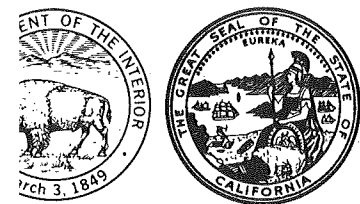


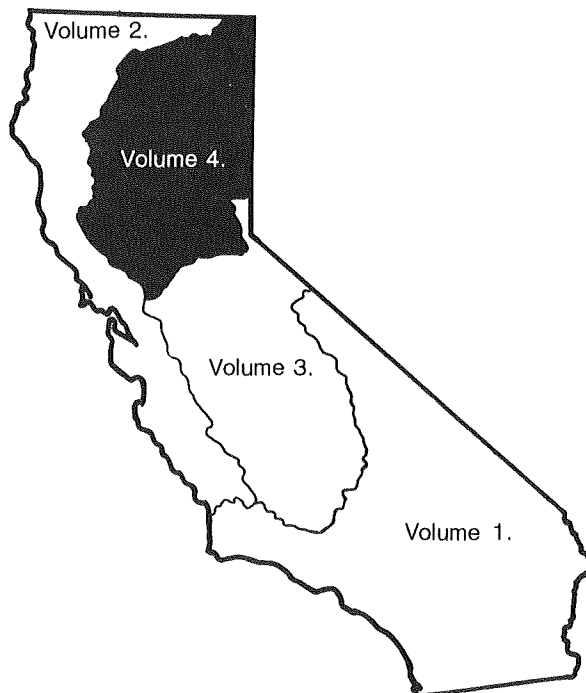
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Water Resources Data California

Water Year 1981

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-81-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

CALENDAR FOR WATER YEAR 1981

1980

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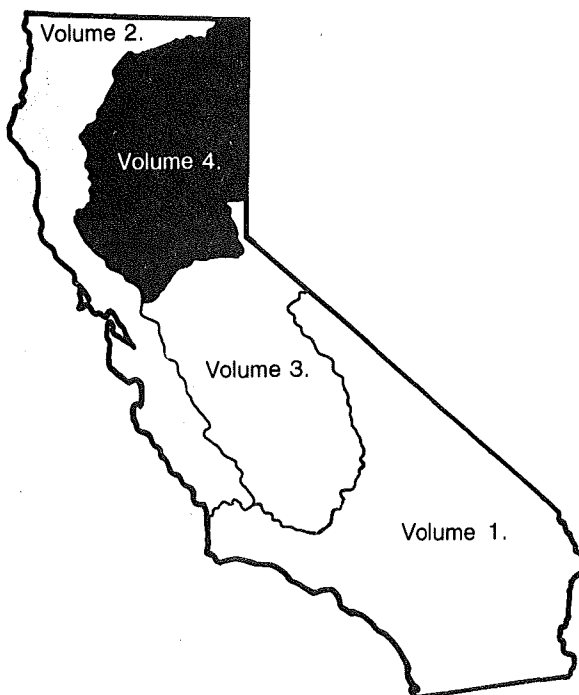
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Water Resources Data California Water Year 1981

Volume 4. Northern Central Valley Basins and
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U.S. GEOLOGICAL SURVEY WATER-DATA REPORT CA-81-4
Prepared in cooperation with the California Department of
Water Resources and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

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GEOLOGICAL SURVEY

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1982

PREFACE

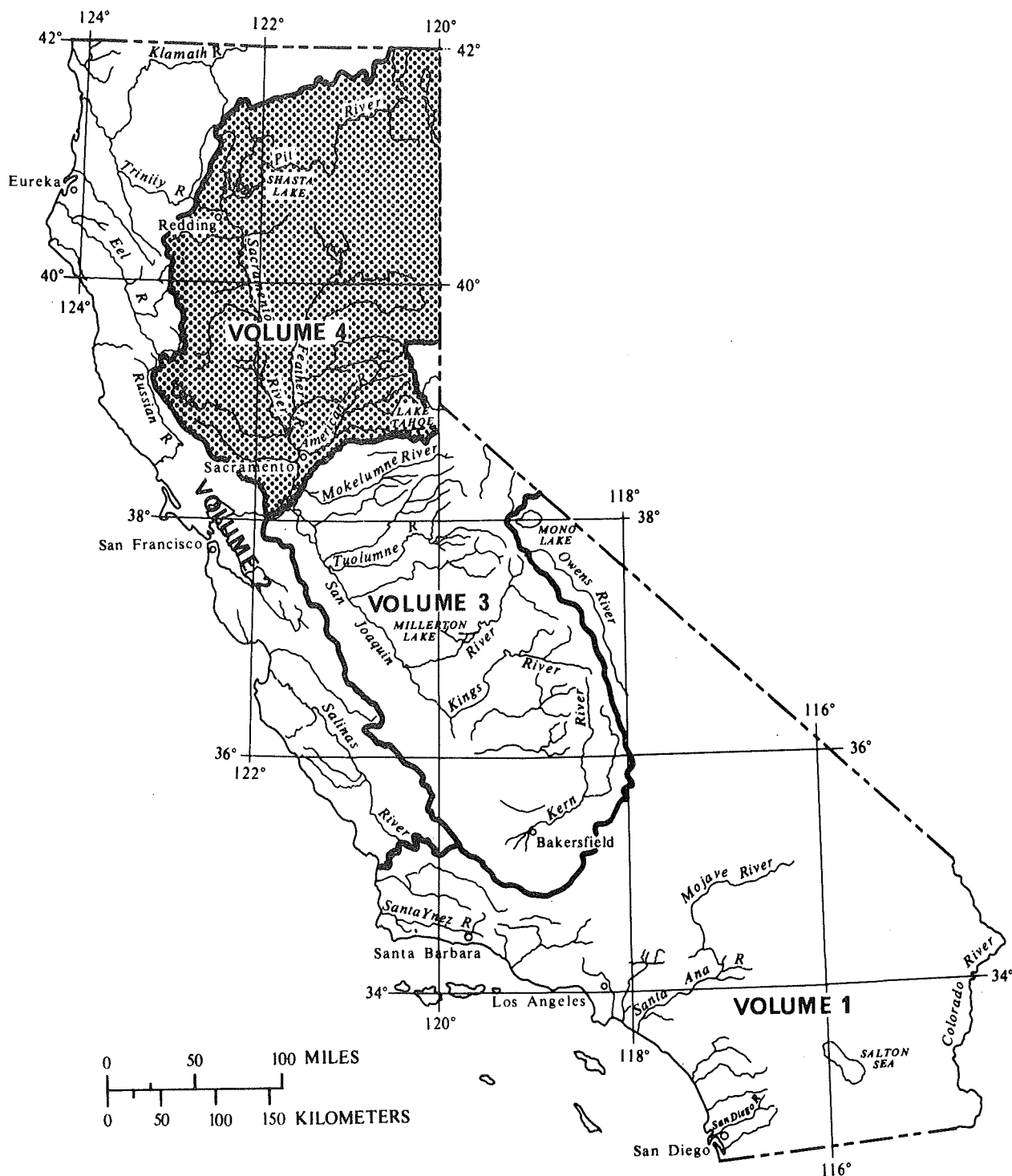
This report was prepared by personnel of the California District, Water Resources Division, U.S. Geological Survey, under the supervision of Richard M. Bloyd and Timothy J. Durbin, successive District Chiefs, and J. D. Bredehoeft, Regional Hydrologist, Western Region. It was done in cooperation with 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 Philip Cohen, Chief Hydrologist.

Data for California are in four volumes as follows:

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

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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

IX

[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, 1981

Volume 4

INTRODUCTION

Water-resources data for the 1981 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. 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 Eastern Distribution Branch, Text Products Section, 604 South Pickett Street, Alexandria, Virginia 22304.

For water years 1961 through 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released, either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 water year, water data for streamflow, water quality, and ground water are published in official Survey reports 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 volume is identified as "U.S. Geological Survey Water-Data Report CA-81-4." These water-data reports are for sale, in paper copy or in microfiche, by the National Technical Information Service, U.S. Department of Commerce, Springfield, Virginia 22161.

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

COOPERATION

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

California Department of Water Resources, R. B. Robie, Director.
 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,
 H. C. Porter, 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, Elmer Pretzer, Power System Superintendent.
 Siskiyou County Flood Control and Water Conservation District,
 D. A. Gravenkamp, Director of Public Works.
 Yolo County Flood Control and Water Conservation District,
 James F. Eagan, 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.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

Runoff during the 1981 water year in the area covered by this volume was well below normal for the entire year. Total runoff at selected sites in California is shown in figure 1. Runoff in the upper Sacramento River basin averaged 68 percent of the 1951-80 median at the index station Sacramento River at Keswick but dropped to 38 percent in the American River basin. In the American River basin flows approached those that occurred during the drought of the 1976-77 water year when the runoff in the basin reached only 12 percent of median.

Snowfall was 60 percent of average in the northern Sierra Nevada with only four general storms occurring during the winter. During the entire water year northern California had no local flooding or peaks of record.

Ground Water

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

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

At an observation well near Zamora in the southern Sacramento Valley water levels for much of the year were about 2 feet higher than in 1980. The lowest water level for the year was 18.01 feet below land surface datum (1sd) in September. The water level of 7.72 feet below 1sd in May was the highest water level for both the year and the period of record.

In the northern Sacramento Valley near Butte City the water levels in an observation well showed less seasonal fluctuation in 1981 than in 1980. The highest level for the year was 13.23 feet above 1sd in March, and the lowest water level was 22.49 feet below 1sd in August, the lowest level for the period of record.

Water Quality

Water samples taken at three NASQAN and four other sites in the area covered by this volume were analyzed for water-quality constituents during 1981. Water quality at these sites was similar to previous years' records. No significant changes in any of the constituents sampled was evident, and there were no concentrations of any constituents that were larger than maximum permissible EPA or other public health standards or guidelines.

The highest concentrations of indicator bacteria occurred at Sacramento River near Freeport. At this station fecal coliform ranged from 26 to 370 col/100 mL, and fecal streptococci concentrations ranged from 10 to 150 col/100 mL. Fecal streptococci concentrations at Susan River near Susanville were high, ranging from 15 to 690 col/100 mL. At Manzanita Creek at park boundary near Manzanita Lake the August and September samples for fecal coliform were 230 and 350 col/100 mL. These concentrations were considerably greater than those found during the rest of the year.

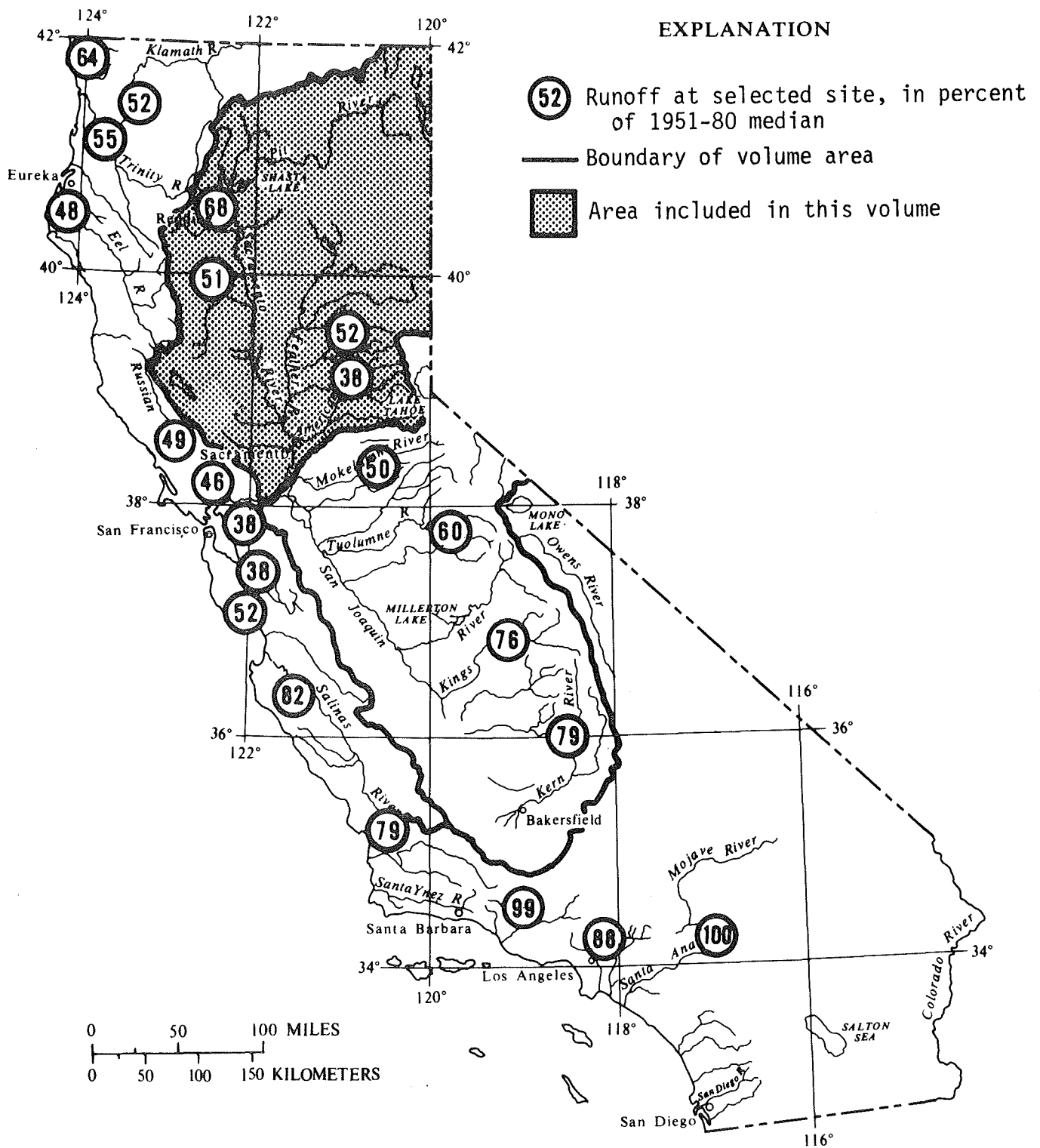


FIGURE 1.--Runoff for the current water year.

DEFINITION OF TERMS

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

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

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

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

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

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

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

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

Fecal streptococcal bacteria are also bacteria found in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. For the membrane filter method they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 0.5°C on KF Streptococcus agar 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 organisms living in or on the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish.

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

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

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

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

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

Bottom material: See Bed material.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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

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

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

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

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

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

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

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

Cubic foot per second (FT³/S, ft³/s), is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Substrate is the physical surface upon which an organism lives.

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

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

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

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45-micrometer membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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

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

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

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

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

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

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

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

Total, recoverable is the amount of a given constituent that is in solution after a representative water-suspended sediment sample has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all particulate matter is not achieved by the digestion treatment, and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the dissolved and suspended phases of the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

Turbidity of a sample is the reduction of transparency due to the presence of particulate matter. In this report it is expressed in Nephelometric Turbidity Units (NTU), obtained from the Nephelometric method for turbidity determination which measures the intensity of light scattered by suspended particles at 90 degrees from the path of an incident light source (see also p. 23).

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

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

DOWNSTREAM ORDER AND STATION NUMBER

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

As an added means of identification, each surface-water station, water-quality station, and partial-record station has been assigned a station number. These are in the same downstream order as used in this report. In assigning station numbers, no distinction is made between partial-record and continuous-record stations; therefore, the station number for a partial-record station indicates downstream order position in a list made up of both types of stations. Water-quality stations located at or near gaging stations or partial-record stations have the same number as the gaging or partial-record station. Gaps are left between the numbers to allow for new stations that may be established; hence the numbers are not consecutive. The complete 8-digit number for each station, such as 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.

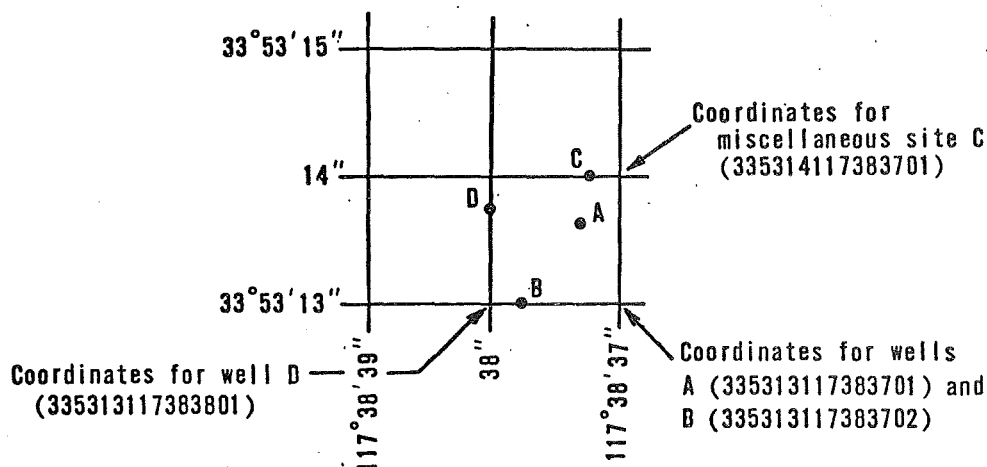


FIGURE 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

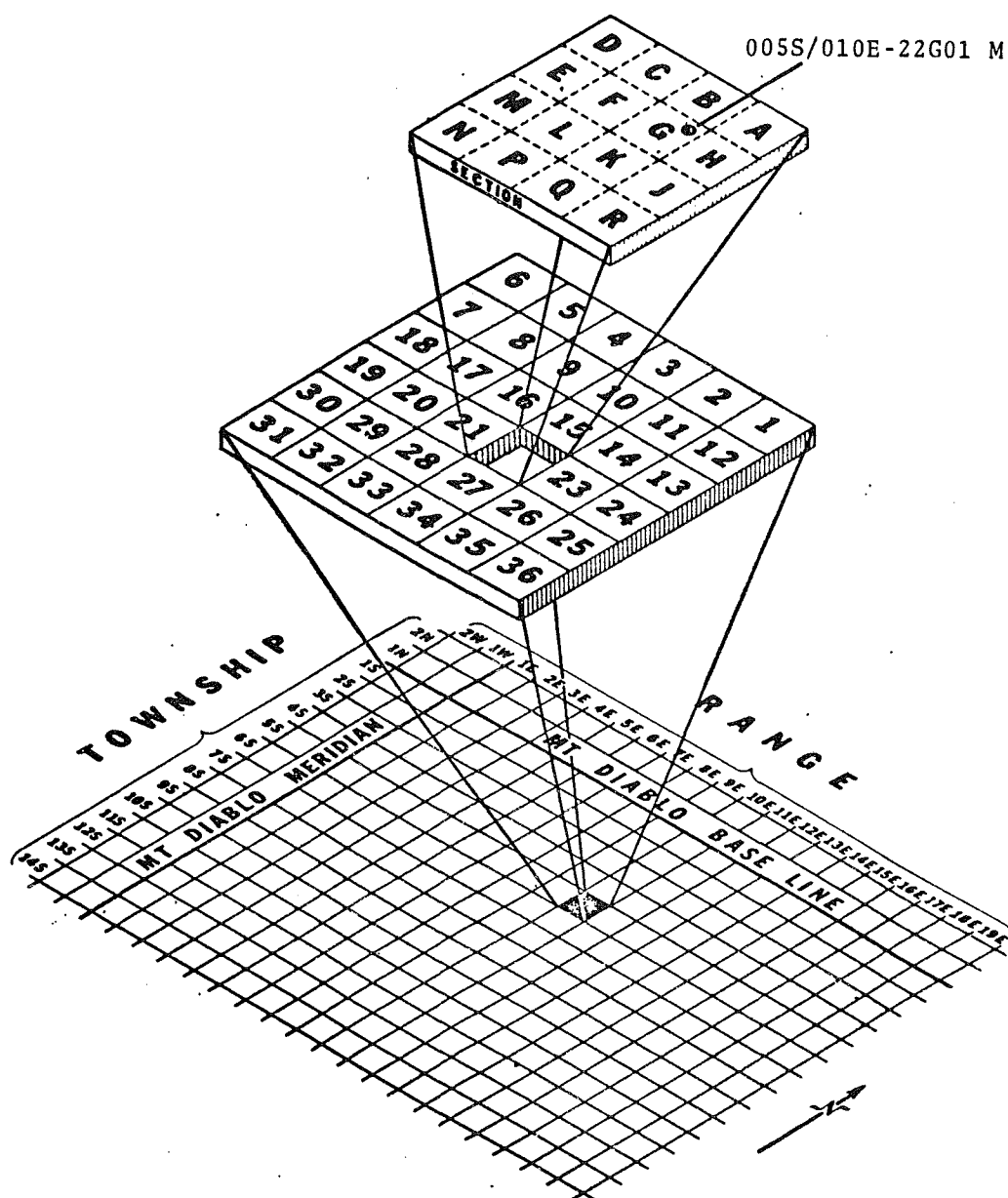


FIGURE 3.--California well-numbering system.

SPECIAL NETWORKS AND PROGRAMS

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

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

Volume 2:

11475560 Elder Creek near Branscomb, CA

Volume 3:

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

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

Volume 1:

09424190 Colorado River Aqueduct near San Jacinto, CA
10254670 Alamo River at Drop No. 3, near Calipatria, CA
10254970 New River at International Boundary, at Calexico, CA
10261500 Mojave River at lower narrows, near Victorville, CA
10277400 Owens River below Tinemaha Reservoir, near Big Pine, CA
11042000 San Luis Rey River at Oceanside, CA
11074000 Santa Ana River below Prado Dam, CA
11103000 Los Angeles River at Long Beach, CA
11108500 Santa Clara River at Los Angeles-Ventura County line, CA

Volume 2:

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

Volume 3:

11187000 Kern River at Kernville, CA
11218500 Kings River below North Fork, near Trimmer, CA
11250000 Friant-Kern Canal at Friant, CA
11303500 San Joaquin River near Vernalis, CA
11325500 Mokelumne River at Woodbridge, CA

Volume 4:

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

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

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

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

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

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

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

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

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

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

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

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

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

The type of gage currently in use, the datum of the present gage referred to National Geodetic Vertical Datum of 1929, and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in "DEFINITION OF TERMS" on page 8.

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

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

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

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

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

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

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

Accuracy of field data and computed results

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

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

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations and miscellaneous sites.

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

Other data available

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

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

Records of discharge collected by agencies other than the Geological Survey

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

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

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

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

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

Water analysis

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

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

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

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

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

Water temperature

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

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

Sediment

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

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

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

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

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

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

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

Turbidity

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

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

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

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

Water-level measurements in this report are given in feet with reference to either National Geodetic Vertical Datum of 1929 (NGVD) or land-surface datum (1sd). National Geodetic Vertical Datum is the datum plane on which the national network of precise levels is based; land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum referred to National Geodetic Vertical Datum is given in the well description. The height of the measuring point (MP above or below land-surface datum), if known, is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

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

In this report basin names and numbers, for example Sacramento Valley (5-21), are from "California's Ground Water," California Department of Water Resources Bulletin No. 118, 1975, 135 p.

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-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, Eastern Distribution Branch, Text Products Section, 604 South Pickett Street, Alexandria, VA 22304 (authorized agent of the Superintendent of Documents, Government Printing Office).

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

- 1-D1. Water temperature-influential factors, field measurement, and data presentation, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. Guidelines for collection and field analysis of ground-water samples for selected unstable constituents, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. Application of surface geophysics to ground-water investigations, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. Application of borehole geophysics to water-resources investigations, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. General field and office procedures for indirect discharge measurements, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. Measurement of peak discharge by the slope-area method, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. Measurement of peak discharge at culverts by indirect methods, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3, 1968. 60 pages.
- 3-A4. Measurement of peak discharge at width contractions by indirect methods, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. Measurement of peak discharge at dams by indirect methods, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5, 1967. 29 pages.
- 3-A6. General procedure for gaging streams, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6, 1968. 13 pages.
- 3-A7. Stage measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. Discharge measurements at gaging stations, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A11. Measurement of discharge by moving-boat method, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. Aquifer-test design, observation, and data analyses, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. Introduction to ground-water hydraulics, a programed text for self-instruction, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. Fluvial sediment concepts, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2, 1970. 59 pages.
- 3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

- 4-A2. Frequency curves, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. Low-flow investigations, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. Regional analyses of streamflow characteristics, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. Methods for determination of inorganic substances in water and fluvial sediments, edited by M. W. Skougstad, M. J. Fishman, L. C. Friedman, D. E. Erdmann, and S. S. Duncan: USGS--TWRI Book 5, Chapter A1. 626 p.
- 5-A2. Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 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.
- 5-C1. Laboratory theory and methods for sediment analyses, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. Finite-difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. Computer model of two dimensional solute transport and dispersion in ground water, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 8-A1. Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

10356500 SUSAN RIVER AT SUSANVILLE, CA
(National stream-quality accounting network station)

LOCATION.--Lat 40°25'03", long 120°40'15", in SWNE¼ sec.31, T.30 N., R.12 E., Lassen County, Hydrologic Unit 18080003, 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 mi² (477 km²).

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) National Geodetic Vertical Datum of 1929. 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 periods, which are fair. Flow regulated by McCoy Flat Reservoir and Hog Flat Reservoir, combined usable capacity, 25,300 acre-ft (31.2 hm³). Diversions for irrigation of 1,400 acres (567 hm²) above station.

AVERAGE DISCHARGE.--37 years (water years 1901, 1904-5, 1918-20, 1951-81), 92.0 ft³/s (2.605 m³/s), 66,650 acre-ft/yr (82.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,850 ft³/s (166 m³/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 ft³/s (28.3 m³/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, 833 ft³/s (23.6 m³/s) Feb. 14, gage height, 4.56 ft (1.390 m); minimum daily, 1.6 ft³/s (0.045 m³/s) Aug. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.1	9.3	16	15	23	47	95	80	96	3.8	2.8	2.2
2	6.5	9.8	18	15	21	46	87	70	94	3.5	2.2	2.2
3	6.6	9.3	75	17	20	44	76	62	83	3.6	2.3	2.3
4	7.2	9.3	141	20	20	44	70	66	47	3.7	2.4	2.4
5	6.5	9.2	39	18	20	46	68	81	24	3.6	2.2	2.5
6	6.2	9.2	24	17	20	42	72	77	18	3.9	2.1	2.6
7	6.2	9.6	17	15	20	40	71	75	16	3.7	2.0	2.5
8	6.0	10	14	13	21	39	68	71	16	3.7	1.7	2.4
9	6.4	10	14	13	21	39	66	69	16	3.6	1.8	3.4
10	6.2	10	14	13	24	39	65	59	13	3.4	2.5	2.9
11	6.3	10	14	13	33	40	64	45	12	3.3	1.9	3.0
12	7.3	9.8	14	13	43	39	60	44	11	3.3	1.9	2.8
13	7.6	9.3	14	13	72	47	58	41	11	3.4	1.6	2.8
14	8.1	9.3	14	13	378	48	59	56	11	3.2	1.7	2.8
15	8.4	10	14	13	147	44	62	67	10	3.0	1.7	2.8
16	7.7	9.6	14	14	134	48	63	65	9.4	2.8	1.8	2.8
17	8.5	10	14	15	165	43	63	63	8.5	2.7	3.2	2.8
18	9.3	9.9	15	15	115	40	64	85	8.2	2.6	1.9	3.7
19	8.7	9.9	15	16	153	47	82	80	7.5	2.6	1.9	3.8
20	8.9	10	15	20	145	52	105	67	7.3	2.5	2.4	2.9
21	7.8	10	18	21	99	50	103	63	7.0	2.5	2.2	3.3
22	8.8	11	24	22	79	51	106	62	6.7	2.3	2.8	4.3
23	8.6	11	18	31	71	47	105	60	6.5	2.6	2.2	3.9
24	8.8	11	17	29	71	46	109	62	6.5	2.6	2.9	4.2
25	9.5	10	18	24	61	105	102	72	5.2	2.5	3.4	5.9
26	9.0	9.6	22	22	55	148	103	113	4.6	2.6	2.6	4.8
27	9.1	9.6	23	35	50	118	90	123	4.6	2.8	2.7	4.0
28	9.1	9.6	27	47	46	102	82	115	4.3	3.1	3.4	6.4
29	9.4	10	22	42	---	107	80	111	4.1	2.5	2.5	5.8
30	9.5	22	19	32	---	98	81	105	4.1	2.4	2.5	5.0
31	9.4	---	16	26	---	87	---	101	---	2.3	2.6	---
TOTAL	244.7	307.3	739	632	2127	1833	2379	2310	572.5	94.1	71.8	103.2
MEAN	7.89	10.2	23.8	20.4	76.0	59.1	79.3	74.5	19.1	3.04	2.32	3.44
MAX	9.5	22	141	47	378	148	109	123	96	3.9	3.4	6.4
MIN	6.0	9.2	14	13	20	39	58	41	4.1	2.3	1.6	2.2
AC-FT	485	610	1470	1250	4220	3640	4720	4580	1140	187	142	205
CAL YR 1980 TOTAL	34816.2				2410				69060			
WTR YR 1981 TOTAL	11413.6				378				22640			

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.
 CHEMICAL ANALYSES: Water years 1952 to current year.
 BIOLOGICAL DATA: Water years 1978 to current year.
 SEDIMENT RECORDS: Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 20...	0940	11	150	7.7	.5	1.0	11.9	K2	K15	71	0	15
JAN 20...	0845	20	135	7.2	3.5	3.2	12.0	K8	34	62	2	14
MAR 19...	0830	43	--	7.2	5.5	2.7	10.8	K3	230	40	0	10
MAY 20...	0830	68	74	7.8	8.5	3.9	9.6	22	110	36	0	8.2
JUL 17...	0930	2.7	--	7.3	17.0	1.3	7.7	71	520	91	0	20
SEP 23...	0900	5.0	170	7.1	9.5	3.6	9.6	54	690	89	0	19

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV 20...	8.2	5.7	14	.3	1.9	84	1.8	1.2	.1	34	112	118
JAN 20...	6.6	5.7	16	.3	1.3	60	3.0	.9	.1	28	92	99
MAR 19...	3.6	3.6	16	.2	.9	44	.5	.6	.1	25	--	71
MAY 20...	3.7	3.4	17	.2	.8	43	.3	.5	.0	16	68	57
JUL 17...	10	--	--	--	2.8	110	3.0	3.1	.1	37	156	--
SEP 23...	10	6.6	13	.3	3.0	110	45.0	1.0	.0	37	--	--

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 20...	.00	.00	.100	.100	.40	.39	.50	.49	--	.050	--
JAN 20...	.03	.00	.060	.080	.51	.49	.57	.57	.050	.040	--
MAR 19...	.19	.20	.030	.020	.57	.34	.60	.36	.060	.030	--
MAY 20...	--	.48	.140	.110	.55	.46	.69	.57	.030	.020	--
JUL 17...	.22	.09	.130	.110	.62	.48	.75	.59	.080	.060	3.7
SEP 23...	.85	.01	.100	.080	.70	.51	.80	.59	.040	.030	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)
NOV 20...	0940	1	1	100	30	1	<1	0	0	0	<3
JAN 20...	0845	1	1	100	30	0	<1	0	10	0	<3
MAY 20...	0830	1	1	0	20	0	<1	0	10	1	<3
SEP 23...	0900	1	1	100	36	0	<1	0	0	0	0

See footnotes at end of table.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 20...	3	2	330	130	19	4	30	30	.0	.0
JAN 20...	4	2	430	110	21	4	20	10	.1	.1
MAY 20...	6	2	490	70	41	6	60	10	4.0	3.0
SEP 23...	5	1	440	120	23	5	50	32	.4	.0

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)
NOV 20...	10	4	0	0	0	0	40	30	3.4	.3
JAN 20...	4	2	0	0	1	1	10	10	5.8	.2
MAY 20...	2	4	0	0	1	0	70	10	8.7	--
SEP 23...	2	5	0	0	0	0	30	22	11	.1

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

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE
ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 20:80 0940	MAR 19:81 0830	MAY 20:81 0830	JUL 17:81 0930	SEP 23:81 0900	
TOTAL CELLS/ML	64	26	980	9200	780	
DIVERSITY: DIVISION	1.4	0.0	1.4	1.5	0.9	
..CLASS	1.4	0.0	1.4	1.5	0.9	
...ORDER	2.3	1.0	1.9	1.8	2.8	
...FAMILY	2.3	1.0	2.1	2.0	2.9	
...GENUS	2.3	1.0	2.1	2.5	3.3	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
....ACHNANTHACEAE						
.....ACHNANTHES	--	-	--	-	--	-
.....COCCONEIS	--	-	--	-	--	-
..BACILLARIALES						
...NITZSCHIALES						
....NITZSCHIA	13#	20	13#	50	26	4
...EPITHEMIALES						
....EPITHEMIAEAE						
.....EPITHEMIA	--	-	--	-	--	-
....RHOPALODIA	--	-	--	-	--	-
...EUPODISCALES						
....COSCINODISCAEAE						
.....CYCLOTELLA	--	-	--	-	240	3
.....MELOSIRA	--	-	--	-	3800#	42
....STEPHANODISCUS	--	-	--	-	*	0
..FRAGILARIALES						
...FRAGILARIAEAE						
....DIATOMA	--	-	--	-	*	0
....FRAGILARIA	--	-	--	-	--	-
....SYNEDRA	13#	20	--	-	*	0
...NAVICULALES						
....CYMBELLACEAE						
.....CYMBELLA	13#	20	--	-	13	2
....GOMPHONEMACEAE						
.....GOMPHONEMA	--	-	13#	50	26	4
...NAVICULACEAE						
....NAVICULA	--	-	--	-	*	0
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....DICTYOSPHAERIAEAE						
.....DICTYOSPHAERIUM	--	-	--	-	430	5
....OOCYSTACEAE						
.....ANKISTRODESMUS	--	-	--	-	*	0
.....KIRCHNERIELLA	--	-	--	-	*	0
....OOCYSTIS	--	-	--	-	57	1
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	86	1
....COELASTRUM	--	-	--	-	230	3
....CRUCIGENIA	--	-	--	-	530	6
....SCENEDESMUS	--	-	--	-	52	9
...VOLVOCALES						
....CHLAMYDOMONADACEAE						
.....CHLAMYDOMONAS	13#	20	--	-	*	0
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	--	-	--	-	230	3
....ANACYSTIS	13#	20	--	-	--	-
...NOSTOCALES						
....NOSTOCACEAE						
.....ANABAENA	--	-	--	-	360#	62
....APHANIZOMENON	--	-	--	-	2700#	29
EUGLENOPHYTA (EUGLENIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....TRACHELONAS	--	-	--	-	*	0
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
....GLENODINTACEAE						
.....GLENODINIUM	--	-	--	-	13	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued
SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEO (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEO (T/DAY)
JAN 20...	0845	20	3.5	11	.59
MAR 19...	0830	43	5.5	5	.58
MAY 20...	0830	68	8.5	7	1.3
JUL 17...	0930	2.7	17.0	14	.10
SEP 23...	0900	5.0	9.5	8	.11

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, Hydrologic Unit 18080003, on left bank 4 mi (6 km) upstream from Peters Valley Creek, and 8 mi (13 km) northeast of Susanville.

DRAINAGE AREA.--90.4 mi² (234.1 km²), 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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Diversions for irrigation of 5,200 acres (21.0 km²) above station. Some flow at times enters Willow Creek from Eagle Lake through an abandoned tunnel.

AVERAGE DISCHARGE,--31 years, 33.5 ft³/s (0.949 m³/s), 24,270 acre-ft/yr (29.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 816 ft³/s (23.1 m³/s) Feb. 1, 1963, gage height, 5.59 ft (1.704 m); minimum daily, 6.8 ft³/s (0.19 m³/s) on several days during August 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 94 ft³/s (2.66 m³/s) Feb. 14, gage height, 3.14 ft (0.957 m), no peak above base of 200 ft³/s (5.66 m³/s); minimum daily, 6.8 ft³/s (0.19 m³/s) on several days during August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	26	28	29	33	34	18	13	9.4	8.6	7.4	7.5
2	13	26	27	29	33	33	20	12	9.3	8.6	7.5	7.4
3	14	26	30	29	32	32	20	12	11	8.5	7.5	7.4
4	16	26	36	30	31	32	18	13	12	8.3	7.4	7.4
5	16	26	35	30	30	34	17	13	15	8.2	7.2	7.3
6	14	26	33	30	31	35	16	12	15	8.0	7.1	7.3
7	14	27	26	29	30	34	15	12	15	7.8	7.0	7.3
8	13	27	25	29	30	33	15	11	14	7.8	7.0	7.3
9	13	26	26	29	31	32	15	11	12	7.9	6.9	7.4
10	12	26	26	30	32	31	15	11	11	7.9	6.8	7.4
11	15	26	26	29	35	30	13	10	9.8	8.0	6.8	7.4
12	20	26	26	29	39	29	15	10	9.1	7.9	6.9	7.3
13	21	26	26	29	41	30	17	11	8.7	7.8	6.8	7.2
14	22	26	26	29	82	30	17	12	8.5	7.7	6.8	7.1
15	25	26	28	29	58	30	16	12	8.5	7.6	6.8	7.1
16	27	26	28	29	54	29	15	12	8.5	7.4	6.9	7.1
17	26	27	28	29	53	28	16	12	8.5	7.2	7.0	7.1
18	27	27	29	29	49	27	17	12	8.5	7.2	7.0	7.1
19	27	27	30	29	49	28	19	12	8.6	7.1	7.0	7.1
20	26	27	30	29	46	29	20	12	8.6	7.1	7.0	7.1
21	26	27	31	29	41	28	20	12	8.7	7.1	7.1	7.2
22	26	27	34	28	40	27	20	11	8.7	7.1	7.1	7.3
23	25	28	31	28	37	17	20	11	8.6	7.2	7.1	7.3
24	25	28	30	29	35	15	18	11	8.6	7.2	7.2	7.5
25	26	27	30	28	36	16	16	12	8.5	7.3	7.2	7.5
26	26	26	30	29	35	18	16	12	8.5	7.3	7.4	7.6
27	26	28	30	32	35	18	15	13	8.5	7.3	7.6	7.7
28	26	27	30	37	34	17	14	13	8.4	7.3	7.6	7.9
29	26	27	30	41	---	17	14	12	8.4	7.3	7.6	7.8
30	26	28	29	38	---	14	13	11	8.5	7.3	7.7	7.9
31	26	---	29	35	---	15	---	9.9	---	7.4	7.8	---
TOTAL	658	799	903	938	1112	822	500	362.9	296.4	236.4	222.2	221.0
MEAN	21.2	26.6	29.1	30.3	39.7	26.5	16.7	11.7	9.88	7.63	7.17	7.37
MAX	27	28	36	41	82	35	20	13	15	8.6	7.8	7.9
MIN	12	26	25	28	30	14	13	9.9	8.4	7.1	6.8	7.1
AC-FT	1310	1580	1790	1860	2210	1630	992	720	588	469	441	438
CAL YR 1980	TOTAL	13263.9	MEAN	36.2	MAX	591	MIN	9.3	AC-FT	26310		
WTR YR 1981	TOTAL	7070.9	MEAN	19.4	MAX	82	MIN	6.8	AC-FT	14030		

LOCATION.--Lat 40°39'54", long 120°47'25", in NE¼SE¼ sec.1, T.32 N., R.10 E., Lassen County, Hydrologic Unit 18080003, on right bank 0.3 mi (0.5 km) upstream from Eagle Lake, and 18 mi (29 km) northwest of Susanville.

