record. No flow from Cache Creek or Fremont weir during the year. Records at supplementary gage are poor due to tidal backwater from Sacramento River.

AVERAGE DISCHARGE.--38 years, 3,765 ft^3/s (106.6 m^3/s), 2,728,000 acre-ft/yr (3.36 km^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 272,000 ft^3/s (7,700 m^3/s) Feb. 8, 1942, gage height, 32.00 ft (9.754 m); no flow at times in recent years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 48 ft^3/s (1.36 m^3/s) Nov. 24, gage height, 11.00 ft (3.353 m); minimum daily, 0.20 ft^3/s (0.006 m^3/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.20	2.6	2.4	1.1	.60	1.9	.70	.70	.50	.70	.60	.50
2	.50	2.5	2.3	3.4	.50	1.2	.80	.70	.50	.70	.60	.50
3	.80	2.7	2.2	2.8	.50	1.0	.70	.70	.50	.70	.60	.50
4	1.0	3.3	1.9	2.7	.50	1.2	.70	.70	.50	.70	.60	.50
5	1.0	3.8	1.0	2.8	.50	1.2	.70	.70	.50	.70	.60	.50
6	1.0	4.6	.90	2.8	.50	1.5	.70	.70	.50	.60	.55	.50
7	1.0	5.1	.80	2.7	.50	1.9	.70	.60	.50	.50	.55	.50
8	1.0	4.6	.70	2.8	.50	2.0	.70	.50	.50	.50	.55	.50
9	1.0	4.0	.50	2.8	.50	2.0	.50	.50	.50	.50	.55	.50
10	1.0	3.4	.50	2.8	.50	2.4	.50	.50	.50	.50	.55	.50
11	1.0	2.8	.50	2.7	.50	2.6	.50	.50	.50	.50	.55	.50
12	1.0	2.8	.50	2.8	.60	2.8	.50	.60	.50	.50	.55	.50
13	1.0	2.8	.50	2.8	1.0	2.5	.80	.60	.50	.50	.55	.50
14	1.0	2.9	.50	2.7	1.0	1.8	1.3	.60	.50	.50	.55	.50
15	1.0	3.4	.50	2.8	.70	1.9	.70	.50	.70	.50	.55	.50
16	1.0	3.3	.60	2.8	.80	1.7	.50	.50	.70	.50	.55	.50
17	1.0	3.2	.60	2.8	.80	8.3	.50	.50	.70	.50	.55	.50
18	1.0	3.2	.60	2.8	.80	30	.50	.50	.60	.50	.55	.50
19	1.0	3.2	.70	2.8	.70	29	.50	.50	.50	.50	.55	.50
20	1.0	3.2	.80	2.8	.70	3.6	.50	.50	.50	.50	.55	1.5
21	1.0	3.1	1.0	2.8	1.1	1.6	.50	.50	.50	.50	.55	1.4
22	1.0	6.4	1.2	2.8	1.4	1.4	.50	.50	.50	.50	.55	1.4
23	1.0	21	1.1	2.6	1.2	1.3	.50	.50	.50	.50	.55	1.2
24	1.0	42	1.1	2.4	1.4	1.1	.50	.50	.50	.50	.55	.90
25	1.0	29	1.0	1.8	1.3	1.0	.50	.50	.50	.50	.55	.50
26	1.0	5.0	.80	1.4	1.8	.70	.50	.50	.50	.50	.55	.50
27	1.0	3.9	.70	1.3	1.9	.50	.50	.50	.50	.50	.55	.50
28	1.0	3.0	.50	1.6	1.8	.50	.50	.50	.50	.50	.50	.50
29	1.0	2.7	.50	1.8	---	.50	.50	.50	.60	.50	.50	.50
30	1.5	2.6	.70	1.4	---	.50	.50	.50	.60	.50	.50	.50
31	2.3	---	.90	.80	---	.50	---	.50	---	.50	.50	---
TOTAL	31.30	186.1	28.50	75.20	24.60	110.10	18.00	17.10	15.90	16.60	17.10	18.90
MEAN	1.01	6.20	.92	2.43	.88	3.55	.60	.55	.53	.54	.55	.63
MAX	2.3	42	2.4	3.4	1.9	30	1.3	.70	.70	.70	.60	1.5
MIN	.20	2.5	.50	.80	.50	.50	.50	.50	.50	.50	.50	.50
AC-FT	62	369	57	149	49	218	36	34	32	33	34	37

CAL YR 1976 TOTAL 4739.84 MEAN 13.0 MAX 255 MIN 0 AC-FT 9400
WTR YR 1977 TOTAL 559.40 MEAN 1.53 MAX 42 MIN .20 AC-FT 1110

11453600 POPE CREEK NEAR POPE VALLEY, CA

LOCATION.--Lat 38°37'48", long 122°19'52", in SW¼ sec.17, T.9 N., R.4 W., Napa County, on left bank 0.2 mi (0.3 km) upstream from Lake Berryessa, 0.7 mi (1.1 km) downstream from Maxwell Creek, and 5.2 mi (8.4 km) east of Pope Valley.

DRAINAGE AREA.--78.3 mi^2 (202.8 km^2).

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

GAGE.--Water-stage recorder. Altitude of gage is 450 ft (137 m), from topographic map.

REMARKS.--Flow regulated by Dick Weeks Reservoir, increased to 2,000 acre-ft (2.47 hm^3) of usable storage in December 1973, and several smaller reservoirs with additional storage of about 600 acre-ft (740,000 m^3).

COOPERATION.--Records furnished by California Department of Water Resources and reviewed by Geological Survey.

AVERAGE DISCHARGE.--16 years (water years 1961-77), 83.4 ft^3/s (2.362 m^3/s), 60,420 acre-ft/yr (74.5 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft^3/s (510 m^3/s) Jan. 31, 1963, gage height, 19.79 ft (6.032 m), from rating curve extended above 7,700 ft^3/s (218 m^3/s); no flow many days in 1960-68, 1971-73, 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 234 ft^3/s (6.63 m^3/s) Jan. 2, gage height, 4.46 ft (1.359 m); no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.30	.40	.80	2.8	1.7	1.3	.10			
2		.10	.30	54	.80	2.5	1.5	1.4	0			
3		.10	.30	41	.80	2.2	1.7	.90	0			
4		.10	.30	8.5	.80	1.3	1.4	.70	0			
5		.10	.20	5.2	.80	1.6	1.6	.50	0			
6		.10	.20	3.1	.80	1.4	1.4	.50	0			
7		.10	.20	2.0	.80	1.3	1.1	.60	0			
8		.10	.20	1.5	1.6	1.3	.90	.50	0			
9		.10	.20	1.3	4.9	1.2	.90	.70	0			
10		.10	.20	1.1	6.1	1.1	.80	.60	0			
11		.20	.20	.90	3.9	1.1	.80	.60	0			
12		.20	.20	1.4	2.7	1.0	.80	.70	0			
13		.20	.20	1.2	2.2	1.2	.60	.70	0			
14		.80	.20	1.1	1.9	1.2	.40	.50	0			
15		.70	.20	1.0	1.2	3.6	.40	.40	0			
16		.40	.10	1.1	1.4	60	.40	.30	0			
17		.40	.10	1.0	1.2	31	.40	.20	0			
18		.40	.10	.90	1.2	20	.30	.40	0			
19		.30	.10	.90	1.0	6.9	.30	.60	0			
20		.30	.10	.90	1.0	8.1	.30	.40	0			
21		.30	.10	.90	24	7.0	.30	.20	0			
22		.30	.10	.90	32	5.7	.30	.20	0			
23		.30	.10	.90	14	4.9	.30	.30	0			
24		.30	.10	.90	14	5.1	.30	.30	0			
25		.30	.10	.80	8.5	9.5	.30	.20	0			
26		.30	.10	.80	6.4	5.9	.30	.30	0			
27		.20	0	.80	5.3	3.5	.30	.20	0			
28		.20	0	.80	3.9	3.0	.20	.20	0			
29		.20	.10	.80	---	3.3	.30	.20	0			
30		.30	1.4	.80	---	3.5	.30	.20	0			
31		---	.80	.80	---	3.2	---	.10	---			---
TOTAL	0	7.50	6.80	137.70	144.00	205.4	20.60	14.90	.10	0	0	0
MEAN	0	.25	.22	4.44	5.14	6.63	.69	.48	.003	0	0	0
MAX	0	.80	1.4	54	32	60	1.7	1.4	.10	0	0	0
MIN	0	0	0	.40	.80	1.0	.20	.10	0	0	0	0
AC-FT	0	15	13	273	286	407	41	30	.2	0	0	0

CAL YR 1976 TOTAL 810.10 MEAN 2.21 MAX 109 MIN 0 AC-FT 1610
WTR YR 1977 TOTAL 537.00 MEAN 1.47 MAX 60 MIN 0 AC-FT 1070

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE¼NW¼ sec.29, T.8 N., R.2 W., Napa County, near center of Monticello Dam on Putah Creek, 7.4 mi (11.9 km) west of Winters.

DRAINAGE AREA.--566 mi² (1,466 km²).

WATER-CONTENTS RECORD

PERIOD OF RECORD.--January 1957 to current year.

REVISED RECORDS.--WSP 1735: 1958-60. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is at mean sea level (levels by Bureau of Reclamation).

REMARKS.--Reservoir is formed by concrete arch-gravity dam completed November 1956. Usable capacity, 1,592,000 acre-ft (1.96 km³) between elevations 253.25 ft (77.101 m) invert of outlet valves, and 440 ft (134.1 m) crest of glory-hole spillway, above mean sea level. Dead storage, 10,340 acre-ft (12.7 hm³). Water is released down Putah Creek and is diverted into Putah South diversion canal for irrigation of about 46,000 acres (186 km²) in the lower Sacramento Valley. Total diverted during current year was 208,900 acre-ft (258 hm³). Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,733,000 acre-ft (2.14 km³) Jan. 24, 1970, elevation, 446.67 ft (136.415 m); minimum since irrigation pool first filled, 758,900 acre-ft (0.936 km³) Sept. 30, 1977, elevation, 389.51 ft (118.723 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,037,300 acre-ft (1.28 km³) Oct. 1, elevation, 408.09 ft (124.386 m); minimum, 758,900 acre-ft (0.936 km³) Sept. 30, elevation, 389.51 ft (118.723 m).

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

380	632400
390	765700
400	911200
410	1068000
420	1236000
430	1414000
450	1800000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1037300	1016900	1007200	1000500	996800	994700	981200	943100	912900	870300	822900	782600
2	1036500	1016500	1007200	1002400	996800	994400	980100	942100	911500	868800	821500	781300
3	1035800	1015900	1006900	1002400	996800	993900	979200	941400	910100	867500	819900	780000
4	1035400	1015600	1006500	1002300	996600	992800	978100	940500	908600	866000	818300	779000
5	1034700	1015300	1005800	1002100	996300	992500	977300	939200	907300	864600	816800	778100
6	1034200	1015100	1005600	1001800	996100	992200	976200	938500	906100	863200	815300	776900
7	1033800	1014800	1005100	1001500	996000	991600	975100	937600	904900	861800	813700	775700
8	1033000	1014600	1004600	1001200	996300	991400	974000	936800	903400	860100	812300	774700
9	1032500	1014000	1004200	1001200	996300	990200	973200	936000	901900	858700	811000	773700
10	1031700	1013700	1003900	1000900	996300	989000	972300	935000	900300	857200	809600	772600
11	1031100	1013700	1003500	1000500	996100	987900	971100	934000	899100	855700	808100	771500
12	1030400	1013500	1003200	1000900	996000	986900	970000	933300	897800	854100	806700	770400
13	1029800	1013100	1003200	1000500	995800	985800	968700	932200	896400	852500	805400	769200
14	1029000	1013200	1002900	1000400	995500	984700	967300	931300	895100	850900	804000	768200
15	1028300	1013200	1002400	1000100	995300	986200	965900	930200	893400	849300	803000	767000
16	1027900	1013100	1002400	999900	995200	986200	964700	929000	891900	847500	802000	765900
17	1027100	1012700	1002100	999800	995000	986400	963300	928100	890600	845900	800400	765000
18	1026400	1012400	1002000	999600	994700	986700	961600	927000	889200	844300	799100	764300
19	1025600	1012100	1001800	999400	994600	986700	960000	926100	888000	842800	798000	764200
20	1025000	1011800	1001500	999300	994600	986500	958600	925200	886700	841400	796900	763500
21	1024300	1011300	1001300	999300	995300	986500	957100	924400	885400	839900	795700	763100
22	1023700	1011100	1001000	999300	995500	986200	955600	923700	884000	838300	794600	762900
23	1023200	1010800	1000700	999000	995300	985900	954200	922600	882700	836600	793500	762500
24	1023100	1010400	1000400	998700	995300	985900	952500	921800	880900	835000	792200	761800
25	1022600	1009900	1000200	998500	995300	985800	950900	920900	879500	833400	791000	761700
26	1020800	1009700	1000200	998200	995200	985400	949500	920000	878200	832100	789800	761300
27	1020200	1008600	999900	998000	995000	985000	947800	918800	876600	830600	788500	760600
28	1019400	1008000	999600	997700	995000	984400	946300	917600	875100	829200	787400	760200
29	1018600	1007300	999300	997600	---	983300	945100	916400	873400	827700	786400	759500
30	1018000	1007300	1000100	997200	---	982900	943700	915500	871800	826000	785300	758900
31	1017300	---	1000400	997200	---	982200	---	914100	---	824500	783800	---
MAX	1037300	1016900	1007200	1002400	996800	994700	981200	943100	912900	870300	822900	782600
MIN	1017300	1007300	999300	997200	994600	982200	943700	914100	871800	824500	783800	758900
†	406.84	406.21	405.77	405.57	405.43	404.61	402.13	400.19	397.37	394.14	391.29	389.51
‡	-20500	-10000	-6900	-3200	-2200	-12800	-38500	-29600	-42300	-47300	-40700	-24900
††	5222	2473	2069	1170	1993	4477	7631	7028	11689	12629	9916	5796

CAL YR 1976 ‡ -356700
WTR YR 1977 ‡ -278900

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

11453900 LAKE BERRYESSA NEAR WINTERS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

AT DAM (Lat 38°30'48", long 122°06'16")
WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	SAMPLING DEPTH (METER) 1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)
SEP						
28...	1045	.5	366	8.8	21.5	8.0
28...	1046	1.0	365	8.8	21.5	8.0
28...	1047	2.0	366	8.8	21.5	8.0
28...	1048	3.0	366	8.8	21.5	8.0
28...	1049	4.0	365	8.8	21.5	8.0
28...	1050	5.0	365	8.8	21.5	8.0
28...	1051	6.0	365	8.8	21.5	8.0
28...	1052	7.0	365	8.8	21.5	7.9
28...	1053	8.0	365	8.8	21.0	8.0
28...	1054	9.0	356	8.7	21.0	7.0
28...	1055	10.0	364	8.4	20.0	4.7
28...	1056	11.0	356	8.2	20.0	2.9
28...	1057	12.0	351	8.1	20.0	1.9
28...	1058	13.0	348	7.9	19.0	1.4
28...	1059	14.0	343	7.9	17.5	1.9
28...	1100	15.0	342	7.9	15.5	3.0
28...	1101	16.0	340	7.9	15.0	3.2
28...	1102	17.0	341	8.0	14.5	3.4
28...	1103	18.0	338	8.0	14.5	3.6
28...	1104	19.0	336	8.0	14.5	3.7
28...	1105	20.0	335	8.0	14.5	3.8
28...	1106	21.0	337	8.0	14.0	3.8
28...	1107	22.0	337	8.0	14.0	3.9
28...	1108	23.0	335	8.0	14.0	4.0
28...	1109	24.0	334	8.0	14.0	4.4
28...	1110	25.0	334	8.0	14.0	4.1
28...	1111	26.0	337	8.0	13.5	4.2
28...	1112	27.0	337	8.0	13.5	4.2
28...	1113	28.0	334	8.0	13.5	4.3
28...	1114	29.0	335	8.0	13.5	4.4
28...	1115	30.0	334	8.0	13.5	4.5
28...	1116	52.0	334	7.7	13.5	3.3

DATE	TIME	SAMPLING DEPTH (METER)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)
SEP											
28...	1130	1.0	365	8.8	21.5	8.0	210	33	28	33	11

DATE	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (SUM OF CONSTITUENTS) (MG/L)
SEP											
28...	10	.3	1.5	200	5	170	22	6.5	.1	16	222

DATE	DISSOLVED SOLIDS (TONS PER AC-FT)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	TOTAL ORTHO PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED IRON (FE) (UG/L)
SEP											
28...	.30	.02	.03	.01	.05	.06	.08	.01	.01	180	10

1 To convert meters to feet, multiply by 3.281.

11454000 PUTAH CREEK NEAR WINTERS, CA

LOCATION.--Lat 38°30'55", long 122°04'51", in NE¼NE¼ sec.28, T.8 N., R.2 W., Yolo County, on left bank 1 mi (2 km) downstream from Cold Canyon, 1.3 mi (2.1 km) downstream from Monticello Dam, and 6 mi (10 km) west of Winters.

DRAINAGE AREA.--574 mi^2 (1,487 km^2).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 901: 1937-38(M). WSP 1285: 1932(M), 1935-36(M), 1940(M), 1942-43(M), 1951, 1952(M). WSP 1565: 1957. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 160.75 ft (48.997 m) above mean sea level (river-profile survey). June 28, 1930, to Feb. 29, 1940, at datum about 1 ft (0.3 m) higher.

REMARKS.--Records good. Flow regulated by Lake Berryessa (station 11453900) beginning January 1957.

AVERAGE DISCHARGE (adjusted for change in contents and evaporation from Lake Berryessa).--47 years, 507 ft^3/s (14.36 m^3/s), 367,300 acre-ft/yr (453 hm^3/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft^3/s (2,290 m^3/s) Feb. 27, 1940, gage height, 30.5 ft (9.30 m) present datum, from rating curve extended above 30,000 ft^3/s (850 m^3/s); no flow Sept. 6-15, 1950, July 26 to Sept. 1, Sept. 6-9, 1955. Maximum discharge since construction of Monticello Dam in 1957, 16,300 ft^3/s (462 m^3/s) Jan. 24, 1970, gage height, 18.85 ft (5.745 m); minimum daily, 6.1 ft^3/s (0.17 m^3/s) Dec. 19, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since at least 1905, that of Feb. 27, 1940, on basis of records for station at Winters.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 804 ft^3/s (22.8 m^3/s) Apr. 25, gage height, 8.30 ft (2.530 m); minimum daily, 40 ft^3/s (1.13 m^3/s) Jan. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	224	87	59	57	153	430	544	504	592	550	537
2	248	164	87	54	53	166	466	368	511	578	522	527
3	223	132	80	40	53	168	474	382	516	544	570	492
4	202	105	76	51	58	187	491	388	535	537	617	447
5	193	90	77	62	62	186	495	364	549	554	634	430
6	215	102	92	60	62	198	463	347	558	546	588	430
7	258	108	110	79	62	250	468	386	560	557	548	424
8	268	127	105	78	62	272	460	388	557	606	548	427
9	241	129	90	61	62	302	425	393	560	599	542	420
10	246	135	85	61	61	365	445	403	554	575	571	416
11	258	120	85	61	79	408	521	386	532	595	575	400
12	258	108	85	62	102	378	579	384	531	646	572	415
13	250	100	79	59	80	387	563	390	516	641	543	441
14	262	95	68	66	61	404	568	406	525	637	514	433
15	265	81	68	63	66	384	591	432	553	623	515	417
16	270	81	68	58	88	171	577	461	561	627	532	399
17	258	86	68	58	93	51	577	490	557	605	506	324
18	254	85	68	55	82	52	611	479	541	600	489	287
19	251	86	68	64	77	53	620	424	503	616	503	213
20	222	97	68	77	77	80	611	379	498	620	503	154
21	190	104	73	75	66	148	617	359	523	621	466	130
22	187	105	77	71	49	212	648	335	584	632	425	136
23	193	104	73	71	49	236	689	328	633	638	425	160
24	185	98	71	71	46	199	729	356	631	606	425	169
25	190	83	71	71	56	147	763	425	594	588	442	160
26	225	75	71	69	56	163	716	463	584	574	432	186
27	277	79	71	65	59	169	673	474	619	560	431	211
28	317	81	70	67	85	176	664	474	632	562	434	212
29	306	85	70	62	---	240	686	466	612	627	428	242
30	290	87	65	62	---	313	716	451	590	672	490	246
31	268	---	59	62	---	385	---	461	---	622	529	---
TOTAL	7551	3156	2385	1974	1863	7003	17336	12786	16723	18600	15869	9885
MEAN	244	105	76.9	63.7	66.5	226	578	412	557	600	512	330
MAX	317	224	110	79	102	408	763	544	633	672	634	537
MIN	185	75	59	40	46	51	425	328	498	537	425	130
AC-FT	14980	6260	4730	3920	3700	13890	34390	25360	33170	36890	31480	19610

CAL YR 1976 TOTAL 152958 MEAN 418 MAX 883 MIN 59 AC-FT 303400 MEAN ‡ 40.1 AC-FT ‡ 29090
WTR YR 1977 TOTAL 115131 MEAN 315 MAX 763 MIN 40 AC-FT 228400 MEAN ‡ 29.8 AC-FT ‡ 21590

‡ Adjusted for change in contents and evaporation from Lake Berryessa.