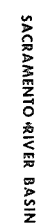
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60 ft³/s (1.70 m³/s) Feb. 20, gage height, 3.82 ft (1.164 m); no flow for several months.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					0	4.6	27	1.3				
2					0	4.2	23	0				
3					0	2.6	22	0				
4					0	3.2	18	0				
5					0	9.4	15	0				
6					0	12	14	0				
7					0	11	21	0				
8					0	9.4	22	0				
9					0	10	20	0				
10					0	13	15	0				
11					0	14	12	0				
12					0	16	9.4	0				
13					0	18	3.2	0				
14					0	20	1.6	0				
15					0	20	.60	0				
16					8.7	19	0	0				
17					32	15	0	0				
18					52	12	0	0				
19					50	11	1.0	0				
20					43	14	10	0				
21					30	13	13	0				
22					22	12	13	0				
23					20	11	10	0				
24					19	13	7.5	0				
25					12	17	4.6	0				
26					8.7	34	5.6	0				
27					7.5	40	9.4	0				
28					6.1	32	11	0				
29					---	30	9.4	0				
30					---	35	5.1	0				
31		---			---	35	---	0	---			---
TOTAL	0	0	0	0	311.0	510.4	323.40	1.3	0	0	0	0
MEAN	0	0	0	0	11.1	16.5	10.8	.042	0	0	0	0
MAX	0	0	0	0	52	40	27	1.3	0	0	0	0
MIN	0	0	0	0	0	2.6	0	0	0	0	0	0
AC-FT	0	0	0	0	617	1010	641	2.6	0	0	0	0
CAL YR 1980	TOTAL	7302.80	MEAN	20.0	MAX	359	MIN	0	AC-FT	14490		
WTR YR 1981	TOTAL	1146.10	MEAN	3.14	MAX	52	MIN	0	AC-FT	2270		

Spring
Creek
Powerhouse
6600' ±
150 MW:
600' HD
1917 AVER Q
71700 MAX Q

KESWICK PP
75 MW @ 500'
8,479 AVER Q
80 FT. ELEV
Stream
show

Penstock, tunnel, closed flume,
or pipe showing direction of flow



35

SACRAMENTO RIVER BASIN

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA

LOCATION.--Lat 41°15'56", long 122°18'32", in SE4SE4 sec.33, T.40 N., R.4 W., Siskiyou County, Hydrologic Unit 18020005, 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 mi² (350 km²).

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 7.26 ft (2.213 m) higher, July 1, 1966, to Aug. 13, 1974, at datum 3.00 ft (0.914 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 hm³). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE (adjusted for change in contents in Lake Siskiyou).--22 years, 246 ft³/s (6.967 m³/s), 178,200 acre-ft/yr (220 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s (346 m³/s) Dec. 22, 1964, gage height, 15.6 ft (4.75 m) from floodmarks, present site and datum, from slope-area measurement of maximum flow; minimum, 37 ft³/s (1.05 m³/s) Sept. 6, 1962. Maximum discharge since construction of Box Canyon Dam in 1968, 11,500 ft³/s (326 m³/s) Jan. 16, 1974, gage height, 13.25 ft (4.039 m) from floodmarks, from rating curve extended above 2,900 ft³/s (82.1 m³/s) on basis of flow-over-dam computation of maximum flow; minimum daily, 14 ft³/s (0.40 m³/s) Dec. 8-16, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,850 ft³/s (80.7 m³/s) Jan. 22, gage height, 6.89 ft (2.100 m), from crest-stage gage; minimum daily, 42 ft³/s (1.19 m³/s) Sept. 23, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	72	64	155	186	115	292	715	244	70	52	47
2	52	72	91	155	182	197	277	602	243	70	52	47
3	51	72	196	155	182	330	258	491	215	69	52	46
4	50	72	238	155	182	391	244	418	159	66	53	47
5	50	72	269	148	180	393	249	372	139	65	53	49
6	50	71	290	139	180	390	269	352	118	69	52	45
7	50	91	282	139	180	383	272	341	118	69	51	45
8	51	86	278	139	178	382	272	267	117	61	49	45
9	49	80	214	128	177	378	268	237	114	62	49	47
10	96	76	142	110	177	378	262	238	114	63	49	49
11	143	65	141	110	177	367	261	240	114	59	48	48
12	146	64	141	110	178	325	261	239	114	60	48	47
13	141	64	141	109	313	261	258	249	114	62	48	47
14	139	64	139	109	550	261	266	266	114	57	48	47
15	137	64	134	109	526	261	302	274	114	58	48	47
16	135	64	130	110	561	261	330	260	114	58	48	46
17	133	64	130	124	749	261	357	249	114	58	48	46
18	132	64	109	137	688	261	379	278	112	57	48	46
19	130	64	77	141	786	261	464	324	78	57	48	49
20	129	64	76	175	708	261	480	318	45	57	47	48
21	128	64	78	307	637	261	493	282	45	58	47	49
22	126	64	80	975	630	244	504	268	45	57	47	47
23	126	64	95	1580	619	271	582	254	45	56	47	42
24	124	64	109	916	505	284	731	254	44	54	47	42
25	124	64	110	845	618	361	663	256	44	50	47	45
26	122	64	110	604	486	442	577	281	55	50	47	47
27	115	64	110	500	205	383	486	289	61	52	47	65
28	75	64	110	517	115	342	451	262	65	52	47	78
29	73	64	126	293	---	329	521	251	69	52	48	73
30	72	64	141	191	---	321	653	248	70	52	52	62
31	72	---	148	188	---	305	---	250	---	52	47	---
TOTAL	3074	2045	4499	9573	10855	9660	11682	9625	3157	1832	1514	1488
MEAN	99.2	68.2	145	309	388	312	389	310	105	59.1	48.8	49.6
MAX	146	91	290	1580	786	442	731	715	244	70	53	78
MIN	49	64	64	109	115	115	244	237	44	50	47	42
AC-FT	6100	4060	8920	18990	21530	19160	23170	19090	6260	3630	3000	2950
MEAN ‡	61.6	84.9	132	309	378	358	392	298	113	59.1	48.1	50.2
AC-FT ‡	3790	5050	8090	18990	20970	22000	23350	18300	6740	3630	2960	2990
†	23840	24830	24000	24000	23440	26280	26460	25670	26150	26150	26110	26150
CAL YR 1980 TOTAL	91757			MEAN 251	MAX 2270	MIN 42	AC-FT 182000	MEAN ‡ 250	AC-FT ‡ 181700			
WTR YR 1981 TOTAL	69004			MEAN 189	MAX 1580	MIN 42	AC-FT 136900	MEAN ‡ 189	AC-FT ‡ 136900			

‡ Adjusted for change in contents in Lake Siskiyou.

† Contents, in acre-feet, at end of month 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 1968-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 19.5°C July 3; minimum recorded, 4.5°C on several days during January and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

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, Hydrologic Unit 18020005, 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 mi² (1,101 km²).

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 (327.660 m) National Geodetic Vertical Datum of 1929 (levels by Bureau of Reclamation).

REMARKS.--Records excellent. Some regulation since December 1968 by Lake Siskiyou, capacity, 26,100 acre-ft (32.2 hm³). Some minor diversions for irrigation above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--37 years, 1,153 ft³/s (32.65 m³/s), 835,300 acre-ft/yr (1,030 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,800 ft³/s (1,980 m³/s) Jan. 16, 1974, gage height, 27.20 ft (8.291 m), from rating curve extended above 19,000 ft³/s (538 m³/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 ft³/s (3.31 m³/s) Aug. 5, 6, 12-15, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s (297 m³/s) Feb. 14, gage height, 10.87 ft (3.313 m); minimum daily, 166 ft³/s (4.70 m³/s) Sept. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	260	248	395	1160	1490	1570	1700	599	272	199	170
2	200	262	1070	386	1030	1470	1410	1450	590	269	199	171
3	197	261	3550	410	959	1620	1310	1220	573	266	200	166
4	195	259	2410	419	907	3210	1220	1080	509	263	199	170
5	195	257	882	393	872	2700	1200	977	485	265	198	173
6	195	256	706	373	842	2170	1230	917	444	273	195	171
7	194	321	610	365	802	1920	1180	885	444	277	190	169
8	194	304	558	360	776	1750	1140	842	444	257	186	170
9	194	275	522	353	768	1580	1110	767	429	253	183	172
10	194	269	404	330	763	1400	1080	769	414	250	183	173
11	283	247	385	322	900	1450	1050	760	413	247	181	170
12	436	240	374	317	934	1560	1010	747	409	244	181	169
13	359	239	365	313	2650	1640	999	742	407	243	184	169
14	337	239	356	310	6770	1490	1020	752	399	238	184	170
15	317	236	351	308	3460	1750	1090	743	392	234	182	168
16	308	236	360	411	2760	1940	1150	718	384	232	182	168
17	305	237	356	445	2680	1660	1200	701	373	229	180	168
18	302	237	352	1000	2250	1460	1230	888	366	227	179	168
19	299	236	314	820	2370	1570	1530	984	363	226	180	168
20	298	236	300	1220	2200	1840	1420	861	301	225	182	169
21	296	240	374	2200	1860	2480	1380	774	285	221	182	169
22	293	269	416	4640	1710	4760	1490	729	280	220	180	169
23	291	253	362	7610	1610	3330	1670	699	275	215	179	169
24	291	247	370	3680	1740	2620	1890	702	273	210	179	173
25	295	242	404	2450	1880	3480	1750	704	269	205	180	189
26	293	241	409	1900	2340	3420	1580	738	265	203	178	194
27	289	240	402	1940	2240	2750	1300	719	272	202	177	387
28	265	239	398	5190	1740	2330	1250	673	272	202	175	299
29	262	244	361	2940	---	2120	1440	645	273	202	173	231
30	262	246	395	1810	---	1900	1660	628	274	201	173	208
31	262	---	393	1380	---	1700	---	612	---	198	173	---
TOTAL	8303	7568	18782	45490	50973	66560	39559	26126	11476	7269	5696	5580
MEAN	268	252	606	1467	1820	2147	1319	843	383	234	184	186
MAX	436	321	3550	7610	6770	4760	1890	1700	599	277	200	387
MIN	194	236	248	308	763	1450	999	612	265	198	173	166
AC-FT	16470	15010	37250	90230	101100	132000	78470	51820	22760	14420	11300	11070
CAL YR 1980 TOTAL	410137			1121	MAX 15700	MIN 194	AC-FT 813500					
WTH YR 1981 TOTAL	293382			MEAN 804	MAX 7610	MIN 166	AC-FT 581900					

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

PERIOD OF RECORD.--Water years 1951 to current year.

CHEMICAL ANALYSES: Water years 1951 to current year.

WATER TEMPERATURES: Water years 1951, 1954-57, 1963-79.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC CONC MICRO/MG	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA, DISS (MG/L)
80/11/03	10 25	259	153	8.1	11.5	1.0	11.3				
81/01/05	09 45	392	135	7.3	8.5	1.0	12.0				
81/03/03	10 10	1540	95	7.5	7.0	1.0	12.3	1.0	1.1		
81/05/12	09 50	758	106	7.4	13.0	1.0	10.3				
81/07/21	10 20	219	155	8.7	21.5	0.0	9.1			37	8
81/09/02	10 20	158	169	8.1	20.0	1.0	9.7				
DATE	TIME	MAGNESIUM MG, DISS (MG/L)	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKAL- ALINITY (MG/L)	CHLORIDE TOTAL (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N, DISS (MG/L)		
80/11/03	10 25							0.01	0.01		
81/01/05	09 45							0.08	0.01		
81/03/03	10 10						3	0.03	0.00		
81/05/12	09 50							0.03	0.09		
81/07/21	10 20		10	1.2	24	5					
81/09/02	10 20										
DATE	TIME	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DISS ORTHOP P (MG/L)	MOLYB- D, DISS (UG/L)						
80/11/03	10 25	0.20	0.02	0.01							
81/01/05	09 45	0.10	0.04	0.02							
81/03/03	10 10	0.00	0.02	0.01							
81/05/12	09 50	0.20	0.02	0.01							
81/07/21	10 20				100						
81/09/02	10 20										
DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGANESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)	SELENIUM SE, DISS (UG/L)
81/03/03	10 10	0	0	0	0	0	20	0	0	0.0	10

LOCATION.--Lat 41°28'56", long 120°32'16", in SE¼NW¼ sec.13, T.42 N., R.12 E., Modoc County, Hydrologic Unit 18020002, 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.

GAGE.--Water-stage recorder. Datum of gage is 4,345.00 ft (1,324.356 m) National Geodetic Vertical Datum of 1929. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,350 ft³/s (66.6 m³/s) Jan. 14, 1980, gage height, 13.45 ft (4.100 m), from rating curve extended above 1,300 ft³/s (36.8 m³/s) on basis of flow-over-dam computation at 11.90 ft (3.627 m); minimum daily, 0.01 ft³ (<0.001 m³/s) July 20, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 782 ft³/s (22.1 m³/s) Feb. 14, gage height, 8.56 ft (2.609 m); minimum daily, 0.08 ft³/s (0.002 m³/s) on several days during September.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.39	4.3	50	12	17	39	70	25	2.4	.45	.45	.38
2	.33	5.6	67	11	16	37	61	9.7	.90	.52	.38	.38
3	.30	6.4	49	13	16	34	56	5.6	1.2	.90	.38	.90
4	.75	6.2	52	13	18	37	47	3.5	4.5	.75	.30	.75
5	.98	6.4	40	13	15	41	47	2.5	4.5	.60	.30	.08
6	.28	6.4	24	12	15	53	52	2.6	4.2	.30	.38	.08
7	.20	7.4	14	11	17	57	46	2.4	4.2	.30	.38	.08
8	.22	9.7	12	13	14	44	43	1.9	4.3	.30	.38	.08
9	.32	9.3	14	13	16	38	39	2.5	4.0	.38	.30	.08
10	.68	7.3	15	14	17	35	39	2.6	3.8	.38	.38	.08
11	.75	7.5	9.7	13	31	33	35	3.8	3.7	.30	.38	.08
12	.98	7.6	10	13	26	32	19	5.4	14	.45	.38	.08
13	1.2	6.9	9.2	13	52	31	12	3.8	35	.45	.45	.15
14	1.6	6.8	8.6	13	518	29	6.9	4.5	18	.38	.45	.22
15	2.8	6.8	10	13	149	29	5.8	56	10	.38	.52	.22
16	4.3	8.7	13	14	78	34	6.2	42	6.6	.38	.45	.22
17	2.8	12	17	14	182	29	10	28	6.4	.38	.45	.15
18	3.1	16	16	14	78	29	7.5	42	5.8	.52	.45	.15
19	3.3	19	19	13	75	31	59	216	4.6	.45	.60	.08
20	3.8	22	15	13	76	34	77	91	3.5	.30	.52	.08
21	3.5	9.2	16	14	104	29	67	50	2.1	.38	.60	.08
22	2.8	8.9	24	14	143	29	39	20	2.0	.38	.45	.15
23	2.8	32	18	15	96	26	40	5.6	2.5	.38	.38	.22
24	2.7	27	14	18	65	25	45	68	3.4	.38	.30	.30
25	2.5	16	19	15	57	38	50	162	1.6	.38	.30	.45
26	4.0	13	30	14	52	128	78	90	1.8	.30	.35	.15
27	6.5	12	24	17	47	219	73	42	1.4	.38	.38	.30
28	4.6	12	21	26	43	125	46	12	1.2	.38	.38	.52
29	4.6	12	17	26	---	110	39	8.7	1.4	.38	.38	.22
30	4.2	13	14	22	---	107	44	4.0	.90	.45	.38	.15
31	4.3	---	13	19	---	79	---	4.0	---	.45	.38	---
TOTAL	71.58	337.4	674.5	458	2033	1641	1259.4	1017.1	159.90	13.11	12.56	6.66
MEAN	2.31	11.2	21.8	14.8	72.6	52.9	42.0	32.8	5.33	.42	.41	.23
MAX	6.5	32	67	26	518	219	78	216	35	.90	.60	.90
MIN	.20	4.3	8.6	11	14	25	5.8	1.9	.90	.30	.30	.08
AC-FT	142	669	1340	908	4030	3250	2500	2020	317	26	25	14
CAL YR 1980	TOTAL	38633.56	MEAN	106	MAX	1770	MIN	.20	AC-FT	76630		
WTR YR 1981	TOTAL	7684.41	MEAN	21.1	MAX	518	MIN	.08	AC-FT	15240		

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, Hydrologic Unit 18020002, on right bank at lower end of Warm Spring Valley, 3.9 mi (6.3 km) southwest of Canby.

DRAINAGE AREA.--1,431 mi² (3,706 km²), excluding Goose Lake basin.

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) National Geodetic Vertical Datum of 1929. 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 good except those for the winter periods, which are fair. Flow regulated by many small reservoirs, total capacity now, about 144,000 acre-ft (178 hm³). Diversions for irrigation of about 39,000 acres (158 km²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--51 years (water years 1905, 1932-81), 242 ft³/s (6.853 m³/s), 175,300 acre-ft/yr (216 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 13,000 ft³/s (368 m³/s) Mar. 8, 1904, gage height, 15.0 ft (4.57 m) site and datum then in use; minimum, 0.1 ft³/s (0.003 m³/s) Apr. 29, Aug. 5, Sept. 18, 1934, Aug. 18-21, 1935.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,200 ft³/s (62.3 m³/s) Feb. 15, minimum daily, 0.94 ft³/s (0.027 m³/s) July 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	90	74	71	88	131	201	83	109	85	19	8.5
2	126	82	91	51	71	121	184	92	95	70	7.6	12
3	121	72	201	59	59	111	165	89	82	42	7.9	14
4	98	79	258	64	48	109	142	81	80	34	14	17
5	95	75	187	91	45	126	121	68	78	32	29	17
6	99	72	154	87	47	149	110	54	67	33	28	15
7	95	70	122	76	53	183	106	26	49	36	20	22
8	86	71	97	69	60	184	96	12	37	50	11	29
9	75	73	114	64	70	151	92	6.5	34	90	11	30
10	81	75	121	62	81	126	91	3.6	25	110	8.8	29
11	80	79	95	64	94	112	91	25	16	78	6.4	32
12	96	80	100	68	150	102	88	10	31	59	3.7	41
13	111	77	102	70	375	98	73	3.6	37	41	1.7	30
14	117	74	98	75	780	91	58	6.9	53	33	1.2	22
15	101	68	90	88	2200	88	30	31	66	30	1.9	23
16	95	59	92	81	905	91	13	50	145	25	1.9	22
17	90	56	97	83	302	97	28	144	228	19	1.9	20
18	112	60	97	82	705	94	25	282	135	16	2.0	18
19	113	66	109	80	256	94	38	306	115	21	2.0	20
20	106	66	115	75	339	90	60	374	92	21	8.7	13
21	85	68	98	70	304	92	138	401	79	6.3	30	12
22	55	66	97	68	309	85	151	290	69	4.0	20	13
23	44	61	94	75	303	83	128	216	63	1.9	14	20
24	40	62	89	80	239	79	87	156	48	1.2	11	20
25	49	89	87	88	197	102	80	156	37	1.1	6.5	20
26	64	86	86	82	175	185	98	299	29	1.4	4.8	24
27	61	76	93	80	156	281	141	352	33	1.4	4.7	30
28	72	72	92	93	141	343	187	323	50	1.1	6.4	38
29	85	69	88	138	---	251	194	285	77	.94	5.8	62
30	94	70	85	122	---	214	151	207	86	2.3	6.3	67
31	99	---	82	108	---	211	---	144	---	17	8.7	---
TOTAL	2777	2163	3405	2464	8552	4274	3167	4576.6	2145	963.64	305.9	740.5
MEAN	89.6	72.1	110	79.5	305	138	106	148	71.5	31.1	9.87	24.7
MAX	132	90	258	138	2200	343	201	401	228	110	30	67
MIN	40	56	74	51	45	79	13	3.6	16	.94	1.2	8.5
AC-FT	5510	4290	6750	4890	16960	8480	6280	9080	4250	1910	607	1470
CAL YR 1980	TOTAL	123459.00	MEAN	337	MAX	5630	MIN	15	AC-FT	244900		
WTR YR 1981	TOTAL	35533.64	MEAN	97.4	MAX	2200	MIN	.94	AC-FT	70480		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020002, on left bank 300 ft (91 m) upstream from highway at Adin, and 0.4 mi (0.6 km) upstream from Butte Creek.

DRAINAGE AREA.--258 mi² (668 km²).

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 hm³). 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.--29 years (water years 1905, 1929-32, 1958-81), 73.8 ft³/s (2.090 m³/s), 53,470 acre-ft/yr (65.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,950 ft³/s (83.5 m³/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, 1,000 ft³/s (28.3 m³/s) Feb. 14, gage height, 9.58 ft (2.920 m); minimum daily, 4.4 ft³/s (0.12 m³/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	25	37	33	34	43	60	34	20	14	24	7.5
2	20	26	38	32	34	42	57	26	23	16	24	11
3	20	26	48	36	33	40	51	24	24	17	25	12
4	19	26	54	35	32	44	47	25	20	18	24	12
5	20	26	41	35	34	47	45	25	18	18	24	14
6	19	27	35	34	35	47	46	24	17	18	23	15
7	20	28	32	32	34	47	45	23	19	17	22	15
8	19	30	27	33	35	45	44	25	21	17	23	13
9	20	29	30	32	39	41	42	27	23	16	23	14
10	20	28	31	32	50	39	41	26	21	16	24	16
11	22	31	31	32	77	39	40	25	20	15	24	15
12	26	29	30	32	70	37	39	26	27	15	24	23
13	33	29	30	32	65	38	37	14	29	16	23	19
14	28	29	30	33	475	39	35	26	26	16	23	19
15	25	29	30	33	119	38	34	32	23	16	22	19
16	24	29	31	35	129	41	33	24	19	20	22	15
17	29	30	32	35	158	38	34	23	18	22	23	18
18	25	30	32	34	65	37	33	45	20	24	23	24
19	23	29	31	34	89	39	47	43	20	25	16	28
20	22	29	32	34	92	40	48	33	20	32	10	24
21	22	30	34	34	63	39	40	31	21	45	4.4	24
22	22	31	35	33	54	37	36	28	19	33	8.1	24
23	23	36	33	36	50	38	34	26	17	31	12	25
24	23	35	32	37	51	36	33	39	16	23	12	30
25	26	32	35	35	54	73	33	39	14	21	11	31
26	29	32	36	34	51	211	39	35	16	22	9.8	29
27	26	32	36	37	47	121	35	32	16	22	11	35
28	25	32	39	41	45	71	31	26	16	38	12	35
29	24	32	36	44	---	66	31	24	16	26	9.3	26
30	25	39	35	40	---	68	31	21	16	24	5.5	23
31	25	---	33	38	---	60	---	21	---	24	6.3	---
TOTAL	723	896	1066	1077	2114	1641	1201	872	595	677	547.4	615.5
MEAN	23.3	29.9	34.4	34.7	75.5	52.9	40.0	28.1	19.8	21.8	17.7	20.5
MAX	33	39	54	44	475	211	60	45	29	45	25	35
MIN	19	25	27	32	32	36	31	14	14	14	4.4	7.5
AC-FT	1430	1780	2110	2140	4190	3250	2380	1730	1180	1340	1090	1220
CAL YR 1980	TOTAL	36267.0	MEAN	99.1	MAX	2220	MIN	15	AC-FT	71940		
WTR YR 1981	TOTAL	12024.9	MEAN	32.9	MAX	475	MIN	4.4	AC-FT	23850		

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

LOCATION.--Lat 40°59'00", long 121°30'39", in NE&NW¼ sec.15, T.36 N., R.4 E., Shasta County, Hydrologic Unit 18020003, 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 mi² (9,741 km²), excluding Goose Lake basin.

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 excellent. Flow regulated by many small reservoirs, total usable reservoir capacity, 210,000 acre-ft (259 hm³), and Pit No. 1 powerplant. Many diversions above station for irrigation.

AVERAGE DISCHARGE.--6 years, 1,678 ft³/s (47.52 m³/s), 1,216,000 acre-ft/yr (1.50 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,900 ft³/s (564 m³/s) Jan. 14, 1980, gage height, 14.78 ft (4.505 m), from crest-stage gage; minimum daily, 819 ft³/s (23.2 m³/s) Feb. 1, 1979.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1974 reached a stage of 14.8 ft (4.51 m), from floodmarks on right bank, discharge 22,600 ft³/s (640 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,660 ft³/s (104 m³/s) Feb. 14, gage height, 7.85 ft (2.393 m); minimum daily, 1,010 ft³/s (28.6 m³/s) Sept. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	1360	1420	1390	1130	1670	2000	1360	1480	1170	1110	1010
2	1310	1260	1390	1440	1290	1610	1980	1390	1480	1130	1110	1130
3	1350	1560	1750	1330	1360	1600	1900	1290	1390	1090	1120	1130
4	1370	1440	1750	1470	1430	1590	1410	1410	1330	1140	1210	1180
5	1310	1390	2030	1460	1430	1720	1710	1380	1300	1140	1070	1150
6	1300	1380	1880	1350	1340	1690	1780	1240	1210	1130	1130	1170
7	1310	1360	1740	1350	1470	1610	1600	1340	1210	1180	1200	1190
8	1320	1410	1490	1480	1510	1690	1650	1320	1250	1100	1040	1110
9	1280	1360	1410	1420	1460	1550	1600	1270	1310	1120	1160	1170
10	1290	1410	1350	1400	1420	1750	1520	1280	1310	1130	1180	1150
11	1280	1440	1380	1400	1930	1660	1490	1030	1180	1200	1100	1150
12	1360	1360	1580	1420	1740	1550	1590	1290	1230	1060	1110	1150
13	1400	1440	1410	1400	1800	1550	1560	1300	1210	1150	1130	1170
14	1430	1440	1390	1400	3190	1540	1490	1340	1270	1160	1130	1170
15	1450	1370	1320	1410	3160	1630	1680	1360	1240	1150	1130	1140
16	1470	1430	1360	1420	3250	1590	1720	1330	1170	1130	1150	1150
17	1460	1270	1510	1440	3000	1640	1450	1330	1230	1140	1200	1120
18	1390	1500	1380	1440	2570	1430	1380	1390	1170	1140	1130	1120
19	1420	1360	1540	1430	2170	1580	1530	1590	1090	1070	1100	1190
20	1420	1380	1450	1440	2270	1590	1400	1610	1210	1200	1170	1120
21	1410	1370	1420	1180	2130	1490	1440	1410	1180	1130	1150	1160
22	1420	1310	1520	1670	2110	1590	1470	1520	1100	1140	1090	1160
23	1410	1420	1490	1450	1740	1650	1440	1590	1200	1110	1150	1160
24	1410	1460	1470	1460	2250	1720	1400	1800	1170	1140	1110	1190
25	1390	1420	1470	1430	1890	1790	1500	1760	1220	1140	1150	1220
26	1390	1350	1430	1470	1850	2440	1510	1480	1190	1080	1130	1220
27	1390	1380	1480	1540	1710	2580	1500	1730	1330	1170	1190	1220
28	1420	1400	1440	1780	1670	2440	1490	1430	1040	1100	1120	1250
29	1330	1390	1470	1860	---	2280	1380	1360	1180	1070	1130	1240
30	1370	1400	1490	1780	---	2130	1340	1480	1110	1120	1150	1200
31	1460	---	1510	1550	---	2040	---	1510	---	1140	1110	---
TOTAL	42640	41820	46720	45460	54270	54430	47510	43920	36990	35070	35160	34890
MEAN	1375	1394	1507	1466	1938	1756	1584	1417	1233	1131	1134	1163
MAX	1470	1560	2030	1860	3250	2580	2000	1800	1480	1200	1210	1250
MIN	1280	1260	1320	1180	1130	1430	1340	1030	1040	1060	1040	1010
AC-FT	84580	82950	92670	90170	107600	108000	94240	87120	73370	69560	69740	69200
CAL YR 1980 TOTAL	823390			2250	MAX	16900	MIN	1150	AC-FT	1633000		
WTR YR 1981 TOTAL	518880			1422	MAX	3250	MIN	1010	AC-FT	1029000		

SACRAMENTO RIVER BASIN

11355500 HAT CREEK NEAR HAT CREEK, CA

LOCATION.--Lat 40°41'12", long 121°25'25", in NW¼SE¼ sec.28, T.33 N., R.5 E., Shasta County, Hydrologic Unit 18020003, 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 mi² (420 km²), hydrologic drainage boundary uncertain owing to ground-water exchange.

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 km²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--54 years, 139 ft³/s (3.936 m³/s), 100,700 acre-ft/yr (124 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,320 ft³/s (94.0 m³/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 ft³/s (17.3 m³/s) on basis of slope-area measurement of maximum flow; minimum, 67 ft³/s (1.90 m³/s) Sept. 7, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 215 ft³/s (6.09 m³/s) May 18, gage height, 3.23 ft (0.985 m), no peak above base of 220 ft³/s (6.23 m³/s); minimum daily, 102 ft³/s (2.89 m³/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	123	125	124	118	125	123	176	150	114	106	111
2	113	123	135	124	119	124	122	178	149	114	106	110
3	113	122	132	125	120	123	122	164	144	113	106	111
4	113	122	125	125	118	125	121	156	143	113	107	111
5	113	122	122	124	119	123	122	149	144	108	106	111
6	113	123	123	123	119	123	123	145	142	107	105	111
7	113	124	119	121	119	124	123	142	139	107	104	110
8	114	127	118	124	120	122	123	139	143	107	104	107
9	117	125	119	121	120	122	123	142	138	108	107	104
10	120	124	119	122	120	122	124	147	142	108	112	103
11	122	124	120	120	121	122	124	146	143	107	112	102
12	127	123	120	120	122	121	124	143	144	109	112	103
13	127	122	119	121	125	123	124	144	139	109	112	103
14	127	123	118	121	158	122	126	153	137	109	112	103
15	125	124	120	122	141	122	129	152	135	109	112	103
16	126	123	122	122	140	121	128	142	133	108	112	104
17	125	125	123	121	155	120	129	141	132	108	112	103
18	125	124	124	120	140	122	134	196	130	108	112	108
19	125	122	125	121	140	122	144	175	128	109	109	110
20	125	125	124	121	138	121	138	158	122	112	106	110
21	125	125	128	131	133	121	140	157	119	113	105	110
22	125	125	130	131	132	119	144	156	118	113	105	110
23	124	126	125	129	131	119	152	158	118	113	105	110
24	124	124	125	126	131	119	159	166	118	113	106	112
25	125	123	133	122	127	128	157	185	116	113	105	113
26	125	124	131	124	127	128	147	177	115	115	105	113
27	124	124	131	125	126	124	138	165	114	113	105	115
28	124	124	129	118	126	123	140	165	114	113	104	122
29	124	126	127	116	---	124	152	167	115	113	109	116
30	124	131	126	116	---	122	163	170	115	110	111	115
31	124	---	125	117	---	122	---	159	---	107	111	---
TOTAL	3765	3722	3862	3797	3605	3798	4018	4913	3939	3423	3345	3274
MEAN	121	124	125	122	129	123	134	158	131	110	108	109
MAX	127	131	135	131	154	128	163	196	150	115	112	122
MIN	113	122	118	116	118	119	121	139	114	107	104	102
AC-FT	7470	7380	7660	7530	7150	7530	7470	9740	7810	6790	6630	6490
CAL YR 1980	TOTAL	49299	MEAN 135	MAX 339	MIN 113	AC-FT 97780						
WTR YR 1981	TOTAL	45461	MEAN 125	MAX 196	MIN 102	AC-FT 90170						

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, Hydrologic Unit 18020003, 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 mi² (11,932 km²). PERIOD OF RECORD, October 1965 to current year. GAGE, remote telemark read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³). Dead storage, 30 acre-ft (370 m³). Normal operating pool is from elevation 2,744.0 ft (836.37 m), capacity, 26,183 acre-ft (32.3 hm³) to 2,757.0 ft (840.33 m), capacity, 40,626 acre-ft (50.1 hm³). Record of contents collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory 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 hm³) Jan. 25, 1970, elevation, 2,761.55 ft (841.720 m); minimum total contents, 26,755 acre-ft (33.0 hm³) Oct. 9, 1976, elevation, 2,744.60 ft (836.554 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 39,869 acre-ft (49.2 hm³) June 15, elevation, 2,756.40 ft (840.151 m); minimum, 28,328 acre-ft (34.9 hm³) Oct. 3, elevation, 2,746.20 ft (837.042 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, Hydrologic Unit 18020003, 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 mi² (28.7 km²). PERIOD OF RECORD, December 1965 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).
- Reservoir is formed by a rockfill dam completed in 1965. Capacity is 24,200 acre-ft (29.8 hm³) 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 Energy Regulatory Commission Project. See schematic diagram of Pit and McCloud River basins.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 23,539 acre-ft (29.0 hm³) 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 hm³) 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 m³), elevation, 2,540.00 ft (774.192 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 22,176 acre-ft (27.3 hm³) June 28, elevation, 2,660.80 ft (811.012 m); minimum, 3,556 acre-ft (4.38 hm³) Dec. 4, elevation, 2,595.90 ft (791.230 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, Hydrologic Unit 18020004, 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 mi² (1,044 km²). PERIOD OF RECORD, October 1965 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).
- Reservoir is formed by a rockfill dam completed in 1965. Capacity, 35,234 acre-ft (43.4 hm³) 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 Energy Regulatory Commission Project. See schematic diagram of Pit and McCloud River basins.
- EXTREMES FOR PERIOD OF RECORD: Maximum contents, 35,967 acre-ft (44.3 hm³) Jan. 15, 1974, elevation, 2,681.40 ft (817.291 m); minimum since storage pool first filled, 15,700 acre-ft (19.4 hm³) Jan. 22, 1967, elevation, 2,632.60 ft (802.416 m).
- EXTREMES FOR CURRENT YEAR: Maximum contents, 32,845 acre-ft (40.5 hm³) June 3, 4, elevation, 2,675.30 ft (815.431 m); minimum, 14,332 acre-ft (17.7 hm³) Sept. 30, elevation, 2,628.2 ft (801.075 m).