11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
CHEMICAL ANALYSES: Water years 1952-66, 1973 to current year.
WATER TEMPERATURES: Water years 1966 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: November 1965 to current year.

INSTRUMENTATION.--Temperature recorder since Nov. 19, 1965.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 22.0°C May 21, 1967; minimum recorded, 6.5°C on several days in 1967, 1968, and 1973.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURES: Maximum recorded, 15.5°C on several days during September; minimum recorded, 9.0°C on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	TURBIDITY (JTU)	DISSOLVED OXYGEN (MG/L)	CHEMICAL OXYGEN DEMAND (HIGH LEVEL) (MG/L)	BIOCHEMICAL OXYGEN DEMAND 5 DAY (MG/L)	HARDNESS (CA,MG) (MG/L)
DEC 08...	1200	98	324	8.1	12.0	2	11.4	--	--	162
MAY 19...	0800	464	333	8.2	11.0	3	10.9	3	.7	173
JUL 18...	0900	594	369	8.2	13.5	2	11.3	--	--	168
SEP 16...	0900	411	348	7.7	13.5	1	11.1	2	.7	171

DATE	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED SOLIDS (TONS PER DAY)
DEC 08...	8	11	9.6	188	0	154	5.8	176	.24	46.6
MAY 19...	12	18	10	196	0	161	5.2	204	.28	256
JUL 18...	6	18	9.8	197	0	162	6.3	195	.27	313
SEP 16...	8	9.5	12	199	0	163	6.6	208	.28	231

DATE	SUSPENDED SOLIDS (MG/L)	DISSOLVED NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED ARSENIC (AS) (UG/L)	DISSOLVED BARIUM (BA) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED CADMIUM (CD) (UG/L)
DEC 08...	--	--	--	--	--	--	--	--	--	--
MAY 19...	5	.04	.00	.10	.02	.00	0	0	--	0
JUL 18...	--	.02	.00	.10	.02	.00	0	0	--	0
SEP 16...	5	.05	.02	.10	.01	.01	0	100	100	0

DATE	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MANGANESE (MN) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED SELENIUM (SE) (UG/L)	TOTAL ORGANIC CARBON (C) (MG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
DEC 08...	--	--	--	--	--	--	--	--	--
MAY 19...	0	--	20	0	10	.0	0	2.2	.00
JUL 18...	0	0	0	0	0	.0	10	--	--
SEP 16...	0	0	30	0	0	.0	0	2.6	.00

11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	13.0	13.0	13.5	12.5	12.5	11.5	11.0	10.5	10.0	9.0	11.0	9.5
2	13.5	13.0	13.5	12.5	12.5	11.5	11.5	11.0	10.0	9.0	11.0	9.5
3	14.5	12.5	13.5	12.5	12.5	11.5	11.0	10.5	10.0	9.0	11.0	10.0
4	14.5	12.5	13.5	12.5	12.5	11.5	10.5	10.0	10.0	9.0	11.5	9.5
5	14.5	12.5	13.5	12.0	12.5	12.0	11.0	10.5	10.0	9.5	11.5	10.0
6	14.5	12.5	13.5	12.5	12.5	12.0	10.5	10.0	10.5	9.5	11.5	9.5
7	14.0	13.0	13.5	12.5	12.5	12.0	10.5	9.5	10.5	9.5	11.0	10.0
8	14.0	13.0	13.0	12.0	12.5	12.0	10.5	10.0	10.5	10.0	11.5	10.0
9	14.0	12.5	13.5	12.5	12.5	12.0	10.5	9.5	11.0	9.5	11.0	10.0
10	14.0	12.5	14.0	12.5	12.5	12.0	10.5	9.5	11.0	9.5	11.0	9.5
11	14.0	12.5	13.0	13.0	12.5	11.5	10.5	10.0	11.0	9.5	11.0	10.0
12	14.0	12.5	13.5	12.5	12.5	11.5	10.5	10.0	11.0	10.0	11.0	10.0
13	14.0	12.5	13.0	12.5	12.5	11.5	10.5	10.0	11.0	10.0	11.0	10.0
14	14.0	12.5	13.0	12.5	12.0	11.0	10.5	10.0	11.5	10.0	10.5	10.0
15	14.0	12.5	13.5	13.0	12.0	11.5	10.5	9.5	11.5	10.0	10.5	10.0
16	13.5	12.5	13.5	12.5	12.5	11.5	10.0	9.5	11.0	10.0	11.0	10.0
17	14.0	12.5	13.5	12.5	12.0	11.5	9.5	9.5	11.0	10.0	11.5	9.5
18	13.5	12.5	13.5	12.5	12.0	11.0	9.5	9.5	11.5	9.5	12.0	9.5
19	13.5	12.5	13.0	12.5	12.0	11.0	9.5	9.0	11.0	9.5	12.5	10.0
20	13.5	12.5	13.0	12.5	12.0	11.0	10.0	9.5	10.5	9.5	12.0	10.5
21	14.0	12.5	13.0	12.5	12.0	11.0	10.5	10.0	11.0	10.0	12.5	10.0
22	14.0	12.5	13.0	12.5	12.0	11.5	10.5	10.0	11.0	9.5	12.0	10.0
23	14.0	12.5	13.0	12.5	12.0	11.5	10.5	9.5	11.0	10.0	11.5	10.0
24	13.5	12.5	12.5	12.0	11.5	10.5	10.0	9.0	11.0	9.5	11.0	10.0
25	14.0	12.5	13.0	12.0	11.5	11.0	10.0	9.0	11.0	9.5	12.5	10.0
26	13.5	12.5	12.5	12.0	11.5	10.5	10.0	9.0	11.0	9.5	12.5	10.0
27	13.5	12.5	12.0	11.0	11.5	10.5	10.0	9.0	11.5	9.5	12.5	10.0
28	13.5	12.5	12.0	11.5	11.5	10.5	10.0	9.0	11.0	9.5	12.5	10.0
29	13.0	12.5	12.0	11.5	11.5	10.5	9.5	9.0	---	---	12.0	10.0
30	13.0	12.5	12.5	11.5	11.5	11.0	9.5	9.0	---	---	12.0	10.0
31	13.5	12.5	---	---	11.5	11.0	10.0	9.0	---	---	12.0	10.0
MONTH	14.5	12.5	14.0	11.0	12.5	10.5	11.5	9.0	11.5	9.0	12.5	9.5

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.5	10.5	12.5	11.5	13.5	12.0	13.5	12.5	13.5	12.5	14.5	13.5
2	11.5	10.5	12.5	11.0	13.0	12.0	13.5	12.0	14.0	13.0	14.5	13.5
3	12.0	10.5	12.5	11.5	13.0	12.0	13.5	12.0	14.0	13.0	14.5	13.5
4	12.0	10.5	13.0	11.0	13.0	12.0	13.5	12.0	14.0	12.5	14.5	13.5
5	12.0	10.5	12.5	11.0	13.5	12.5	13.5	12.0	13.5	13.0	15.0	13.5
6	12.0	10.5	12.0	11.0	13.0	12.0	13.5	12.0	14.0	13.0	15.0	13.5
7	12.0	10.5	12.5	11.0	13.0	12.5	13.5	12.5	14.0	13.0	15.0	13.5
8	11.0	10.5	12.5	11.5	13.5	12.5	13.5	12.5	14.0	13.0	14.5	13.5
9	11.5	10.5	12.0	11.5	12.5	12.0	13.5	12.5	14.0	13.0	15.0	13.5
10	12.0	10.5	12.5	11.5	13.0	12.0	13.5	12.5	14.0	13.0	14.5	13.5
11	12.0	11.0	12.0	11.5	13.5	12.0	13.5	12.5	14.0	13.0	15.0	13.5
12	12.0	11.0	12.0	11.5	13.5	12.0	13.0	12.5	14.0	13.0	14.5	13.5
13	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.5	14.0	13.0	14.5	13.5
14	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.0	14.5	13.0	14.5	13.5
15	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.0	14.0	13.0	14.0	13.5
16	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.5	14.0	13.0	14.0	13.5
17	12.0	11.0	13.0	11.5	13.5	12.0	13.5	12.5	14.0	13.0	14.5	13.5
18	12.0	11.0	12.0	11.5	13.5	12.0	13.5	12.5	14.5	13.0	15.0	13.5
19	12.0	11.0	13.5	11.5	13.5	12.5	13.5	12.5	14.5	13.0	15.0	13.5
20	12.0	11.0	13.5	12.0	13.5	12.0	13.5	12.5	14.5	13.0	15.5	13.5
21	12.0	11.0	13.5	12.0	14.0	12.5	13.5	12.5	14.5	13.0	15.5	13.5
22	12.0	11.0	12.5	11.5	13.5	12.5	13.5	12.5	14.5	13.0	15.5	13.5
23	12.0	11.0	13.0	11.5	13.5	12.5	13.5	12.5	14.5	13.0	15.5	13.5
24	12.0	11.5	13.0	11.5	13.5	12.5	13.5	12.5	14.5	13.5	15.5	13.5
25	12.0	11.0	13.0	11.5	13.5	12.5	14.0	12.5	14.5	13.0	15.5	13.5
26	12.0	11.0	12.5	12.0	13.5	12.5	14.0	12.5	14.5	13.0	15.0	13.5
27	12.5	11.5	13.0	12.0	13.5	12.5	14.0	12.5	14.5	13.0	15.0	14.0
28	12.5	11.0	13.0	12.0	13.0	12.5	14.0	12.5	15.0	13.5	14.5	13.5
29	12.0	11.5	13.5	12.0	13.5	12.5	13.5	12.5	15.0	13.5	15.0	13.5
30	12.0	11.5	13.5	12.0	13.5	12.5	13.5	12.5	14.5	13.5	15.0	13.5
31	---	---	13.5	12.0	---	---	13.5	12.5	14.5	13.5	---	---
MONTH	12.5	10.5	13.5	11.0	14.0	12.0	14.0	12.0	15.0	12.5	15.5	13.5