MONTH-END ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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)
	11361400	LAKE BRITTON		11363920	IRON CANYON RESERVOIR		11367740	LAKE McCLOUD	
Sept. 30.....	2748.40	30599	--	2631.50	11022	--	2649.10	21380	--
Oct. 31.....	2753.65	36507	+5908	2626.00	9477	-1545	2640.90	18397	-2983
Nov. 30.....	2748.10	30282	-6225	2629.40	10416	+939	2640.10	18121	-276
Dec. 31.....	2751.00	33439	+3157	2622.70	8615	-1801	2638.40	17544	-577
CAL YR 1980..	--	--	+1930	--	--	-2022	--	--	-1413
Jan. 31.....	2750.50	32880	-559	2614.00	6585	-2030	2646.30	20329	+2785
Feb. 28.....	2747.70	29863	-3017	2622.60	8589	+2004	2656.60	24359	+4030
Mar. 31.....	2749.10	31347	+1484	2614.80	6756	-1833	2668.60	29628	+5269
Apr. 30.....	2753.05	35797	+4450	2634.30	11865	+5109	2668.80	29721	+93
May 31.....	2755.95	39306	+3509	2655.90	19920	+8055	2674.90	32647	+2926
June 30.....	2754.80	37891	-1415	2659.00	21328	+1408	2673.00	31716	-931
July 31.....	2752.15	34749	-3142	2645.00	15481	-5847	2661.80	26567	-5149
Aug. 31.....	2755.40	38625	+3876	2630.30	10637	-4844	2647.90	20738	-5829
Sept. 30.....	2754.00	36924	-1701	2610.60	5898	-4739	2628.20	14332	-6406
WTR YR 1981..	--	--	+6325	--	--	-5124	--	--	-7048

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020003, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--59 years (water years 1923-81), 2,711 ft³/s (76.78 m³/s), 1,964,000 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, 1,730 ft³/s (49.0 m³/s) Nov. 8, gage height, 7.07 ft (2.155 m); minimum daily, 47 ft³/s (1.33 m³/s) Feb. 5, 7, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	89	53	53	48	50	97	164	161	148	143	144
2	102	76	50	53	48	49	103	163	163	148	155	143
3	102	78	57	54	49	50	100	163	162	150	144	142
4	103	75	63	53	49	49	105	162	162	149	142	146
5	100	74	63	53	47	49	103	163	162	150	147	143
6	104	77	61	51	48	50	102	163	161	150	145	141
7	103	75	63	50	47	49	104	168	163	150	155	141
8	101	118	62	50	48	51	102	163	165	149	151	145
9	102	76	63	50	48	48	103	162	151	152	149	154
10	100	75	59	50	50	49	102	162	149	150	151	156
11	102	74	54	49	49	50	104	163	146	150	150	146
12	102	75	53	50	49	49	103	165	147	149	150	147
13	100	76	54	50	51	48	101	163	147	149	148	149
14	103	75	52	50	47	50	102	165	147	149	145	150
15	104	76	53	49	49	48	104	166	149	151	145	149
16	102	75	53	49	50	49	99	162	149	148	148	147
17	102	75	54	50	51	50	103	165	149	147	145	150
18	101	74	53	49	49	50	103	167	150	147	147	149
19	101	75	54	49	49	50	102	164	152	150	145	153
20	101	78	53	48	49	50	104	162	150	148	145	150
21	101	76	53	50	50	50	103	164	149	146	148	149
22	103	75	54	50	49	51	104	163	150	148	145	149
23	102	75	54	49	50	50	101	162	150	146	146	153
24	101	74	54	49	50	51	104	163	151	146	146	156
25	101	75	53	48	50	50	102	164	151	144	162	155
26	100	76	54	50	50	50	102	164	149	147	142	151
27	102	77	53	49	48	51	160	159	151	146	145	153
28	102	74	53	49	50	50	157	167	149	146	143	152
29	103	76	54	48	---	49	158	166	148	147	146	150
30	103	74	53	50	---	50	162	159	147	147	139	146
31	103	---	54	48	---	51	---	163	---	145	144	---
TOTAL	3158	2318	1716	1550	1372	1541	3299	5069	4580	4592	4556	4459
MEAN	102	77.3	55.4	50.0	49.0	49.7	110	164	153	148	147	149
MAX	104	118	63	54	51	51	162	168	165	152	162	156
MIN	100	74	50	48	47	48	97	159	146	144	139	141
AC-FT	6260	4600	3400	3070	2720	3060	6540	10050	9080	9110	9040	8840
MEAN ‡	2101	2371	2374	2348	2952	2750	2459	2122	1966	1857	1734	1987
AC-FT ‡	129200	141100	146000	144400	163900	169700	146300	130400	117000	114200	106600	118200
CAL YR 1980 TOTAL	212774		MEAN 581	MAX 17300	MIN 41	AC-FT 422000	MEAN ‡ 3264	AC-FT ‡ 2369000				
WTR YR 1981 TOTAL	38210		MEAN 105	MAX 168	MIN 47	AC-FT 75790	MEAN ‡ 2247	AC-FT ‡ 1627000				

‡ 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, Hydrologic Unit 18020003, 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 mi² (12,201 km²), 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) National Geodetic Vertical Datum of 1929. 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 hm³). 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to diversion to Pit No. 5 powerplant).--33 years (water years 1911-43), 2,931 ft³/s (83.0 m³/s), 2,122,000 acre-ft/yr (2.62 km³/yr); 38 years (water years 1944-81), 547 ft³/s (15.49 m³/s), 396,300 acre-ft/yr (489 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,000 ft³/s (1,390 m³/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 ft³/s (481 m³/s), partly affected by gate operation at Pit No. 4 Dam; minimum daily, 34 ft³/s (0.96 m³/s) Mar. 29, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 813 ft³/s (23.0 m³/s) Feb. 16, gage height, 7.02 ft (2.140 m); minimum daily, 52 ft³/s (1.47 m³/s) Jan. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	95	59	55	66	82	178	106	128	114	102	102
2	105	82	114	58	65	83	153	131	127	115	104	97
3	107	76	218	56	63	82	142	137	126	113	103	98
4	102	73	141	53	61	99	133	135	125	109	105	99
5	102	74	76	54	60	89	127	131	124	111	103	98
6	104	76	66	56	59	90	122	130	124	115	104	100
7	106	82	60	55	58	83	116	131	123	115	103	98
8	107	73	56	54	56	82	113	131	123	115	102	100
9	110	72	56	53	58	81	109	128	121	117	104	101
10	108	71	53	52	59	78	108	126	123	114	104	102
11	114	74	55	52	77	78	103	129	120	113	104	101
12	128	75	59	53	75	78	99	129	120	112	104	101
13	130	75	55	55	128	78	97	125	117	112	104	99
14	115	76	54	54	220	75	95	134	112	112	104	100
15	111	73	55	55	133	80	93	131	113	113	99	101
16	111	73	57	57	286	85	93	127	123	111	104	100
17	110	75	56	67	386	80	90	126	120	108	102	104
18	109	74	55	62	440	82	88	189	119	103	101	103
19	111	69	56	63	126	101	110	166	117	106	102	98
20	108	75	55	61	96	125	97	149	115	112	102	98
21	102	77	62	65	88	139	93	135	115	109	98	102
22	104	74	60	66	85	154	91	129	117	108	98	104
23	107	78	59	78	82	143	89	131	114	111	96	103
24	108	70	57	67	93	135	87	133	117	111	99	108
25	107	73	59	61	92	270	88	128	117	105	99	107
26	110	74	59	60	93	253	94	127	114	106	100	108
27	107	69	58	72	90	210	87	129	111	106	101	132
28	107	71	56	117	84	183	86	124	114	106	99	109
29	115	75	57	103	---	171	83	126	118	109	95	102
30	113	69	56	81	---	155	81	128	114	107	95	104
31	110	---	55	72	---	159	---	127	---	109	99	---
TOTAL	3393	2243	2094	1967	3279	3683	3145	4108	3571	3427	3139	3079
MEAN	109	74.8	67.5	63.5	117	119	105	133	119	111	101	103
MAX	130	95	218	117	440	270	178	189	128	117	105	132
MIN	102	69	53	52	56	75	81	106	111	103	95	97
AC-FT	6730	4450	4150	3900	6500	7310	6240	8150	7080	6800	6230	6110
CAL YR 1980 TOTAL	256451		MEAN 701	MAX 18500	MIN 53	AC-FT 508700						
WTR YR 1981 TOTAL	37128		MEAN 102	MAX 440	MIN 52	AC-FT 73640						

LOCATION.--Lat 40°59'12", long 121°58'35", in SW¼SE¼ sec.9, T.36 N., R.1 W., Shasta County, Hydrologic Unit 18020003, at powerplant on right bank of Pit River, 5.8 mi (9.3 km) downstream from Big Bend.

GAGE.--Recorded output from powerplant turbines.

REMARKS.--Water is diverted from Lake McCloud (station 11367740) at SE4SW4 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years (water years 1967-81), 955 ft³/s (27.05 m³/s), 691,900 acre-ft/yr (853 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,420 ft³/s (68.5 m³/s) July 15, 1966; no flow for several days most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1170	174	1040	1010	139	685	893	778	971	605	533	950
2	549	614	1170	270	717	1210	965	3.4	451	785	745	661
3	595	575	2000	553	823	1110	1470	300	1030	749	717	890
4	69	587	1900	683	771	1190	856	930	1170	117	787	671
5	400	639	847	767	790	752	754	897	938	366	624	1260
6	744	566	1340	507	510	703	1120	1010	0	794	684	482
7	875	652	860	427	940	874	983	586	42	652	1080	741
8	687	508	430	665	671	603	1270	663	971	1190	301	801
9	708	620	27	567	897	1160	1200	391	724	939	434	747
10	464	680	121	808	929	1100	1040	436	1000	802	854	678
11	121	247	238	470	470	913	776	761	691	519	578	590
12	808	704	554	527	730	1040	679	975	514	832	612	668
13	1030	729	634	697	558	1010	921	911	227	1190	751	436
14	1130	459	596	561	955	795	1010	847	313	1070	795	797
15	753	747	547	583	1560	949	431	839	1190	1150	156	831
16	916	455	437	813	1350	936	1180	0	1110	1070	607	848
17	497	736	756	463	1000	758	977	165	1030	589	1040	582
18	332	361	934	428	855	1220	396	929	1230	508	957	720
19	484	490	291	1120	1010	891	453	1020	1260	439	844	697
20	888	541	542	777	965	1080	962	768	11	1150	1010	331
21	492	585	547	554	710	862	1130	790	0	1180	768	493
22	760	469	757	621	1420	1400	647	1010	436	858	682	755
23	512	556	405	696	1060	939	1060	428	824	740	314	531
24	575	835	1220	678	973	1060	1170	259	817	968	1020	587
25	729	500	516	930	571	352	750	0	645	247	808	779
26	479	626	524	1230	546	1200	200	901	598	0	854	477
27	836	424	704	1250	990	1670	941	1080	139	898	1010	1060
28	748	365	464	1150	1130	1970	1400	1060	0	1090	743	480
29	592	567	605	1370	---	1560	1170	1000	691	784	227	569
30	853	573	548	698	---	1170	839	29	865	821	367	1050
31	483	---	768	982	---	1040	---	0	---	760	1160	---
TOTAL	20279	16584	22322	22755	24120	32202	27943	19766.4	19888	23802	22062	21162
MEAN	654	553	720	734	861	1039	931	638	663	768	712	705
MAX	1170	835	2000	1370	1580	1970	1470	1080	1260	1190	1160	1260
MIN	69	174	27	270	139	352	200	0	0	0	156	331
AC-FT	40220	32890	44280	45130	47840	63870	55420	39210	39450	47210	43760	41970
CAL YR 1980	TOTAL	326569.00	MEAN 892	MAX 2000	MIN 0	AC-FT	647700					
WTR YR 1981	TOTAL	272885.40	MEAN 748	MAX 2000	MIN 0	AC-FT	541300					

LOCATION.--Lat 41°02'27", long 121°59'02", in NW¼NW¼ sec.28, T.37 N., R.1 W., Shasta County, Hydrologic Unit 18020003, 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.

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

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.

AVERAGE DISCHARGE,--15 years, 6.72 ft³/s (0.190 m³/s), 4,870 acre-ft/yr (6.00 hm³/yr).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7.4 ft³/s (0.210 m³/s) Dec. 2, gage height, 1.59 ft (0.485 m); minimum daily, 2.6 ft³/s (0.074 m³/s) May 12.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	3.2	3.2	3.2	3.2	2.9	2.9	3.0	3.0	2.9	3.0	3.0
2	3.2	3.2	3.7	3.2	3.1	2.9	3.0	3.0	2.9	2.9	3.0	3.0
3	3.2	3.2	3.4	3.2	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
4	3.2	3.2	3.1	3.2	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
5	3.2	3.2	3.2	3.2	3.0	2.9	3.0	3.0	2.9	2.9	3.0	3.0
6	3.2	3.2	3.2	3.2	3.0	3.0	2.9	3.0	2.8	2.9	3.0	3.0
7	3.2	3.2	3.2	3.2	3.0	3.0	2.9	3.0	3.0	2.9	3.0	3.0
8	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
9	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.8	2.9	3.0	3.0
10	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.8	2.9	3.0	3.0
11	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.8	2.9	3.0	3.0
12	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.8	2.9	3.0	3.0
13	3.2	3.2	3.2	3.2	3.2	3.0	3.0	3.0	2.9	2.7	3.0	3.0
14	3.2	3.2	3.2	3.2	2.9	3.0	3.0	3.0	2.9	2.9	3.0	3.0
15	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.9	2.9	3.0	3.0
16	3.2	3.2	2.9	3.2	2.9	3.0	3.0	3.0	2.9	2.9	3.0	3.0
17	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.8	2.9	3.0	3.0
18	3.2	2.9	3.2	3.2	2.8	3.0	3.0	3.0	2.9	2.9	3.0	3.0
19	3.2	3.2	3.2	3.2	2.9	3.0	3.0	2.9	2.9	2.9	3.0	3.0
20	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.9	2.9	3.0	3.0
21	3.2	3.2	3.2	2.9	3.0	3.0	3.0	3.0	3.0	2.9	3.0	3.0
22	3.2	3.2	3.2	3.2	2.9	3.0	3.0	3.0	2.9	2.9	3.0	3.0
23	3.2	3.2	3.2	3.2	3.0	3.0	3.0	2.9	2.8	2.9	3.0	3.0
24	3.2	3.2	3.2	3.2	3.0	3.0	3.0	2.9	2.7	3.0	3.0	3.0
25	3.2	3.2	3.2	3.2	3.0	3.0	3.0	3.0	2.7	3.0	3.0	3.0
26	3.2	3.2	3.2	3.2	3.0	2.8	3.0	3.0	2.9	3.0	3.0	3.0
27	3.2	3.2	3.2	3.2	3.0	2.9	3.0	2.9	2.9	3.0	3.0	3.0
28	3.2	3.2	3.2	3.3	2.9	2.9	3.0	2.9	2.9	3.0	3.0	3.0
29	3.2	3.2	3.2	3.2	---	3.0	3.0	2.9	2.9	3.0	3.0	3.0
30	3.2	3.2	3.2	3.2	---	3.0	3.0	3.0	2.9	3.0	3.0	3.0
31	3.2	---	3.2	3.2	---	3.0	---	3.0	---	3.0	3.0	---
TOTAL	99.0	95.7	99.5	99.0	83.8	92.3	89.7	92.0	86.5	90.5	93.0	90.0
MEAN	3.19	3.19	3.21	3.19	2.99	2.98	2.99	2.97	2.88	2.92	3.00	3.00
MAX	3.2	3.2	3.7	3.3	3.2	3.0	3.0	3.0	3.0	3.0	3.0	3.0
MIN	3.0	2.9	2.9	2.9	2.8	2.8	2.9	2.6	2.7	2.7	3.0	3.0
AC-FT	196	190	197	196	166	183	178	182	172	180	184	179

CAL YR 1980	TOTAL	1148.3	MEAN	3.14	MAX	7.9	MIN	2.7	AC-FT	2280
WTR YR 1981	TOTAL	1111.0	MEAN	3.04	MAX	3.7	MIN	2.6	AC-FT	2200

SACRAMENTO RIVER BASIN

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'36", long 122°00'58", in NE¼SW¼ sec. 32, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on left bank 0.9 mi (1.4 km) downstream from Pit No. 7 Dam and powerhouse, 1.5 mi (2.4 km) upstream from Potem Creek, and 4.1 mi (6.6 km) west of town of Montgomery Creek. Prior to June 20, 1981, at site 1.0 mi (1.6 km) downstream on right bank.

DRAINAGE AREA.--4,952 mi² (12,823 km²), 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 National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 0.9 mi (1.4 km) upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 1.7 mi (2.7 km) upstream at different datum. May 21, 1965, to June 20, 1981, at site 1.0 mi (1.6 km) downstream at datum 1,036 ft (315.773 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft (416 hm³). 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to diversion from McCloud River).--21 years (water years 1945-65), 3,759 ft³/s (106.5 m³/s), 2,721,000 acre-ft/yr (3.35 km³/yr); 16 years (water years 1966-81), 4,995 ft³/s (141.5 m³/s), 3,619,000 acre-ft/yr (4.46 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft³/s (2,070 m³/s) Jan. 24, 1970, gage height, 32.36 ft (9.863 m) site and datum then in use; minimum daily, 30 ft³/s (0.85 m³/s) July 12, 27, 1975, result of construction work below Pit No. 7 powerplant.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,000 ft³/s (255 m³/s) Dec. 3, gage height, unknown; minimum daily, 140 ft³/s (3.96 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3840	2010	3930	3770	2240	6660	6760	3950	3840	3160	778	3330
2	4040	4190	4620	3880	3550	3510	5960	626	3640	3630	2280	2550
3	3540	4520	8250	2150	4110	4000	6380	2830	3760	3460	3030	4150
4	140	3530	7110	2600	4100	3990	4810	3670	4400	434	3730	2840
5	184	3190	3040	3710	4680	4150	3860	3910	4630	937	3230	1980
6	1430	3120	3720	3660	4150	3130	5790	4200	230	2810	2270	1810
7	2710	3360	3980	3040	5680	3710	4470	3800	568	3380	3510	2830
8	1550	2930	3110	3920	3840	3200	4900	3790	4410	3290	564	2820
9	2300	3310	2880	3290	3120	4770	5090	2110	2900	3520	966	2260
10	2450	2990	2370	2420	3150	4930	5030	1180	4050	3510	3250	2970
11	3880	2340	2830	1140	2890	4600	4640	3580	3390	1430	2900	3250
12	4660	3250	3500	3190	2630	4740	3370	3890	3030	1460	3000	2970
13	3670	3120	3340	4370	3500	4820	3790	4000	988	3140	3240	1730
14	3450	3220	2410	2550	8070	4230	4700	3800	1800	3530	3160	2630
15	2870	3120	2700	3740	8010	3410	4640	3430	3050	3590	4910	2580
16	3100	2070	3500	3640	7890	5000	4400	577	4140	3530	3890	2510
17	2590	2540	3710	3450	5610	4820	4260	2400	5450	3000	2510	2210
18	2340	3080	5900	3090	6600	4760	1850	5250	4100	774	1390	3190
19	2640	2520	1190	3310	4760	4750	4420	4330	3620	1450	180	2430
20	3060	3400	1720	3370	5520	5640	3460	4300	945	3710	2580	2560
21	2620	3630	2460	3250	5830	4620	4080	4270	426	3820	3060	2270
22	2810	771	3500	2410	7210	6610	3150	4360	2790	2950	1040	2800
23	2580	2000	4350	2360	5220	5360	3880	2600	2990	3050	880	1910
24	2660	3790	5120	3730	4020	5700	3710	2430	3240	3440	3970	2440
25	3050	4510	1640	4860	4190	6240	3470	2450	3400	921	2620	2890
26	2930	3580	3470	6040	3150	7910	3260	3650	2720	1070	3520	3060
27	3150	1770	2150	5490	5920	8000	3810	4650	587	3050	3890	3370
28	3200	2720	2270	5300	6480	8120	5550	3880	778	3480	2940	2710
29	2780	3430	3470	3390	---	7770	3640	4160	3190	3090	750	2850
30	3330	2700	3180	3110	---	6590	3590	2630	3160	3270	533	2730
31	2850	---	3470	2050	---	6530	---	1030	---	2960	3930	---
TOTAL	86404	90711	108890	106280	136120	162670	130720	101733	86222	84846	78501	80630
MEAN	2787	3024	3513	3428	4861	5247	4357	3282	2874	2737	2532	2688
MAX	4660	4520	8250	6040	8070	8120	6760	5250	5450	3820	4910	4150
MIN	140	771	1190	1140	2240	3130	1850	577	230	434	180	1730
AC-FT	171400	179900	216000	210800	270000	322700	259300	201800	171000	168300	155700	159900
CAL YR 1980 TOTAL	1895021	MEAN	5178	MAX	32200	MIN	140	AC-FT	3759000			
WTR YR 1981 TOTAL	1253727	MEAN	3435	MAX	8250	MIN	140	AC-FT	2487000			

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.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA, DISS (MG/L)
80/11/04	13 15	3530	147	7.9	12.0	2.0	11.5				
81/01/06	11 40	3660	147	7.3	8.0	3.0	11.9				
81/03/04	12 40	3990	140	7.5	8.0	16.0	12.0				
81/05/13	10 30	4100		7.9	16.0	2.0	10.6	4.0	1.0	52	11
81/07/22	09 45	4090	142	7.9	19.5	1.0	9.2				
81/09/03	10 25	4150	145	7.9	19.5	1.0	9.0				

DATE	TIME	MAGNESIUM MG, DISS (MG/L)	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKA- LINITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE TOTAL (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT. NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)
80/11/04	13 15									0.10
81/01/06	11 40									0.15
81/03/04	12 40									0.12
81/05/13	10 30		6	10	2.1	64	4	3	95	3
81/07/22	09 45									0.01
81/09/03	10 25									

DATE	TIME	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)
80/11/04	13 15	0.02	0.30	0.05	0.03
81/01/06	11 40	0.02	0.10	0.05	0.03
81/03/04	12 40	0.02	0.30	0.07	0.04
81/05/13	10 30	0.04	0.60	0.05	0.03
81/07/22	09 45				
81/09/03	10 25				

DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	BORON B, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGANESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)
81/05/13	10 30	0	0	100	0	0	10	20	0	0	0.0

DATE	TIME	SELENIUM SE, DISS (UG/L)
81/05/13	10 30	0

LOCATION.--Lat 41°08'06", long 122°04'26", in SE1SW1/4 sec.22, T.38 N., R.2 W., Shasta County, Hydrologic Unit 18020004, Shasta National Forest, on left bank of Lake McCloud, 8.8 mi (14.2 km) southeast of McCloud.

REVISID 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 942 ft³/s (26.68 m³/s), 682,500 acre-ft/yr (842 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,890 ft³/s (53.5 m³/s) May 20-22, June 1-3, 10, 1967; no flow for several days in 1965-68, 1971, 1978.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	679	477	564	636	734	847	1080	874	619	546	598	637
2	635	489	656	564	723	882	1060	795	594	563	598	614
3	606	491	897	558	713	896	1090	755	631	579	596	635
4	515	491	1090	577	713	910	1050	768	672	530	604	639
5	487	508	1030	573	711	885	1000	772	685	512	588	720
6	515	508	1060	571	675	856	1010	792	621	535	582	684
7	555	529	988	534	698	848	994	766	565	541	627	691
8	557	517	858	547	668	811	1010	752	598	600	576	630
9	568	522	681	547	698	841	1020	716	604	629	544	624
10	540	531	569	583	706	859	1000	687	632	634	569	605
11	467	474	504	547	661	856	968	694	629	615	555	577
12	513	503	507	543	668	865	924	711	613	625	552	577
13	576	529	521	547	655	873	910	724	575	662	562	525
14	633	504	523	538	765	856	912	729	557	687	582	556
15	631	531	516	534	886	861	898	731	600	708	507	584
16	654	503	502	568	958	865	912	660	638	723	514	610
17	608	536	536	547	961	844	912	610	667	696	569	582
18	557	489	593	531	928	874	851	644	707	659	609	592
19	529	479	538	620	936	869	813	687	742	624	611	586
20	568	474	534	639	938	884	824	694	667	663	649	514
21	540	482	527	628	905	877	850	700	600	698	647	498
22	555	472	562	635	961	939	827	722	580	694	624	528
23	531	477	527	668	960	934	847	690	598	682	571	512
24	529	529	639	682	953	945	874	649	611	693	611	498
25	535	511	601	711	901	848	864	596	608	633	615	552
26	522	515	583	777	856	934	810	623	602	555	624	512
27	551	489	599	830	862	1010	820	658	578	663	643	643
28	566	462	560	899	874	1130	871	688	493	631	654	586
29	551	472	560	936	---	1170	894	709	515	633	576	584
30	584	464	549	897	---	1150	886	644	544	630	536	645
31	562	---	579	873	---	1130	---	584	---	622	609	---
TOTAL	17419	14958	19953	19860	22671	28389	27781	21824	18317	19380	18322	17740
MEAN	562	499	644	641	810	916	926	704	611	625	591	591
MAX	679	536	1090	936	961	1170	1090	874	742	723	663	720
MIN	467	462	562	531	655	811	810	584	493	512	507	498
AC-FT	34550	29670	39580	39390	44970	56310	55100	43290	36330	38440	36340	35190
CAL YR 1980	TOTAL	29829	MEAN	815	MAX	1430	MIN	4	AC-FT	591700		
WTH YR 1981	TOTAL	246614	MEAN	676	MAX	1170	MIN	462	AC-FT	489200		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020004, 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 mi² (1,046 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 2,398.76 ft (731.142 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.) Prior to April 7, 1972, at datum 3.00 ft (0.914 m) higher.

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 ft³/s (11.3 m³/s). Because of channel changes, flow is computed only up to 200 ft³/s (5.66 m³/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 Energy Regulatory Commission Project.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	195	---	140	84	69	40	99	160	167	174	188
2	---	196	142	140	92	76	40	101	160	167	174	187
3	---	195	50	139	97	81	43	103	162	168	173	189
4	---	195	54	139	100	47	53	104	164	169	174	189
5	---	196	114	141	101	39	60	107	164	167	173	190
6	---	196	149	141	104	43	62	109	164	167	173	189
7	---	193	172	141	106	52	67	110	164	166	175	190
8	200	193	177	140	107	59	69	112	164	168	174	189
9	200	196	184	137	107	59	67	113	165	169	175	190
10	200	196	188	137	107	56	71	114	164	169	175	191
11	199	196	190	137	97	52	73	115	158	168	175	191
12	174	196	191	137	86	49	78	116	158	170	175	190
13	183	197	194	137	64	43	80	117	158	169	175	190
14	187	---	194	138	50	46	82	116	161	170	176	190
15	194	---	195	139	42	45	83	117	161	170	177	189
16	194	---	152	133	39	51	84	149	162	170	178	188
17	195	---	148	117	40	58	84	148	162	171	177	189
18	196	---	145	112	40	62	84	119	162	171	177	190
19	196	---	146	114	40	41	71	117	163	171	177	191
20	196	---	146	112	39	39	77	133	163	170	177	190
21	196	---	144	92	39	40	80	138	164	176	178	190
22	196	---	144	86	51	44	84	143	164	175	177	190
23	198	---	145	44	59	43	85	146	164	172	177	190
24	198	---	146	43	54	42	84	148	166	172	177	190
25	196	---	145	67	60	44	85	149	180	175	178	189
26	195	---	146	82	60	45	85	152	176	175	177	187
27	196	---	146	84	60	44	91	154	166	175	177	176
28	196	---	146	55	65	44	94	156	166	174	178	185
29	196	---	146	40	---	42	95	157	172	174	179	187
30	196	---	148	50	---	41	96	159	167	174	178	187
31	196	---	148	72	---	40	---	160	---	174	178	---
TOTAL	---	---	---	3386	1990	1536	2247	3981	4924	5293	5458	5661
MEAN	---	---	---	109	71.1	49.5	74.9	128	164	171	176	189
MAX	---	---	---	141	107	81	96	160	180	176	179	191
MIN	---	---	---	40	39	39	40	99	158	166	173	176
AC-FT	---	---	---	6720	3950	3050	4460	7900	9770	10500	10830	11230

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, Hydrologic Unit 18020004, 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 mi² (1,106 km²).

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-Iron Canyon 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--17 years, 1,221 ft³/s (34.58 m³/s), 884,600 acre-ft/yr (1.09 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge prior to construction of McCloud Dam, 9,660 ft³/s (274 m³/s) Dec. 22, 1964, gage height, 9.43 ft (2.874 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s); minimum daily, 86 ft³/s (2.44 m³/s) Oct. 1-26, 1964. Maximum discharge since construction of McCloud Dam in 1965, 26,400 ft³/s (748 m³/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 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 41 ft³/s (1.16 m³/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 ft³/s (504 m³/s), from rating curve extended above 2,500 ft³/s (70.8 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 748 ft³/s (21.2 m³/s) Feb. 14, gage height, 2.85 ft (0.869 m); minimum daily, 159 ft³/s (4.50 m³/s) Jan. 30, Feb. 9, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	211	222	167	161	160	205	164	206	199	196	214
2	219	211	243	166	161	167	187	165	205	198	193	211
3	218	211	334	168	161	175	176	165	206	198	193	214
4	219	210	342	167	161	198	175	163	206	199	193	214
5	219	209	217	168	160	186	177	165	207	198	192	214
6	219	210	219	166	160	169	176	165	205	199	192	214
7	217	214	226	166	160	169	176	164	206	198	193	214
8	211	210	221	166	160	173	172	165	205	198	192	214
9	211	211	222	162	159	173	164	165	206	199	193	211
10	211	211	223	162	161	174	164	164	206	199	193	211
11	212	211	221	162	164	179	163	164	201	198	193	211
12	209	211	221	161	164	179	164	164	199	199	193	211
13	213	211	222	160	254	177	164	165	198	198	193	211
14	209	222	222	161	572	175	165	163	199	198	195	211
15	210	222	221	162	329	178	165	163	199	198	196	211
16	210	222	182	164	248	175	166	197	199	198	196	211
17	210	222	176	170	213	174	165	199	199	198	196	211
18	211	222	171	161	185	178	165	203	198	198	196	211
19	211	222	171	162	190	182	165	198	199	198	196	211
20	210	222	170	167	183	202	163	205	199	198	196	211
21	209	223	174	164	161	225	163	203	199	201	196	211
22	209	222	171	171	160	389	165	204	198	201	201	211
23	211	222	170	192	160	364	165	205	199	196	201	211
24	211	221	171	167	164	298	163	206	200	195	201	211
25	211	224	171	160	160	427	164	205	212	198	198	211
26	211	224	171	160	162	485	163	206	209	197	203	211
27	211	223	171	164	159	367	163	206	199	197	201	214
28	211	223	171	278	161	300	165	206	199	196	201	211
29	211	223	170	201	---	261	164	206	203	196	201	211
30	211	222	171	159	---	230	164	206	199	196	201	211
31	211	---	171	161	---	210	---	206	---	196	201	---
TOTAL	6585	6522	6328	5265	5393	7099	5056	5725	6065	6135	6085	6354
MEAN	212	217	204	170	193	229	169	185	202	198	196	212
MAX	219	224	342	278	572	485	205	206	212	201	203	214
MIN	209	209	170	159	159	160	163	163	198	195	192	211
AC-FT	13060	12940	12550	10440	10700	14080	10030	11360	12030	12170	12070	12600
MEAN ‡	726	711	838	856	1075	1230	1096	936	797	739	693	695
AC-FT ‡	44630	42330	51550	52620	59700	75660	65220	57580	47430	45460	42580	41380

CAL YR 1980 TOTAL 92899 MEAN 254 MAX 4190 MIN 156 AC-FT 184300 MEAN ‡ 1067 AC-FT ‡ 774500
WTR YR 1981 TOTAL 72612 MEAN 199 MAX 572 MIN 159 AC-FT 144000 MEAN ‡ 865 AC-FT ‡ 626100

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

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.

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

WATER QUALITY DATA--WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA+DISS (MG/L)	MAGNESIUM MG+DISS (MG/L)	SODIUM NA+DISS (MG/L)
80/11/03	08 45	295	112	7.9	9.0	1.0	11.7				
81/01/05	08 35	284	124	7.3	6.0	1.0	11.4				
81/03/03	08 40	930	109	7.5	7.5	1.0	12.1				
81/07/21	09 15	270	136		18.0	0.0	9.2	49	13	4	9
81/09/02	09 20	261	119	7.4	15.5	1.0	9.3				

DATE	TIME	POTASSIUM K+DISS (MG/L)	ALKAL- LINEITY (MG/L)	CHLORIDE TOTAL (MG/L)	NO2+NO3 N+DISS (MG/L)	BORON B+DISS (UG/L)
80/11/03	08 45					
81/01/05	08 35					
81/03/03	08 40					
81/07/21	09 15	1.6	58	7	0.02	100
81/09/02	09 20					

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020005, 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 National Geodetic Vertical Datum of 1929 (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. 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, 4,359,200 acre-ft (5.37 km³) Apr. 16, elevation, 1,060.43 ft (323.219 m); minimum, 2,456,400 acre-ft (3.03 km³) Sept. 23, elevation, 982.06 ft (299.332 m).

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

830	515,500	910	1,291,900	990	2,616,600
840	587,100	920	1,424,800	1,000	2,828,500
850	665,500	930	1,566,200	1,010	3,051,800
860	751,000	940	1,717,300	1,020	3,286,900
870	843,600	950	1,877,000	1,030	3,533,500
880	943,900	960	2,046,800	1,050	4,063,100
890	1,051,700	970	2,226,100	1,067	4,552,100
900	1,167,900	980	2,416,000		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3317300	3255700	3200900	3189000	3462500	3885300	4320100	4290100	3987700	3590700	3010300	2540100
2	3314900	3256400	3222000	3187400	3473400	3897900	4317800	4278900	3982000	3575100	2991700	2532600
3	3311800	3258300	3274900	3184300	3482400	3911400	4317800	4268800	3976000	3559300	2975200	2529200
4	3300200	3258600	3295400	3180600	3490400	3935500	4316000	4261100	3970500	3536800	2959700	2527000
5	3289300	3258100	3295400	3179400	3497000	3955900	4316300	4253400	3965300	3515800	2944700	2523400
6	3280200	3257600	3291300	3177300	3502500	3970200	4320100	4244500	3952300	3497500	2926700	2518300
7	3274700	3257600	3286000	3175100	3510500	3985000	4323800	4235100	3939000	3479900	2910700	2512300
8	3267200	3257100	3278500	3174400	3514800	3995700	4329300	4226000	3932200	3463200	2889000	2504900
9	3260200	3256600	3270100	3171800	3517800	4009300	4334800	4212900	3921600	3446500	2867600	2497500
10	3255000	3256200	3261400	3169000	3521900	4021400	4340300	4197900	3913500	3431100	2850300	2496100
11	3255400	3254000	3257400	3164300	3528200	4033300	4344400	4187400	3903000	3409900	2832900	2493500
12	3256900	3253300	3255700	3163100	3532200	4047600	4346400	4176100	3891500	3389500	2816600	2489600
13	3257400	3251800	3254500	3164500	3554500	4060100	4348200	4167900	3876400	3372800	2801000	2484600
14	3255700	3250200	3250700	3165000	3599600	4070900	4351300	4158900	3862800	3355900	2784600	2481600
15	3253800	3249500	3247100	3165700	3628900	4085300	4354800	4149900	3851000	3337900	2772100	2481000
16	3252600	3246800	3245900	3169000	3655000	4099800	4359200	4133300	3841100	3319500	2758600	2481000
17	3250900	3245600	3243700	3176100	3673100	4112900	4358300	4117900	3835000	3300700	2741800	2476200
18	3248500	3244700	3244700	3179600	3691600	4126100	4351100	4116000	3823800	3277800	2721800	2476000
19	3247500	3241300	3237700	3185700	3707800	4140600	4351900	4109800	3811600	3257400	2700400	2473300
20	3246300	3238900	3231300	3191400	3723000	4162300	4347000	4102900	3793100	3240800	2683200	2471300
21	3247500	3238400	3228400	3198500	3735500	4193900	4341800	4093700	3772700	3223900	2666200	2466100
22	3249500	3230600	3224900	3222200	3753700	4233400	4336300	4084500	3756600	3205400	2646000	2463600
23	3250400	3223900	3223000	3255000	3767400	4248000	4330200	4071700	3739700	3186700	2625700	2456400
24	3252600	3221300	3223200	3274900	3785400	4256000	4326200	4059500	3722400	3169500	2611500	2456600
25	3255700	3221100	3217000	3292000	3803700	4277700	4321200	4046300	3707500	3146700	2598900	2458600
26	3256600	3219400	3213000	3310100	3822000	4298200	4316600	4036300	3690000	3124800	2588900	2462400
27	3257100	3214400	3207800	3338700	3843800	4309700	4310300	4027200	3667200	3107300	2583200	2469500
28	3257100	3209200	3202500	3396600	3865200	4316600	4306800	4018100	3644100	3090700	2574200	2472900
29	3256400	3207300	3198300	3425700	---	4320700	4301300	4011300	3626100	3068100	2561800	2477000
30	3257100	3202500	3194000	3443100	---	4320700	4295900	4004100	3608600	3050600	2551900	2480200
31	3256900	---	3190700	3453500	---	4320700	---	3994300	---	3033000	2547600	---
MAX	3317300	3258600	3295400	3453500	3865200	4320700	4359200	4290100	3987700	3590700	3010300	2540100
MIN	3246300	3202500	3190700	3163100	3462500	3885300	4295900	3994300	3608600	3033000	2547600	2456400
†	1018.75	1016.47	1015.97	1026.81	1042.73	1059.10	1058.24	1047.50	1032.95	1009.18	986.62	983.26
‡	-63800	-54400	-11800	+262800	+411700	+455500	-24800	-301600	-385700	-575600	-485400	-67400
††	7740	5420	2750	1400	2970	4630	9200	11510	15360	16960	13400	8650

CAL YR 1980 ‡ -190200

WTR YR 1981 ‡ -840500

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

11370500 SACRAMENTO RIVER AT KESWICK, CA
(National stream-quality accounting network station)

LOCATION.--Lat 40°36'04", long 122°26'36", in SW¼NW¼ sec.28, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020101, 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) National Geodetic Vertical Datum of 1929. 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 excellent. Flow regulated by Shasta Dam beginning Dec. 30, 1943 (station 11370000) and Keswick Reservoir, capacity 5,4170 acre-ft (5.14 km³). 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).--43 years, 8,479 ft³/s (240.1 m³/s), 6,143,000 acre-ft/yr (7.57 km³/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, 15,400 ft³/s (436 m³/s) July 5, gage height, 16.69 ft (5.087 m); minimum daily, 3,830 ft³/s (108 m³/s) Oct. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	6320	5380	5850	5930	4320	4290	12600	9540	9650	14100	14200	8580		
2	6210	5640	6120	5410	4290	4310	12600	9530	9710	13800	14200	8540		
3	6240	5600	6620	5470	4280	4330	10800	9810	9640	14100	14100	8560		
4	6270	5600	8320	5450	4260	4410	8960	10100	9700	14300	14200	8600		
5	6320	5750	8640	5340	4210	4400	7480	9940	10100	14200	14100	8120		
6	6210	5850	8610	5420	4220	4380	5960	10300	10300	14100	14300	8110		
7	6260	5880	8670	5420	4220	4330	5380	10400	10300	14100	14400	8140		
8	6270	5830	8720	5470	4220	4300	5360	10300	10500	14100	14300	8130		
9	6180	5840	8650	5400	4250	4290	5250	10500	10600	14200	14400	8220		
10	5070	5880	7750	5110	4240	4300	5200	10600	11000	14100	14200	8260		
11	5070	5830	7170	4700	4260	4290	5180	10600	11500	14200	14200	8190		
12	5030	5850	6480	4340	4240	4300	5180	10700	11400	14200	14200	8180		
13	5030	5900	6400	4260	4540	4300	5170	10600	11500	14200	14200	8180		
14	5020	5910	6350	4280	4880	4220	5180	10600	11400	14200	14100	8080		
15	4020	5930	6340	4270	4370	4290	5270	10600	11400	14200	14200	6950		
16	3950	6000	6410	4220	4340	4360	5300	11800	11500	14200	14100	6460		
17	3830	5920	6420	4260	4310	4300	7960	12100	11500	14100	14200	6580		
18	3860	5900	6370	4220	4260	4310	9050	12200	12000	14200	14300	5930		
19	3850	5890	6420	4270	4230	4280	9530	12100	12400	14200	14300	5910		
20	3860	5960	6380	4270	4220	4330	9550	12100	13300	14300	13800	5910		
21	3850	5930	6390	4220	4220	4680	9500	12100	13200	14200	14100	6000		
22	3840	5960	6330	4520	4180	8810	9530	12100	13300	14300	13700	5790		
23	3840	5840	6320	4650	4220	13800	9500	12200	13700	14300	13700	5330		
24	3860	5820	6310	4570	4230	13700	9530	12100	13700	14200	13600	5250		
25	3850	5840	6310	4480	4240	14000	9570	12100	13800	14200	12400	5230		
26	3850	5890	6350	4320	4250	13700	9610	12100	14400	14200	11400	4450		
27	3850	5880	6410	4710	4290	13600	9560	12100	14400	14200	10700	4650		
28	3850	5820	6290	5180	4270	13100	9560	11300	14300	14300	10700	4610		
29	3840	5830	6370	4450	---	13100	9570	10500	14200	14200	9910	4690		
30	3860	5840	6410	4380	---	13200	9560	9700	14300	14200	8720	3920		
31	3920	---	6400	4310	---	12700	---	9650	---	14200	8590	---		
TOTAL	147280	174990	212580	147300	120060	220710	242450	340370	358700	439600	411520	203550		
MEAN	4751	5833	6857	4752	4288	7120	8082	10980	11960	14180	13270	6785		
MAX	6320	6000	8720	5930	4880	14000	12600	12200	14400	14300	14400	8600		
MIN	3830	5380	5850	4220	4180	4220	5170	9530	9640	13800	8590	3920		
AC-FT	292100	347100	421700	292200	238100	437800	480900	675100	711500	871900	816200	403700		
MEAN ‡	3384	3894	6200	8415	10500	13170	7791	5355	3825	3263	2998	3433		
AC-FT ‡	208100	231700	381200	517400	583200	810000	463600	329300	227600	200700	184300	204300		
CAL YR 1980	TOTAL	3904890	MEAN	10670	MAX	50700	MIN	3630	AC-FT	7745000	MEAN ‡	8962	AC-FT ‡	6506000
WTR YR 1981	TOTAL	3019110	MEAN	8272	MAX	14400	MIN	3630	AC-FT	5988000	MEAN ‡	5997	AC-FT ‡	4341000

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

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

LOCATION.--Samples collected 2.1 mi (3.4 km) downstream from gaging station.

PERIOD OF RECORD.--Water years 1951 to current year.

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.

BIOLOGICAL DATA: Water years 1979 to current year.

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

WATER TEMPERATURES: October 1980 to September 1981.

SEDIMENT RECORDS: Water years 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

WATER TEMPERATURES: October 1980 to September 1981.

INSTRUMENTATION.--Conductivity and temperature recorder since October 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 149 micromhos Sept. 30; minimum recorded, 81 micromhos Jan. 28.

WATER TEMPERATURES: Maximum recorded, 14.5°C Sept. 19; minimum recorded, 9.0°C on many days during January to April.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 17...	1015	5950	106	7.8	11.5	1.3	9.7	12	K7	44	0	9.4
JAN 19...	1030	4320	127	7.7	10.5	2.1	10.5	K7	45	52	0	12
MAR 16...	1015	4360	115	7.3	9.5	3.8	11.1	K9	K3	45	0	9.5
MAY 18...	0945	12300	119	7.6	9.5	2.7	10.2	--	--	48	0	11
JUL 20...	1030	15400	115	8.1	12.0	3.2	9.6	<4	K3	48	0	11
SEP 21...	1000	5910	114	7.6	13.5	1.1	9.1	24	30	48	0	11

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV 17...	5.1	5.4	20	.4	1.1	50	5.1	2.5	.1	19	77	78
JAN 19...	5.3	8.0	24	.5	1.7	58	8.0	2.4	.1	25	100	101
MAR 16...	5.1	6.6	24	.4	1.3	52	9.9	2.1	.1	23	81	86
MAY 18...	4.9	6.7	23	.4	1.3	50	12	1.9	.0	22	85	91
JUL 20...	5.0	6.1	21	.4	1.1	51	2.0	1.9	.1	22	--	81
SEP 21...	5.1	6.3	22	.4	1.1	53	<5.0	2.2	.0	23	85	--

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV 17...	.07	--	.120	--	.46	--	.58	.16	.050	.020	--
JAN 19...	.23	.23	.080	.090	--	.42	--	.51	.050	.050	--
MAR 16...	.10	.10	.070	.070	.32	.26	.39	.33	.040	.030	1.4
MAY 18...	.08	.10	.080	.090	.31	.25	.39	.34	.040	.040	--
JUL 20...	.20	.09	.410	.140	--	.20	.47	.34	.020	.030	2.2
SEP 21...	.04	.04	.070	--	--	--	.34	.27	.020	.010	--

See footnotes at end of table.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)
NOV 17...	1015	1	1	0	20	1	<1	10	0	1	<3
JAN 19...	1030	3	2	0	20	1	3	0	0	2	<3
MAY 18...	0945	2	1	0	20	0	2	0	0	1	<3
SEP 21...	1000	2	2	0	21	0	<1	0	0	0	0

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 17...	11	5	160	20	6	4	10	5	.1	.0
JAN 19...	19	9	320	30	15	1	20	7	.1	.0
MAY 18...	18	12	420	90	11	12	10	9	.1	.1
SEP 21...	13	8	70	15	10	6	10	2	.0	.0

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)
NOV 17...	7	7	0	0	0	0	40	40	3.1	--
JAN 19...	1	2	0	0	0	0	90	70	2.5	--
MAY 18...	2	2	0	0	0	0	110	120	2.7	--
SEP 21...	0	0	0	0	0	0	30	38	1.9	.2

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

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON ANALYSES, OCTOBER 1980 TO SEPTEMBER 1981

DATE TIME	MAR 16,81 1015	MAY 18,81 0945	JUL 20,81 1030	SEP 21,81 1000
TOTAL CELLS/ML	300	120	51	69
DIVERSITY: DIVISION	0.9	1.4	0.0	0.0
..CLASS	0.9	1.4	0.0	0.0
..ORDER	1.7	2.1	1.0	1.9
...FAMILY	1.7	2.1	1.0	1.9
....GENUS	2.1	2.1	1.0	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
..BACILLARIOPHYCEAE								
...ACHNANTHALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	14#	20
..BACILLARIALES								
...NITZSCHIA	13	4	--	-	26#	50	14#	20
...EUPODISCALES								
....COSCINODISCALES								
....CYCLOTELLA	26	9	--	-	--	-	--	-
....MELOSIRA	120#	39	26#	22	26#	50	--	-
..FRAGILARIALES								
...FRAGILARIALES								
....SYNEDRA	--	-	--	-	--	-	14#	20
....TABELLARIA	13	4	--	-	--	-	--	-
..NAVICULALES								
...CYMBELLA								
....CYMBELLA	--	-	13	11	--	-	28#	40
...NAVICULACEAE								
....NAVICULA	26	9	--	-	--	-	--	-
..SURIPELLALES								
...SURIPELLACEAE								
....SURIPELLA	--	-	13	11	--	-	--	-
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....SCENEDESMACEAE								
....SCENEDESMUS	100#	35	52#	44	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...DINOKONTAE								
....GLENODINIACEAE								
....GLENODINIUM	--	-	13	11	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	105	123	126	101	108	123	123	115	113	111	111
2	107	103	121	126	102	108	122	123	115	113	111	112
3	108	103	104	126	107	107	122	122	116	113	111	112
4	108	103	107	126	115	113	123	122	115	113	110	112
5	108	103	109	126	124	110	123	123	114	113	111	111
6	108	104	120	126	129	110	124	124	113	113	110	110
7	108	105	122	127	131	110	124	122	113	113	111	110
8	108	105	123	127	131	109	123	121	113	113	110	109
9	108	106	124	127	131	109	123	122	113	113	109	109
10	108	106	125	127	129	109	123	122	112	113	110	111
11	108	108	125	128	126	110	124	118	112	113	110	111
12	108	108	122	128	124	111	123	120	112	113	111	109
13	109	106	121	128	115	110	123	120	112	113	111	111
14	109	106	122	128	111	111	123	117	112	113	111	111
15	109	105	121	128	115	110	123	117	112	113	111	112
16	109	104	120	128	113	114	124	117	112	114	111	110
17	109	105	122	129	112	117	124	118	113	113	111	110
18	109	105	123	130	113	121	123	119	113	113	111	110
19	109	109	124	129	111	119	122	117	114	113	111	112
20	109	112	126	129	106	118	123	114	114	113	111	116
21	109	114	127	127	106	108	122	115	114	113	111	118
22	101	119	127	119	113	109	122	115	114	113	111	120
23	98	120	126	114	106	115	123	115	114	113	111	---
24	97	121	126	112	107	119	123	115	115	113	112	---
25	98	120	126	109	105	118	123	115	114	113	112	---
26	98	119	127	104	105	119	123	115	114	112	111	---
27	101	116	127	97	106	120	123	115	113	113	110	---
28	105	119	126	93	107	122	123	117	115	113	110	---
29	106	120	126	104	---	121	121	116	114	112	111	---
30	107	122	126	106	---	121	123	115	113	112	113	---
31	107	---	126	102	---	123	---	115	---	112	111	---
MONTH	106	110	122	121	114	114	123	118	114	113	111	---
YEAR	MAX	131	MIN	93	MEAN	115						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
17...	1015	5430	11.5	13	191
JAN					
19...	1030	4180	10.5	3	34
MAR					
16...	1015	4360	9.5	2	24
MAY					
18...	0945	12300	9.5	3	100
JUL					
20...	1030	15400	12.0	3	125
SEP					
21...	1000	5910	12.5	3	48

11371000 CLEAR CREEK AT FRENCH GULCH, CA

LOCATION.--Lat 40°41'42", long 122°38'08", unsurveyed, Shasta County, Hydrologic Unit 18020112, 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 mi² (298 km²).

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) National Geodetic Vertical Datum of 1929. Prior to Dec. 28, 1959, water-stage recorder at datum 3.00 ft (0.914 m) higher.

REMARKS.--Records good. No large diversion above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--31 years, 213 ft³/s (6.032 m³/s), 154,300 acre-ft/yr (190 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s (413 m³/s) Jan. 16, 1974, gage height, 14.99 ft (4.569 m), from rating curve extended above 5,200 ft³/s (147 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.5 ft³/s (0.042 m³/s) July 19-22, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 22	2115	2,090 59.2	7.26 2.213
Jan. 28	0700	*3,510 99.4	8.82 2.688
Feb. 14	0330	2,360 66.8	7.59 2.313

Minimum daily, 6.0 ft³/s (0.17 m³/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	24	29	42	326	412	374	113	57	25	10	8.3
2	10	26	125	40	277	386	339	110	59	24	9.2	8.2
3	10	26	424	41	250	372	309	109	57	23	9.8	8.2
4	10	25	399	42	226	505	281	106	54	22	10	8.2
5	10	24	164	39	214	554	261	103	51	24	10	8.2
6	12	23	106	38	202	503	250	101	50	29	9.5	7.8
7	12	26	78	37	189	448	236	100	50	28	8.5	7.1
8	13	34	63	36	178	407	224	97	52	25	7.8	7.1
9	14	30	55	35	174	374	214	93	50	23	7.4	7.8
10	14	28	50	35	172	347	204	89	47	22	6.8	7.8
11	16	27	46	34	203	325	196	84	48	22	6.8	7.4
12	34	25	44	34	227	306	187	82	46	21	6.4	7.1
13	31	25	42	33	474	314	178	82	46	20	7.1	6.8
14	28	25	40	33	1590	292	171	81	45	19	8.5	6.0
15	25	24	38	33	813	318	165	78	43	18	8.8	6.4
16	24	24	37	44	588	349	160	78	41	17	8.8	6.8
17	23	24	36	84	516	327	157	83	40	16	8.5	6.8
18	23	24	36	133	438	321	154	115	38	16	7.8	7.1
19	22	24	35	125	399	332	192	112	36	15	8.5	8.8
20	22	24	35	137	355	385	175	101	35	15	10	8.5
21	22	25	45	207	312	548	158	89	33	14	10	8.5
22	21	33	54	860	279	741	149	83	32	14	8.5	9.2
23	20	31	44	1640	259	681	144	77	32	12	8.0	9.6
24	20	29	42	762	252	584	138	75	31	12	8.0	11
25	23	28	50	435	254	691	141	74	30	11	8.6	17
26	25	27	52	331	312	760	150	74	29	11	8.5	19
27	25	26	51	429	431	642	133	70	27	10	8.3	27
28	24	26	51	2220	430	551	125	65	26	10	7.9	28
29	23	28	48	959	---	489	120	63	26	10	7.6	21
30	23	30	46	519	---	437	116	61	25	10	7.8	17
31	23	---	44	407	---	402	---	58	---	10	8.4	---
TOTAL	612	797	2409	9844	10340	14103	5801	2706	1236	548	261.8	317.7
MEAN	19.7	26.6	77.7	318	369	455	193	87.3	41.2	17.7	8.45	10.6
MAX	34	34	424	2220	1590	760	374	115	59	29	10	28
MIN	10	23	29	33	172	292	116	58	25	10	6.4	6.0
AC-FT	1210	1580	4780	19530	20510	27970	11510	5370	2450	1090	519	630
CAL YR 1980	TOTAL	76089.0	MEAN	208	MAX	4450	MIN	10	AC-FT	150900		
WTR YR 1981	TOTAL	48975.5	MEAN	134	MAX	2220	MIN	6.0	AC-FT	97140		

KLAMATH RIVER BASIN

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010212, 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.--18 years, 1,542 ft³/s (43.67 m³/s), 1,117,000 acre-ft/yr (1.38 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 3,910 ft³/s (111 m³/s) Feb. 11, 1970; no flow many days in many years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	1380	29	0	0	0	0	517	1650	1870	2580	2580
2	4.0	1340	1230	0	25	878	168	511	1650	1870	2560	2590
3	4.0	1370	1580	0	19	1300	162	555	1560	1850	2570	2580
4	0	1390	139	0	25	1210	0	457	1990	1890	2580	2590
5	0	1380	0	25	29	732	0	0	1570	1860	2710	2570
6	63	1390	0	77	17	1060	8.0	69	1580	1900	2550	2570
7	73	1390	29	17	0	928	0	0	1590	1870	2620	2570
8	35	1390	29	29	0	706	0	2.0	1710	1830	2560	2580
9	29	1390	29	0	25	914	0	0	1600	1860	2550	2590
10	0	1380	29	0	0	917	604	486	1870	1860	2550	2570
11	0	1390	17	0	0	875	583	306	1870	1860	2550	2580
12	0	1390	17	2.0	64	1000	558	0	1870	1900	2550	2580
13	0	1390	0	0	0	1160	507	822	1820	1980	2670	2580
14	0	1390	0	0	0	1160	514	763	1810	1730	2560	2650
15	0	1390	6.0	0	0	274	504	768	1810	1700	2560	2560
16	47	1390	0	0	0	271	558	766	1880	1740	2660	2540
17	49	1420	0	0	4.0	290	534	0	1880	1740	2550	2150
18	0	1380	97	0	0	300	593	841	1930	1730	2560	2150
19	0	0	0	0	712	365	552	847	1860	1740	2650	243
20	0	0	0	25	1440	461	587	326	1800	1670	2560	251
21	807	0	0	0	1370	437	609	1470	1930	1640	2560	247
22	889	0	34	17	1410	159	536	1560	1870	1640	2560	254
23	885	0	0	18	1490	4.0	568	1480	2060	1700	2590	268
24	887	0	0	0	1340	35	652	1490	2000	1620	2580	2570
25	944	0	0	0	1420	31	574	1520	1910	1680	2560	2580
26	837	0	0	50	1390	46	529	1680	2000	1650	2560	3150
27	876	0	0	76	1400	0	545	1660	2050	1690	2660	3130
28	0	0	0	13	0	0	627	1550	1860	1710	2580	2980
29	0	0	19	0	---	0	408	1360	1810	1700	2690	3240
30	0	0	10	0	---	0	525	1660	1860	1760	2590	3240
31	9.0	---	0	0	---	4.0	---	1590	---	1990	2570	---
TOTAL	6624.0	24980	3294.0	349.0	12180.0	15521.0	12005.0	25056.0	54650	55230	80200	67733
MEAN	214	833	106	11.3	435	501	400	808	1822	1782	2587	2258
MAX	944	1420	1580	77	1490	1300	652	1680	2060	1990	2710	3240
MIN	0	0	0	0	0	0	0	0	1560	1620	2550	243
AC-FT	13140	49550	6530	692	24160	30790	23810	49700	108400	109500	159100	134300
CAL YR 1980	TOTAL	433740.00	MEAN	1185	MAX	3600	MIN	0	AC-FT	860300		
WTR YR 1981	TOTAL	357822.00	MEAN	980	MAX	3240	MIN	0	AC-FT	709700		

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE¼Sec.18, T.32 N., R.5 W., Shasta County, Hydrologic Unit 18020112, 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.--17 years, 1,917 ft³/s (54.29 m³/s), 1,389,000 acre-ft/yr (1.71 km³).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,700 ft³/s (133 m³/s) Jan. 21, 1971; no flow for many days in 1974-81.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	1540	15	0	2140	2050	216	0	1730	1980	2600	2530
2	4.0	1550	1390	0	2060	2060	229	0	1730	1990	2590	2510
3	4.0	1550	1940	0	1440	1270	0	0	1570	1980	2540	2650
4	0	1550	2030	0	614	1690	0	0	1980	1980	2520	2530
5	0	1550	2030	13	171	1690	0	0	1810	1980	2490	2700
6	27	1620	512	8.0	8.0	1680	0	171	2010	1980	2420	2550
7	88	1660	345	169	0	1680	0	149	1960	1980	2500	2600
8	44	1650	213	2.0	0	1690	0	0	2000	1980	2580	2590
9	29	1650	15	0	446	1690	0	72	1970	1980	2580	2600
10	0	1650	8.0	0	314	1690	0	531	1990	1980	2580	2600
11	0	1660	986	0	576	1690	0	480	1990	1970	2660	2630
12	0	1660	984	0	650	1690	0	114	1970	1970	2600	2570
13	0	1650	1000	118	477	1700	0	1110	1970	1970	2600	2650
14	0	1660	989	200	1060	1700	0	1080	1960	1690	2590	2780
15	0	1660	992	0	1300	866	0	1210	1980	1690	2600	2530
16	0	1650	1000	0	1290	921	0	1160	1970	1050	2600	2610
17	0	1760	770	0	1290	548	0	87	1970	1750	2720	2610
18	0	1390	377	0	1380	1010	0	453	1980	1740	2780	2610
19	0	552	218	296	2050	1040	0	1230	1980	1730	2720	680
20	0	567	0	336	2040	912	0	1060	1990	1730	2620	566
21	2130	622	0	381	1410	1170	0	1740	1990	1810	2580	275
22	2150	0	16	1000	2040	1830	0	1740	1990	1780	2560	277
23	2170	0	0	1430	2060	2070	41	1730	1900	1750	2590	280
24	2190	528	0	2020	2050	2070	0	1740	1510	1740	2590	2600
25	2150	593	0	2020	2060	1690	0	1750	1980	1730	2580	2570
26	615	557	0	2050	2050	1700	0	1750	1980	1750	2600	3150
27	749	0	0	2060	2050	1690	164	1230	1970	1750	2670	3160
28	449	0	0	2060	2060	996	155	1610	1490	1750	2710	3180
29	328	0	8.0	1370	---	995	0	1610	1980	1740	2610	3650
30	390	0	7.0	2040	---	459	77	1760	1980	1740	2590	3700
31	359	---	0	2050	---	436	---	1740	---	2150	2650	---
TOTAL	14076.0	32479	15845.0	19623.0	35086.0	44373	882	27307	57260	56790	80620	70938
MEAN	454	1083	511	633	1253	1431	29.4	881	1909	1832	2601	2365
MAX	2190	1760	2030	2060	2140	2070	229	1760	2010	2150	2780	3700
MIN	0	0	0	0	0	436	0	0	1490	1050	2420	275
AC-FT	27920	64420	31430	38920	69590	88010	1750	54160	113600	112600	159900	140700
CAL YR 1980	TOTAL	578876.00	MEAN	1582	MAX	4010	MIN	0	AC-FT	1148000		
WTR YR 1981	TOTAL	455299.00	MEAN	1247	MAX	3700	MIN	0	AC-FT	903100		

11371700 WHISKEYTOWN LAKE NEAR IGO, CA

LOCATION.--Lat 40°37'03", long 122°31'31", unsurveyed, Shasta County, Hydrologic Unit 18010112, 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 mi² (518 km²).

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 National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³) Mar. 30, 1974, elevation, 1,213.69 ft (369.933 m); minimum since reservoir was first filled, 159,000 acre-ft (196 hm³) Oct. 25, 1970, elevation, 1,181.48 ft (360.115 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 239,800 acre-ft (296 hm³) July 16, 17, 19, elevation, 1,209.60 ft (368.683 m); minimum, 188,100 acre-ft (232 hm³) Mar. 29, elevation, 1,192.38 ft (363.437 m).

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

1,015	714	1,080	15,100
1,020	994	1,100	27,500
1,030	1,800	1,120	46,700
1,040	3,060	1,140	74,000
1,050	4,900	1,180	155,300
1,060	7,420	1,220	274,400

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234800	219000	204900	190700	194500	189800	189800	232800	237100	239300	237500	238200
2	234700	218700	206900	190800	191500	188900	190800	234200	237300	239200	237600	238300
3	234600	218400	211500	191000	189500	190400	192200	235600	237600	239100	237700	238400
4	234500	218200	209200	191100	189200	191800	193100	236800	238000	239100	237800	238500
5	234400	217900	205700	191100	189600	191800	194000	237000	237700	238900	238300	238300
6	234300	217500	204900	191300	190300	192300	194700	237000	237300	239000	238500	238300
7	234200	217100	204400	191100	190900	192300	195500	237000	236900	238900	238900	238400
8	234100	216700	204100	191100	191500	191700	196200	237200	236700	238700	238900	238400
9	234100	216200	204100	191100	191200	191400	196900	237300	236300	238500	238900	238400
10	234000	215700	204200	191200	191100	191000	198900	237500	236400	238400	238800	238500
11	234100	215300	202300	191300	190700	190500	200700	237400	236500	238200	238800	238400
12	234100	214800	200400	191400	190300	190200	202400	237400	236600	238300	238700	238500
13	234200	214300	198500	191200	192000	190300	204000	237100	236500	238400	238800	238400
14	234100	213800	196500	190900	194800	190200	205500	236800	236400	238500	238800	238300
15	234100	213300	194500	190900	194800	190400	207100	236100	236400	238500	238800	238400
16	234100	212800	192600	191300	194300	190300	208800	235600	236500	239800	238900	238300
17	234100	212200	191100	192000	193600	190900	210400	235700	236500	239800	238600	237500
18	234100	212100	190600	192400	192300	190600	212100	238200	236600	239700	238200	236700
19	234100	211100	190100	192300	191200	190800	214200	238100	236700	239800	238100	235700
20	234000	209900	190100	192300	191300	191700	216000	235400	236500	239600	238000	234800
21	231600	208600	190300	192200	192400	194200	217800	235400	236500	239300	238000	234500
22	229100	208600	190400	195500	192300	194300	219400	235500	236400	239100	238000	234200
23	226700	208600	190400	199000	192300	192900	221000	235400	236800	239000	238000	233900
24	224200	207500	190400	197800	192600	191100	222800	235300	238000	238700	238100	234000
25	222000	206300	190500	195200	192800	190500	224500	235200	238100	238500	238000	234100
26	221900	205100	190500	192700	193500	189800	226100	235500	238300	238300	238000	234500
27	222200	205100	190600	192600	194500	188600	227300	236800	238700	238200	238000	235000
28	221300	205000	190600	200500	192300	188400	228800	236900	239500	238100	238100	235000
29	220600	205000	190700	201500	---	188100	230100	236800	239300	238000	238100	234600
30	219800	204900	190700	199800	---	188600	231400	236900	239300	238000	238100	234100
31	219100	---	190700	197300	---	189100	---	236900	---	237500	238000	---
MAX	234800	219000	211500	201500	194800	194300	231400	238200	239500	239800	238900	238500
MIN	219100	204900	190100	190700	189200	188100	189800	232800	236300	237500	237500	233900
†	1202.99	1198.25	1193.30	1195.63	1193.86	1192.75	1206.95	1208.68	1209.45	1208.89	1209.03	1207.79
‡	-15400	-14200	-14200	+6600	-5000	-3200	+42300	+5500	+2400	-1800	+500	-3900
††	720	270	140	100	190	360	820	1220	1720	1900	1860	1240

CAL YR 1980 ‡ -12100

WTR YR 1981 ‡ +400

† Elevation, in feet NGVD, 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, Hydrologic Unit 18020112, on left bank at old 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 mi² (590 km²).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. 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).--41 years, 458 ft³/s (12.97 m³/s), 331,800 acre-ft/yr (409 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft³/s (694 m³/s) Dec. 21, 1955, gage height, 13.75 ft (4.191 m); minimum, 8.6 ft³/s (0.24 m³/s) Sept. 4, 6, 7, 1950. Maximum discharge since construction of Whiskeytown Dam in 1963, 9,940 ft³/s (282 m³/s) Dec. 22, 1964, gage height, 9.23 ft (2.813 m); minimum daily, 30 ft³/s (0.85 m³/s) Oct. 10, 11, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,950 ft³/s (83.5 m³/s) Jan. 28, gage height, 6.79 ft (2.070 m); minimum daily, 43 ft³/s (1.22 m³/s) Aug. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	52	89	76	144	136	142	66	61	50	49	50
2	46	85	295	50	127	122	131	64	60	50	49	49
3	47	86	754	51	115	117	122	63	59	50	49	47
4	46	86	324	50	106	292	114	63	60	50	49	47
5	46	86	136	50	100	218	108	62	58	50	49	48
6	47	86	114	49	94	176	103	61	59	53	49	47
7	46	87	109	49	88	154	99	61	59	54	48	48
8	46	88	105	49	83	136	96	60	59	50	49	48
9	46	88	102	49	81	125	92	59	58	49	49	49
10	46	87	99	49	78	116	90	58	57	51	49	49
11	48	86	99	49	100	109	87	57	57	49	49	49
12	51	86	97	49	88	106	85	57	57	49	49	49
13	51	86	96	49	619	113	82	56	57	49	50	47
14	50	86	95	47	649	99	79	56	56	49	50	48
15	49	86	95	47	269	169	79	56	56	48	50	48
16	49	86	93	64	202	186	76	55	55	48	50	49
17	49	86	93	80	168	153	74	57	55	48	50	49
18	49	86	93	73	146	151	74	116	54	48	50	49
19	49	86	93	71	134	159	124	88	54	48	50	49
20	49	86	93	77	121	201	107	78	53	48	49	48
21	49	87	103	91	111	746	89	72	53	49	47	49
22	48	88	99	391	105	602	82	68	52	49	45	49
23	48	88	96	437	101	340	78	67	52	49	46	49
24	48	87	95	201	124	249	76	67	52	48	45	51
25	49	86	97	133	136	542	78	65	51	48	44	50
26	49	87	95	151	144	414	83	62	52	48	44	51
27	49	86	96	567	167	273	75	61	51	48	43	54
28	48	86	97	1150	146	216	71	61	50	48	46	52
29	48	88	97	373	---	185	69	60	50	48	49	51
30	48	88	92	224	---	164	67	59	50	48	51	51
31	48	---	92	172	---	151	---	61	---	48	51	---
TOTAL	1488	2562	4138	5018	4546	6920	2732	1996	1657	1522	1497	1474
MEAN	48.0	85.4	133	162	162	223	91.1	64.4	55.2	49.1	48.3	49.1
MAX	51	88	754	1150	649	746	142	116	61	54	51	54
MIN	46	52	89	47	78	99	67	55	50	48	43	47
AC-FT	2950	5080	8210	9950	9020	13730	5420	3960	3290	3020	2970	2920
MEAN ‡	49.1	102	309	894	893	1108	446	272	211	101	99.7	112
AC-FT ‡	3020	6050	19020	54940	49600	68120	26520	16740	12560	6240	6130	6650
CAL YR 1980 TOTAL	39894											
MEAN 109												
MAX 2130												
MIN 46												
AC-FT 79130												
MEAN ‡ 503												
AC-FT ‡ 365200												
WTH YR 1981 TOTAL	35550											
MEAN 97.4												
MAX 1150												
MIN 43												
AC-FT 70510												
MEAN ‡ 381												
AC-FT ‡ 275600												

‡ Adjusted for change in contents in and evaporation from Whiskeytown Lake, diversions from Trinity River through Judge Francis Carr Power Plant and to Spring Creek Power Plant.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020101, 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 mi² (1,100 km²).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 388.7 ft (118.48 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Numerous small diversions above station for irrigation.

AVERAGE DISCHARGE.--32 years, 672 ft³/s (19.03 m³/s), 486,900 acre-ft/yr (600 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,200 ft³/s (1,280 m³/s) Dec. 27, 1951, gage height, 21.55 ft (6.568 m); minimum daily, 0.02 ft³/s (<0.001 m³/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.--Peak discharges above base of 10,000 ft³/s (283 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	1030	11,500 326	10.65 3.246	Feb. 14	0230	*15,800 447	12.33 3.758
Jan. 27	1415	15,000 425	12.03 3.667	Mar. 25	1115	10,000 283	9.74 2.969

Minimum daily, 1.1 ft³/s (0.031 m³/s) Aug. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	94	159	165	693	677	1380	321	101	16	12	7.4
2	40	95	504	161	537	579	951	309	99	18	15	10
3	37	93	4180	162	454	508	789	281	98	18	14	13
4	36	90	2230	191	408	2550	695	266	96	17	7.7	11
5	36	92	637	170	389	1660	621	254	89	20	10	15
6	35	90	368	160	393	934	582	230	88	22	9.5	12
7	35	87	279	154	350	718	543	216	74	25	7.2	11
8	39	131	229	144	318	611	515	205	73	24	6.3	8.2
9	42	115	208	143	308	527	488	197	87	16	5.9	12
10	43	105	193	140	288	473	464	184	70	12	3.5	14
11	47	103	182	136	486	429	446	158	62	17	1.1	14
12	93	102	176	135	477	406	424	146	69	21	2.6	18
13	156	99	168	131	2310	926	405	140	66	16	6.9	15
14	247	98	162	130	7010	575	391	139	65	17	9.7	16
15	152	92	157	129	1860	1190	388	141	58	17	12	14
16	123	96	155	136	1240	3070	379	146	59	14	13	10
17	110	95	153	419	1320	1270	363	147	56	13	12	10
18	103	95	151	437	914	1200	352	381	53	12	8.8	12
19	100	99	148	401	819	2910	615	493	47	8.8	10	15
20	98	92	145	514	875	2350	603	339	48	7.3	13	16
21	96	97	191	662	677	5700	448	247	46	5.8	9.2	17
22	92	103	350	1010	592	3900	407	217	34	11	13	16
23	87	109	225	2230	546	2070	395	205	27	13	15	16
24	86	115	193	1580	1390	1370	391	189	25	11	14	21
25	86	103	190	751	3580	5560	389	203	27	9.5	15	39
26	121	97	205	992	1490	3950	609	218	27	14	17	48
27	109	97	189	7130	1100	2020	514	198	19	12	13	56
28	96	97	205	4190	824	1470	403	152	16	11	11	130
29	92	104	189	3420	---	1210	365	143	17	8.2	12	99
30	92	165	177	1790	---	1020	345	129	19	8.1	9.1	58
31	93	---	170	974	---	963	---	115	---	9.7	7.1	---
TOTAL	2664	3050	12868	28887	31648	52796	15660	6709	1715	444.4	315.6	753.6
MEAN	85.9	102	415	932	1130	1703	522	216	57.2	14.3	10.2	25.1
MAX	247	165	4180	7130	7010	5700	1380	493	101	25	17	130
MIN	35	87	145	129	288	406	345	115	16	5.8	1.1	7.4
AC-FT	5280	6050	25520	57300	62770	104700	31060	13310	3400	881	626	1490

CAL YR 1980 TOTAL 257074.0 MEAN 702 MAX 11400 MIN 26 AC-FT 509900
WTR YR 1981 TOTAL 157510.6 MEAN 432 MAX 7130 MIN 1.1 AC-FT 312400

11375810 COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°23'06", long 122°28'31", in SE4NW4 sec.7, T.29 N., R.5 W., Shasta County, Hydrologic Unit 18020102, 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 mi² (1,023 km²).

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 good. Numerous pumping diversions above station.

AVERAGE DISCHARGE.--10 years, 426 ft³/s (12.06 m³/s), 308,600 acre-ft/yr (380 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,900 ft³/s (1,050 m³/s) Jan. 16, 1974, gage height, 21.44 ft (6.535 m) from rating curve extended above 14,000 ft³/s (396 m³/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.--Peak discharges above base of 3,000 ft³/s (85.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	0845	3,300 93.5	9.52 2.902	Feb. 14	0015	*14,100 399	16.04 4.889
Jan. 22	1600	7,360 208	12.10 3.688	Mar. 21	0945	4,130 117	9.89 3.014
Jan. 28	0215	13,100 371	15.54 4.737	Mar. 25	1615	3,260 92.3	9.31 2.838

Minimum daily, 0.18 ft³/s (0.005 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	23	52	102	888	754	893	238	113	25	8.1	2.7
2	12	23	169	98	769	724	825	224	113	25	5.8	2.2
3	11	24	1910	98	690	706	773	220	105	26	5.5	1.3
4	10	24	1530	103	628	1490	723	213	99	25	6.4	3.1
5	7.8	24	453	97	593	1010	680	216	95	25	8.5	3.7
6	7.3	24	281	93	565	888	630	214	91	27	8.5	4.0
7	8.2	24	224	89	518	827	593	210	91	29	8.9	3.7
8	7.9	25	194	88	478	781	566	206	91	27	8.4	4.0
9	10	29	144	86	441	738	543	201	91	25	5.2	3.1
10	10	27	131	86	410	705	526	194	91	24	3.7	2.5
11	12	26	120	83	518	679	507	180	87	22	2.7	2.8
12	20	26	112	81	502	667	489	169	79	22	.40	.18
13	25	26	105	78	3290	721	469	164	77	23	3.5	.83
14	25	26	102	78	5710	639	450	156	77	23	4.7	.67
15	25	26	98	76	2180	946	428	143	76	23	5.2	2.2
16	24	26	95	96	1660	941	384	139	71	22	5.7	2.0
17	23	28	92	142	1570	761	364	140	68	20	5.5	3.7
18	22	28	90	171	1220	738	352	337	62	18	4.5	5.2
19	21	28	82	191	1080	744	534	355	60	17	.43	4.4
20	21	28	80	292	956	848	479	209	60	14	2.1	4.0
21	21	27	106	430	858	2900	400	172	55	12	5.0	4.8
22	20	33	161	3760	793	1990	373	156	52	15	5.9	4.0
23	20	44	124	2970	748	1470	355	145	48	13	6.1	4.4
24	20	39	109	1310	786	1270	343	137	34	9.1	6.4	5.6
25	21	36	107	851	838	2140	334	145	31	8.9	5.2	12
26	22	35	110	1180	767	1790	353	208	29	9.0	3.5	15
27	22	34	106	4290	825	1440	316	190	26	11	4.2	19
28	22	33	129	7890	761	1260	295	138	24	11	2.7	25
29	22	35	120	2440	---	1120	283	129	25	7.8	.60	26
30	22	45	112	1410	---	1030	256	122	26	8.4	.65	18
31	22	---	104	1070	---	942	---	118	---	9.6	1.0	---
TOTAL	549.2	876	7352	29829	31042	33659	14516	5788	2047	577.8	144.98	190.08
MEAN	17.7	29.2	237	962	1109	1086	484	187	68.2	18.6	4.68	6.34
MAX	25	45	1910	7890	5710	2900	893	355	113	29	8.9	26
MIN	7.3	23	52	76	410	639	256	118	24	7.8	.40	.18
AC-FT	1090	1740	14580	59170	61570	66760	28790	11480	4060	1150	288	377
CAL YR 1980 TOTAL	167410.30			MEAN 457	MAX 8630	MIN 6.5	AC-FT 332100					
WTR YR 1981 TOTAL	126571.06			MEAN 347	MAX 7890	MIN .18	AC-FT 251100					

SACRAMENTO RIVER BASIN

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 1973-80.