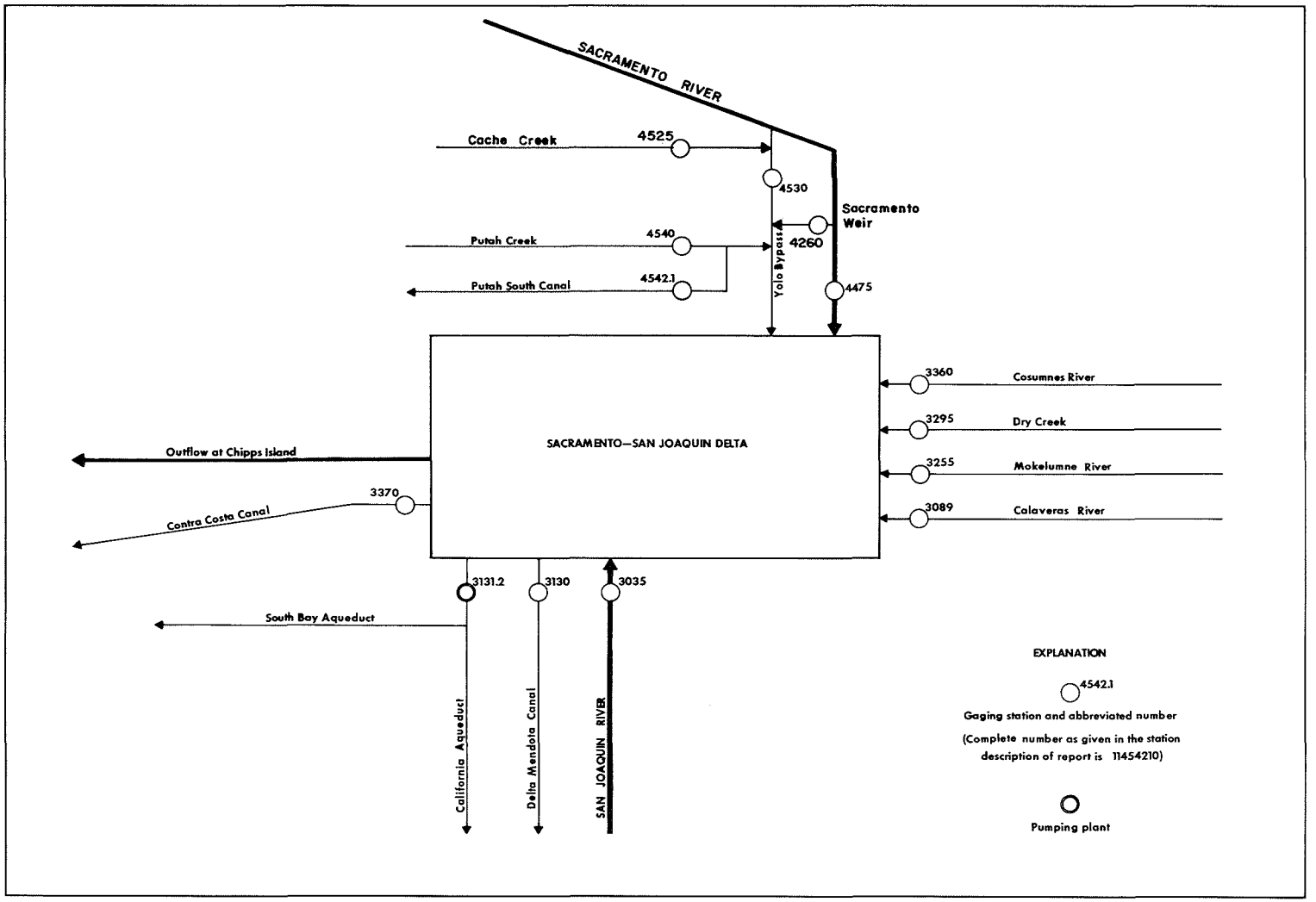

FIGURE 12.--Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin Delta.

LOCATION.--See schematic diagram of inflows and diversions, Sacramento-San Joaquin Delta.

DRAINAGE AREA.--Total drainage area of inflow streams tabulated below is 39,699 mi^2 (102,820 km^2).

PERIOD OF RECORD.--October 1971 to current year. Data for periods prior to October 1971, can be obtained from published records for stations tabulated below.

COOPERATION.--Records for Delta-Mendota, Contra Costa, and Putah South Canals furnished by Bureau of Reclamation, California Aqueduct by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

Inflows, in thousands of acre-feet

	Month												Water year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
						11303500 SAN JOAQUIN RIVER NEAR VERNALIS							
	78.31	67.60	59.33	67.07	43.79	32.20	12.62	24.58	7.02	5.71	7.64	10.63	416.5
						11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM							
	1.18	0.61	0.46	0.32	3.96	8.83	9.39	6.59	12.16	12.84	4.68	0.12	61.13
						11325500 MOKELUMNE RIVER AT WOODBRIDGE							
	1.22	3.92	3.02	2.04	1.12	1.62	0.54	0.53	0.50	0.57	0.40	0.30	15.78
						11329500 DRY CREEK NEAR GALT							
	0	0	0	0	0	0	0	0	0	0	0	0	0
						11336000 COSUMNES RIVER AT MCCONNELL							
	0	0.01	0	0.30	0.41	0.04	0	0.06	0	0	0	0	0.82
						11426000 SACRAMENTO WEIR SPILL							
	0	0	0	0	0	0	0	0	0	0	0	0	0
						11447500 SACRAMENTO RIVER AT SACRAMENTO							
	498.2	465.5	476.1	602.7	444.5	404.2	354.7	467.1	408.5	507.2	472.6	406.9	5508
						114530000 YOLO BYPASS NEAR WOODLAND							
	0.06	0.37	0.06	0.15	0.05	0.22	0.04	0.03	0.03	0.03	0.03	0.04	1.11
						11454000 PUTAH CREEK NEAR WINTERS							
	14.98	6.26	4.73	3.92	3.70	13.89	34.39	25.36	33.17	36.89	31.48	19.61	228.4
Total	594.0	544.3	543.7	676.5	497.5	461.0	411.7	524.2	461.4	563.2	516.8	437.6	6232

Diversions, in thousands of acre-feet

	Month												Water year
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	
						11313000 DELTA-MENDOTA CANAL							
	195.1	149.7	96.45	223.5	125.1	124.7	59.54	101.8	18.47	21.75	67.96	97.62	1282
						11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)							
	84.03	93.64	67.79	205.1	106.1	96.57	14.21	72.30	17.11	20.35	15.42	9.18	801.8
						11337000 CONTRA COSTA CANAL							
	8.30	9.64	7.68	7.05	8.90	7.67	7.12	6.74	10.83	8.90	8.66	7.29	98.79
						11454210 PUTAH SOUTH CANAL							
	12.77	4.46	3.62	2.89	3.06	12.80	30.94	23.53	32.45	35.12	29.41	17.85	208.9
Total	300.2	257.4	175.5	438.5	243.2	241.7	111.8	204.4	78.86	86.12	121.4	131.9	2392

NOTE.--Minor inflow streams and diversions are not included.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected.

Records collected at partial-record 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 discharge at crest-stage stations.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same or practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1977