SEDIMENT RECORDS: Water years 1977 to current year.

TURBIDITY: Water years 1977-79, 1981.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1973 to September 1980.

SEDIMENT RECORDS: January 1977 to May 1980 (storm season only).

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
05...	1215	24	14.0	0	.00
DEC					
03...	1330	1930	9.5	652	3400
03...	1335	1930	9.5	652	3400
JAN					
07...	1240	91	7.0	2	.49
23...	1515	2330	10.0	251	1580
23...	1520	2330	10.0	249	1570
28...	1545	4060	10.0	1010	11100
28...	1550	4060	10.0	1010	11100
30...	1045	1410	7.0	139	529
30...	1050	1410	7.0	139	529
FEB					
04...	1400	633	6.5	16	27
04...	1405	633	6.5	13	22
MAR					
04...	1300	1800	9.5	336	1630
04...	1305	1800	9.5	337	1640
25...	1250	2290	11.0	270	1670
25...	1255	2290	11.0	262	1620
APR					
03...	0810	780	8.5	12	25
MAY					
07...	1300	211	17.5	6	3.4

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC								
03...	1330	1930	9.5	652	3400	--	53	66
JAN								
23...	1515	2330	10.0	251	1580	31	42	54
28...	1545	4060	10.0	1010	11100	--	27	47
30...	1045	1410	7.0	139	529	--	--	--
MAR								
04...	1300	1800	9.5	336	1630	44	57	68
25...	1250	2290	11.0	270	1670	38	49	58

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
DEC 03...	78	85	89	93	97	99	100
JAN 23...	65	73	78	85	91	99	100
28...	56	67	75	83	93	99	100
30...	--	--	60	67	78	93	100
MAR 04...	77	83	86	91	97	100	--
25...	66	72	76	81	91	99	100

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
JAN 23...	1515	2330	10.0	251	1560	85
23...	1520	2330	10.0	249	1570	80
MAR 04...	1300	1800	9.5	336	1630	180
04...	1305	1800	9.5	337	1640	170
25...	1250	2290	11.0	270	1670	100
25...	1255	2290	11.0	262	1620	95
APR 03...	0810	780	8.5	12	25	4.0
MAY 07...	1300	211	17.5	6	3.4	1.0

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020102, on left bank 250 ft (76 m) downstream from Dry Creek and 8.0 mi (12.9 km) south of Olinda.

DRAINAGE AREA.--371 mi² (961 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1976 to current year.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,500 ft³/s (467 m³/s) Jan. 9, 1978, gage height, 10.86 ft (3.310 m); no flow at times most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 13.5 ft (4.11 m) Jan. 16, 1974, from floodmarks, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 22	1700	8,580 243	8.18 2.493
Jan. 28	0315	*13,400 379	9.95 3.033
Feb. 14	0145	8,880 251	8.33 2.539

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.70	6.9	16	53	400	310	305	134	45	5.2		
2	.70	7.2	23	50	332	292	287	132	44	4.6		
3	.70	7.2	1420	50	310	264	265	124	42	4.1		
4	.84	7.8	1390	52	284	438	242	117	39	3.3		
5	.47	8.0	391	52	269	323	232	110	36	2.3		
6	.70	8.2	210	48	262	280	221	99	34	1.8		
7	.68	8.4	145	46	235	253	217	96	32	2.4		
8	.44	8.4	110	44	219	240	207	92	31	2.2		
9	.44	8.5	92	43	207	227	198	88	30	1.9		
10	.11	10	80	42	196	219	188	84	29	1.4		
11	.26	10	73	41	207	207	180	81	27	.87		
12	1.5	10	67	40	227	211	173	77	25	.28		
13	3.7	9.9	62	40	881	280	163	75	23	.10		
14	7.5	9.7	58	39	4320	215	154	73	23	.05		
15	6.5	9.7	56	39	1550	211	141	70	22	0		
16	6.2	9.7	54	43	934	231	141	68	21	0		
17	6.5	9.7	52	50	1230	207	138	66	19	0		
18	6.2	9.7	51	56	868	204	133	77	18	0		
19	5.9	9.7	48	59	697	211	226	99	16	0		
20	6.0	9.7	48	116	604	240	259	83	15	0		
21	5.8	9.8	50	274	507	728	200	77	14	0		
22	5.9	11	79	3750	432	790	179	70	13	0		
23	5.9	11	76	2560	370	477	176	67	12	0		
24	5.6	12	66	736	355	411	173	62	11	0		
25	5.9	11	60	325	375	507	175	61	10	0		
26	5.9	10	61	277	355	604	182	66	9.4	0		
27	6.4	9.9	60	3470	351	507	156	66	8.3	0		
28	6.5	9.7	61	6290	301	443	142	60	7.3	0		
29	6.5	9.8	63	1360	---	395	132	55	6.4	0		
30	6.9	11	59	783	---	351	133	51	5.9	0		
31	6.9	---	55	513	---	326	---	48	---	0		---
TOTAL	124.24	283.6	5136	21341	17278	10602	5718	2528	668.3	30.50	0	0
MEAN	4.01	9.45	166	688	617	342	191	81.5	22.3	.98	0	0
MAX	7.5	12	1420	6290	4320	790	305	134	45	5.2	0	0
MIN	.11	6.9	16	39	196	204	132	48	5.9	0	0	0
AC-FT	246	563	10190	42330	34270	21030	11340	5010	1330	60	0	0
CAL YR 1980 TOTAL	109652.79			MEAN 300	MAX 6710	MIN 0	AC-FT 217500					
WTR YR 1981 TOTAL	63709.64			MEAN 175	MAX 6290	MIN 0	AC-FT 126400					

WATER-QUALITY RECORDS

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum recorded, 36.5°C Aug. 6, 1978; minimum recorded, 0.5°C at times during 1977-79.
SEDIMENT CONCENTRATIONS: Maximum daily mean, 6,300 mg/L Jan. 9, 16, 1978; minimum daily mean, 0 mg/L
Nov. 21, 1977, Dec. 11, 12, 1979.
SEDIMENT DISCHARGE: Maximum daily, 175,000 tons (159,000 metric tons) Jan. 9, 1978; minimum daily, 0 ton
(0 metric ton) Nov. 21, 1977, Jan. 29, 30, 1979.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 05...	1430	8.0	15.5	1	.02
DEC 03...	1600	2170	9.0	2080	12200
03...	1605	2170	9.0	2250	13200
10...	1450	81	7.5	3	.66
JAN 08...	0950	44	7.0	8	.95
23...	1145	2040	10.0	878	4840
23...	1150	2040	10.0	928	5110
28...	1100	5400	10.0	2510	36600
28...	1105	5400	10.0	2640	38500
30...	1215	564	9.0	138	210
30...	1220	564	9.0	129	196
FEB 05...	1015	271	6.5	11	8.0
MAR 03...	1345	257	11.0	8	5.6
25...	1010	421	12.0	30	34
31...	1005	323	11.0	10	8.7
MAY 06...	1050	116	16.0	3	.94

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED.	SED.	SED.	SED.	SED.
						SUSP.	SUSP.	SUSP.	SUSP.	SUSP.
						FALL DIAM. % FINER THAN .004 MM	FALL DIAM. % FINER THAN .008 MM	FALL DIAM. % FINER THAN .016 MM	FALL DIAM. % FINER THAN .031 MM	FALL DIAM. % FINER THAN .062 MM
DEC 03...	1605	2170	9.0	2250	13200	37	48	59	69	75
JAN 23...	1150	2040	10.0	928	5110	25	40	50	59	--
28...	1105	5400	10.0	2640	38500	31	45	55	74	74
30...	1220	564	9.0	129	196	--	--	--	--	--
DATE		SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
DEC 03...	--	84	--	92	--	99	--	100	--	
JAN 23...	66	--	75	--	85	--	92	--	100	
28...	--	86	--	94	--	99	--	100	--	
30...	70	--	79	--	90	--	100	--	--	

SACRAMENTO RIVER BASIN

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
FEB						
05...	1015	271	6.5	11	8.0	4.0
MAR						
03...	1345	257	11.0	8	5.6	2.0
25...	1010	421	12.0	30	34	7.0
31...	1005	323	11.0	10	8.7	4.0
MAY						
06...	1050	116	16.0	3	.94	1.0

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE4NE4 sec.7, T.29 N., R.3 W., Shasta County, Hydrologic Unit 18020102, 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 mi² (2,401 km²).

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) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to July 26, 1963, on right bank at datum 3.59 ft (1.094 m) higher. July 26, 1963, to Sept. 13, 1972, at site 250 ft (76.2 m) downstream on right bank. Sept. 21, 1967, to Jan. 14, 1968, supplementary gage at a site 1,450 ft (442 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.--41 years, 844 ft³/s (23.90 m³/s), 611,500 acre-ft/yr (754 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 70,000 ft³/s (1,980 m³/s) Jan. 16, 1974, gage height, 20.15 ft (6.142 m); minimum, 15 ft³/s (0.42 m³/s) on several days during September 1945.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,100 ft³/s (201 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 22	1945	18,400 521	14.08 4.292
Jan. 28	0545	*27,500 779	15.97 4.868
Feb. 14	unknown	22,500 637	14.99 4.569

Minimum daily, 33 ft³/s (0.93 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	90	82	176	1670	1190	1460	507	223	78	61	70
2	58	65	114	171	1410	1120	1310	486	211	80	63	70
3	44	61	3330	166	1240	1060	1190	466	204	78	56	68
4	33	60	4360	171	1140	2160	1080	441	192	77	52	69
5	45	59	1420	172	1060	1880	986	423	186	81	49	61
6	77	58	747	163	1000	1440	900	401	181	85	50	57
7	62	57	503	161	1010	1270	829	386	191	88	53	66
8	59	55	393	158	923	1170	782	377	191	83	54	76
9	57	56	311	154	868	1070	749	363	198	73	53	81
10	65	60	264	151	810	1010	719	357	191	81	52	57
11	62	60	216	149	975	952	691	352	195	67	54	58
12	81	59	185	146	965	911	742	346	179	62	58	55
13	118	59	169	142	5380	1160	696	318	164	62	55	60
14	124	60	169	140	16500	971	636	311	160	65	52	68
15	119	58	185	138	5800	1020	606	301	157	71	50	74
16	118	58	176	147	3750	1640	584	311	164	68	50	66
17	113	60	172	186	3400	1160	568	309	155	70	48	65
18	109	65	167	241	2410	1070	564	446	135	71	51	64
19	109	62	163	251	2040	1210	831	852	137	78	57	70
20	111	63	158	408	1760	1390	936	544	131	70	59	103
21	126	60	160	819	1530	3940	732	450	135	62	57	94
22	72	63	268	6520	1370	4140	679	413	131	60	64	66
23	65	69	271	7890	1250	2470	671	385	123	60	68	80
24	66	74	218	3210	1240	2020	708	359	117	58	64	70
25	78	73	197	1800	1630	2920	693	362	100	53	52	114
26	107	70	195	1750	1300	3110	798	420	93	58	53	133
27	101	68	193	8440	1430	2450	675	422	91	60	54	141
28	97	68	200	18100	1220	2110	662	327	80	57	53	185
29	92	69	209	5300	---	1880	634	276	76	57	56	191
30	87	79	194	3030	---	1680	563	255	78	56	73	194
31	94	---	183	2130	---	1550	---	233	---	58	70	---
TOTAL	2609	1918	15572	62580	65081	53124	23674	12199	4569	2127	1741	2626
MEAN	84.2	63.9	502	2019	2324	1714	789	394	152	68.6	56.2	87.5
MAX	126	90	4360	18100	16500	4140	1460	852	223	88	73	194
MIN	33	55	82	138	810	911	563	233	76	53	48	55
AC-FT	5170	3800	30890	124100	129100	105400	46960	24200	9060	4220	3450	5210
CAL YR 1980 TOTAL	344603			MEAN 942	MAX 20800	MIN 33	AC-FT 683500					
WTR YR 1981 TOTAL	247820			MEAN 679	MAX 18100	MIN 33	AC-FT 491600					

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD. - -

WATER TEMPERATURES: October 1962 to September 1967, December 1976 to current year.

SEDIMENT RECORDS: October 1962 to September 1967, November 1977 to May 1980 (storm season only for water years 1978-80).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 32.5°C June 16, 1980; minimum recorded, 2.5°C Nov. 23, 1977.

EXTREMES FOR CURRENT YEAR. - -

WATER TEMPERATURES: Maximum recorded, 28.5°C June 4, 5; minimum recorded, 5.0°C Dec. 9, 10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	24.5	18.0	14.5	13.0	10.5	9.0	---	---	7.5	6.5	11.5	8.5
2	24.5	18.5	17.0	12.5	12.0	10.0	---	---	8.0	7.0	13.0	9.5
3	24.5	18.5	17.5	13.5	10.5	9.5	---	---	8.0	7.0	13.0	9.5
4	24.5	19.0	18.0	13.5	10.0	9.0	---	---	---	---	11.0	9.5
5	24.5	18.5	17.0	13.5	9.0	8.0	---	---	---	---	11.5	8.5
6	24.0	17.0	18.0	13.5	8.5	7.5	---	---	---	---	12.0	9.0
7	23.5	18.0	17.5	14.5	8.0	6.5	---	---	---	---	12.0	10.5
8	23.0	18.0	17.0	13.0	8.0	5.0	---	---	---	---	13.5	9.5
9	22.5	18.0	16.0	14.0	9.5	5.0	---	---	---	---	14.0	9.5
10	22.0	17.5	15.0	12.5	---	---	---	---	---	---	14.5	10.0
11	18.5	16.5	15.5	11.5	---	---	---	---	---	---	15.5	10.5
12	19.5	16.0	14.5	10.5	---	---	---	---	---	---	15.0	11.0
13	18.0	15.5	14.0	10.0	---	---	---	---	---	---	15.0	11.5
14	18.5	14.5	14.0	9.5	---	---	---	---	---	---	13.0	11.0
15	18.0	13.5	13.5	10.0	---	---	---	---	---	---	11.0	10.0
16	17.5	13.5	13.0	10.0	---	---	---	---	---	---	13.5	10.0
17	18.5	13.0	14.0	10.5	---	---	---	---	---	---	12.0	9.5
18	18.5	13.5	13.5	10.0	---	---	---	---	---	---	10.5	9.5
19	19.0	13.5	14.0	10.0	---	---	---	---	---	---	12.5	10.0
20	19.0	13.5	13.5	10.5	---	---	11.0	10.0	---	---	11.5	10.0
21	18.5	13.5	11.5	10.5	---	---	11.5	10.5	---	---	11.0	9.5
22	19.0	14.0	13.0	11.5	---	---	11.5	11.0	---	---	13.5	10.5
23	18.5	14.0	14.5	12.0	---	---	11.0	10.0	---	---	14.5	11.0
24	17.5	14.5	12.5	10.5	---	---	10.5	9.0	11.5	9.5	13.0	11.0
25	18.5	15.5	12.0	9.5	---	---	9.0	7.5	9.5	8.5	13.5	12.0
26	16.5	13.0	12.5	8.5	---	---	8.5	8.0	9.0	8.0	13.5	11.0
27	17.0	13.0	12.5	9.0	---	---	8.0	7.0	11.5	8.5	13.5	10.0
28	17.5	12.5	12.5	9.0	---	---	9.0	8.0	10.5	9.0	15.0	11.5
29	17.0	12.5	11.0	10.0	---	---	9.0	8.0	---	---	15.5	13.0
30	15.0	12.5	12.5	10.5	---	---	8.5	7.0	---	---	13.5	10.5
31	16.0	12.0	---	---	---	---	7.5	7.0	---	---	12.5	10.5
MONTH	24.5	12.0	18.0	8.5	---	---	---	---	---	---	15.5	8.5

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
DEC 03...	1020	2920	9.5	1240	9780	--	30	40	48	64	66
JAN 22...	1330	2400	11.5	1200	7780	--	14	23	30	39	--
28...	1515	15600	9.5	2630	111000	--	28	40	50	65	73
30...	1345	2860	8.5	261	2020	22	30	38	46	55	--
FEB 17...	1015	3250	9.0	433	3800	23	31	40	50	58	--
SED. SED. SED. SED. SED. SED. SED. SED. SED. SED. SED.											
SUSP. SUSP. SUSP. SUSP. SUSP. SUSP. SUSP. SUSP. SUSP. SUSP. SUSP.											
SIEVE FALL SIEVE FALL SIEVE FALL SIEVE FALL SIEVE FALL SIEVE FALL SIEVE FALL SIEVE FALL SIEVE											
DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM. DIAM.											
% FINER % FINER % FINER % FINER % FINER % FINER % FINER % FINER % FINER % FINER % FINER % FINER											
THAN THAN THAN THAN THAN THAN THAN THAN THAN THAN THAN THAN											
DATE		.062 MM	.125 MM	.125 MM	.250 MM	.250 MM	.500 MM	.500 MM	1.00 MM	1.00 MM	2.00 MM
DEC 03...		--	77	--	90	--	99	--	100	--	--
JAN 22...		50	--	64	--	73	--	90	--	99	100
28...		--	89	--	99	--	100	--	--	--	--
30...		63	--	73	--	86	--	95	--	100	--
FEB 17...		66	--	73	--	88	--	95	--	99	100

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
NOV						
01...	1030	93	12.5	7	1.8	2.0
05...	1010	57	14.0	1	.15	1.0
07...	1045	57	16.5	24	3.7	6.0
11...	1100	60	5.0	1	.16	1.0
14...	1545	60	5.5	6	.97	1.0
DEC						
03...	1020	2920	9.5	1240	9780	400
03...	1025	2920	9.5	1460	11500	330
10...	1230	286	6.0	4	3.1	2.0
JAN						
22...	1330	2400	11.5	1200	7780	95
22...	1335	2400	11.5	1190	7710	120
23...	1115	6660	10.5	947	17000	180
23...	1120	6660	10.5	1030	18500	180
28...	1515	15600	9.5	2630	111000	250
28...	1520	15600	9.5	2760	116000	180
30...	1345	2860	8.5	261	2020	65
30...	1350	2860	8.5	274	2120	65
FEB						
04...	1130	1130	7.0	16	49	9.0
04...	1135	1130	7.0	20	61	8.0
17...	1015	3250	9.0	433	3800	140
17...	1020	3250	9.0	445	3910	150
23...	1020	1250	9.5	25	84	7.0
MAR						
03...	1030	1060	11.0	10	29	4.0
APR						
03...	1015	1190	11.5	17	55	4.0
MAY						
07...	1605	384	22.0	8	8.3	1.0

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT					
02...	1100	63	18.5	5	.85
NOV					
01...	1030	93	12.5	7	1.8
05...	1010	57	14.0	1	.15
05...	1100	57	14.0	1	.15
07...	1045	57	16.5	24	3.7
11...	1100	60	5.0	1	.16
14...	1545	60	5.5	6	.97
DEC					
03...	1020	2920	9.5	1240	9780
03...	1025	2920	9.5	1460	11500
10...	1230	286	6.0	4	3.1
JAN					
07...	1000	161	8.0	4	1.7
22...	1330	2400	11.5	1200	7780
22...	1335	2400	11.5	1190	7710
23...	1115	6660	10.5	947	17000
23...	1120	6660	10.5	1030	18500
28...	1515	15600	9.5	2630	111000
28...	1520	15600	9.5	2760	116000
30...	1345	2860	8.5	261	2020
30...	1350	2860	8.5	274	2120
FEB					
04...	1130	1130	7.0	16	49
04...	1135	1130	7.0	20	61
17...	1015	3250	9.0	433	3800
17...	1020	3250	9.0	445	3910
23...	1020	1250	9.5	25	84
MAR					
03...	1030	1060	11.0	10	29
APR					
03...	1015	1190	11.5	17	55
MAY					
07...	1605	384	22.0	8	8.3

LOCATION.--Lat 40°32'08", long 121°34'36", in NE4SE4 sec.13, T.31 N., R.3 E., Shasta County, Hydrologic Unit 18020118, Lassen National Forest, on left bank at Lassen Volcanic National Park Boundary, 0.8 mi (1.3 km) west of town of Manzanita Lake.

WATER-DISCHARGE RECORDS

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36 ft³/s (1.02 m³/s) Jan. 13, 1980, gage height, 3.24 ft (0.988 m); maximum gage height, 3.29 ft (1.003 m) Dec. 25, 1979 (backwater from ice); minimum daily discharge, 0.49 ft³/s (0.014 m³/s) Jan. 1, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20 ft³/s (0.57 m³/s) Dec. 2, gage height, 2.80 ft (0.853 m); minimum daily discharge, 0.49 ft³/s (0.014 m³/s) Jan. 1.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.2	4.8	4.9	3.7	2.5	2.7	7.5	6.6	2.5	2.1	1.8
2	3.1	3.2	9.9	1.3	3.6	2.4	2.6	8.2	6.8	2.5	2.0	1.8
3	3.1	3.2	13	2.4	3.5	2.3	2.4	7.9	6.6	2.4	2.1	1.9
4	3.1	3.2	8.9	3.1	3.4	2.7	2.3	7.4	6.3	2.5	2.0	1.9
5	3.1	3.2	7.0	3.1	3.6	3.3	2.3	6.8	6.3	2.3	2.2	1.9
6	3.0	3.1	5.8	3.1	3.6	2.7	2.4	6.5	6.4	2.8	2.1	1.8
7	3.0	3.6	4.6	3.1	3.5	2.4	2.5	6.2	6.2	2.8	2.0	1.8
8	3.0	3.6	4.5	3.1	3.5	2.2	2.5	6.0	6.3	2.7	1.9	1.8
9	3.0	3.4	4.4	3.0	3.5	2.2	2.4	5.8	6.3	2.6	1.8	1.9
10	3.0	3.3	4.3	3.0	3.4	2.1	2.6	5.8	6.6	2.5	1.8	1.8
11	3.0	3.2	4.1	3.0	3.5	2.1	2.5	5.6	5.9	2.5	1.8	1.8
12	4.5	3.2	4.0	2.9	3.4	2.2	2.5	5.7	5.6	2.4	1.8	1.8
13	4.8	3.2	4.0	2.9	4.0	2.4	2.6	5.7	5.3	2.5	1.8	1.8
14	4.9	3.2	4.0	2.9	8.3	2.4	2.6	6.3	5.5	2.5	1.6	1.9
15	4.2	3.3	4.1	2.9	5.2	2.4	2.7	6.4	4.6	2.5	1.6	1.9
16	4.0	3.2	4.6	3.0	5.1	2.9	2.6	5.8	4.2	2.4	1.9	1.9
17	4.0	3.2	4.6	3.1	6.4	2.4	2.8	5.9	4.4	2.3	1.8	1.9
18	3.9	3.2	4.3	3.0	4.7	2.2	3.5	8.5	5.6	2.3	1.8	1.8
19	3.9	3.2	4.1	3.2	4.5	2.4	5.0	7.8	4.3	2.3	1.8	1.8
20	3.9	3.2	4.0	3.3	4.1	2.3	4.1	6.8	3.9	2.3	1.7	1.8
21	3.8	3.3	4.5	4.8	3.2	2.4	3.8	6.3	3.6	2.3	1.7	1.8
22	3.7	3.6	5.0	4.9	3.0	2.2	4.0	6.0	3.4	2.2	1.8	1.8
23	3.6	3.9	4.5	5.3	2.8	2.2	4.6	5.8	3.3	2.2	1.8	1.9
24	3.6	3.9	4.3	4.4	3.7	2.1	5.5	6.9	3.1	2.2	1.8	2.3
25	4.0	3.6	5.2	3.6	3.3	3.9	5.9	10	2.7	2.2	1.9	3.0
26	4.3	3.4	5.3	3.5	2.9	4.2	6.2	9.2	3.3	2.2	1.9	2.8
27	3.9	3.4	5.2	4.3	3.1	5.3	5.3	8.0	3.0	2.2	1.9	3.4
28	3.6	3.4	5.1	5.7	2.5	2.7	5.1	6.2	2.5	2.1	1.8	4.6
29	3.6	3.9	4.7	5.4	---	2.7	6.1	6.2	2.8	2.1	1.8	2.9
30	3.5	6.1	4.4	4.7	---	2.6	6.7	7.3	2.6	2.2	1.8	2.4
31	3.4	---	1.9	4.0	---	2.5	---	6.9	---	2.1	1.8	---
TOTAL	112.7	103.6	159.1	106.49	108.6	79.1	108.8	211.4	144.0	73.6	57.6	63.7
MEAN	3.64	3.45	5.13	3.44	3.88	2.55	3.63	6.82	4.80	2.37	1.86	2.12
MAX	4.9	6.1	13	5.7	8.3	4.2	6.7	10	6.8	2.8	2.2	4.6
MIN	3.0	3.1	1.9	.49	2.5	2.1	2.3	5.6	2.5	2.1	1.6	1.8
AC-FT	224	205	316	211	215	157	216	419	286	146	114	126
CAL YR 1980	TOTAL	1856.00	MEAN 5.07	MAX 25	MIN 1.9	AC-FT 3680						
WTH YR 1981	TOTAL	1328.69	MEAN 3.64	MAX 13	MIN .							

11376038 MANZANITA CREEK AT PARK BOUNDARY NEAR MANZANITA LAKE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1980-81 (discontinued).

CHEMICAL ANALYSIS: Water years 1980 to September 1981 (discontinued).

BIOLOGICAL DATA: Water years 1980 to September 1981 (discontinued).

SPECIFIC CONDUCTANCE: Water years 1980 to September 1981 (discontinued).

WATER TEMPERATURE: Water years 1980 to September 1981 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1981 (discontinued).

WATER TEMPERATURE: October 1979 to September 1981 (discontinued).

INSTRUMENTATION.--Conductivity and temperature recorder from October 1979 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 105 micromhos Mar. 10, 1980; minimum daily, 82 micromhos July 24, 25, 28, 1980.

WATER TEMPERATURE: Maximum recorded, 25.5°C Aug. 8-10, 12, 1981; minimum recorded, -1.0°C on several days during December 1980 to February 1981.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 100 micromhos on several days during January and March; minimum daily, 84 micromhos on several days during June.

WATER TEMPERATURE: Maximum recorded, 25.5°C Aug. 8-10, 12; minimum recorded, -1.0°C on several days during December to February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT											
21...	1005	3.8	90	8.1	7.0	9.9	K9	K18	36	0	9.9
NOV											
24...	1100	3.8	95	7.9	1.5	11.5	--	--	--	--	--
DEC											
12...	0925	4.1	93	7.6	3.5	11.8	--	--	--	--	--
JAN											
20...	1000	3.2	100	7.8	4.0	10.8	K2	K1	39	0	11
APR											
16...	1100	2.6	95	7.6	10.5	9.1	K5	K1	39	0	11
MAY											
15...	1100	6.4	98	7.8	12.0	8.7	--	K1	--	--	--
JUN											
22...	1030	3.4	83	8.3	17.0	7.6	55	K6	--	--	--
JUL											
21...	1200	2.2	86	8.9	20.0	8.1	<1	37	36	0	10
AUG											
24...	1110	1.8	91	8.6	17.0	8.4	230	21	--	--	--
SEP											
23...	1200	2.0	92	8.7	14.5	8.9	350	200	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	PERCENT SODIUM	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY FIELD (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
OCT											
21...	2.7	4.2	.3	19	1.6	44	1.7	.3	.1	32	79
NOV											
24...	--	--	--	--	--	46	--	--	--	--	--
DEC											
12...	--	--	--	--	--	43	--	--	--	--	--
JAN											
20...	2.9	4.2	.3	18	1.5	48	4.6	.3	.1	35	88
APR											
16...	2.9	4.4	.3	19	1.7	49	--	.8	.0	32	--
MAY											
15...	--	--	--	--	--	49	--	--	--	--	--
JUN											
22...	--	--	--	--	--	42	--	--	--	--	--
JUL											
21...	2.6	4.6	.3	21	1.4	45	2.8	.1	.0	30	77
AUG											
24...	--	--	--	--	--	46	--	--	--	--	--
SEP											
23...	--	--	--	--	--	50	--	--	--	--	--

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

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

11376038 MANZANITA CREEK AT PARK BOUNDARY NEAR MANZANITA LAKE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
OCT 21...	.000	.00	.00	.040	.050	.30	--	--	.050	.010
NOV 24...	--	--	--	--	--	--	--	--	--	--
DEC 12...	--	--	--	--	--	--	--	--	--	--
JAN 20...	.010	.06	.03	--	.090	.59	.24	.030	.010	.010
APR 16...	--	.00	.00	--	.070	1.10	.62	.020	.020	.000
MAY 15...	--	--	--	--	--	--	--	--	--	--
JUN 22...	--	--	--	--	--	--	--	--	--	--
JUL 21...	.010	.13	.10	.130	.100	1.10	.53	.010	.010	.000
AUG 24...	--	--	--	--	--	--	--	--	--	--
SEP 23...	--	--	--	--	--	--	--	--	--	--

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 21...	1005	--	--	20	--	--	--
JAN 20...	1000	--	--	0	--	--	--
APR 16...	1100	0	0	180	0	0	0
JUL 21...	1200	1	0	10	0	3	2

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
OCT 21...	--	30	--	--	--	--	--
JAN 20...	--	20	--	--	--	--	--
APR 16...	50	30	6	10	.3	10	.00
JUL 21...	60	20	0	10	.1	10	.00

11376038 MANZANITA CREEK AT PARK BOUNDARY NEAR MANZANITA LAKE, CA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	91	93	95	97	96	98	95	95	88	86	92	97
2	91	93	93	97	97	98	95	94	88	86	92	96
3	91	93	92	97	97	98	96	94	87	86	92	97
4	92	93	92	97	97	97	96	94	87	86	93	96
5	92	93	93	98	97	97	96	94	87	86	93	98
6	92	94	93	98	98	98	96	94	86	86	94	97
7	92	94	94	98	98	99	96	94	86	86	94	98
8	92	94	95	98	99	99	96	94	85	86	94	98
9	92	94	95	99	99	99	96	94	85	87	94	98
10	92	94	95	99	99	99	96	94	85	87	95	98
11	92	94	95	100	98	99	96	94	84	87	95	97
12	91	94	95	100	99	98	96	94	84	87	95	97
13	91	94	96	100	97	98	97	94	84	87	95	98
14	91	94	96	100	98	98	97	94	84	87	95	98
15	91	94	96	100	99	98	97	94	84	87	95	98
16	91	95	96	100	98	98	96	94	84	87	95	98
17	91	95	97	99	99	100	96	94	84	88	95	98
18	91	95	97	99	99	99	95	92	84	88	96	98
19	92	95	97	99	98	99	94	92	85	88	96	99
20	92	95	97	99	98	100	96	92	85	88	96	98
21	92	95	97	98	97	100	96	92	85	89	97	98
22	92	95	96	96	97	100	96	92	85	89	97	98
23	92	95	96	96	97	100	96	93	86	90	96	98
24	92	95	97	96	96	99	96	92	86	90	96	99
25	91	96	95	97	97	96	95	91	86	90	97	98
26	92	96	96	97	97	99	94	90	86	90	97	99
27	92	96	95	95	98	98	95	90	86	90	97	97
28	92	96	95	94	98	97	95	90	86	91	97	95
29	92	95	96	95	---	95	95	90	86	91	97	97
30	92	95	97	96	---	96	96	89	86	91	96	97
31	93	---	98	96	---	96	---	89	---	91	96	---
MONTH	92	94	95	98	98	98	96	93	85	88	95	98
YEAR	MAX	100	MIN	84	MEAN	94						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	12.0	7.0	5.0	2.5	1.0	5.5	-0.5	2.0	-0.5	5.0	1.5
2	18.0	12.5	8.5	5.0	2.0	1.5	6.0	2.0	2.5	0.0	6.0	1.5
3	17.5	12.5	8.5	5.0	2.0	0.5	6.0	3.5	2.5	-0.5	6.0	1.5
4	17.5	13.0	9.0	5.0	2.0	0.5	5.5	3.5	2.5	-0.5	2.5	1.5
5	17.5	12.5	8.5	5.5	1.5	0.5	5.5	3.0	1.5	-0.5	4.5	1.5
6	17.0	12.5	8.5	5.5	1.5	0.0	5.0	2.5	2.5	-1.0	5.5	1.5
7	17.0	12.0	8.5	5.5	1.0	-1.0	4.5	2.5	2.5	-1.0	4.5	2.0
8	16.5	12.0	8.0	5.0	1.5	-1.0	4.0	2.5	2.5	1.0	6.5	1.5
9	16.5	12.0	7.0	5.0	2.5	0.5	4.5	2.0	3.0	1.0	7.0	1.5
10	15.5	10.5	7.0	4.5	3.0	1.0	4.5	2.0	3.0	0.5	7.5	2.0
11	13.0	9.5	7.0	4.0	3.0	1.5	4.5	2.0	3.5	1.0	8.0	2.5
12	12.0	9.5	6.0	3.0	3.5	1.5	4.5	2.0	4.0	1.0	5.0	2.0
13	11.5	9.0	5.5	2.0	3.5	1.5	5.0	2.0	3.0	1.5	5.0	1.5
14	11.0	8.5	5.0	2.0	4.0	2.0	5.0	2.0	3.0	-1.0	4.0	2.5
15	9.0	8.0	4.0	1.5	5.0	3.0	5.5	2.5	4.0	1.5	4.5	2.0
16	9.0	7.0	3.5	1.0	5.0	3.0	4.5	3.0	3.5	2.0	5.5	1.5
17	10.5	6.0	4.0	1.0	5.0	3.0	4.5	3.0	3.5	1.5	6.5	1.0
18	10.5	6.0	4.0	1.0	5.5	3.0	5.5	3.0	5.0	2.0	5.5	1.5
19	10.5	6.0	4.0	1.0	5.5	3.0	---	---	3.5	0.0	5.5	1.5
20	10.5	6.0	4.0	1.5	5.5	3.5	5.0	3.0	4.0	1.5	6.0	2.0
21	10.5	6.5	3.0	1.0	5.5	4.0	5.0	3.5	5.0	1.5	6.5	1.5
22	10.5	6.0	4.0	2.5	5.0	3.0	4.0	2.5	6.0	1.5	7.0	2.0
23	10.0	6.0	3.5	1.5	5.5	3.0	3.5	1.5	5.0	2.0	7.5	2.5
24	9.5	7.0	3.0	1.0	5.5	4.0	3.5	2.0	4.0	-0.5	7.0	2.0
25	8.5	6.0	3.0	1.0	6.0	4.5	3.0	1.0	3.5	1.5	7.0	1.0
26	8.0	5.5	3.5	1.0	6.5	4.5	2.5	1.0	4.0	1.5	5.0	2.5
27	8.5	5.5	3.5	1.0	5.5	4.5	2.0	-1.0	4.0	1.0	7.5	2.0
28	9.0	5.0	3.5	1.0	6.0	4.0	1.0	-1.0	4.5	1.5	8.5	2.5
29	9.0	5.0	---	---	6.5	4.0	1.5	-1.0	---	---	7.5	1.0
30	7.5	4.5	2.5	1.0	6.5	4.0	1.5	-0.5	---	---	8.5	2.0
31	8.0	5.0	---	---	8.5	1.5	1.5	-1.0	---	---	7.5	3.0
MONTH	18.0	4.5	9.0	1.0	8.5	-1.0	6.0	-1.0	6.0	-1.0	8.5	1.0

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

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, Hydrologic Unit 18020101, 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 mi² (925 km²).

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 from 50 ft³/s (1.42 m³/s) to 90 ft³/s (2.55 m³/s) which is returned above the station. At times, 10 ft³/s (0.28 m³/s) diverted above station for irrigation. Maximum flows considered equivalent to former station, Battle Creek near Cottonwood.

AVERAGE DISCHARGE.--20 years, 502 ft³/s (14.22 m³/s), 363,700 acre-ft/yr (448 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,300 ft³/s (688 m³/s) Jan. 24, 1970, gage height, 14.75 ft (4.496 m), from rating curve extended above 4,200 ft³/s (119 m³/s) on basis of slope-area measurement of peak flow; minimum since 1961, 52 ft³/s (1.47 m³/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 ft³/s (991 m³/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0400	2,500 70.8	4.70 1.453	Feb. 14	0700	3,140 88.9	5.33 1.624
Jan. 27	1300	*5,680 161	7.39 2.252	Mar. 25	1700	5,040 143	6.93 2.112

Minimum daily, 204 ft³/s (5.78 m³/s) Aug. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	260	265	297	323	467	407	583	504	350	247	213	210
2	259	263	377	314	428	402	564	503	332	240	215	211
3	259	264	923	292	398	398	508	462	343	235	214	212
4	260	265	1150	284	382	639	482	430	326	235	214	212
5	260	263	448	323	376	624	468	408	326	236	216	211
6	260	265	359	288	365	466	468	393	330	237	215	212
7	255	261	336	283	345	433	463	382	325	233	215	213
8	257	260	314	281	341	413	455	371	326	232	214	213
9	260	263	314	277	329	400	449	354	326	229	211	213
10	263	255	309	274	327	393	443	350	319	227	215	214
11	283	251	305	271	377	387	445	350	316	225	210	212
12	292	250	301	270	395	380	434	351	308	224	214	215
13	294	249	301	267	455	417	430	346	297	223	210	221
14	319	254	301	268	1770	398	430	350	287	224	212	219
15	300	248	288	271	833	400	430	336	278	221	210	218
16	299	254	288	274	655	534	427	320	271	218	207	217
17	295	246	297	306	854	437	425	307	265	219	206	216
18	287	257	292	314	631	440	433	391	272	217	207	214
19	283	255	288	332	671	929	551	489	271	213	209	211
20	275	251	292	372	714	779	515	400	279	212	209	211
21	274	251	340	398	554	895	474	370	278	210	207	211
22	267	257	431	541	509	646	453	362	276	210	206	210
23	263	257	336	804	484	544	475	355	264	212	204	209
24	264	261	305	535	507	497	494	367	268	212	208	215
25	265	257	318	425	488	1570	502	436	264	212	207	225
26	275	257	340	469	458	1230	558	455	257	211	209	222
27	253	257	318	2530	436	826	496	409	254	206	206	218
28	271	249	336	1520	418	696	454	384	252	212	209	294
29	263	259	314	1750	---	642	475	375	250	215	205	234
30	263	325	301	807	---	596	497	369	249	214	207	225
31	256	---	292	552	---	552	---	364	---	213	207	---
TOTAL	8434	7769	11411	16215	14967	18370	14281	12043	8759	6874	6511	6538
MEAN	272	259	368	523	535	593	476	388	292	222	210	218
MAX	319	325	1150	2530	1770	1570	583	504	350	247	216	294
MIN	253	246	288	267	327	380	425	307	249	206	204	209
AC-FT	16730	15410	22630	32160	29690	36440	28330	23890	17370	13630	12910	12970
CAL YR 1980	TOTAL	192736	MEAN 527	MAX 5370	MIN 229	AC-FT 382300						
WTR YR 1981	TOTAL	132172	MEAN 362	MAX 2530	MIN 204	AC-FT 262200						

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, Hydrologic Unit 18020103, 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 mi² (23,051 km²), 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) National Geodetic Vertical Datum of 1929. 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 km²) 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 ft³/s (323 m³/s), 8,259,000 acre-ft/yr (10.2 km³/yr); 19 years (water years 1963-81), 13,120 ft³/s (371.6 m³/s), 9,505,000 acre-ft/yr (11.7 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 291,000 ft³/s (8,240 m³/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 ft³/s (4,810 m³/s) on basis of velocity-area studies; minimum (water years 1892-1981), 2,000 ft³/s (56.6 m³/s) Mar. 29, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 60,600 ft³/s (1,716 m³/s) Feb. 14, gage height, 20.05 ft (6.111 m); minimum daily, 4,540 ft³/s (129 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6470	5500	6360	6810	8350	7320	17100	10600	10400	14500	14700	8300
2	6450	6190	6860	6300	7680	6940	16300	10500	10400	14200	14600	8280
3	6440	6370	18100	6150	7230	6740	14700	10600	10400	14400	14400	8250
4	6470	6310	20000	6220	6950	11300	12100	10900	10300	14600	14400	8300
5	6520	6230	12100	6150	6690	11700	10300	10800	10500	14600	14300	8000
6	6530	6250	10500	6040	6580	8450	8870	10900	10900	14500	14500	7870
7	6470	6300	10100	6040	6420	7590	7640	11200	10800	14600	14600	7860
8	6490	6250	9920	6060	6270	7160	7450	11100	10900	14500	14600	7850
9	6460	6220	9760	6020	6140	6820	7340	11200	11200	14600	14600	7880
10	5980	6260	8980	5790	6090	6610	7120	11500	11200	14600	14700	7950
11	5570	6190	8230	5480	6600	6450	7050	11400	12100	14800	14500	7920
12	5790	6230	7520	4970	7250	6320	6940	11400	12000	14700	14500	7860
13	5960	6210	7140	4770	9620	7950	6760	11300	12000	14700	14400	7870
14	6060	6260	7040	4780	37400	6880	6670	11300	11900	14600	14400	7920
15	5470	6240	6960	4760	15300	6900	6670	11300	11900	14600	14400	6990
16	4990	6310	7010	4790	10800	13900	6680	12100	11900	14600	14400	6360
17	4800	6300	7090	5160	11000	8590	7780	13100	11900	14500	14400	6220
18	4770	6220	6990	5580	9240	7650	9540	13900	12200	14600	14600	5960
19	4730	6190	7000	5340	8430	12500	11100	15300	12600	14600	14400	5750
20	4670	6300	6950	5920	8340	11400	11700	14400	13300	14600	14300	5790
21	4640	6280	7170	6620	7530	20700	11000	14000	13700	14600	14300	5850
22	4590	6330	7660	12600	7110	20400	11000	13800	13700	14500	14000	5790
23	4540	6290	7300	22300	6820	22000	10900	13700	13900	14700	13900	5510
24	4570	6220	7090	13100	7270	19600	10700	13600	14100	14600	13900	5360
25	4590	6200	7120	8660	13400	27700	10700	13500	14200	14500	13000	5440
26	4700	6240	7120	8460	8920	28300	11500	13500	14600	14500	11800	5180
27	4660	6250	7170	31300	8520	21600	11200	13400	14700	14700	10900	4900
28	4630	6170	7120	41700	7690	19200	11000	12600	14700	14500	10500	5160
29	4610	6220	7070	22600	---	18000	10800	11600	14700	14500	10100	5140
30	4600	6340	7140	13400	---	17500	10700	10800	14600	14600	9010	4800
31	4700	---	7060	9660	---	16700	---	10400	---	14500	8400	---
TOTAL	167920	186870	263630	303530	259640	400870	299310	375700	371700	451600	419510	202310
MEAN	5417	6229	8504	9791	9273	12930	9977	12120	12390	14570	13530	6744
MAX	6530	6370	20000	41700	37400	28300	17100	15300	14700	14800	14700	8300
MIN	4540	5500	6360	4760	6090	6320	6670	10400	10300	14200	8400	4800
AC-FT	333100	370700	522900	602100	515000	795100	593700	745200	737300	895700	832100	401300
CAL YR 1980 TOTAL	4941990			MEAN 13500	MAX 88400	MIN 4540	AC-FT 9802000					
WTR YR 1981 TOTAL	3702590			MEAN 10140	MAX 41700	MIN 4540	AC-FT 7344000					

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" May 1955 to September 1973; as Sacramento River at Bend Bridge (station 11377200) October 1973 to September 1976.

WATER TEMPERATURES: Water years 1955 to June 1980, water years 1955-63 reported as station 11377200 and water years 1964-70 reported as station 11378000.

SEDIMENT RECORDS: Water years 1958-70 (water years 1958-67 reported as station 11378500 and water years 1968-70 reported as station 11377200), 1977 to current year.

TURBIDITY: Water years 1977 to May 1981 (discontinued).

PERIOD OF DAILY RECORD:

CHEMICAL ANALYSES: May 1955 to September 1963.

SPECIFIC CONDUCTANCE: May 1955 to September 1963.

WATER TEMPERATURES: May 1955 to June 1980.

SEDIMENT RECORDS: October 1957 to September 1970, January 1977 to May 1980, (storm season only for water years 1977, 1979-80).

REVISED RECORDS.--WDR-CA-80-4: 1977, 1979, sediment.

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 1964, 1967, 1978.

SEDIMENT DISCHARGE: Maximum daily, 1,200,000 tons (1,090,000 metric tons) Jan. 24, 1970; minimum daily, 12 tons (11 metric tons) Dec. 8-10, 15, 1964.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA, DISS (MG/L)	MAGNESIUM MG, DISS (MG/L)
80/10/28	11 40	5270	120	7.6	13.0	2.0	10.7			
80/11/18	10 30	6160	124	7.5	11.0	2.0	10.9			
80/12/15	11 05	6920	145	7.5	11.0	2.0	11.0			
81/01/28	09 00	47300	97	7.4	9.0	750	11.0	36	8	4
81/02/24	10 45	6560	150	7.3	11.0	5.0	10.0			
81/03/24	10 20	18030	136	7.4	11.0	7.0	10.8			
81/04/21	11 00	10670	148	8.1	12.0	4.0	10.9			
81/05/27	13 00	12770	130	7.6	15.0	3.0	10.4			
81/06/17	13 20	11340	126	8.0	14.5	3.0	11.0			
81/07/28	08 50	13280	124	7.2	13.0	2.0	10.1			
81/08/19	12 35	14730	123	7.7	15.0	3.0	10.2			
81/09/25	12 25	5750	139	7.3	15.5	2.0	7.6			

DATE	TIME	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKA- LINITY (MG/L)	CHLORIDE TOTAL (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	PHOS-DIS ORTHO P (MG/L)	BORON B, DISS (UG/L)
80/10/28	11 40					10			
80/11/18	10 30					4			
80/12/15	11 05					4			
81/01/28	09 00	5	1.2	35	3	1660	0.25	0.04	100
81/02/24	10 45					5			
81/03/24	10 20					18			
81/04/21	11 00					7			
81/05/27	13 00					2			
81/06/17	13 20					4			
81/07/28	08 50					2			
81/08/19	12 35					2			
81/09/25	12 25					4			

COMMAND?

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued
 WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEO (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEO (T/DAY)
NOV					
01...	1000	5190	10.0	3	42
03...	0930	6330	13.0	65	1110
07...	1400	6350	10.0	3	51
13...	1600	6230	9.0	4	67
DEC					
02...	1100	6640	11.0	6	108
JAN					
06...	1130	6070	10.0	3	49
29...	1200	25200	9.0	228	15500
29...	1205	25200	9.0	228	15500
FEB					
03...	1130	7180	8.5	12	233
MAR					
02...	1130	6900	10.5	9	168
APR					
01...	0915	17100	10.0	27	1250
01...	0920	17100	10.0	27	1250
MAY					
04...	1045	10900	11.5	7	206

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDEO (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDEO (T/DAY)	TUR- BID- ITY (NTU)
NOV						
01...	1000	5190	10.0	3	42	1.0
03...	0930	6330	13.0	65	1110	40
07...	1400	6350	10.0	3	51	2.0
13...	1600	6230	9.0	4	67	2.0
DEC						
02...	1100	6640	11.0	6	108	2.0
JAN						
06...	1130	6070	10.0	3	49	2.0
29...	1200	25200	9.0	228	15500	60
FEB						
03...	1130	7180	8.5	12	233	6.0
MAR						
02...	1130	6900	10.5	9	168	2.0
APR						
01...	0915	17100	10.0	27	1250	6.0
MAY						
04...	1045	10900	11.5	7	206	2.0

SACRAMENTO RIVER BASIN

11378800 RED BANK CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°05'25", long 122°24'45", in NE&SE& sec.22, T.26 N., R.5 W., Tehama County, Hydrologic Unit 18020103, 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 mi² (232.1 km²).

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

REVISED RECORDS.--WDR CA-77-4: Drainage area.

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.--22 years, 47.8 ft³/s (1.354 m³/s), 34,630 acre-ft/yr (42.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,730 ft³/s (276 m³/s) Jan. 5, 1965, gage height, 10.06 ft (3.066 m); maximum gage-height, 10.20 ft (3.109 m) Feb. 17, 1980; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,110 ft³/s (201 m³/s) Jan. 22, gage height, 9.73 ft (2.966 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	.50	124	67	44	9.8	1.3			
2			0	.40	92	46	38	8.0	1.2			
3			567	.50	73	38	34	7.1	1.0			
4			121	.60	60	312	31	6.6	.90			
5			16	.50	52	112	30	6.0	.70			
6			8.4	.50	45	68	28	5.1	.60			
7			5.5	.40	39	55	26	5.0	.50			
8			3.8	.40	36	47	24	4.7	.40			
9			2.7	.30	34	41	23	4.4	.30			
10			2.0	.30	31	37	23	4.0	.30			
11			1.6	.30	33	34	22	3.4	.20			
12			1.3	.20	31	32	20	2.9	.20			
13			.90	.20	278	44	19	2.7	.20			
14			.70	.20	747	33	18	2.7	.20			
15			.60	.20	177	39	17	2.4	.20			
16			.60	.50	114	50	17	2.2	.10			
17			.60	1.6	93	35	16	2.3	.10			
18			.50	3.4	70	33	15	8.6	0			
19			.50	2.9	59	85	101	14	0			
20			.50	5.3	48	101	90	10	0			
21			.70	13	42	1150	31	6.1	0			
22			1.7	2300	39	507	23	4.7	0			
23			1.0	1060	37	247	20	3.9	0			
24			.80	320	36	179	18	3.3	0			
25			.70	112	48	177	17	3.3	0			
26			.60	76	79	125	21	3.1	0			
27			.60	1940	93	92	17	3.4	0			
28			.70	2950	49	76	14	2.8	0			
29			.60	516	---	65	13	2.2	0			
30			.60	271	---	55	12	1.9	0			
31		---	.50	177	---	49	---	1.6	---			---
TOTAL	0	0	742.70	9754.20	2659	4031	822	148.2	8.40	0	0	0
MEAN	0	0	24.0	315	95.0	130	27.4	4.78	.28	0	0	0
MAX	0	0	567	2950	747	1150	101	14	1.3	0	0	0
MIN	0	0	0	.20	31	32	12	1.6	0	0	0	0
AC-FT	0	0	1470	19350	5270	8000	1630	294	17	0	0	0
CAL YR 1980	TOTAL	19149.80	MEAN	52.3	MAX	2350	MIN	0	AC-FT	37980		
WTR YR 1981	TOTAL	18165.50	MEAN	49.8	MAX	2950	MIN	0	AC-FT	36030		

11379000 ANTELOPE CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°12'08", long 122°07'05", (Revised), in Rio De Los Berrendos Grant, Tehama County, Hydrologic Unit 18020119, 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 mi² (319 km²).

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

REVISED RECORDS.--WSP 1315-A: 1949(M). WSP 1931: Drainage area. WDR CA-79-4: 1978(M).

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.--41 years, 148 ft³/s (4.191 m³/s), 107,200 acre-ft/yr (132 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,200 ft³/s (487 m³/s) Jan. 23, 1970, gage height, 17.95 ft (5.471 m) from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurement at gage height 15.96 ft (4.865 m), present datum; minimum, 8.2 ft³/s (0.23 m³/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.--Peak discharges above base of 2,200 ft³/s (62.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	2345	2620 74.2	9.58 2.920	Jan. 27	1515	*4060 115	10.94 3.335

Minimum daily, 28 ft³/s (0.79 m³/s) on several days during August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	41	47	46	177	92	160	94	42	35	29	29
2	37	43	59	46	146	86	148	91	41	35	29	29
3	38	43	609	47	127	81	130	84	41	35	29	29
4	38	42	538	50	112	306	118	78	40	35	29	29
5	38	41	121	47	101	275	109	74	39	34	29	29
6	38	41	80	46	92	183	102	70	39	35	29	29
7	37	40	65	46	84	146	100	68	38	34	29	29
8	38	42	58	46	78	127	96	65	39	34	28	29
9	39	43	54	46	74	111	91	62	40	34	28	29
10	39	43	52	45	70	102	87	60	39	33	28	29
11	40	42	50	45	70	94	86	58	39	33	28	29
12	48	42	50	45	72	89	83	56	39	32	29	29
13	50	41	48	44	82	93	80	55	40	33	29	29
14	58	41	47	44	444	86	78	54	39	32	29	29
15	55	41	47	44	246	89	77	54	38	32	29	29
16	47	40	47	46	189	179	77	54	37	32	29	29
17	45	40	46	53	206	127	77	52	37	32	29	29
18	45	40	46	56	169	123	77	62	37	32	28	29
19	45	40	46	58	155	363	102	75	37	32	29	29
20	44	40	46	77	171	345	99	68	36	31	30	29
21	44	39	49	85	144	409	89	59	36	31	30	29
22	44	42	57	148	128	290	87	55	36	31	30	29
23	43	43	50	644	118	206	88	51	35	30	30	29
24	41	42	48	594	126	170	92	50	35	30	30	30
25	43	39	48	186	122	622	93	53	35	30	30	35
26	47	39	49	147	114	513	116	59	35	30	30	33
27	44	38	48	1930	104	327	105	56	35	30	29	34
28	43	38	49	1280	98	241	92	50	34	30	29	45
29	41	38	48	1290	---	204	92	47	35	30	29	40
30	41	55	47	438	---	178	93	45	35	30	29	38
31	43	---	47	239	---	157	---	43	---	30	29	---
TOTAL	1330	1239	2696	7958	3819	6414	2924	1902	1128	997	901	922
MEAN	42.9	41.3	87.0	257	136	207	97.5	61.4	37.6	32.2	29.1	30.7
MAX	58	55	609	1930	444	622	160	94	42	35	30	45
MIN	37	38	46	44	70	81	77	43	34	30	28	29
AC-FT	2640	2460	5350	15780	7570	12720	5800	3770	2240	1980	1790	1830

CAL YR 1980	TOTAL	65884	MEAN 180	MAX 3610	MIN 36	AC-FT 130700
WTR YR 1981	TOTAL	32230	MEAN 88.3	MAX 1930	MIN 28	AC-FT 63930

SACRAMENTO RIVER BASIN

11379500 ELDER CREEK NEAR PASKENTA, CA

LOCATION.--Lat 40°01'29", long 122°30'31", in SE4NW4 sec.14, T.25 N., R.6 W., Tehama County, Hydrologic Unit 18020103, 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.--92.4 mi² (239.3 km²).

PERIOD OF RECORD.--October 1948 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1515: 1956. WDR CA-70-2: 1967(P). WDR CA-75-4: 1966-67(P), 1969-71(P), 1973(P), WDR CA-78-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 718.1 ft (218.88 m) National Geodetic Vertical Datum of 1929. 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.--33 years, 99.1 ft³/s (2.807 m³/s), 71,800 acre-ft/yr (88.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s (331 m³/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 ft³/s (99.1 m³/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.--Peak discharges above base of 1,200 ft³/s (34.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	1845	2,400 68.0	6.51 1.984	Jan. 27	2345	*6,070 172	9.50 2.896
Jan. 22	1430	4,990 141	8.74 2.664	Feb. 13	2345	2,280 64.6	6.38 1.945

Minimum daily, 0.23 ft³/s (0.007 m³/s) July 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	5.9	11	15	146	133	119	48	20	4.1	.73	.58
2	2.0	6.0	71	14	122	116	110	45	20	3.7	.82	.64
3	1.9	6.1	1270	16	107	108	103	42	19	3.5	.87	.69
4	1.8	6.2	308	17	97	230	95	40	18	3.2	1.0	.71
5	1.6	5.9	94	15	90	152	90	38	17	3.4	.94	.67
6	1.8	5.8	57	14	81	127	89	37	16	3.7	.34	.59
7	2.2	5.8	40	14	73	114	86	36	16	4.0	.39	.59
8	1.8	6.7	31	14	69	105	83	35	16	3.4	.26	.63
9	1.7	7.2	27	14	65	98	79	34	15	2.7	.35	.70
10	1.8	7.1	24	13	64	93	77	31	15	2.4	.34	.70
11	2.6	6.9	22	13	71	88	74	29	14	2.2	.30	.66
12	9.6	6.8	20	13	73	85	71	29	14	2.1	.33	.66
13	8.5	6.7	18	13	538	88	68	28	13	2.3	.42	.67
14	7.7	6.7	17	13	956	82	65	28	13	2.4	.47	.68
15	7.2	6.8	16	13	335	101	65	28	12	2.1	.44	.68
16	6.5	6.5	16	18	264	96	63	27	11	1.7	.43	.72
17	6.4	6.9	15	40	268	83	63	27	10	1.6	.45	.72
18	6.2	6.9	15	39	210	80	64	69	9.7	1.5	.40	.77
19	6.1	6.9	15	45	197	97	164	50	9.3	1.3	.50	.70
20	5.9	6.9	14	70	171	147	152	42	8.7	1.1	.65	.73
21	5.8	7.0	26	85	147	812	96	35	8.2	1.1	.64	.68
22	5.5	8.7	32	1940	132	361	84	33	7.3	1.1	.71	.60
23	5.2	9.1	22	1040	122	233	77	29	6.7	1.0	.79	.69
24	5.2	8.2	19	324	121	191	74	29	6.3	.80	.81	1.0
25	6.0	7.7	18	170	117	222	71	29	6.1	.52	.69	2.4
26	6.5	7.7	17	178	115	218	70	30	5.7	.33	.71	2.8
27	6.1	7.7	17	1770	116	180	62	26	5.1	.23	.68	2.7
28	5.7	7.7	18	2430	107	158	55	24	4.5	.25	.53	3.7
29	5.5	7.9	16	477	---	149	52	22	4.4	.72	.49	3.4
30	5.6	10	16	265	---	136	51	21	4.4	.71	.49	2.4
31	5.8	---	15	185	---	127	---	21	---	.74	.49	---
TOTAL	148.5	212.4	2317	9287	4974	5010	2472	1042	345.4	59.90	17.46	33.86
MEAN	4.79	7.08	74.7	300	178	162	82.4	33.6	11.5	1.93	.56	1.13
MAX	9.6	10	1270	2430	956	812	164	69	20	4.1	1.0	3.7
MIN	1.6	5.8	11	13	64	80	51	21	4.4	.23	.26	.58
AC-FT	295	421	4600	18420	9870	9940	4900	2070	685	119	35	67
CAL YR 1980 TOTAL	43824.70		MEAN 120		MAX 3450	MIN 1.6	AC-FT 86930					
WTR YR 1981 TOTAL	25919.52		MEAN 71.0		MAX 2430	MIN .23	AC-FT 51410					

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, Hydrologic Unit 18020103, 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 mi² (339 km²).

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 fair. No storage or large diversion above station.

AVERAGE DISCHARGE.--53 years (water years 1929-81), 300 ft³/s (8.496 m³/s), 217,400 acre-ft/yr (268 hm³/yr).

EXTREMES FOR PERIOD OF RECORD (water years 1929-81): Maximum discharge, 36,400 ft³/s (1,030 m³/s) Dec. 11, 1937, gage height, 23.4 ft (7.13 m) from floodmarks, from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of step-backwater computation and slope-area measurement of peak flow; minimum, 49 ft³/s (1.39 m³/s) Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 23	2215	2,970 84.1	7.06 2.152
Jan. 27	1445	*4,550 129.0	8.45 2.576

Minimum daily, 78 ft³/s (2.209 m³/s) on several days during August and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	104	152	146	290	239	329	419	233	111	89	80
2	99	103	195	141	248	227	323	448	224	111	89	80
3	99	103	1150	140	207	216	290	396	219	110	88	80
4	99	102	1050	155	177	366	267	354	211	109	88	80
5	99	102	305	145	160	445	248	320	213	110	88	80
6	99	102	239	143	150	338	248	296	212	111	88	79
7	99	102	195	140	135	279	248	282	199	109	86	79
8	97	109	186	138	133	245	245	273	197	107	85	79
9	97	108	177	137	130	224	233	267	192	106	85	80
10	97	106	167	135	126	210	230	266	180	104	86	79
11	97	104	160	133	128	204	233	257	172	104	85	79
12	106	104	153	132	133	198	224	246	170	104	85	78
13	118	102	145	128	183	198	219	245	163	104	84	79
14	128	102	140	126	992	195	219	261	157	102	84	79
15	126	102	137	125	632	213	227	254	151	100	85	79
16	118	102	135	127	442	364	230	224	146	95	84	79
17	116	102	136	152	687	230	233	213	144	95	82	80
18	111	102	137	155	445	219	239	354	142	95	82	78
19	109	102	137	157	423	455	273	314	140	95	82	78
20	106	102	137	189	455	413	299	262	137	94	82	79
21	106	102	137	195	364	458	276	235	135	93	82	79
22	104	104	189	282	320	386	276	226	134	93	82	79
23	104	110	161	1210	287	296	296	219	132	93	81	80
24	104	113	155	903	320	267	338	231	131	91	82	81
25	104	110	152	320	311	1150	360	308	126	89	81	96
26	106	106	168	251	290	878	357	308	121	90	80	90
27	106	104	155	1930	270	584	338	270	120	90	80	94
28	106	104	166	1660	251	458	308	257	118	88	80	135
29	106	103	154	1490	---	432	308	253	115	88	78	102
30	106	160	151	611	---	399	345	256	113	88	79	93
31	104	---	149	392	---	346	---	247	---	88	80	---
TOTAL	3275	3181	6970	12088	8689	11132	8259	8761	4847	3067	2592	2513
MEAN	106	106	225	390	310	359	275	283	162	98.9	83.6	83.8
MAX	128	160	1150	1930	992	1150	360	448	233	111	89	135
MIN	97	102	135	125	126	195	219	213	113	88	78	78
AC-FT	6500	6310	13820	23980	17230	22080	16380	17380	9610	6080	5140	4980
CAL YR 1980	TOTAL	128057	MEAN 350	MAX 5960	MIN 97	AC-FT 254000						
WTR YR 1981	TOTAL	75374	MEAN 207	MAX 1930	MIN 78	AC-FT 149500						

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020103, 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.--203 mi² (526 km²).

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). WDR CA-78-4: Drainage area. WDR CA-79-4(M).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. No storage or large diversions above station.

AVERAGE DISCHARGE.--61 years, 285 ft³/s (8.071 m³/s), 206,500 acre-ft/yr (255 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,800 ft³/s (1,070 m³/s) Dec. 22, 1964, gage height, 13.3 ft (4.05 m), from floodmarks, present site and datum, from rating curve extended above 6,000 ft³/s (170 m³/s) on basis of slope-area measurements at gage heights, 10.10 ft (3.078 m) and 13.3 ft (4.05 m); no flow at times in many years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,800 ft³/s (51.0 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	0945	3,380 95.7	5.81 1.771
Jan. 22	1845	3,470 98.3	6.13 1.868
Jan. 27	2345	4,130 117	6.43 1.960
Feb. 14	0200	*7,890 223	7.55 2.301

Minimum daily, 0.45 ft³/s (0.013 m³/s) Sept. 12, 23.

REVISIONS.--The maximum discharge for the water year 1980 has been revised to 18,800 ft³/s (532 m³/s), Jan. 13, 1980, gage height, 10.10 ft (3.078 m), superseding figure published in the report for 1980.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	7.1	50	69	261	292	482	186	55	11	1.6	.48
2	3.5	7.1	653	63	239	294	377	164	51	11	1.9	.50
3	3.5	7.1	2420	62	233	269	428	148	47	10	2.0	.50
4	3.6	7.1	1210	93	237	484	376	134	44	10	1.9	.48
5	3.6	7.1	441	77	243	352	377	124	43	9.6	1.8	.47
6	3.3	7.1	247	69	237	303	301	114	40	9.6	1.8	.59
7	3.3	7.1	153	62	267	311	291	108	39	9.6	1.8	.55
8	2.9	10	116	56	225	318	273	103	39	9.5	1.7	.50
9	2.7	24	106	54	224	275	252	99	39	8.8	1.4	.58
10	2.9	15	96	52	223	266	275	95	37	8.2	1.2	.57
11	3.3	14	88	49	280	257	263	93	36	7.4	1.2	.47
12	6.0	13	79	48	347	264	234	89	33	7.4	1.2	.45
13	9.6	12	74	48	2090	259	210	87	32	6.8	1.3	.49
14	14	12	67	45	3880	220	199	84	32	6.3	1.2	.49
15	18	11	63	43	1450	234	207	84	32	6.0	1.3	.58
16	16	11	67	48	1370	227	200	84	29	5.8	1.3	.57
17	12	11	69	67	1590	212	210	82	27	5.1	.95	.48
18	11	11	69	92	1030	211	229	167	25	4.9	.90	.48
19	11	11	66	106	969	260	406	165	25	4.8	1.0	.61
20	10	10	62	175	856	280	367	132	22	4.6	.96	.63
21	9.6	10	101	310	657	647	307	111	21	4.4	.95	.62
22	8.5	12	235	1670	568	513	372	99	20	3.6	.77	.47
23	8.1	27	133	1530	492	497	314	90	18	3.6	.77	.45
24	8.1	24	105	663	464	459	297	83	17	3.5	.77	.55
25	7.8	18	97	421	364	817	243	84	16	3.0	.89	2.5
26	7.8	16	100	384	323	982	223	91	15	2.7	1.1	4.6
27	7.8	15	88	1190	290	717	194	83	15	2.7	.86	4.6
28	7.8	14	101	1560	279	610	181	74	14	2.5	.62	6.7
29	7.4	14	87	603	---	623	205	67	13	2.5	.56	17
30	7.1	50	80	388	---	519	197	60	13	2.5	.66	12
31	7.1	---	75	299	---	455	---	57	---	2.2	.62	---
TOTAL	231.1	414.7	7398	10396	19692	12427	8490	3241	889	189.6	36.98	59.96
MEAN	7.45	13.8	239	335	703	401	283	105	29.6	6.12	1.19	2.00
MAX	18	50	2420	1670	3880	982	482	186	55	11	2.0	17
MIN	2.7	7.1	50	43	223	211	181	57	13	2.2	.56	.45
AC-FT	458	823	14670	20620	39060	24650	16840	6430	1760	376	73	119

CAL YR 1980	TOTAL	142655.50	MEAN 390	MAX 14900	MIN 2.7	AC-FT 283000
WTR YR 1981	TOTAL	63465.34	MEAN 174	MAX 3880	MIN .45	AC-FT 125900

11382000 THOMES CREEK AT PASKENTA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959 to current year.

CHEMICAL ANALYSES: Water years 1959 to 1980.

WATER TEMPERATURES: Water years 1962-79, November 1980 to May 1981.

SEDIMENT RECORDS: Water years 1963-73, November 1980 to May 1981.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1961 to January 1979, November 1980 to May 1981 (storm season only).

SEDIMENT RECORDS: October 1962 to September 1973, November 1980 to May 1981 (storm season only).

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 60,200 mg/l Dec. 22, 1964; minimum daily mean, no flow, Oct. 4, 1964.

SEDIMENT DISCHARGE: Maximum daily, 5,070,000 tons (4,600,000 metric tons) Dec. 22, 1964; minimum daily, 0 ton (0 metric ton) at times during some years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 2,800 mg/l Feb. 14; minimum daily mean, 0 mg/l many days during November, January, and May.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 36,700 tons (33,300 metric tons) Feb. 14; minimum daily, 0 ton (0 metric ton) on many days during November, January, and May.

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1980 TO MAY 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	4.0	10.0	8.0	---				
2		---	7.5	---	5.5	11.5	8.0	17.0				
3		---	9.0	7.5	4.5	9.0	7.5	---				
4		19.5	8.5	---	4.0	8.5	9.0	12.5				
5		13.0	5.5	---	5.0	9.0	16.0	---				
6		---	5.0	---	4.5	6.5	12.0	10.0				
7		---	4.5	4.5	4.0	10.0	9.0	19.5				
8		---	2.5	6.5	5.5	9.0	8.5	---				
9		---	7.5	---	6.0	7.0	---	---				
10		---	---	---	6.0	14.0	---	---				
11		---	3.0	---	7.0	15.0	12.0	---				
12		8.5	---	---	6.5	7.5	---	---				
13		---	---	---	7.5	8.0	---	15.0				
14		---	7.0	5.0	7.5	8.0	16.0	---				
15		---	---	---	8.0	8.0	---	---				
16		---	---	---	8.0	6.0	10.0	---				
17		---	6.0	---	7.0	6.0	---	---				
18		---	---	---	9.0	7.0	---	14.5				
19		7.5	---	8.5	9.0	7.0	11.5	13.0				
20		---	---	9.0	6.5	7.5	10.5	---				
21		---	7.5	8.5	6.5	8.0	18.0	---				
22		---	7.0	10.5	7.0	7.5	---	---				
23		---	---	8.5	7.0	8.0	13.5	---				
24		---	6.0	6.5	7.5	8.0	---	---				
25		---	---	5.5	6.5	12.0	13.0	---				
26		---	---	7.5	5.5	6.5	10.5	---				
27		---	---	6.5	9.5	6.5	---	---				
28		6.0	11.5	8.5	8.5	---	15.0	17.5				
29		---	---	7.5	---	10.5	---	---				
30		---	---	5.0	---	7.0	18.0	---				
31		---	6.0	4.5	---	7.5	---	---				
MONTH		---	---	---	6.5	8.5	---	---				

SACRAMENTO RIVER BASIN

11382000 THOMES CREEK AT PASKENTA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1980 TO MAY 1981

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				7.1	0	0	50	5	.68
2				7.1	0	0	653	673	1740
3				7.1	0	0	2420	1480	10700
4				7.1	0	0	1210	679	3160
5				7.1	0	0	441	85	101
6				7.1	0	0	247	25	17
7				7.1	0	0	153	10	4.1
8				10	1	.03	116	5	1.6
9				24	4	.26	106	5	1.4
10				15	1	.04	96	4	1.0
11				14	1	.04	88	3	.71
12				13	0	0	79	2	.43
13				12	0	0	74	2	.40
14				12	0	0	67	1	.18
15				11	0	0	63	1	.17
16				11	0	0	67	1	.18
17				11	0	0	69	1	.19
18				11	0	0	69	1	.19
19				11	0	0	66	1	.18
20				10	0	0	62	1	.17
21				10	0	0	101	16	8.9
22				12	0	0	235	37	29
23				27	4	.29	133	6	2.2
24				24	2	.13	105	3	.85
25				18	2	.10	97	3	.79
26				16	1	.04	100	3	.81
27				15	1	.04	88	3	.71
28				14	1	.04	101	3	.42
29				14	1	.04	87	3	.70
30				50	8	1.1	80	4	.86
31				---	---	---	75	4	.81
TOTAL				414.7	---	2.15	7398	---	15776.03

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	69	4	.75	261	19	13	292	22	17
2	63	5	.85	239	17	11	294	12	9.5
3	62	5	.84	233	16	10	269	15	11
4	93	8	2.0	237	19	12	484	85	124
5	77	2	.42	243	17	11	352	17	16
6	69	1	.19	237	12	7.7	303	12	9.8
7	62	0	0	267	32	23	311	11	9.2
8	56	0	0	225	18	11	318	8	6.9
9	54	0	0	224	11	6.7	275	6	4.5
10	52	0	0	223	19	11	266	6	4.3
11	49	0	0	280	40	30	257	7	4.9
12	48	0	0	347	36	34	264	8	5.7
13	48	0	0	2090	1350	14200	259	24	17
14	45	0	0	3880	2800	36700	220	9	5.3
15	43	0	0	1450	600	2350	234	12	7.6
16	48	1	.13	1370	505	2560	227	16	9.8
17	67	2	.36	1590	595	2860	212	8	4.6
18	92	3	.75	1030	229	637	211	7	4.0
19	106	2	.57	969	198	518	260	26	21
20	175	9	4.3	856	142	328	280	10	7.6
21	310	36	33	657	91	161	647	85	166
22	1670	842	5580	568	64	98	513	64	89
23	1530	527	2340	492	38	50	497	37	50
24	663	100	179	464	40	50	459	21	26
25	421	32	36	368	31	31	817	349	979
26	384	25	26	323	19	17	982	332	874
27	1190	584	3580	290	18	14	717	117	227
28	1560	758	4490	279	17	13	610	71	117
29	603	64	104	---	---	---	623	65	109
30	388	29	30	---	---	---	519	35	49
31	299	23	19	---	---	---	455	10	12
TOTAL	10396	---	16428.16	19692	---	60767.4	12427	---	2997.7

11382000 THOMES CREEK AT PASKENTA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1980 TO MAY 1981

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	482	22	29	186	3	1.5			
2	377	17	17	164	3	1.3			
3	428	19	22	148	3	1.2			
4	376	12	12	134	3	1.1			
5	377	11	11	124	3	1.0			
6	301	25	20	114	2	.62			
7	291	18	14	108	1	.29			
8	273	9	6.6	103	1	.28			
9	252	9	6.1	99	1	.27			
10	275	9	6.7	95	1	.26			
11	263	9	6.4	93	0	0			
12	234	8	5.1	89	0	0			
13	210	8	4.5	87	0	0			
14	199	7	3.8	84	0	0			
15	207	6	3.4	84	0	0			
16	200	4	2.2	84	0	0			
17	210	4	2.3	82	0	0			
18	229	4	2.5	167	7	3.9			
19	406	40	49	165	3	1.3			
20	367	16	16	132	2	.71			
21	307	8	6.6	111	2	.60			
22	372	7	7.0	99	1	.27			
23	314	7	5.9	90	1	.24			
24	297	9	7.2	83	1	.22			
25	243	14	9.2	84	1	.23			
26	223	14	8.4	91	0	0			
27	194	8	4.2	83	0	0			
28	181	2	.98	74	0	0			
29	205	2	1.1	67	0	0			
30	197	5	2.7	60	0	0			
31	---	---	---	57	0	0			
TOTAL	8490	---	292.88	3241	---	15.29			
PERIOD	6205870		96279.61						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1980 TO MAY 1981

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER ...	414.70	2.15	0	2
DECEMBER ...	7398.00	15776.03	3550	19300
JANUARY 1981	10396.00	16428.16	6270	22700
FEBRUARY ...	19692.00	60767.40	12200	72900
MARCH	12427.00	2997.70	4890	7890
APRIL	8490.00	292.88	1770	2060
MAY	3241.00	15.29	51	66
PERIOD.....	62058.70	96279.61	28731	124918

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1980 TO MAY 1981

DATE	TIME	STREAM- FLOW INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDIM- ENT, SUS- PENDED (MG/L)	SEDIM- ENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
DEC 04...	1445	975	8.5	454	1200	22	30	40	50	57	--
JAN 22...	1450	3080	10.5	2060	17100	--	20	25	34	42	--
JAN 28...	1640	1090	8.5	360	1060	31	39	48	56	62	--
FEB 13...	1700	4410	7.5	2910	34600	--	22	32	40	54	64
FEB 14...	1145	3340	7.5	2460	22200	--	23	33	42	53	61
MAR 25...	1530	1100	12.0	626	1860	21	27	36	44	54	--
MAR 26...	0745	836	6.5	304	685	--	--	--	--	--	--
MAR 30...	1045	530	7.0	55	79	--	--	--	--	--	--

SACRAMENTO RIVER BASIN

11382000 THOMES CREEK AT PASKENTA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1980 TO MAY 1981

DATE	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC 04...	61	--	66	--	72	--	94	--	99	100
JAN 22...	51	--	60	--	74	--	86	--	96	100
28...	65	--	70	--	77	--	91	--	98	100
FEB 13...	--	76	--	88	--	98	--	100	--	--
14...	--	70	--	81	--	92	--	100	--	--
MAR 25...	61	--	69	--	83	--	93	--	99	100
26...	46	--	50	--	61	--	83	--	96	100
30...	52	--	53	--	58	--	75	--	90	100

DATE	TIME	TEMPERATURE (DEG C)	NUMBER OF SAMPLING POINTS	STREAM-FLOW, INSTANTANEOUS (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
DEC 04...	1400	8.5	1	1020	--	0	2
04...	1405	8.5	1	1020	--	--	0
04...	1410	8.5	1	1020	--	--	0
04...	1415	8.5	1	1020	--	--	0
FEB 14...	1115	7.5	1	3210	1	3	6
14...	1120	7.5	1	3210	--	0	1
14...	1125	7.5	1	3210	--	--	0
14...	1130	7.5	1	3210	2	4	8
MAR 05...	1200	9.0	1	299	--	0	1
05...	1205	9.0	1	299	--	--	0
05...	1210	9.0	1	299	--	--	0
05...	1215	9.0	1	299	--	--	0

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
DEC 04...	8	15	22	34	51	72	100
04...	5	16	23	31	42	58	100
04...	5	15	25	36	52	71	100
04...	3	14	41	73	91	100	--
FEB 14...	18	29	36	46	56	100	--
14...	2	4	9	16	29	36	100
14...	2	10	21	34	50	78	100
14...	18	38	58	78	100	--	--
MAR 05...	6	11	16	28	52	88	100
05...	8	15	20	30	51	92	100
05...	2	15	37	65	85	98	100
05...	1	33	85	95	98	100	--

SACRAMENTO RIVER BASIN

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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, Hydrologic Unit 18020103, 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 mi² (539 km²).