Station No.	Station name		Drainage area (mi^2)	Period of record	Measurements	
					Date	Discharge (ft^3/s)
		Eagle Lake basin				
*10359250	Pine Creek near Westwood, CA	Lat 40°34'26", long 121°06'18", in NE¼SW¼ sec.5, T.31 N., R.8 E., Lassen County, 1.3 mi (2.1 km) southwest of Bogard Guard Station and 19 mi (31 km) north of Westwood.	24.8	1951-61‡, 1964, 1967-75a, 1976-77	6-29-77 8-1-77 9-14-77	0 0 0
		Sacramento River basin				
11341900	Dog Creek at Delta, CA	Lat 40°56'17", long 122°25'13", in SE¼NE¼ sec.34, T.36 N., R.5 W., Shasta County, 0.1 mi (0.2 km) upstream from mouth, 0.5 mi (0.8 km) southwest of Delta, and 25 mi (40 km) north of Redding.	17.3	1975-77	3-1-77 8-2-77	b 4.50 b .60
11348600	Turner Creek near Canby, CA	Lat 41°25'49", long 121°00'26", in SE¼SE¼ sec.35, T.42 N., R.8 E., Modoc County, Modoc National Forest, 1.2 mi (1.9 km) upstream from mouth and 7.3 mi (11.7 km) southwest of Canby.	69.1	1977	6-7-77 8-4-77 9-8-77	b 0.44 b .15 b .21
11350000	Rush Creek near Adin, CA	Lat 41°15'47", long 120°53'36", in NE¼SE¼ sec.35, T.40 N., R.9 E., Modoc County, at bridge on U.S. Highway 299, 5.6 mi (9.0 km) northeast of Adin.	33.4	1930‡, 1977	6-6-77 8-4-77 9-7-77	b 3.05 b 2.03 b 1.44
11350990	Willow Creek below Preston Canyon, CA	Lat 41°05'01", long 120°54'05", in SW¼SE¼ sec.35, T.38 N., R.9 E., Modoc County, 2.2 mi (3.5 km) downstream from Preston Canyon and 7.8 mi (12.6 km) south of Adin.	56.4	1977	6-7-77 8-3-77 9-8-77	b 5.58 b 5.35 b 5.74
11352500	Horse Creek at Little Valley, near Pittville, CA	Lat 40°53'56", long 121°10'23", in NE¼ sec.15, T.35 N., R.7 E., Lassen County, 100 ft (30 m) downstream from railroad bridge, 0.5 mi (0.8 km) northeast of Little Valley, and 13 mi (21 km) southeast of Pittville.	c 237	1929-31‡, 1960-67‡, 1968-75a, 1976-77	6-7-77 8-3-77 9-7-77	b 6.41 b 4.93 b 3.61
11353700	Fall River near Dana, CA	Lat 41°06'20", long 121°33'00", in NE¼ sec.30, T.38 N., R.4 E., Shasta County, 0.7 mi (1.1 km) southeast of Dana and 1 mi (2 km) downstream from large springs downstream from Bear Creek.	c 123	1959-67‡, 1968-75a, 1976-77	6-6-77 8-5-77 9-9-77	b 407 b 378 b 379
*11365500	Squaw Creek above Shasta Lake, CA	Lat 40°51'25", long 122°05'08", in SE¼ sec.29, T.35 N., R.2 W., Shasta County, 1.3 mi (2.1 km) upstream from Salt Creek, 2 mi (3 km) upstream from Shasta Lake, and 10 mi (16 km) west of town of Montgomery Creek.	64.0	1945-66‡, 1967-75a, 1976-77d	6-20-77 8-16-77 9-26-77	b 7.28 b 3.03 12.9
11367100	McCloud River above Lower Falls, near McCloud, CA	Lat 41°14'36", long 122°01'25", in SW¼NE¼ sec.12, T.39 N., R.2 W., Siskiyou County, 500 ft (152 m) upstream from Lower Falls and 6 mi (10 km) southeast of McCloud.	285	1964, 1968, 1970, 1972-75a, 1976-77	5-31-77 8-2-77 9-6-77	b 22.4 b 10.2 b 9.31

See footnotes at end of table.

Discharge measurements made at low-flow partial-record stations during water year 1977

Station No.	Station name		Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Sacramento River basin--Continued				
11373200	Oak Run Creek near Oak Run, CA	Lat 40°41'25", long 122°02'35", in SE¼NW¼ sec.25, T.33 N., R.2 W., Shasta County, 800 ft (244 m) downstream from road bridge, 1.1 mi (1.8 km) northwest of town of Oak run, 3.2 mi (5.1 km) upstream from Tracy Creek, and 12.2 mi (19.6 km) northeast of Millville.	11.0	1957-66‡, 1967-75a, 1976-77	6-6-77 8-2-77 9-13-77	b 0.71 0 b .06
11373300	Little Cow Creek near Ingot, CA	Lat 40°44'45", long 122°03'40", in SE¼NW¼ sec.2, T.33 N., R.2 W., Shasta County, 1.8 mi (2.9 km) northeast of Ingot and 7 mi (11 km) southwest of Round Mountain.	60.8	1957-65‡, 1977	6-6-77 8-2-77 9-6-77	b 10.6 b 2.79 b 3.64
11374100	Bear Creek near Millville, CA	Lat 40°31'50", long 122°06'30", in SE¼NE¼ sec.20, T.31 N., R.2 W., Shasta County, 10 ft (3 m) downstream from bridge on State Highway 44 and 3.8 mi (6.1 km) southeast of Millville.	75.7	1960-67‡, 1968a, 1977	6-7-77 8-3-77 9-13-77	b 13.0 b 3.93 b 4.04
11376400	South Fork Battle Creek near Mineral, CA	Lat 40°21'03", long 121°39'45", in NW¼NW¼ sec.28, T.29 N., R.3 E., Tehama County, Lassen National Forest, at campground 3.6 mi (5.8 km) west of Mineral.	31.9	1977	6-3-77 8-5-77 9-8-77	b 9.19 0 0
11382550	Deer Creek below Slate Creek, near Deer Creek Meadows, CA	Lat 40°14'02", long 121°27'50", in NE¼NE¼ sec.1, T.27 N., R.4 E., Tehama County, Lassen National Forest, 0.4 mi (0.6 km) downstream from Slate Creek, 3.2 mi (5.2 km) southwest of Deer Creek Meadows, and 15 mi (24 km) southwest of Chester.	69.4	1961-70‡, 1977	6-29-77 8-2-77 9-14-77	b 33.6 b 33.0 b 30.9
11389700	Butte Creek at Butte Meadows, CA	Lat 40°04'06", long 121°34'25", in SW¼NW¼ sec.31, T.26 N., R.4 E., Tehama County, 1.0 mi (1.6 km) downstream from small tributary, 1.5 mi (2.4 km) southwest of Butte Meadows, and 15 mi (24 km) northeast of Forest Ranch.	44.4	1960-74‡, 1977	6-29-77 8-2-77 9-14-77	b 46.1 b 40.8 b 42.2
11390410	Sacramento River at Reclamation District 70 pumping plant, near Grimes, CA	Lat 39°04'05", long 121°51'43", in NW¼NE¼ sec.16, T.14 N., R.1 E., Sutter County, on left bank at Reclamation District 70 pumping plant, 1.7 mi (2.7 km) southeast of Grimes, and at mile 123.6 (198.9 km).	--	1977	7-18-77 8-11-77 8-31-77 9-19-77	7000 6270 4760 5030
11390610	Sacramento River at Reclamation District 108 Rough and Ready pumping plant, near Knights Landing, CA	Lat 38°51'47", long 121°47'30", in NW¼NE¼ sec.30, T.12 N., R.2 E., Yolo County, at Reclamation District 108 Rough and Ready pumping plant, 5.8 mi (9.3 km) northwest of Knights Landing, and at mile 98.0 (157.7 km).	--	1977	7-18-77 8-11-77 8-31-77 9-30-77	6120 5820 4130 4720
11391020	Sacramento River at Fremont Weir west end, near Knights Landing, CA	Lat 38°45'34", long 121°39'59", in Rio Jesus Maria Land Grant, Sutter County, at at west end of Fremont Weir, 3.9 mi (6.3 km) southeast of Knights Landing, and at mile 84.1 (135.3 km).	--	1977	7-11-77 9-8-77 9-20-77	6340 4880 5340
11395300	Lost Creek above Sly Creek Reservoir, near Strawberry Valley, CA	Lat 39°37'05", long 121°05'19", in NE¼SW¼ sec.4, T.20 N., R.8 E., Plumas County, Plumas National Forest, 0.4 mi (0.6 km) upstream from French Creek and 3.8 mi (6.1 km) north of Strawberry Valley.	14.1	1961-70‡, 1977	6-21-77 8-3-77 9-7-77	b 3.85 b 2.63 b 1.83

See footnotes at end of table.

Discharge measurements made at low-flow partial-record stations during water year 1977

Station No.	Station name		Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Sacramento River basin--Continued				
11401150	Red Clover Creek near Genesee, CA	Lat 40°02'50", long 120°39'37", in NW¼SW¼ sec.5, T.25 N., R.12 E., Plumas County, Plumas National Forest, 0.3 mi (0.5 km) downstream from Rock Creek, 4.5 mi (7.2 km) east of Genesee, and 9.5 mi (15.3 km) east of Taylorsville.	122	1959-65‡, 1977	6-30-77 8-3-77 9-20-77	b 7.51 b 6.45 b 8.02
11401300	Lights Creek near Taylorsville, CA	Lat 40°10'00", long 120°47'35", in SW¼SW¼ sec.30, T.27 N., R.11 E., Plumas County, Plumas National Forest, 0.4 mi (0.6 km) downstream from Moonlight Creek and 6.7 mi (10.8 km) north of Taylorsville.	57.6	1957-63‡, 1977d	6-30-77 8-4-77 9-8-77	b 1.04 b .04 b .08
11408700	Middle Yuba River near Alleghany, CA	Lat 39°26'19", long 120°48'40", in NW¼SW¼ sec.12, T.18 N., R.10 E., Nevada County, Tahoe National Forest, 0.5 mi (0.8 km) downstream from Wolf Creek and 2.8 mi (4.5 km) southeast of Alleghany.	96.6	1958-66‡, 1968a, 1977	6-16-77 8-3-77 9-1-77	b 32.6 b 12.5 b 14.2
11411000	Downie River at Downieville, CA	Lat 39°33'47", long 120°49'26", in NE¼NW¼ sec.35, T.20 N., R.10 E., Sierra County, Tahoe National Forest, at bridge in Downieville, 0.3 mi (0.5 km) upstream from mouth.	72.7	1911-26‡, 1966-68a, 1977	6-22-77 8-9-77 9-8-77	b 47.1 b 24.2 b 21.8
11411500	North Yuba River near Sierra City, CA	Lat 39°33'45", long 120°39'15", in NE¼NW¼ sec.32, T.20 N., R.12 E., Sierra County, Tahoe National Forest, 0.2 mi (0.3 km) upstream from Big Avalanche Ravine and 1.0 mi (1.6 km) west of Sierra City.	94.7	1924-44‡, 1956a, 1971a,	6-22-77 8-9-77 9-8-77	b 59.2 b 27.4 b 24.9
11412000	Rock Creek at Goodyears Bar, CA	Lat 39°32'14", long 120°53'06", in SW¼SW¼ sec.5, T.19 N., R.10 E., Sierra County, Tahoe National Forest, 600 ft (183 m) upstream from mouth, 0.2 mi (0.3 km) southwest of Goodyears Bar.	8.98	1911-33‡, 1960-68a, 1977	6-16-77 8-9-77 9-8-77	b 1.45 b .47 b .42
11412500	Goodyears Creek at Goodyears Bar, CA	Lat 39°32'30", long 120°53'13", in NW¼SW¼ sec.5, T.19 N., R.10 E., Sierra County, Tahoe National Forest, 300 ft (91 m) upstream from mouth, and 0.5 mi (0.8 km) north of Goodyears Bar.	12.9	1911-33‡, 1960-68a, 1977	6-22-77 8-9-77 9-8-77	b 3.85 b 2.17 b 2.17
*11417100	Poorman Creek near Washington, CA	Lat 39°21'36", long 120°48'24", in SW¼ sec.1, T.17 N., R.19 E., Nevada County, Tahoe National Forest, just downstream from U.S. Forest Service bridge, 0.4 mi (0.6 km) west of Washington, and 1.4 mi (2.3 km) downstream from Deadman Creek.	23.1	1961-71‡, 1975a, 1976-77	6-21-77 8-29-77 9-17-77	b 7.07 b 3.66 b 2.91
11420000	Dry Creek near Brownsville, CA	Lat 29°28'37", long 121°15'16", in SW¼NW¼ sec.25, T.19 N., R.6 E., Yuba County, 0.2 mi (0.3 km) downstream from New York Creek and 0.9 mi (1.4 km) northeast of Brownsville.	20.4	1949-60‡, 1961b, 1964-68a, 1977	6-21-77 8-1-77 9-7-77	b 1.08 e 8.86 e 6.15
11423150	Wolf Creek near Wolf, CA	Lat 39°03'03", long 121°06'26", in NW¼SE¼ sec.20, T.14 N., R.8 E., Nevada County, 1.0 mi (1.6 km) north of Higgins Corner and 1.8 mi (2.9 km) southeast of Wolf Post Office.		1977	6-23-77 8-10-77 9-16-77	b 4.10 b 3.16 b 3.56
11426500	North Fork American River near Colfax, CA	Lat 39°02'25", long 120°54'06", in SE¼SW¼ sec.19, T.14 N., R.10 E., Placer County, 400 ft (122 m) downstream from Shirttail Canyon and 5.0 mi (8.0 km) southeast of Colfax.	308	1911-41‡, 1977	6-23-77 8-10-77 9-16-77	b 80.0 b 17.3 b 14.8