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) National Geodetic Vertical Datum of 1929 (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 good. No storage or large diversions above station.

AVERAGE DISCHARGE.--63 years, 313 ft³/s (8.864 m³/s), 226,800 acre-ft/yr (280 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft³/s (674 m³/s) Dec. 10, 1937, gage height, 19.2 ft (5.85 m) present datum, from floodmarks, from rating curve extended above 9,200 ft³/s (261 m³/s) on basis of velocity-area studies; minimum, 43 ft³/s (1.22 m³/s) Dec. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,500 ft³/s (70.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	2230	*3,910 111	8.29 2.527	Jan. 28	0645	3,020 85.5	7.56 2.304
Jan. 23	2245	2,560 72.5	7.12 2.170				

Minimum daily, 74 ft³/s (2.10 m³/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	103	138	119	349	235	371	167	119	89	76	78
2	98	103	183	117	298	226	350	163	117	87	76	78
3	98	103	1700	117	265	217	310	157	115	87	76	78
4	96	103	1280	132	240	377	287	151	113	86	76	78
5	98	102	332	122	223	417	266	147	111	86	76	78
6	98	102	209	117	209	315	262	141	108	86	76	78
7	97	102	169	115	194	276	255	138	106	86	75	78
8	96	113	145	114	186	254	244	134	104	86	74	78
9	97	107	137	113	183	239	233	130	104	83	75	78
10	97	105	130	112	182	230	233	127	102	83	75	78
11	98	105	126	111	183	223	238	124	100	83	75	78
12	108	104	123	110	190	216	218	121	100	83	75	78
13	116	103	120	109	220	212	208	119	98	83	76	78
14	128	102	117	109	932	209	204	125	96	82	76	78
15	121	102	116	109	621	227	201	125	95	82	75	78
16	111	102	119	113	471	297	194	119	95	82	76	78
17	108	102	120	127	619	246	192	116	95	82	76	79
18	106	102	118	129	471	242	192	200	94	82	76	79
19	105	102	118	130	452	393	228	227	94	80	76	78
20	104	102	116	150	514	351	238	174	94	80	76	79
21	104	102	121	151	398	433	204	156	93	79	76	79
22	104	109	158	245	346	386	197	146	93	78	78	79
23	103	118	134	967	314	328	190	140	93	78	78	79
24	103	118	124	899	333	298	192	136	93	78	77	81
25	104	107	126	346	315	915	190	157	92	76	77	94
26	108	104	138	255	284	872	236	157	92	76	77	88
27	107	104	130	1600	263	639	213	145	91	76	77	88
28	104	103	135	2220	247	514	186	135	91	76	77	101
29	103	104	131	1520	---	480	175	130	90	76	78	92
30	103	155	124	700	---	444	173	125	89	76	78	85
31	103	---	121	450	---	386	---	122	---	76	78	---
TOTAL	3224	3193	7058	11728	9502	11097	6880	4454	2977	2523	2363	2429
MEAN	104	106	228	378	339	358	229	144	99.2	81.4	76.2	81.0
MAX	128	155	1700	2220	932	915	371	227	119	89	78	101
MIN	96	102	116	109	182	209	173	116	89	76	74	78
AC-FT	6390	6330	14000	23260	18850	22010	13650	6830	5900	5000	4690	4820

CAL YR 1980 TOTAL 142475 MEAN 389 MAX 6820 MIN 96 AC-FT 282600
WTR YR 1981 TOTAL 67428 MEAN 185 MAX 2220 MIN 74 AC-FT 133700

NOTE: No gage-height record May 30 to June 30.

11384000 BIG CHICO CREEK NEAR CHICO, CA

LOCATION.--Lat 39°46'35", long 121°45'10", in Arroyo Chico Grant, Butte County, Hydrologic Unit 18020119, 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 mi² (187.5 km²).

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 fair. No storage or large diversion above station.

AVERAGE DISCHARGE.--51 years, 143 ft³/s (4.050 m³/s), 103,600 acre-ft/yr (128 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,580 ft³/s (271 m³/s) Jan. 5, 1965, gage height, 15.36 ft (4.682 m); minimum, 10 ft³/s (0.28 m³/s) Dec. 11, 1932, Aug. 15, 1939, Sept. 18, 1947.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,940 ft³/s (54.9 m³/s) Jan. 28 (0645 hrs), gage height, 6.42 ft (1.957 m), no other peak above base of 1,600 ft³/s (45.3 m³/s); minimum daily, 20 ft³/s (0.57 m³/s) on many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	26	37	34	213	102	173	53	36	25	21	23
2	21	27	67	34	166	101	161	51	34	25	21	21
3	21	27	768	34	159	93	143	50	33	25	21	21
4	21	27	1070	37	147	152	125	48	36	25	22	21
5	21	27	200	36	128	232	113	46	35	25	22	20
6	21	26	70	35	116	198	103	46	31	26	22	20
7	20	26	52	34	106	169	97	45	31	25	22	20
8	20	27	45	33	96	146	91	44	31	24	21	20
9	20	26	43	33	91	131	87	43	29	24	20	20
10	20	25	41	33	88	114	83	42	29	24	21	20
11	20	25	40	33	85	104	80	41	31	24	20	20
12	25	25	42	32	86	95	76	39	31	23	20	20
13	29	26	38	31	123	87	71	39	29	23	20	21
14	36	26	35	31	558	84	70	43	29	23	20	21
15	31	26	35	31	409	92	67	44	29	23	20	21
16	28	26	37	35	310	135	64	40	31	23	21	20
17	28	26	36	41	292	111	63	39	31	22	21	20
18	28	25	35	43	239	105	61	70	30	22	21	20
19	28	25	34	41	206	193	71	69	30	23	21	20
20	27	26	34	47	212	197	68	57	30	22	21	21
21	27	26	39	50	180	324	62	53	29	22	21	21
22	27	27	47	62	156	333	60	49	29	22	21	21
23	26	28	41	292	138	264	56	46	29	22	21	20
24	27	28	39	433	140	219	55	46	28	21	20	21
25	27	29	35	212	149	500	53	49	27	22	20	28
26	27	26	34	137	140	507	67	48	27	22	21	26
27	28	26	34	765	130	391	70	47	27	22	21	25
28	27	26	34	1510	118	306	60	44	27	22	21	33
29	26	26	37	922	---	253	56	40	26	21	21	28
30	26	39	36	469	---	219	54	39	25	21	21	23
31	26	---	35	293	---	190	---	37	---	21	31	---
TOTAL	780	801	3170	5853	4981	6147	2460	1447	900	714	657	656
MEAN	25.2	26.7	102	189	178	198	82.0	46.7	30.0	23.0	21.2	21.9
MAX	36	39	1070	1510	558	507	173	70	36	26	31	33
MIN	20	25	34	31	85	84	53	37	25	21	20	20
AC-FT	1550	1590	6290	11610	9880	12190	4880	2870	1790	1420	1300	1300
CAL YR 1980	TOTAL	65506	MEAN 179	MAX 4090	MIN 20	AC-FT 129900						
WTR YR 1981	TOTAL	28566	MEAN 78.3	MAX 1510	MIN 20	AC-FT 56660						

NOTE: No gage-height record Dec. 4 to Jan. 13.

LOCATION.--Lat 39°17'48", long 122°32'22", in NE¼SW¼ sec.28, T.17 N., R.6 W., Colusa County, Hydrologic Unit 18020115, 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.

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.--15 years, 56.2 ft³/s (1.592 m³/s), 40,720 acre-ft/yr (50.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,000 ft³/s (113 m³/s) Jan. 23, 1970, gage height, 11.39 ft (3.472 m), from rating curve extended above 1,500 ft³/s (42.5 m³/s); no flow at times in 1972, 1976, 1977, and 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,110 ft³/s (31.4 m³/s) Jan. 27, gage height, 6.21 ft (1.893 m); no other peak above base of 1,000 ft³/s (28.3 m³/s); no flow many days.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	1.8	4.7	4.7	68	38	47	15	7.3	2.1	.04	0
2	.65	1.8	15	4.7	59	37	44	15	7.2	2.2	.06	0
3	.51	1.8	254	5.4	55	36	41	15	7.1	2.0	.06	.01
4	.41	1.9	115	5.9	51	44	38	14	6.7	1.9	.11	.02
5	.40	1.9	22	5.4	49	43	36	14	6.2	2.0	.09	.01
6	.41	1.9	12	5.3	46	40	35	13	5.8	2.5	.06	0
7	.41	2.0	8.9	5.0	44	37	34	13	5.6	1.9	.02	0
8	.41	2.9	7.1	4.7	42	36	32	13	5.7	1.8	.01	0
9	.41	3.0	6.3	4.7	41	35	31	13	5.5	1.7	0	0
10	.50	2.8	5.8	4.7	40	33	30	12	5.3	1.6	0	0
11	.80	2.9	5.6	4.7	39	32	29	12	5.2	1.7	0	0
12	1.7	3.0	5.4	4.7	38	31	28	12	4.9	1.7	.01	0
13	1.7	3.1	5.3	4.7	106	31	27	11	4.9	1.6	.02	0
14	1.9	3.1	5.3	4.5	224	30	27	11	4.8	1.4	.02	0
15	2.2	3.0	5.3	4.5	113	38	26	11	4.6	1.2	.01	0
16	1.9	2.9	5.3	5.4	90	37	24	11	4.3	.92	.01	0
17	1.7	2.8	5.3	11	75	31	24	11	3.9	.79	0	0
18	1.6	2.8	5.3	13	63	32	24	13	3.7	.89	0	0
19	1.5	2.8	4.9	16	57	34	31	13	3.5	.84	0	0
20	1.5	2.9	4.7	22	51	38	27	13	3.2	.72	.02	0
21	1.5	2.9	9.3	24	47	125	24	12	3.0	.41	.02	0
22	1.5	3.9	10	208	44	94	21	12	2.8	.29	.01	0
23	1.4	4.2	7.0	122	41	75	21	11	2.7	.19	0	0
24	1.4	3.6	6.1	60	45	65	20	11	2.7	.13	0	.06
25	1.4	3.5	5.7	32	41	78	19	10	2.7	.07	.02	.15
26	1.6	3.4	5.6	37	39	77	20	11	2.6	.06	.02	.48
27	1.6	3.3	5.5	569	37	67	19	10	2.5	.04	0	.69
28	1.5	3.0	5.5	600	37	61	17	8.9	2.4	.04	0	.69
29	1.6	3.1	5.3	234	---	57	16	8.5	2.2	.04	0	.68
30	1.7	4.8	5.3	123	---	53	16	8.0	2.2	.04	0	.41
31	1.7	---	5.0	84	---	49	---	7.7	---	.04	0	---
TOTAL	38.07	86.8	573.5	2234.0	1682	1514	828	365.1	131.2	32.81	.61	3.20
MEAN	1.23	2.89	18.5	72.1	60.1	48.8	27.6	11.8	4.37	1.06	.020	.11
MAX	2.2	4.8	254	600	224	125	47	15	7.3	2.5	.11	.69
MIN	.40	1.8	4.7	4.5	37	30	16	7.7	2.2	.04	0	0
AC-FT	76	172	1140	4430	3340	3000	1640	724	260	65	1.2	6.3
CAL YR 1980	TOTAL	29326.59	MEAN	80.1	MAX	2500	MIN	.25	AC-FT	58170		
WTR YR 1981	TOTAL	7489.29	MEAN	20.5	MAX	600	MIN	0	AC-FT	14860		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020115, 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 mi² (254.3 km²). PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³) with the addition of flashboards to an elevation of 1,199.68 ft (365.662 m). Dead storage, 279 acre-ft (344,000 m³). Records of contents furnished by Bureau of Reclamation.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 53,500 acre-ft (66.0 hm³) Mar. 30, 1974, elevation, 1,201.10 ft (366.095 m); minimum, 280 acre-ft (345,000 m³) Aug. 8 to Oct. 31, 1972, Apr. 30 to Nov. 1, 1977, elevation, 1,131.68 ft (344.936 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,430 acre-ft (63.4 hm³) Mar. 22, elevation, 1,199.98 ft (365.754 m); minimum, 10,750 acre-ft (13.3 hm³) Sept. 30, elevation, 1,166.62 ft (355.586 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, Hydrologic Unit 18020115, on south end of Stony Gorge Dam on Stony Creek, 1.3 mi (2.1 km) southeast of Elk Creek. DRAINAGE AREA, 301 mi² (780 km²). PERIOD OF RECORD, October 1969 to current year. GAGE, nonrecording gage read once daily. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³) Mar. 26, 1971, elevation, 844.20 ft (257.312 m); minimum, 3,810 acre-ft (4.70 hm³) Nov. 6, 1971, elevation, 779.20 ft (237.500 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 51,640 acre-ft (63.7 hm³) Mar. 17, elevation, 841.96 ft (256.629 m); minimum, 7,100 acre-ft (8.75 hm³) Nov. 6, elevation, 789.04 ft (240.499 m).

MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)
11385100 EAST PARK RESERVOIR				11386100 STONY GORGE RESERVOIR		
Sept. 30.....	1,188.18	32,490	-5,110	797.40	10,930	+720
Oct. 31.....	1,185.38	28,750	-3,740	789.51	7,280	-3,650
Nov. 30.....	1,181.16	23,660	-5,090	791.67	8,180	+900
Dec. 31.....	1,185.68	29,140	+5,480	801.02	12,950	+4,770
CAL YR 1980....	--	--	-20,170	--	--	-28,700
Jan. 31.....	1,195.20	43,140	+14,000	828.47	35,540	+22,590
Feb. 28.....	1,198.44	48,670	+5,530	838.66	47,400	+11,860
Mar. 31.....	1,199.82	51,140	+2,470	841.22	50,670	+3,270
Apr. 30.....	1,199.74	51,000	-140	841.60	51,160	+490
May 31.....	1,199.44	50,460	-540	828.86	35,960	-15,200
June 30.....	1,197.74	47,440	-3,020	817.61	25,000	-10,960
July 31.....	1,186.00	29,550	-17,890	808.71	17,950	-7,050
Aug. 31.....	1,167.50	11,350	-18,200	808.62	17,890	-60
Sept. 30.....	1,166.62	10,750	-600	790.37	7,630	-10,260
WTR YR 1981....	--	--	-21,740	--	--	-3,300

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA

LOCATION.--Lat 39°43'56", long 122°24'50", in NW¼SW¼ sec.27, T.22 N., R.5 W., Glenn County, Hydrologic Unit 18020115, on left bank 3 ft (0.91 m) upstream from county road bridge, 1.2 mi (1.9 km) upstream from Black Butte Lake, and 11.7 mi (18.8 km) west of Orland.

DRAINAGE AREA.--623 mi² (1,614 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1981.

GAGE.--Water-stage recorder. Datum of gage is 478.63 ft (145.886 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair. Many diversions above station for irrigation. Flow regulated by Stony Gorge Reservoir 14.8 mi (23.8 km) upstream and by East Park Reservoir, combined usable capacity, 100,700 acre-ft (124 hm³).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,820 ft³/s (165 m³/s) Jan. 28, gage height, 14.44 ft (4.401 m); minimum daily, 0.39 ft³/s (0.011 m³/s) Sept. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	159	17	19	247	242	382	265	369	296	377	273
2	3.6	159	40	18	208	223	420	228	343	209	366	276
3	3.6	164	172	18	210	204	437	224	332	196	343	288
4	20	167	300	21	202	525	448	224	357	196	337	301
5	43	165	163	19	196	415	435	265	158	171	335	354
6	46	167	76	18	192	294	429	252	133	150	344	412
7	47	170	54	19	176	212	424	252	118	209	332	407
8	48	167	44	20	168	210	418	250	112	210	320	399
9	49	175	37	20	163	180	435	252	113	296	308	397
10	52	177	34	18	161	159	390	252	150	316	264	392
11	53	176	31	20	175	159	385	252	387	437	253	397
12	61	176	29	20	193	184	375	278	384	433	299	377
13	75	178	32	21	715	239	354	330	389	429	340	373
14	78	181	24	18	1840	269	364	344	401	432	343	382
15	75	187	29	19	1330	294	359	390	416	406	331	359
16	87	152	26	20	1140	351	335	380	417	431	284	322
17	179	73	24	27	1200	364	325	385	421	452	274	298
18	180	31	23	41	876	374	310	412	402	480	247	344
19	81	14	24	43	597	389	390	412	387	469	213	289
20	84	17	26	71	367	369	385	407	469	464	207	190
21	178	11	33	78	346	858	330	418	455	455	221	105
22	188	29	51	253	293	942	325	418	450	435	219	48
23	183	21	44	1330	276	785	310	407	430	450	221	41
24	178	12	35	981	278	676	310	401	434	457	229	19
25	176	24	30	260	255	727	301	401	437	454	227	11
26	172	16	25	238	252	837	291	388	407	476	245	2.0
27	172	15	22	1310	218	730	282	370	378	476	262	.72
28	166	14	23	2930	206	671	260	389	405	488	306	.48
29	159	13	24	997	---	650	273	382	353	491	287	.39
30	163	18	22	497	---	623	296	378	332	499	278	.41
31	162	---	21	325	---	502	---	370	---	488	278	---
TOTAL	3165.9	3028	1535	9689	12480	13647	10778	10376	10339	11856	8890	7060.00
MEAN	102	101	49.5	313	446	440	359	335	345	382	287	235
MAX	188	187	300	2930	1840	942	448	418	469	499	377	412
MIN	3.6	11	17	18	161	159	260	224	112	150	207	.39
AC-FT	6280	6010	3040	19220	24750	27070	21380	20580	20510	23520	17630	14000
WTR YR 1981	TOTAL	102843.90	MEAN	282	MAX	2930	MIN	.39	AC-FT	204000		

SACRAMENTO RIVER BASIN

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

WATER TEMPERATURES: November 1980 to May 1981.

SEDIMENT RECORDS: November 1980 to May 1981.

PERIOD OF DAILY RECORD.--

SEDIMENT RECORDS: November 1980 to May 1981 (storm season only).

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,610 mg/L Jan. 23; minimum daily mean, 2 mg/L several days during the year.

SEDIMENT DISCHARGE: Maximum daily, 13,800 tons (12,500 metric tons) Jan. 28; minimum daily, 0.06 ton (0.05 metric ton) Nov. 21, 24.

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1980 TO MAY 1981
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	---	---	---	---	---				
2		---	---	---	8.0	12.5	9.5	25.0				
3		---	---	---	---	---	---	---				
4		15.0	---	---	---	---	13.5	---				
5		---	8.5	---	---	---	---	---				
6		---	---	---	---	---	---	---				
7		---	---	---	---	---	---	---				
8		---	---	---	---	---	---	17.0				
9		---	7.5	8.5	---	---	---	19.5				
10		---	---	---	---	16.0	17.5	---				
11		---	---	---	---	---	---	---				
12		---	---	---	---	---	---	---				
13		---	---	---	---	14.0	---	---				
14		---	---	12.0	---	---	---	---				
15		---	---	---	---	10.5	---	---				
16		---	---	---	---	---	---	16.5				
17		---	---	---	---	---	---	---				
18		---	---	---	---	---	16.5	---				
19		---	---	---	---	13.0	13.5	---				
20		---	---	---	---	11.5	---	---				
21		---	---	---	---	10.0	---	---				
22		---	11.5	---	---	---	---	---				
23		---	---	9.5	---	---	---	19.5				
24		---	---	---	---	---	19.0	---				
25		---	---	---	---	---	---	---				
26		---	---	8.0	---	---	---	---				
27		---	---	---	---	12.5	---	---				
28		---	---	8.5	---	---	---	---				
29		---	---	7.5	---	---	---	23.5				
30		---	---	---	---	---	---	---				
31		---	---	---	---	---	---	---				
MONTH		---	---	---	---	---	---	---				

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1980 TO MAY 1981

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1				159	49	21	17	2	.09
2				159	51	22	40	3	.32
3				164	53	23	172	47	22
4				167	53	24	300	130	105
5				165	53	24	163	27	12
6				167	52	23	76	11	2.3
7				170	51	23	54	5	.73
8				167	49	22	44	3	.36
9				175	48	23	37	2	.20
10				177	47	22	34	7	.64
11				176	45	21	31	7	.59
12				176	44	21	29	6	.47
13				178	43	21	32	7	.60
14				181	41	20	24	4	.26
15				187	40	20	29	6	.47
16				152	31	13	26	4	.28
17				73	9	1.8	24	4	.26
18				31	2	.17	23	3	.19
19				14	2	.08	24	4	.26
20				17	2	.09	26	4	.28
21				11	2	.06	33	8	.71
22				29	2	.16	51	22	3.0
23				21	2	.11	44	17	2.0
24				12	2	.06	35	9	.85
25				24	2	.13	30	4	.32
26				16	2	.09	25	2	.14
27				15	2	.08	22	2	.12
28				14	2	.08	23	2	.12
29				13	2	.07	24	2	.13
30				18	2	.10	22	2	.12
31				---	---	---	21	2	.11
TOTAL				3028	---	346.08	1535	---	154.92

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	19	2	.10	247	7	4.7	242	8	5.2
2	18	2	.10	208	6	3.4	223	7	4.2
3	18	3	.15	210	6	3.4	204	9	5.0
4	21	4	.23	202	6	3.3	525	51	72
5	19	4	.21	196	6	3.2	405	38	42
6	18	4	.19	192	6	3.1	294	19	15
7	19	5	.26	176	6	2.9	212	10	5.7
8	20	5	.27	168	6	2.7	210	10	5.7
9	20	5	.27	163	6	2.6	180	7	3.4
10	18	4	.19	161	6	2.6	159	4	1.7
11	20	4	.22	175	7	3.3	159	5	2.1
12	20	3	.16	193	10	5.2	184	6	3.0
13	21	3	.17	715	126	434	239	6	3.9
14	18	2	.10	1840	408	2170	269	6	4.4
15	19	2	.10	1330	102	366	294	6	4.8
16	20	3	.16	1140	80	246	351	7	6.6
17	27	7	.51	1200	82	266	364	7	6.9
18	41	13	1.4	876	50	118	374	8	8.1
19	43	9	1.0	597	39	63	389	9	9.5
20	71	34	6.8	367	34	34	369	12	12
21	78	8	1.7	346	31	29	858	262	661
22	253	130	154	293	27	21	942	190	492
23	1330	1610	7460	276	23	17	785	98	208
24	981	989	3310	278	19	14	676	65	119
25	260	22	15	255	16	11	727	87	185
26	238	14	9.0	252	14	9.5	837	163	368
27	1310	477	2270	218	11	6.5	730	114	225
28	2930	1410	13800	206	9	5.0	671	82	149
29	997	152	409	---	---	---	650	65	114
30	497	30	40	---	---	---	623	47	79
31	325	10	8.8	---	---	---	502	29	39
TOTAL	9689	---	27490.09	12480	---	3850.4	13647	---	2860.2

SACRAMENTO RIVER BASIN

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1980 TO MAY 1981

DAY	APRIL			MAY		
	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	382	19	20	265	6	4.3
2	420	17	19	228	6	3.7
3	437	15	18	224	6	3.6
4	448	13	16	224	10	6.0
5	435	11	13	265	21	15
6	429	9	10	252	20	14
7	424	8	9.2	252	19	13
8	418	8	9.0	250	17	11
9	435	12	14	252	16	11
10	390	7	7.4	252	15	10
11	385	6	6.2	252	15	10
12	375	5	5.1	278	16	12
13	354	6	5.7	330	18	16
14	364	6	5.9	344	21	20
15	359	6	5.8	390	23	24
16	335	7	6.3	380	23	24
17	325	7	6.1	385	22	23
18	310	9	7.5	412	22	24
19	390	18	19	412	24	27
20	385	17	18	407	26	29
21	330	11	9.8	418	28	32
22	325	7	6.1	418	33	37
23	310	6	5.0	407	37	41
24	310	5	4.2	401	40	43
25	301	5	4.1	401	42	45
26	291	5	3.9	388	42	44
27	282	5	3.8	370	42	42
28	260	6	4.2	389	44	46
29	273	6	4.4	382	47	48
30	296	6	4.8	378	50	51
31	---	---	---	370	52	52
TOTAL	10778	---	271.5	10376	---	781.6

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1980 TO MAY 1981

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER ...	3028.00	346.08	0	346
DECEMBER ...	1535.00	154.92	13	168
JANUARY 1981	9689.00	27490.09	896	28400
FEBRUARY ...	12480.00	3850.40	955	4800
MARCH	13647.00	2860.20	1050	3910
APRIL	10778.00	271.50	630	901
MAY	10376.00	781.60	559	1340
PERIOD	61533.00	35754.79	4103	39865

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued
 PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1980 TO MAY 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV 04...	1115	166	13.0	56	25	--	--	--
DEC 05...	1000	163	8.5	28	12	--	--	--
22...	1215	77	11.5	62	13	--	--	--
JAN 23...	1500	1390	9.5	3260	12200	--	45	49
28...	1255	2770	8.5	1150	8600	--	38	47
29...	1130	935	8.0	154	389	46	65	76
MAR 21...	1125	769	10.0	226	469	--	--	--

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
NOV 04...	--	--	96	97	100	--	--	--
DEC 05...	--	--	88	92	93	100	--	--
22...	--	--	75	77	81	94	100	--
JAN 23...	62	74	84	92	98	100	--	--
28...	59	70	75	79	85	91	93	98
29...	86	90	91	95	98	100	--	--
MAR 21...	--	--	70	80	92	99	100	--

SACRAMENTO RIVER BASIN

11387200 STONY CREEK ABOVE BLACK BUTTE LAKE, NEAR ORLAND, CA--Continued
 PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1980 TO MAY 1981

DATE	TIME	TEMPER- ATURE (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .062 MM	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
NOV								
04...	1100	15.0	5	166	--	0	1	3
JAN								
09...	1000	8.5	3	22	--	0	2	7
28...	1330	8.5	5	2730	0	1	3	7
29...	1200	7.5	1	917	--	0	1	8
29...	1205	7.5	1	917	--	0	1	5
29...	1210	7.5	1	917	--	--	0	3
29...	1215	7.5	1	917	--	0	1	3
29...	1220	7.5	1	917	--	--	0	1
FEB								
02...	1100	8.0	1	228	--	--	0	2
02...	1105	8.0	1	228	--	0	3	9
02...	1110	8.0	1	228	--	--	--	--
02...	1115	8.0	1	228	--	--	--	--
02...	1120	8.0	1	228	--	--	--	--
MAR								
02...	1205	12.5	1	220	--	--	--	--
02...	1210	12.5	1	220	--	--	0	3
02...	1215	12.5	1	220	--	--	0	3
JUN								
01...	1500	22.5	1	380	--	0	1	1
01...	1505	22.5	1	380	--	--	0	1
01...	1510	22.5	1	380	--	--	--	--
01...	1515	22.5	1	380	--	0	1	5
01...	1520	22.5	1	380	--	--	0	1

DATE	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
NOV							
04...	7	12	17	22	29	47	100
JAN							
09...	19	28	40	54	78	100	--
28...	14	21	31	51	77	94	100
29...	44	78	91	96	100	--	--
29...	12	18	25	38	66	100	--
29...	6	9	13	20	41	80	100
29...	9	22	41	56	92	100	--
29...	2	6	11	20	40	100	--
FEB							
02...	4	7	14	34	88	100	--
02...	17	35	59	81	99	100	--
02...	0	1	20	58	92	100	--
02...	--	--	1	6	35	83	100
02...	--	--	--	4	25	76	100
MAR							
02...	0	1	9	28	68	100	--
02...	11	20	26	37	62	100	--
02...	8	10	13	21	38	100	--
JUN							
01...	3	9	20	39	66	100	--
01...	8	21	36	52	75	100	--
01...	0	1	1	3	15	47	100
01...	11	20	28	37	56	66	100
01...	2	2	4	6	27	62	100

11387990 SOUTH DIVERSION CANAL NEAR ORLAND, CA

LOCATION.--Lat 39°48'36", long 122°19'45", in SE4NE4 sec.32, T.23 N., R.4 W., Tehama County, Hydrologic Unit 18020103, 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) National Geodetic Vertical Datum of 1929. 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 ft³/s (0.17 m³/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 1,060 acre-ft (1.31 hm³).

AVERAGE DISCHARGE.--26 years, 101 ft³/s (2.860 m³/s), 73,170 acre-ft/yr (90.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 320 ft³/s (9.06 m³/s) May 8, 1969; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	159	1.4	5.3	1.0	.20	1.5	45	199	218	249	170	183
2	159	.60	5.2	1.0	.10	.80	66	240	217	271	177	194
3	173	52	1.1	.30	.10	.70	34	265	202	259	181	192
4	192	84	1.0	.10	.10	1.1	0	272	197	268	193	205
5	176	85	1.0	.10	.10	1.8	0	247	210	255	172	220
6	164	62	1.1	.10	.10	2.1	47	205	241	224	176	218
7	157	36	1.0	.10	.10	2.1	94	171	226	218	225	183
8	127	1.9	1.0	.10	.10	2.0	130	184	211	213	244	156
9	118	4.1	1.0	.20	.10	1.9	132	177	210	210	251	152
10	117	12	1.0	.10	.10	1.7	172	177	224	216	231	169
11	78	14	1.0	.10	.10	1.8	192	172	215	218	226	151
12	63	23	1.0	.10	.10	1.7	186	190	229	222	223	153
13	56	30	1.0	.10	.60	2.3	204	249	227	234	199	150
14	19	21	1.0	.10	.60	1.9	200	275	203	250	167	151
15	2.2	1.2	1.0	.10	.40	1.9	198	247	176	265	152	170
16	1.4	.40	1.0	.20	.40	1.9	183	233	194	292	145	150
17	1.0	.30	1.0	.20	.40	1.9	195	231	230	260	169	174
18	.90	0	1.0	.10	.30	2.1	184	210	261	210	203	193
19	.90	16	1.0	.20	.30	2.1	97	132	259	199	221	228
20	88	55	1.0	.20	.10	1.9	17	76	268	194	207	191
21	177	70	2.0	.20	.10	2.4	5.1	86	275	194	200	130
22	176	25	.70	2.0	.10	1.6	6.7	120	270	202	226	143
23	151	1.0	1.2	3.3	.10	1.5	5.0	154	262	190	203	140
24	81	.90	1.3	.30	1.0	2.1	50	181	268	195	185	141
25	1.7	.80	1.1	.20	1.7	2.1	81	197	275	217	161	96
26	1.4	.80	1.1	.30	1.6	2.1	97	226	271	240	146	48
27	61	.80	1.0	2.2	1.5	2.1	100	223	226	267	161	43
28	102	.80	1.0	.50	1.5	2.1	127	239	196	269	169	54
29	117	.80	1.0	.20	---	2.1	148	238	200	245	165	71
30	105	.80	1.0	.20	---	2.1	168	220	225	202	152	96
31	51	---	1.0	.20	---	2.1	---	212	---	177	154	---
TOTAL	2876.50	601.60	41.10	14.10	12.00	57.70	3163.8	6248	6886	7125	5854	4545
MEAN	92.8	20.1	1.33	.45	.43	1.86	105	202	230	230	189	152
MAX	192	85	5.3	3.3	1.7	2.4	204	275	275	292	251	228
MIN	.90	0	.70	.10	.10	.70	0	76	176	177	145	43
AC-FT	5710	1190	82	28	24	114	6280	12390	13660	14130	11610	9020
CAL YR 1980	TOTAL	35916.20	MEAN	98.1	MAX	275	MIN	0	AC-FT	71240		
WTR YR 1981	TOTAL	37424.80	MEAN	103	MAX	292	MIN	0	AC-FT	74230		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020115, in control tower in right abutment of main dam on Stony Creek, 8 mi (13 km) northwest of Orland.

DRAINAGE AREA.--738 mi² (1,911 km²).

PERIOD OF RECORD.--October 1963 to current year. Prior to October 1971, published as Black Butte Reservoir near Orland.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

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

REMARKS.--Reservoir is formed by seven earthfill dams. Storage began Oct. 28, 1963. Usable capacity, 137,036 acre-ft (169 hm³) between elevations 414.6 ft (126.37 m) normal minimum operating level, and 473.5 ft (144.32 m) spillway crest. An additional storage of 6,640 acre-ft (8.19 hm³) is available for release if needed. 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 hm³) June 8, 9, 1967, elevation, 471.19 ft (143.619 m); maximum elevation, 471.40 ft (143.683 m) Feb. 19, 1980; minimum since initial season of operation, 1,006 acre-ft (1.24 hm³) Nov. 6, 1977, elevation, 397.20 ft (121.067 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 103,409 acre-ft (128 hm³) Apr. 25, elevation, 463.60 ft (141.305 m); minimum, 10,380 acre-ft (12.8 hm³) Oct. 24, elevation, 420.05 ft (128.031 m).

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

397	950	415	6,874
398	1,095	420	10,340
399	1,256	430	20,845
400	1,432	440	37,172
403	2,070	450	60,258
406	2,897	460	90,634
409	3,948	470	128,571
412	5,260	480	174,303

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16974	10680	12924	16331	60579	72976	96863	100196	89106	67240	63649	57991
2	16353	10812	12980	16331	60954	73185	97432	99149	88634	66643	63732	57783
3	15651	10878	14080	16342	61412	73336	98145	98038	87962	65992	63787	57576
4	14949	10895	15436	16342	61817	73848	98897	96934	87193	65374	63759	57343
5	14311	10878	15792	16353	62225	73245	99617	96049	85997	64870	63704	57007
6	13732	10937	15956	16353	62551	73305	100123	95204	84713	64452	63649	56775
7	13170	11113	16043	16342	62852	73607	100485	94538	83375	63842	63374	56673
8	12699	11360	16098	16342	63099	73908	100703	93805	82017	63484	62989	56647
9	12277	11636	16120	16331	63374	74181	100848	93110	80768	63236	62551	56596
10	11856	11891	16187	16320	63649	74454	100884	92315	79500	62962	62170	56544
11	11549	12141	16198	16309	63953	74757	100812	91557	78493	62743	61817	56442
12	11206	12368	16198	16297	64258	75093	100703	90804	77775	62579	61493	56365
13	10937	12533	16209	16276	66388	75490	100485	90055	77153	62388	61196	56289
14	10812	12802	16187	16264	70043	76011	100303	89376	76597	62170	60981	56161
15	10762	13161	16176	16242	69489	76689	100159	88668	76195	61926	60820	55982
16	10738	13517	16176	16264	68618	77402	100051	88398	75674	61682	60739	55778
17	10920	13634	16165	16286	68705	78087	99906	87794	74910	61709	60579	55499
18	11164	13713	16154	16309	68417	78902	99978	87627	74181	61871	60338	55170
19	11257	13654	16142	16376	69024	79785	100703	87761	73095	62089	59992	54768
20	11071	13430	16131	16555	69198	80800	101466	87928	71990	62388	59673	54191
21	10796	13180	16154	16815	69897	83277	101978	88264	70924	62688	59382	53768
22	10566	13151	16198	22824	70512	83180	102453	88701	70424	62907	59039	53347
23	10388	13151	16231	31039	71071	83375	102931	89038	70189	63099	58750	52657
24	10380	13094	16276	33299	71544	84680	103225	89275	69926	63236	58566	52291
25	10656	13104	16286	34180	71990	86560	103409	89478	69547	63319	58435	52047
26	10937	13066	16297	35040	72317	88701	103188	89512	69082	63291	58435	51901
27	10953	13028	16309	43141	72437	90532	102674	89444	68705	63291	58383	51756
28	10845	12990	16320	55196	72676	92246	102160	89410	68330	63291	58330	51586
29	10680	12961	16331	57965	---	93875	101612	89376	67956	63346	58252	51272
30	10542	12943	16342	59356	---	95239	101103	89376	67670	63484	58226	50911
31	10550	---	16331	60178	---	96332	---	89275	---	63622	58148	---
MAX	16974	13713	16342	60178	72676	96332	103409	100196	89106	67240	63787	57991
MIN	10380	10680	12924	16242	60579	72976	96863	87627	67670	61682	58148	50911
†	420.26	422.99	426.29	449.97	454.39	461.64	462.97	459.60	452.68	451.24	449.20	446.31
‡	-7015	+2393	+3388	+43847	+12498	+23656	+4771	-11828	-21605	-4048	-5174	-7237
††	472	277	154	87	420	764	1457	2012	2939	2607	2208	1835

CAL YR 1980 ‡ -22028

WTR YR 1981 ‡ +33346

† Elevation, in feet NGVD, 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, Hydrologic Unit 18020103, 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 mi² (1,911 km²).