See footnotes at end of table.

Discharge measurements made at low-flow partial-record stations during water year 1977

Station No.	Station name		Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Sacramento River basin--Continued				
11433430	Buckeye Canyon Creek tributary near Greenwood, CA	Lat 38°55'18", long 120°57'46", in SE¼NW¼ sec.3, T.12 N., R.9 E., El Dorado County, 3.3 mi (5.3 km) northwest of Greenwood, and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-77	1-24-77 3-3-77	0 0
11433440	Wildcat Canyon Creek near Cool, CA	Lat 38°55'11", long 120°58'11", in NE¼SE¼ sec.4, T.12 N., R.9 E., El Dorado County, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northwest of Greenwood.	0.30	1972-77	1-24-77 3-3-77	0 0
*11433450	Browns Bar Canyon Creek near Cool, CA	Lat 38°54'52", long 120°58'42", in SE¼SW¼ sec.4, T.12 N., R.9 E., El Dorado County, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-77	1-24-77 3-3-77	0 .01
*11433900	Paymaster Creek near Cool, CA	Lat 38°53'33", long 120°59'58", in SE¼NW¼ sec.17, T.12 N., R.9 E., El Dorado County, 400 ft (122 m) upstream from culvert on Paymaster Trail, 0.9 mi (1.4 km) northeast of Cool.	--	1972-77	1-24-77 3-3-77 5-5-77	0 0 0
11440500	Plum Creek near Riverton, CA	Lat 38°45'24", long 120°25'41", in SE¼SE¼ sec.32, T.11 N., R.14 E., El Dorado County, Eldorado National Forest, 1.5 mi (2.4 km) upstream from mouth and 1.6 mi (2.6 km) southeast of Riverton.	7.32	1923-40‡, 1956a, 1977	6-5-77 7-22-77 8-15-77 9-27-77	b 0.39 b .05 b .03 b .06
11440700	Tells Creek near Kyburz, CA	Lat 38°54'09", long 120°22'05", in SE¼NE¼ sec.11, T.12 N., R.14 E., El Dorado County, at Loon Lake road crossing, 10 mi (16 km) northeast of Riverton.	8.66	1964-68a, 1969-71a, 1974-75a,	6-16-77 8-17-77 9-22-77	b 4.33 b .29 b .32

*Also a crest-stage partial-record station.
‡ Operated as a continuous-record gaging station.
a Published as a miscellaneous measurement.
b Base flow.
c Hydrologic drainage boundary uncertain due to ground-water exchange.
d Water-quality data published in partial-record section of this report.
e Affected by canal diversion.

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 1977

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		Eagle Lake basin					
*10359250	Pine Creek near Westwood, CA	Lat 40°34'26", long 121°06'18", in NE¼SE¼ sec.5, T.31 N., R.8 E., Lassen County, 1.3 mi (2.1 km) southwest of Bogard Guard Station and 19 mi (31 km) north of Westwood.	24.8	1950-61‡, 1966-77	1977	--	0
10359270	Aspen Creek near Westwood, CA	Lat 40°42'47", long 121°04'36", in NE¼NE¼ sec.21, T.33 N., R.8 E., Lassen County, in Lassen National Forest, at culvert on Forest Service Road 34N28, 3.7 mi (6.0 km) northwest of Harvey Valley Ranger Station, and 27.5 mi (44.2 km) north of Westwood.	4.70	1970-73a, 1974-77	1977	--	0
10359290	Pine Creek tributary near Susanville, CA	Lat 40°43'44", long 120°52'44", in NW¼NW¼ sec.17, T.33 N., R.10 E., Lassen County, in Lassen National Forest, at culvert on Forest Service Road 35N5, 28 mi (45 km) north of Susanville.	4.70 (low flow) 16.8 (extreme flood flow)	1971-73a, 1974-77	1977	--	0
		Sacramento River basin					
11352000	Pit River near Bieber, CA	Lat 41°00'55", long 121°09'13", in NE¼SW¼ sec.27, T.37 N., R.7 E., Modoc County, 2.2 mi (3.5 km) upstream from Spring Gulch and 7.4 mi (11.9 km) south of Bieber.	2,475	1904-8‡, 1913-14‡, 1921-26‡, 1928-31‡, 1951-75‡, 1976-77	5-13-77	4.14	464
11352900	Beaver Creek near Hat Creek, CA	Lat 40°49'47", long 121°14'54", in NE¼NE¼ sec.12, T.34N., R.6 E., Lassen County, in Lassen National Forest, at culvert on Forest Service Road 35N10, 13.6 mi (21.9 km) east of Hat Creek, and 15 mi (24 km) south of Pittville.	23.2	1970-73‡, 1974-77	--	<1.49	<26
11355400	Bunchgrass Creek near Manzanita Lake, CA	Lat 40°39'10", long 121°37'36", in NE¼SW¼ sec.3, T.32 N., R.3 E., Shasta County, in Lassen National Forest, at culvert on Forest Service Road 32N46, 8.7 mi (14.0 km) northwest of town of Manzanita Lake.	.62	1970-73a, 1974-77	--	<2.55	<10
*11365500	Squaw Creek above Shasta Lake, CA	Lat 40°51'25", long 122°05'08", in SE¼ sec.29, T.35 N., R.2 W., Shasta County, 1.3 mi (2.1 km) upstream from Salt Creek, 2 mi (3 km) upstream from Shasta Lake, and 10 mi (16 km) west of town of Montgomery Creek.	64.0	1944-66‡, 1969-77e	9-29-77	10.17	1100
11376100	South Fork Bailey Creek near Manzanita Lake, CA	Lat 40°28'45", long 121°35'46", unsurveyed, Shasta County, in Lassen National Forest, at culvert on Forest Service Road 31N12F, 4.4 mi (7.1 km) southwest of town of Manzanita Lake, and 5.2 mi (8.4 km) southeast of Viola.	3.67	1970-73a, 1974-77	1-2-77	6.48	23
*11377500	Paynes Creek near Red Bluff, CA	Lat 40°15'50", long 122°11'10", in SE¼ sec.22, T.28 N., R.3 W., Tehama County, 0.4 mi (0.6 km) upstream from mouth and 6.5 mi (10.5 km) northeast of Red Bluff.	92.8	1950-66‡, 1967-70, 1972-77	1-16-74 1-2-77	9.58 4.80	b6680 705

See footnotes at end of table.

Annual maximum discharge at crest-stage partial-record stations during water year 1977

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (feet)	Annual maximum Discharge (ft^3/s)
		Sacramento River basin--Continued					
11381810	Snake Creek near Paskenta, CA	Lat 39°59'38", long 122°47'25", in SE¼NW¼ sec.29, T.25 N., R.8 W., Tehama County, in Mendocino National Forest, at culvert on Forest Service Road 23N01, 14.5 mi (23.3 km) northwest of Paskenta.	2.45	1972-73a, 1974-77	3-16-77	76.64	61
11382950	North Fork Calf Creek near Butte Meadows, CA	Lat 40°09'44", long 121°31'58", in SW¼SW¼ sec.28, T.27 N., R.4 E., Tehama County, in Lassen National Forest, at culvert on Forest Service Road 27N12, 1.8 mi (2.9 km) upstream from Deer Creek, 5.6 mi (9.0 km) north of Butte Meadows, and 11.2 mi (18.0 km) south of town of Mill Creek.	1.26	1970-73a, 1974-77	1977	--	0
11384400	South Fork Stony Creek near Stonyford, CA	Lat 39°17'46", long 122°45'07" in NW¼SW¼ sec.27, T.17 N., R.8 W., Colusa County, in Mendocino National Forest, at culvert on Forest Service Road 18N1, 12.5 mi (20.1 km) southwest of Stonyford.	2.52	1970-73a, 1974-77	--	<22.96	<88
11386200	South Fork Elk Creek near Elk Creek, CA	(Revised).--Lat 39°34'12", long 122°40'37", in SW¼SW¼ sec.20, T.19 N., R.7 W., Glenn County, at culvert on Forest Service Road 20N1 and 7.8 mi (12.6 km) southwest of town of Elk Creek.	f2.56	1970-73a, 1974-77	--	<19.70	<42
11386250	Grindstone Creek tributary at Government Flat, near Covelo, CA	Lat 39°51'06", long 122°55'58", in SW¼NE¼ sec.14, T.23 N., R.10 W., Tehama County, Mendocino National Forest, on left bank at culvert on Forest Service Road 23N23, 0.5 mi (0.8 km) upstream from Grindstone Creek, 0.8 mi (1.3 km) southeast of Government Flat, and 17.2 mi (27.7 km) east of Covelo.	.74	1974-77	--	<12.33	<12
11387800	North Fork Stony Creek near Newville, CA	Lat 39°47'05", long 122°28'34", in SW¼SW¼ sec.6, T.22 N., R.5 W., Glenn County, on right bank 150 ft (46 m) downstream from Bedford Creek and 2.7 mi (4.3 km) east of Newville.	63.4	1963-73‡, 1974-77	--	<.90	<1.3
11389650	Scotts John Creek near Stirling City, CA	Lat 40°06'33", long 121°25'33", in SE¼NE¼ sec.17, T.26 N., R.5 E., Butte County, in Lassen National Forest, at culvert on Forest Service Road 26N27, 15 mi (24 km) northeast of Stirling City.	3.76	1970-73a, 1974-77	5-14-77	3.10	21
11397900	Benner Creek near Chester, CA	Lat 40°23'02", long 121°16'24", in SE¼SE¼ sec.11, T.29 N., R.6 E., Plumas County, in Lassen National Forest, at culvert on Forest Service Road 29N12, 5.6 mi (9.0 km) northwest of Chester.	7.67	1970-73a, 1974-77	5-14-77	--	c10
*11417100	Poorman Creek near Washington, CA	Lat 39°21'36", long 120°48'24", in SW¼ sec.1, T.17 N., R.10 E., Nevada County, Tahoe National Forest, just downstream from U.S. Forest Service bridge, 0.4 mi (0.6 km) west of Washington, and 1.4 mi (2.3 km) downstream from Deadman Creek.	23.1	1961-71‡, 1972 1974-77	--	<5.21	<494
11433430	Buckeye Canyon Creek tributary near Greenwood, CA	Lat 38°55'18", long 120°57'46", in SE¼NW¼ sec.3, T.12 N., R.9 E., El Dorado County, 3.3 mi (5.3 km) northwest of Greenwood and 3.5 mi (5.6 km) northeast of Cool.	.08	1972-73d, 1974-77	--	<.51	<.80

See footnotes at end of table.

Annual maximum discharge at crest-stage partial-record stations during water year 1977

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum: Date	Annual maximum: Gage height (feet)	Annual maximum: Discharge (ft^3/s)
		Sacramento River basin--Continued					
*11433440	Wildcat Canyon Creek near Cool, CA	Lat 38°55'11", long 120°58'11", in NE¼SE¼ sec.4, T.12N., R.9 E., El Dorado County, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northeast of Greenwood.	.30	1972-73d, 1974-77	--	<0.83	<5.4
*11433450	Browns Bar Canyon Creek near Cool, CA	Lat 38°54'52", long 120°58'42", in in SE¼SW¼ sec.4, T.12 N., R.9 E., El Dorado County, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	.75	1972-73d, 1974-77	1-2-77	.91	4.2
*11433900	Paymaster Creek near Cool, CA	Lat 38°53'33", long 120°59'58", in SE¼NW¼ sec.17, T.12 N., R.9 E., El Dorado County, 0.9 mi (1.4 km) northeast of Cool.	(g)	1972-73d, 1974-77	1-2-77	.53	3.2
11449350	Burns Valley Creek near Clearlake Highlands, CA	Lat 38°58'33", long 122°36'42", in SE¼ sec.15, T.13 N., R.7 W., Lake County, on right bank 500 ft (152 m) downstream from small right-bank tributary and 2.7 mi (4.3 km) northeast of Clearlake Highlands.	4.37	1963-69‡, 1970-77	3-15-77	1.25	.10

*Also a low-flow partial-record station.
‡ Operated as a continuous-record gaging station.
a Data for water years prior to 1973 published in Floods from Small Drainage Areas, Compilation, October 1958 to September 1973.
b Revised.
c Estimated.
d Published as miscellaneous measurement.
e Water-quality data published in partial-record section of this report.
f Corrected.
g Not determined.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

GOOSE LAKE BASIN
11337705 GOOSE LAKE AT WILLOW RANCH, CA

LOCATION.--Lat 41°54'14", long 120°21'55", in NW¼NW¼ sec.21, T.47 N., R.20 E., Modoc County.
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1969 to current year (discontinued).

DATE	TIME	RESERVOIR STORAGE (AC-FT)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT											
07...	1025	729000	12.0	55	0	14	4.8	530	91	31	44
MAY											
24...	1045	703600	11.5	55	0	14	4.8	490	91	29	40

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)
OCT											
07...	804	160	926	110	180	.7	59	1530	2.08	.01	.01
MAY											
24...	940	91	923	82	150	.7	47	1250	1.70	.08	--

DATE	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO, PHOSPHORUS (P) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED VANADIUM (V) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
OCT										
07...	1.7	1.7	2.3	2.1	20	900	3	3	28	10
MAY										
24...	--	--	--	--	--	3700	--	--	--	--

11337715 GOOSE LAKE AT EVERLY RANCH, NEAR WILLOW RANCH, CA

LOCATION.--Lat 41°52'17", long 120°29'49", in NW¼SE¼ sec.32, T.47 N., R.19 E., Modoc County.
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1969 to current year (discontinued).

DATE	TIME	RESERVOIR STORAGE (AC-FT)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO
OCT										
07...	0815	729000	14.0	53	0	14	4.4	510	91	30
MAY										
24...	0830	703600	11.5	58	0	15	5.0	560	91	32

DATE	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)
OCT										
07...	44	785	158	907	100	180	.7	58	1530	2.08
MAY										
24...	45	1010	130	1050	97	170	.8	54	1480	2.01

DATE	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO, PHOSPHORUS (P) (MG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED VANADIUM (V) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
OCT									
07...	.13	.01	1.6	1.6	2.3	2.0	840	30	20
MAY									
24...	.00	--	--	--	--	--	4200	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

GOOSE LAKE BASIN
11337720 GOOSE LAKE AT WEST SHORE LOG LANDING, NEAR WILLOW RANCH, CA

LOCATION.--Lat 41°57'51", long 120°29'37", in NE¼NE¼ sec.32, T.48 N., R.13 E., Modoc County.
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1969 to current year (discontinued).

DATE	TIME	RESERVOIR STORAGE (AC-FT)	TEMPERATURE (DEG C)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)
OCT											
07...	0855	729000	13.0	57	0	15	4.8	530	91	31	44
MAY											
24...	0915	703600	12.0	62	0	16	5.4	570	91	31	47

DATE	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)	DISSOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITROGEN (N) (MG/L)
OCT											
07...	786	160	911	110	180	.7	60	--	2.04	.04	.00
MAY											
24...	1030	120	1050	110	190	.8	58	1600	2.18	.03	--

DATE	TOTAL ORGANIC NITROGEN (N) (MG/L)	TOTAL KJELDAHL NITROGEN (N) (MG/L)	TOTAL PHOSPHORUS (P) (MG/L)	DISSOLVED ORTHO. PHOSPHORUS (P) (MG/L)	DISSOLVED ALUMINUM (AL) (UG/L)	DISSOLVED BORON (B) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED NICKEL (NI) (UG/L)	DISSOLVED VANADIUM (V) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
OCT										
07...	1.7	1.7	2.3	2.2	0	890	3	3	25	20
MAY										
24...	--	--	--	--	--	4600	--	--	--	--

SACRAMENTO RIVER BASIN
11365500 SQUAW CREEK ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°51'25", long 122°05'08", in SE¼ sec.29, T.35 N., R.2 W., Shasta County.
DRAINAGE AREA.--64.0 mi² (165.8 km²).
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	HARDNESS (CA,MG) (MG/L)	NONCARBONATE HARDNESS (MG/L)	DISSOLVED CALCIUM (CA) (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	PERCENT SODIUM
FEB												
28...	1630	22	216	8.0	7.0	12.2	110	15	38	3.8	4.6	8
JUN												
20...	1240	7.3	230	--	22.5	--	120	14	40	3.8	4.8	8
SEP												
26...	1145	13	261	7.9	14.0	--	48	--	17	1.4	1.8	7

DATE	SODIUM ADSORPTION RATIO	DISSOLVED POTASSIUM (K) (MG/L)	BICARBONATE (HCO3) (MG/L)	CARBONATE (CO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)	DISSOLVED SULFATE (SO4) (MG/L)	DISSOLVED CHLORIDE (CL) (MG/L)	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED SILICA (SIO2) (MG/L)	DISSOLVED SOLIDS (RESIDUE AT 180 C) (MG/L)	DISSOLVED SOLIDS (TONS PER AC-FT)
FEB											
28...	.2	.5	116	0	95	22	3.0	.1	11	133	.18
JUN											
20...	.2	.4	124	0	102	22	1.6	.2	15	157	.21
SEP											
26...	.1	.2	--	--	102	--	1.4	.1	11	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

SACRAMENTO RIVER BASIN
11365500 SQUAW CREEK ABOVE SHASTA LAKE, CA--Continued

DATE	DIS-SOLVED SOLIDS (TONS PER DAY)	TOTAL NITRATE (N) (MG/L)	TOTAL NITRITE PLUS NITRATE (N) (MG/L)	DIS-SOLVED NITRITE PLUS NITRATE (N) (MG/L)	TOTAL AMMONIA NITRO-GEN (N) (MG/L)	TOTAL ORGANIC NITRO-GEN (N) (MG/L)	TOTAL KJEL-DAHL NITRO-GEN (N) (MG/L)	TOTAL NITRO-GEN (N) (MG/L)	TOTAL PHOS-PHORUS (P) (MG/L)	DIS-SOLVED ORTHO. PHOS-PHORUS (P) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
FEB											
28...	7.90	.54	.01	.01	.00	.54	.54	.55	.01	.02	0
JUN											
20...	3.09	.09	.03	.02	.05	.01	.06	.09	.02	.01	0
SEP											
26...	--	.43	.34	.79	.00	.08	.08	.42	.01	.01	0

11381620 MILL CREEK AT MOUTH, NEAR LOS MOLINOS, CA

LOCATION.--Lat 40°02'34", long 122°05'57", T.25 N., R.2 W., in Rio de Los Molinos Grant, Tehama County.
DRAINAGE AREA.--131 mi^2 (339 km^2), at gaging station.
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water years 1953 to current year.
REMARKS.--Discharge given for Mill Creek near Los Molinos (station 11381500), 5.5 mi (8.8 km) upstream from mouth.
COOPERATION.--Chemical-quality records furnished by California Department of Water Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	TIME	INSTAN-TANEOUS DIS-CHARGE (CFS)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH (UNITS)	TEMPER-ATURE (DEG C)	TUR-BID-ITY (JTU)	DIS-SOLVED OXYGEN (MG/L)	HARD-NESS (CA,MG) (MG/L)
NOV								
16...	1500	102	257	8.4	14.0	2	10.5	--
JAN								
18...	1340	90	246	8.4	6.0	0	14.3	70
MAR								
16...	1515	111	231	8.4	9.0	1	12.6	58
MAY								
18...	1420	116	228	8.0	16.0	1	10.4	61
JUL								
18...	1345	71	295	7.5	28.0	0	13.2	87
SEP								
23...	1215	82	292	7.3	21.0	3	11.6	88

DATE	NON-CAR-BONATE HARD-NESS (MG/L)	DIS-SOLVED SODIUM (NA) (MG/L)	SODIUM AD-SORP-TION RATIO	BICAR-BONATE (HCO3) (MG/L)	CAR-BONATE (CO3) (MG/L)	ALKA-LINITY AS CACO3 (MG/L)	DIS-SOLVED CHLO-RIDE (CL) (MG/L)	DIS-SOLVED BORON (B) (UG/L)
NOV								
16...	--	--	--	--	--	--	--	--
JAN								
18...	13	21	1.1	69	0	57	28	900
MAR								
16...	5	20	1.1	64	0	52	26	800
MAY								
18...	8	19	1.1	64	0	52	21	700
JUL								
18...	9	22	1.0	95	0	78	30	700
SEP								
23...	35	27	1.3	64	0	52	37	1200

WATER QUALITY DATA, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

SACRAMENTO RIVER BASIN

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA

LOCATION.--Lat 39°58'32", long 122°13'28", in SW¼SE¼ sec.32, T.25 N., R.3 W., Tehama County.
DRAINAGE AREA.--284 mi² (736 km²).
PERIOD OF RECORD.--
SEDIMENT RECORDS: Water year 1977.

DATE	TIME	TEMPERATURE (DEG C)	INSTANTANEOUS DISCHARGE (CFS)	SUSPENDED SEDIMENT (MG/L)	SUSPENDED SEDIMENT DISCHARGE (T/DAY)	SUS. SED. FALL DIAM. % FINER THAN .002 MM	SUS. SED. FALL DIAM. % FINER THAN .004 MM	SUS. SED. FALL DIAM. % FINER THAN .008 MM	SUS. SED. FALL DIAM. % FINER THAN .016 MM	SUS. SED. FALL DIAM. % FINER THAN .031 MM
MAR										
16...	1305	8.0	220	328	195	--	--	--	--	--
16...	1410	8.5	311	585	491	32	47	61	74	86
17...	1140	12.0	86	40	9.3	--	--	--	--	--
18...	1420	17.0	42	6	.68	--	--	--	--	--
28...	1310	15.0	79	3	.64	--	--	--	--	--
APR										
04...	1000	17.5	1.0	4	.01	--	--	--	--	--
MAY										
02...	1135	17.5	40	31	3.3	--	--	--	--	--
09...	1010	15.0	20	2	.11	--	--	--	--	--

DATE	SUS. SED. FALL DIAM. % FINER THAN .062 MM	SUS. SED. SIEVE DIAM. % FINER THAN .062 MM	SUS. SED. FALL DIAM. % FINER THAN .125 MM	SUS. SED. SIEVE DIAM. % FINER THAN .125 MM	SUS. SED. FALL DIAM. % FINER THAN .250 MM	SUS. SED. SIEVE DIAM. % FINER THAN .250 MM	SUS. SED. FALL DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN .500 MM	SUS. SED. SIEVE DIAM. % FINER THAN 1.00 MM	SUS. SED. SIEVE DIAM. % FINER THAN 2.00 MM
MAR										
16...	--	75	--	85	--	92	--	99	100	--
16...	92	--	96	--	99	--	100	--	--	--
17...	--	96	--	100	--	--	--	--	--	--
18...	--	81	--	--	--	--	--	--	--	--
28...	--	76	--	--	--	--	--	--	--	--
APR										
04...	--	39	--	--	--	--	--	--	--	--
MAY										
02...	--	87	--	87	--	87	--	91	93	100
09...	--	67	--	--	--	--	--	--	--	--

11401300 LIGHTS CREEK NEAR TAYLORSVILLE, CA

LOCATION.--Lat 40°10'00", long 120°47'35", in SW¼SW¼ sec.30, T.27 N., R.11 E., Plumas County, Plumas National Forest.
DRAINAGE AREA.--57.6 mi² (149.2 km²).
PERIOD OF RECORD.--
CHEMICAL ANALYSES: Water year 1977.

DATE	TIME	INSTANTANEOUS DISCHARGE (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	DISSOLVED OXYGEN (MG/L)	DISSOLVED MAGNESIUM (MG) (MG/L)	DISSOLVED SODIUM (NA) (MG/L)	BICARBONATE (HCO3) (MG/L)	ALKALINITY AS CACO3 (MG/L)
AUG										
02...	1400	.16	169	8.0	24.0	8.2	6.2	7.0	98	80
16...	1500	.16	174	7.9	22.5	7.6	6.2	--	100	82
SEP										
12...	1430	.60	180	7.5	13.5	--	6.4	--	100	82

DATE	DISSOLVED FLUORIDE (F) (MG/L)	DISSOLVED CADMIUM (CD) (UG/L)	DISSOLVED CHROMIUM (CR) (UG/L)	DISSOLVED COBALT (CO) (UG/L)	DISSOLVED COPPER (CU) (UG/L)	DISSOLVED IRON (FE) (UG/L)	DISSOLVED LEAD (PB) (UG/L)	DISSOLVED MERCURY (HG) (UG/L)	DISSOLVED ZINC (ZN) (UG/L)
AUG									
02...	.1	0	0	1	2	40	1	.0	2
16...	.0	0	10	1	3	20	1	.0	10
SEP									
12...	.0	0	0	1	2	20	2	.0	10

Lake County

Lower Lake-Middletown Area

384739122335201. Local number 11N/6W-19G1 M.
LOCATION.--Lat 38°47'39", long 122°33'52", about 4 mi (6 km) northeast of Middletown in Coyote Valley.
Owner: Zolezzi Arabian Horse Ranch.
AQUIFER.--Alluvium of Quaternary age.
WELL CHARACTERSITICS.--Drilled domestic water-table well, diameter 8 in (0.20 m), depth 50 ft (15.2 m), casing information not available.
DATUM.--Altitude of land-surface datum is 960 ft (292.6 m).
COOPERATION.--Measurements were furnished by California Department of Water Resources.
PERIOD OF RECORD.--Water years 1950-54, 1956 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.54 ft (0.469 m) below land-surface datum, Mar. 6, 1963; lowest measured, 18.43 ft (5.617 m) below land-surface datum, Oct. 4, 1961.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 4, 1976	17.3	MAR. 11, 1977	15.1				

Solano County

Putah and Suisun-Fairfield Area

341453122071001. Local number 5N/2W-30J1 M.
LOCATION.--Lat 38°14'53", long 122°07'10", about 3 mi (5 km) west of Fairfield.
Owner: R. P. Robbins.
AQUIFER.--Allivium.
WELL CHARACTERISTICS.--Drilled irrigation, artesian or water-table unknown, diameter 12 in (30.48 cm), depth 220 ft (67.1 m), casing information not available.
DATUM.--Altitude of land-surface datum is 65 ft (19.8 m) above mean sea level. Measuring point: 0.4 ft (0.12 m) above land-surface datum.
REMARKS.--Measurements after Apr. 21, 1966, by California Department of Water Resources.
PERIOD OF RECORD.--1959 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.1 ft (3.69 m) below land-surface datum, May 26, June 28, 1976; lowest, 41.8 ft (12.74 m) below land-surface datum, Feb. 8, 1960.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 29, 1976	21.7	JAN. 27, 1977	23.5	APR. 28, 1977	23.8	JULY 26, 1977	21.5
NOV. 29	22.9	FEB. 26	25.6	MAY 26	19.8	AUG. 26	21.8
DEC. 29	23.2	MAR. 25	23.8	JUNE 29	18.1	SEP. 27	21.7

Yolo County

Putah and Suisun-Fairfield Area

383248121505501. Local number 8N/1E-15B1 M.
LOCATION.--Lat 38°32'48", long 121°50'55", about 6 mi (10 km) west of Davis.
Owner: Frank E. Russell.
AQUIFER.--Alluvium of Holocene age.
WELL CHARACTERISTICS.--Drilled stock water-table well, about 6 mi (10 km) west of Davis, diameter 10 in (25.4 cm), depth 116 ft (35.4 m), casing information not available.
DATUM.--Altitude of land-surface datum is 85.0 ft (25.9 m), previously reported 83.48 ft (25.44 m).
Measuring point: 0.3 ft (0.09 m) above land-surface datum.
REMARKS.--Measurments after Apr. 21, 1966, by California Department of Water Resources.
PERIOD OF RECORD.--1931-42, 1948-51, 1958-68, 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.8 ft (4.21 m) below land-surface datum, May 16, 1941; lowest, 34.74 ft (10.59 m) below land-surface datum, Jan. 11, 1962.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT. 29, 1976	28.5	JAN. 28, 1977	30.2	APR. 29, 1977	32.4	JULY 29, 1977	33.0
NOV. 30	29.3	FEB. 28	30.8	MAY 27	32.6	SEP. 1	33.6
DEC. 30	29.9	MAR. 28	31.5	JUNE 27	33.6	SEP. 26	34.6

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GPO 689-035

October 13, 1977

FACTORS FOR CONVERTING U.S. CUSTOMARY UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the U.S. customary units published herein to the International System of Units (SI). Subsequent reports will contain both the U.S. customary and SI unit equivalents in the station manuscript descriptions until such time that all data will be published in SI units.

Multiply U.S. customary units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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