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.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder and grouted rock control. Datum of gage is 366.02 ft (111.563 m) National Geodetic Vertical Datum of 1929 (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 excellent. 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 hm³), and Stony Gorge Reservoir (station 11386100), usable capacity, 50,400 acre-ft (62.1 hm³). 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 diversions to South Diversion Canal since 1956, for change in contents in and evaporation from Black Butte Lake since 1964), and Wackerman Ranch since 1979.--26 years, 620 ft³/s (17.56 m³/s), 449,200 acre-ft/yr (554 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,300 ft³/s (1,030 m³/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 ft³/s (212 m³/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 ft³/s (549 m³/s) Dec. 25, 1964, gage height, 10.41 ft (3.174 m); no flow at times most years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,420 ft³/s (68.5 m³/s) Feb. 15, gage height, 6.30 ft (1.920 m); minimum daily, no flow Nov. 16-18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP				
1	123	82	28	29	170	159	75	469	231	180	131	132				
2	137	85	28	29	121	156	86	497	338	181	110	151				
3	155	78	30	29	50	156	70	489	447	182	104	157				
4	146	76	28	29	50	408	55	469	436	176	118	158				
5	131	88	29	29	51	751	55	433	442	146	129	154				
6	115	73	29	29	51	313	83	430	473	98	146	121				
7	114	56	29	29	51	112	124	415	488	94	166	105				
8	121	46	29	29	51	106	146	445	488	111	169	100				
9	115	45	29	29	51	75	154	445	466	145	167	97				
10	104	45	29	29	51	51	159	446	464	175	160	98				
11	115	47	29	29	51	51	172	450	472	186	146	109				
12	129	44	29	29	51	50	176	460	333	188	141	109				
13	131	59	29	29	52	50	182	500	226	187	139	118				
14	106	46	29	29	682	51	182	501	209	183	132	131				
15	87	90	29	29	2060	51	178	486	213	187	122	134				
16	74	0	29	29	2050	50	165	476	240	192	101	142				
17	56	0	29	29	1650	50	139	445	268	178	99	139				
18	49	0	29	29	1490	51	113	420	287	160	127	140				
19	49	26	29	29	607	51	103	358	484	132	148	145				
20	72	78	29	29	405	51	70	308	604	105	149	131				
21	97	68	28	29	142	546	46	187	593	104	154	119				
22	105	41	30	31	59	1530	46	96	308	135	145	101				
23	105	31	29	35	54	1100	47	95	154	158	125	96				
24	86	32	29	35	52	272	98	119	150	172	114	89				
25	48	32	29	35	51	67	141	150	187	184	114	50				
26	48	32	29	36	98	56	218	179	226	178	107	27				
27	84	32	29	38	181	54	338	186	231	171	106	30				
28	115	30	29	42	160	52	350	188	244	173	106	37				
29	108	28	29	42	---	51	349	170	246	156	117	52				
30	109	28	29	41	---	51	351	162	208	146	119	51				
31	97	---	29	82	---	52	---	209	---	145	112	---				
TOTAL	3131	1328.90	897	1026	10592	6624	4471	10683	10156	4908	4023	3223				
MEAN	101	44.3	28.9	33.1	378	214	149	345	339	158	130	107				
MAX	155	88	30	82	2060	1530	351	501	604	192	169	158				
MIN	48	0	28	29	50	50	46	95	150	94	99	27				
AC-FT	6210	2640	1780	2040	21010	13140	8870	21190	20140	9740	7980	6390				
CAL YR 1980	TOTAL	305587.90	MEAN	835	MAX	15000	MIN	0	AC-FT	606100	MEAN	†	921	AC-FT	†	668700
WTR YR 1981	TOTAL	61062.90	MEAN	167	MAX	2060	MIN	0	AC-FT	121100	MEAN	†	338	AC-FT	†	245000

† Adjusted for diversions to South Diversion Canal near Orland, Wackerman Ranch, 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 1958-79. 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.

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, Dec. 21, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 27.5°C on several days during August and September; minimum recorded, 7.0°C on several days during December.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11388000 STONY CREEK BELOW BLACK BUTTE DAM, NEAR ORLAND, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020104, 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 mi² (31,274 km²).

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.

REVISED RECORDS.--WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.92 ft (0.890 m) below National Geodetic Vertical Datum of 1929. 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, 5,400 ft³/s (153 m³/s) Jan. 29, gage height, unknown. PERIOD OF RECORD (water years 1970-81): Maximum discharge, 17,200 ft³/s (487 m³/s) Jan. 24, 1970, gage height, 82.0 ft (24.99 m). CURRENT YEAR (combined overbank flow): Maximum discharge, 5,400 ft³/s (153 m³/s) Jan. 29. PERIOD OF RECORD (water years 1970-81): Maximum discharge, 74,300 ft³/s (2,100 m³/s) Jan. 25, 1970. Records tabulated below do not include overbank flow into the Butte basin.

AVERAGE DISCHARGE.--43 years (water years 1939-81), 13,130 ft³/s (371.8 m³/s), 9,513,000 acre-ft/yr (11.7 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-81), 170,000 ft³/s (4,810 m³/s) Feb. 7, 1942, gage height, 96.87 ft (29.526 m); minimum recorded, 1,050 ft³/s (29.7 m³/s) July 15, 25, 26, 1931, gage height, 67.49 ft (20.571 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 67,000 ft³/s (1,900 m³/s) Jan. 29, gage height, 87.36 ft (26.627 m); minimum daily, 4,640 ft³/s (131 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6010	4720	6660	7740	15500	9810	18700	7770	7180	9300	9530	5980
2	6080	5210	6710	7550	13200	9400	18600	9330	6960	9130	9710	5860
3	5970	5800	8300	7130	11800	9010	18000	7190	6850	8940	9680	5760
4	5870	5980	27500	6930	10700	8870	16300	7190	6860	9090	9500	5760
5	5960	6000	22000	6960	10000	16800	14300	7270	6720	9370	9510	5780
6	5980	6010	13800	6850	9520	14400	12600	7100	6750	9390	9500	5580
7	5980	6000	11700	6780	9120	11300	11000	7180	6960	9450	9650	5490
8	5980	6020	11000	6780	8730	10100	9530	7320	7000	9460	9740	5590
9	6000	5970	10700	6760	8470	9510	9280	7160	7040	9420	9820	5770
10	5980	5950	10500	6700	8190	9000	8830	7320	7220	9400	9860	5760
11	5660	5950	9820	6540	8070	8610	8510	7520	7310	9380	9810	5970
12	5460	5990	9110	6280	8480	8330	8180	7550	7880	9400	9700	6090
13	5630	5980	8510	5940	9060	8200	7870	7440	7690	9400	9680	6110
14	5940	5930	8080	5690	19900	9390	7440	7380	7640	9350	9730	6330
15	6010	6410	7970	5660	37800	8580	6920	7380	7630	9350	9820	6420
16	5580	6430	7810	5650	21500	9780	6360	7460	7570	9330	9920	5830
17	5110	6510	7790	5680	17100	13500	6120	8160	7410	9360	9990	5390
18	4930	6480	7820	5960	16500	10400	6530	9130	7270	9280	10000	5270
19	4890	6390	7730	6340	14200	11700	8070	10700	7490	9370	10100	5260
20	4850	6340	7720	6370	12600	16700	10200	11700	8000	9490	10200	5010
21	4810	6420	7710	6930	11900	15400	10800	11000	8570	9500	10100	5140
22	4750	6480	7960	7780	10700	28200	9990	10600	8870	9470	10100	5130
23	4680	6530	8340	27600	10000	24300	9700	10500	8580	9440	9960	5340
24	4650	6490	8050	38800	9550	23500	9310	10300	8640	9430	10100	5170
25	4680	6440	7860	19900	10400	22600	9040	10200	8820	9390	10100	5030
26	4700	6420	7850	12500	13600	35000	8920	10200	8840	9440	9400	5100
27	4740	6440	7880	18000	10900	31000	9500	10300	9080	9520	8560	5000
28	4730	6460	7910	57100	10600	24800	9090	9990	9070	9560	8050	4800
29	4670	6400	7820	62500	---	22000	8600	9300	9270	9470	7680	5010
30	4660	6540	7750	38200	---	20600	8210	8320	9370	9400	7290	4980
31	4640	---	7790	21100	---	19700	---	7600	---	9540	6580	---
TOTAL	165580	184690	298150	440700	358090	480490	306500	267560	234540	290820	293390	165710
MEAN	5341	6156	9618	14220	12790	15500	10220	8631	7818	9381	9464	5224
MAX	6080	6540	27500	62500	37800	35000	18700	11700	9370	9560	10200	6420
MIN	4640	4720	6660	5650	8070	8200	6120	7100	6720	8940	6580	4800
AC-FT	328400	366300	591400	874100	710300	953100	607900	530700	465200	576800	581900	328700
CAL YR 1980 TOTAL	5485750	MEAN	14990	MAX	121000	MIN	4640	AC-FT	10880000			
WTR YR 1981 TOTAL	3486220	MEAN	9551	MAX	62500	MIN	4640	AC-FT	6915000			

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-67, 1969 to July 1981 (discontinued).

CHEMICAL ANALYSES: Water years 1955-66.

WATER TEMPERATURES: Water years 1955-58, 1960-67, 1969 to July 1981 (discontinued).

SEDIMENT RECORDS: Water years 1978 to May 1980.

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 July 1981 (discontinued).

SEDIMENT RECORDS: November 1977 to May 1980 (storm season only).

INSTRUMENTATION.--Temperature recorder May 1955 to September 1958, October 1959 to September 1967, and July 1969 to July 1981.

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.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,630 mg/L Jan. 10, 1978; minimum daily, 7 mg/L Dec. 19, 1979.

SEDIMENT DISCHARGE: Maximum daily, 490,000 tons (445,000 metric tons) Jan. 16, 1978; minimum daily, 97 tons (88 metric tons) Dec. 9, 1977.

EXTREMES FOR PERIOD OCTOBER TO JULY.--

WATER TEMPERATURES: Maximum recorded, 21.0°C on several days during June; minimum recorded, 8.0°C Dec. 8.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11389500 SACRAMENTO RIVER AT COLUSA, CA

LOCATION.--Lat 39°12'51", long 121°59'57", at north end of Jimeno Grant, Colusa County, Hydrologic Unit 18020104, on right bank 60 ft (18 m) downstream from highway bridge at Colusa, and at mile 89.4 (143.8 km) upstream from Sacramento.

DRAINAGE AREA.--12,090 mi² (31,313 km²).

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year.

REVISED RECORDS.--WSP 1345: 1952. WDR CA-77-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2.95 ft (0.899 m) below National Geodetic Vertical Datum of 1929. 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.--41 years (water years 1941-81), 11,390 ft³/s (322.6 m³/s), 8,252,000 acre-ft/yr (10.2 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-81), 49,000 ft³/s (1,390 m³/s) Feb. 8, 1942, gage height, 69.20 ft (21.092 m); minimum recorded, 820 ft³/s (23.2 m³/s) July 25, 26, 1931, gage height, 34.79 ft (10.604 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,300 ft³/s (1,170 m³/s) Jan. 29, gage height, 64.88 ft (19.775 m); minimum daily, 4,290 ft³/s (121 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5850	4330	6480	7820	18800	10100	19300	7860	7480	9310	9400	5890
2	5880	4580	6570	7800	14600	9580	18900	7470	7170	9190	9440	5770
3	5860	5410	7170	7400	12500	9200	18400	7200	6970	9100	9540	5670
4	5670	5660	17300	7060	11300	8990	17300	7260	6900	9010	9390	5600
5	5740	5820	25100	7040	10400	12400	15200	7220	6760	9290	9310	5580
6	5790	5810	17400	7070	9840	16300	13500	7080	6640	9390	9350	5530
7	5870	5810	13000	6910	9420	12500	11900	6990	6900	9550	9320	5330
8	5790	5870	11400	6920	9040	10700	10300	7240	6900	9530	9420	5360
9	5850	5820	10600	6920	8670	9880	9670	7040	6980	9490	9530	5540
10	5840	5790	10200	6940	8380	9320	9240	7130	7080	9480	9510	5550
11	5720	5800	9760	6950	8180	8900	8940	7360	7140	9520	9520	5710
12	5280	5760	9060	6580	8140	8580	8610	7390	7600	9520	9310	5830
13	5350	5770	8480	6280	8930	8340	8300	7330	7720	9560	9260	5910
14	5620	5690	7960	6000	11200	9000	7970	7280	7580	9550	9290	6020
15	5870	6040	7800	5860	30600	8990	7420	7180	7540	9530	9350	6120
16	5670	6240	7650	5840	27000	8680	6810	7220	7560	9530	9400	5940
17	4970	6290	7600	5860	19400	12900	6540	7540	7410	9580	9520	5380
18	4780	6330	7580	5990	17100	11300	6390	8630	7310	9440	9510	5150
19	4640	6220	7560	6530	15000	10300	7620	9570	7330	9410	9560	5210
20	4550	6200	7510	6510	13200	15000	9020	11100	7750	9540	9710	4960
21	4500	6210	7560	7100	12300	15600	10600	10900	8290	9590	9820	5050
22	4440	6330	7670	7680	11200	21500	9920	10600	8780	9500	9590	4980
23	4380	6330	8120	15700	10300	26100	9480	10400	8650	9490	9660	5100
24	4310	6360	8050	32800	9720	24700	9160	10200	8560	9480	9640	5180
25	4330	6280	7850	28300	9620	23100	8900	10200	8700	9380	9750	4970
26	4360	6240	7750	17400	12900	28500	8660	10100	8860	9440	9480	4970
27	4370	6280	7830	14300	11600	32400	9020	10200	8930	9510	8640	5000
28	4400	6270	7850	32800	10700	27700	9020	10100	9150	9510	8000	4720
29	4350	6260	7900	40800	---	24000	8510	9710	9270	9440	7460	4880
30	4350	6290	7830	36900	---	21800	8170	8860	9300	9390	7210	4880
31	4290	---	7820	27200	---	20500	---	8090	---	9340	6630	---
TOTAL	158670	178090	292410	395460	360040	476860	312770	262450	233210	292630	284520	161780
MEAN	5118	5936	9433	12760	12860	15380	10430	8466	7774	9440	9178	5393
MAX	5880	6360	25100	40800	30600	32400	19300	11100	9300	9590	9820	6120
MIN	4290	4330	6480	5840	8140	8340	6390	6990	6640	9010	6630	4720
AC-FT	314700	353200	580000	784400	714100	945900	620400	520600	462600	580400	564300	320900
CAL YR 1980	TOTAL	4306590	MEAN	11770	MAX	45400	MIN	4290	AC-FT	8542000		
WTR YR 1981	TOTAL	3408890	MEAN	9339	MAX	40800	MIN	4290	AC-FT	6762000		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020120, 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 mi² (29.5 km²).

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 good. Flow regulated by Paradise Reservoir, usable capacity, 11,500 acre-ft (14.180 hm³), and Magalia Reservoir, usable capacity, 2,640 acre-ft (3.26 hm³). Diversion occurs above Magalia Reservoir through a pipeline into Pacific Gas and Electric Co.'s Toadown Canal when Paradise and Magalia Reservoirs are spilling. Diversion is made from Magalia Reservoir for the municipal supply of Paradise.

AVERAGE DISCHARGE (unadjusted).--13 years, 14.6 ft³/s (0.413 m³/s), 10,600 acre-ft/yr (13.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,180 ft³/s (33.4 m³/s) Jan. 24, 1970, gage height, 6.47 ft (1.972 m); minimum daily, 0.01 ft³/s (<0.001 m³/s) Sept. 25, 1974, and many days in 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 116 ft³/s (3.29 m³/s) Mar. 25, gage height, 3.61 ft (1.100 m); minimum daily, 0.08 ft³/s (0.002 m³/s) Jan. 14, 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.37	.11	.27	.09	.44	.49	24	1.1	.53	.87	.81	.60
2	.32	.14	3.9	.09	.38	.47	21	1.0	.54	.86	.80	.58
3	.24	.14	8.8	.11	.38	.49	17	.96	.53	.86	.79	.58
4	.26	.12	.79	.11	.35	2.0	14	.96	.52	.85	.76	.58
5	.25	.12	.19	.12	.35	.99	11	.96	.56	.93	.74	.59
6	.25	.12	.15	.12	.33	.76	11	.96	.56	.91	.71	.58
7	.26	.14	.13	.13	.33	.68	9.3	.96	.60	.94	.69	.58
8	.27	.14	.13	.09	.30	.57	7.1	.96	.60	.93	.68	.49
9	.27	.16	.12	.09	.30	.44	5.3	.96	.60	.85	.66	.49
10	.28	.16	.12	.09	.30	.44	5.6	.93	.62	.85	.63	.49
11	.28	.14	.12	.09	.35	.44	5.3	.89	.65	.85	.65	.49
12	.30	.16	.12	.09	.33	.44	4.4	.89	.65	.85	.63	.47
13	.30	.16	.13	.09	.76	.44	3.3	.89	.65	.85	.63	.46
14	.22	.17	.13	.08	.98	.44	2.3	.89	.71	.85	.67	.46
15	.22	.18	.14	.08	.37	.77	1.8	.82	.71	.86	.70	.46
16	.22	.19	.14	.09	.37	.61	1.6	.82	.71	.89	.73	.45
17	.22	.16	.14	.11	.34	2.6	1.3	.85	.71	.88	.75	.45
18	.22	.18	.14	.09	.31	9.8	1.2	1.1	.71	.84	.75	.45
19	.24	.17	.14	.11	.31	45	7.1	.90	.71	.86	.71	.42
20	.24	.20	.14	.10	.30	44	10	.89	.71	.86	.76	.38
21	.24	.17	.22	.12	.36	57	7.7	.82	.74	.85	.76	.40
22	.24	.22	.14	.24	.43	54	5.3	.80	.72	.84	.71	.40
23	.24	.24	.14	.99	.44	36	3.5	.77	.76	.82	.71	.40
24	.24	.26	.14	.36	.69	26	2.3	.77	.76	.83	.71	.44
25	.28	.26	.14	.16	.51	72	2.4	.69	.76	.84	.71	.44
26	.24	.26	.14	.20	.52	94	8.8	.62	.76	.82	.71	.42
27	.28	.26	.13	3.1	.51	59	8.8	.61	.79	.81	.71	.49
28	.35	.26	.13	3.0	.51	39	5.5	.60	.89	.80	.69	.42
29	.41	.26	.11	1.9	---	30	2.8	.60	.95	.81	.67	.50
30	.35	.31	.10	.96	---	25	1.5	.60	.94	.81	.65	.64
31	.28	---	.10	.56	---	21	---	.59	---	.80	.63	---
TOTAL	8.40	5.56	17.43	13.56	11.85	624.87	212.2	26.16	20.65	26.47	21.91	14.60
MEAN	.27	.19	.56	.44	.42	20.2	7.07	.84	.69	.85	.71	.49
MAX	.41	.31	8.8	3.1	.98	94	24	1.1	.95	.94	.81	.64
MIN	.22	.11	.10	.08	.30	.44	1.2	.59	.52	.80	.63	.38
AC-FT	17	11	35	27	24	1240	421	52	41	53	43	29
‡	506	281	237	200	176	201	390	582	1220	1400	1300	914
CAL YR 1980 TOTAL	8086.87											
MEAN	22.1											
MAX	576											
MIN	.02											
WTR YR 1981 TOTAL	1003.66											
MEAN	2.75											
MAX	94											
MIN	.08											
AC-FT	1990											

‡ Diversion, in acre-feet, from Magalia 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, Hydrologic Unit 18020105, 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 mi² (381 km²).

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 hm³) and since 1957 by Paradise Reservoir, capacity, 6,430 acre-ft (7.93 hm³). Diversions above station for irrigation and domestic use of about 7,000 acre-ft (8.63 hm³) annually. Butte Creek receives water above station from West Branch Feather River by way of Toadtown Canal.

AVERAGE DISCHARGE (unadjusted).--51 years, 402 ft³/s (11.38 m³/s), 291,200 acre-ft/yr (359 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft³/s (600 m³/s) Dec. 22, 1964, gage height, 14.12 ft (3.304 m), from rating curve extended above 8,900 ft³/s (252 m³/s) on basis of slope-area measurement at gage height 13.35 ft (4.069 m); minimum, 10 ft³/s (0.28 m³/s) Nov. 29, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,160 ft³/s (61.2 m³/s) Dec. 3, gage height, 4.41 ft (1.344 m), no peak above base of 2,700 ft³/s (76.5 m³/s); minimum daily, 62 ft³/s (1.76 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	165	196	155	426	361	544	363	239	149	134	63
2	81	166	307	152	385	350	518	359	233	153	134	65
3	105	157	1410	155	349	339	487	346	230	151	134	64
4	103	168	1230	170	333	485	459	336	223	150	137	65
5	98	157	442	161	316	529	441	324	212	149	132	65
6	76	137	304	154	301	462	434	315	206	163	134	65
7	92	124	245	154	285	425	444	306	200	160	134	63
8	93	138	210	153	276	395	407	300	198	158	134	64
9	92	124	197	149	274	379	407	296	194	149	130	64
10	92	122	190	148	269	365	408	291	190	147	130	63
11	94	121	181	147	287	356	408	290	186	147	125	63
12	113	120	192	145	300	350	395	283	182	147	130	63
13	118	123	169	142	360	333	386	277	175	149	126	62
14	144	123	158	136	1170	330	382	279	175	148	124	63
15	130	126	158	136	727	346	383	278	172	148	118	63
16	121	126	163	148	584	422	372	270	166	156	119	64
17	120	127	166	166	632	381	373	264	163	147	116	63
18	119	125	164	171	536	372	374	276	167	146	115	63
19	117	126	159	160	510	638	425	368	160	150	113	63
20	118	126	154	179	548	599	405	316	165	149	110	64
21	124	126	167	191	471	776	383	293	159	147	108	64
22	119	133	214	212	435	758	377	281	157	147	91	64
23	93	137	187	493	415	617	379	273	156	146	80	65
24	118	139	171	576	442	538	384	269	162	158	76	68
25	113	129	169	377	413	1130	385	290	170	142	70	93
26	159	127	170	298	391	1230	434	280	172	142	68	82
27	164	126	166	1020	376	913	414	273	171	134	69	81
28	165	126	173	1660	369	753	380	264	170	134	69	137
29	164	126	169	1280	---	672	371	256	170	134	67	98
30	164	195	162	656	---	608	367	251	164	137	65	92
31	165	---	158	506	---	545	---	241	---	134	65	---
TOTAL	3649	4065	8301	10350	12180	16757	12326	9208	5487	4571	3357	2116
MEAN	118	136	268	334	435	541	411	297	183	147	108	70.5
MAX	165	195	1410	1660	1170	1230	544	376	239	163	137	137
MIN	75	120	154	136	269	330	367	241	156	134	65	62
AC-FT	7240	8060	16470	20530	24160	33240	24450	18260	10880	9070	6660	4200
†	1310	3120	4260	4410	5900	7300	7070	7240	4890	4400	2540	440
CAL YR 1980 TOTAL	188775		MEAN 516	MAX 7550	MIN 74	AC-FT 374400						
WTR YR 1981 TOTAL	92367		MEAN 253	MAX 1660	MIN 62	AC-FT 183200						

† Diversion, in acre-feet, to Toadtown Canal from West Branch Feather River, furnished by Pacific Gas and Electric Co.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020104, 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 mi² (33,478 km²).

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 National Geodetic Vertical Datum of 1929.

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.--43 years (water years 1939-81), 10,060 ft³/s (284.9 m³/s), 7,288,000 acre-ft/yr (8.99 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-81), 29,400 ft³/s (833 m³/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 ft³/s (2.83 m³/s) Aug. 1, 1931, gage height, 14.20 ft (4.328 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 28,400 ft³/s (804 m³/s) Jan. 30, gage height, 48.57 ft (14.804 m); minimum daily, 4,590 ft³/s (130 m³/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6230	4590	6540	8030	22000	11000	20200	6440	6630	7340	8070	5830
2	6180	4700	6680	7990	17700	10400	19500	5990	6140	7330	8090	5610
3	6220	5330	7040	7730	14900	9970	19000	5520	5810	7250	8270	5500
4	6110	5810	11900	7350	13200	9680	18100	5350	5530	7100	8250	5560
5	6030	6030	22600	7220	12200	10500	16500	5320	5240	7290	8200	5570
6	6130	6060	19600	7210	11400	16100	14700	5170	5060	7550	8230	5580
7	6230	6050	14600	7080	10800	14200	13100	5050	5020	7620	8190	5400
8	6220	6060	12600	7020	10400	12000	11500	5240	5140	7670	8290	5410
9	6210	6080	11600	6990	9890	10900	10300	5260	5150	7630	8410	5560
10	6220	6030	11000	6960	9430	10300	9790	5210	5140	7620	8500	5690
11	6160	6030	10600	6930	9060	9800	9390	5500	5220	7690	8480	5800
12	5780	5970	9910	6750	8860	9460	8970	5670	5290	7660	8370	6030
13	5630	5990	9300	6480	9350	9280	8510	5590	5640	7710	8290	6150
14	5790	5950	8730	6180	10000	9370	8060	5520	5520	7730	8330	6200
15	6070	6020	8410	5970	21900	9890	7370	5500	5440	7700	8410	6330
16	6130	6370	8230	5910	24900	9520	6670	5620	5440	7740	8510	6420
17	5610	6440	8110	5930	21300	11700	6080	5790	5380	7710	8660	5940
18	5180	6490	8080	5980	18200	12800	5660	6760	5190	7680	8730	5570
19	4990	6450	8080	6340	16500	11300	6580	7740	5090	7670	8770	5500
20	4910	6370	7980	6610	14500	13700	7970	9370	5400	7830	8920	5410
21	4830	6370	7980	6980	13300	16500	9790	9900	5860	8000	9040	5340
22	4790	6450	8050	7660	12400	18600	9660	9550	6470	7970	9050	5290
23	4740	6470	8340	10700	11400	24200	9110	9230	6550	7910	9060	5260
24	4680	6500	8520	24200	10600	23900	8620	9030	6360	7910	9090	5400
25	4660	6460	8320	25200	10300	23200	8170	8910	6390	7890	9170	5370
26	4670	6420	8140	19700	12000	24200	7870	8790	6590	7920	9160	5330
27	4680	6410	8120	14700	12900	26000	7830	8830	6630	8050	8620	5320
28	4700	6440	8120	22400	11600	25700	8000	9010	6920	8090	7930	5200
29	4680	6440	8150	27900	---	24400	7440	8800	7080	8100	7360	5130
30	4650	6420	8110	27800	---	22700	6860	8150	7190	8090	6950	5210
31	4620	---	8050	25600	---	21300	---	7330	---	7980	6520	---
TOTAL	169730	183200	301490	349500	380990	472570	311300	215140	174510	239430	259920	167910
MEAN	5475	6107	9725	11270	13610	15240	10380	6940	5817	7724	8385	5597
MAX	6230	6500	22600	27900	24900	26000	20200	9900	7190	8100	9170	6420
MIN	4620	4590	6540	5910	8860	9280	5660	5050	5020	7100	6520	5130
AC-FT	336700	363400	598000	693200	755700	937300	617500	426700	346100	474900	515600	333000
CAL YR 1980	TOTAL	3746430	MEAN	10350	MAX	28500	MIN	4380	AC-FT	7510000		
WTH YR 1981	TOTAL	3225690	MEAN	8838	MAX	27900	MIN	4590	AC-FT	6398000		

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, 22.5°C on several days during June and September; minimum recorded, 8.0°C Dec. 9.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020104, on right bank 0.2 mi (0.3 km) upstream from Colusa Drain, 0.4 mi (0.6 km) upstream from State Highway 24 bridge at Knights Landing, and 0.6 mi (1.0 km) upstream from gaging station.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: July 1960 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA,DISS (MG/L)	MGNSIUM MG,DISS (MG/L)	SODIUM NA,DISS (MG/L)	PTSSIUM K,DISS (MG/L)
80/10/29	12 55	153	7.9	15.0	3.0	10.1					
80/11/19	13 00	137	7.7	11.5	3.0	11.3					
80/12/16	14 00	170	7.5	9.5	7.0	11.6					
81/01/29	14 35	105	7.3	9.5	200	10.5					
81/02/25	15 05	200	7.5	12.0	17	10.0	70	15	8	10	1.2
81/03/25	14 30	134	7.6	14.0	38	10.2					
81/04/22	13 40	160	7.8	17.5	13	10.2					
81/05/28	15 30	171	7.5	21.0	18	8.7					
81/06/18	13 20	173	7.5	22.0	15	8.6					
81/07/30	14 15	140	7.5	22.0	5.0	8.9					
81/08/20	13 20	159	7.5	21.0	5.0	7.6					
81/09/29	14 30	184	7.8	19.5	2.0	8.7					

DATE	TIME	ALKA- LINITY (MG/L)	CHLORIDE CL DISS (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	HORON B,DISS (UG/L)
80/10/29	12 55			12	0.13	0.50	0.05	0.02	
80/11/19	13 00			10	0.11	0.20	0.04	0.02	
80/12/16	14 00			28	0.24	0.20	0.06	0.02	
81/01/29	14 35			535	0.40	0.90	0.32	0.04	
81/02/25	15 05	70	7	60	0.24	0.20	0.06	0.03	100
81/03/25	14 30			99	0.13	0.40	0.10	0.01	
81/04/22	13 40			38	0.10	0.30	0.06	0.02	
81/05/28	15 30			48	0.10	0.40	0.07	0.03	
81/06/18	13 20			35	0.10	0.30	0.06	0.03	
81/07/30	14 15			21	0.06	0.30	0.04	0.02	
81/08/20	13 20			34	0.02	0.30	0.09	0.01	
81/09/29	14 30			30	0.14	0.30	0.06	0.03	

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, Hydrologic Unit 18020104, 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 mi² (156.4 km²).

PERIOD OF RECORD.--July 1965 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 156.4 ft (47.67 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Several small storage ponds above station for irrigation.

AVERAGE DISCHARGE.--16 years, 21.9 ft³/s (0.620 m³/s), 15,870 acre-ft/yr (19.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,660 ft³/s (160 m³/s) Feb. 7, 1973, gage height, 11.69 ft (3.563 m), from rating curve extended above 1,800 ft³/s (51.0 m³/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.--Peak discharges above base of 600 ft³/s (16.9 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 23	2330	2,080 58.9	8.51 2.594	Mar. 21	1715	690 19.5	6.23 1.899
Jan. 27	1745	*2,510 71.1	9.02 2.749				

Minimum daily, 0.07 ft³/s (0.002 m³/s), Jan. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.8	12	1.2	.35	32	3.5	4.0	.57	3.2	7.2	3.4	3.0
2	4.6	7.2	1.2	.33	24	3.3	3.5	.97	2.0	5.1	3.1	4.6
3	3.5	2.9	3.3	.30	19	3.2	7.7	.38	3.2	3.5	2.6	4.5
4	2.6	1.8	92	.26	16	31	8.3	.11	6.8	2.8	9.2	4.9
5	1.6	1.6	30	.22	12	86	4.8	1.8	11	4.6	8.9	8.3
6	1.6	4.2	8.2	.18	8.5	19	3.1	10	12	5.7	8.7	7.1
7	9.1	11	4.4	.14	7.0	10	2.3	11	6.9	2.5	11	4.6
8	10	12	3.0	.10	6.0	6.5	1.9	11	4.5	1.3	5.9	3.5
9	6.6	8.4	2.2	.18	5.4	4.8	1.7	8.1	4.0	1.8	5.0	2.1
10	5.0	4.6	1.8	.37	4.9	3.8	1.7	7.2	8.3	3.1	3.7	3.2
11	3.3	2.6	1.7	.32	4.8	3.2	6.5	2.7	8.1	6.1	2.6	3.0
12	5.0	1.8	1.6	.27	5.0	2.9	11	2.3	5.6	11	4.4	3.3
13	6.2	1.2	1.3	.20	12	2.8	9.6	3.7	2.8	7.4	7.8	3.4
14	7.5	1.2	1.1	.16	204	2.5	11	7.6	4.8	7.9	4.8	2.4
15	5.7	1.2	.98	.10	55	2.4	16	4.1	3.5	3.8	3.2	1.7
16	3.3	2.4	.74	.09	26	2.8	14	3.4	3.2	2.4	3.4	3.4
17	2.0	1.5	.53	.09	17	3.3	21	8.0	2.5	2.6	2.8	4.1
18	1.4	.72	.43	.07	13	3.1	18	7.0	2.3	3.0	3.3	3.7
19	1.2	.26	.30	.54	9.4	5.1	13	22	4.4	4.9	7.7	5.3
20	.86	.65	.26	.66	7.1	40	33	20	4.4	2.8	6.2	5.9
21	.65	.72	.26	.69	5.5	279	18	7.4	3.4	4.9	10	3.5
22	.53	2.3	.51	8.6	4.7	144	6.5	4.0	2.3	9.9	5.2	1.5
23	.35	6.4	.53	692	4.2	43	3.6	2.3	3.1	15	3.7	.75
24	5.7	4.2	.38	617	4.0	26	2.5	2.9	3.0	18	2.7	1.3
25	9.4	2.3	.41	91	3.9	24	1.9	5.5	1.8	15	2.8	2.4
26	6.4	1.4	.85	43	3.5	33	1.5	5.4	1.2	7.7	4.0	6.6
27	3.5	1.2	.85	1020	3.5	18	1.2	7.5	7.1	3.8	4.1	7.5
28	2.1	1.2	.67	710	3.5	11	1.0	7.2	9.1	2.2	3.2	4.3
29	1.6	1.1	.55	180	---	7.8	.73	12	4.9	1.7	3.1	4.4
30	3.5	1.1	.44	82	---	6.0	1.1	8.8	3.1	2.0	2.4	4.2
31	8.4	---	.37	46	---	4.8	---	5.1	---	1.8	1.9	---
TOTAL	127.99	101.15	162.06	3495.22	520.9	835.8	230.13	200.03	142.5	171.5	150.8	118.45
MEAN	4.13	3.37	5.23	113	18.6	27.0	7.67	6.45	4.75	5.53	4.86	3.95
MAX	10	12	92	1020	204	279	33	22	12	18	11	8.3
MIN	.35	.26	.26	.07	3.5	2.4	.73	.11	1.2	1.3	1.9	.75
AC-FT	254	201	321	6930	1030	1660	456	397	283	340	299	235
CAL YR 1980 TOTAL	11880.60			MEAN 32.5	MAX 2590	MIN .26	AC-FT 23570					
WTR YR 1981 TOTAL	6256.53			MEAN 17.1	MAX 1020	MIN .07	AC-FT 12410					

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, Hydrologic Unit 18020104, on left bank at road bridge, 2.4 mi (3.9 km) southeast of Sites.

DRAINAGE AREA.--38.2 mi² (98.9 km²).

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 known diversion or regulation above station.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--22 years (water years 1959-64, 1966-81), 6.78 ft³/s, (0.192 m³/s), 4,910 acre-ft/yr (6.05 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Feb. 6, 1973, gage height, 16.45 ft (5.014 m), from rating curve extended above 1,200 ft³/s (34.0 m³/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 ft³/s (54.9 m³/s) from slope-conveyance study.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,190 ft³/s (33.7 m³/s) Jan. 27, gage height, 11.74 ft (3.578 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	5.3	2.3	3.2	.64	.16			
2				0	3.8	1.6	3.1	.60	.14			
3				0	3.1	1.3	2.7	.60	.11			
4				0	2.6	3.0	2.5	.57	.07			
5				0	2.0	2.5	2.3	.53	.06			
6				0	1.7	1.4	2.3	.50	.05			
7				0	1.4	1.1	2.2	.47	.05			
8				0	1.3	1.0	1.9	.44	.04			
9				0	1.1	1.0	1.8	.47	.03			
10				0	.97	.97	1.8	.41	.03			
11				0	.97	.92	1.7	.36	.04			
12				0	.87	.92	1.6	.26	.02			
13				0	.61	.92	1.5	.28	.03			
14				0	.47	.87	1.5	.30	.01			
15				0	9.1	1.6	1.4	.23	0			
16				0	5.6	3.6	1.3	.24	0			
17				0	4.4	1.9	1.3	.26	0			
18				0	3.3	1.6	1.3	.38	0			
19				0	2.7	.41	2.0	.47	0			
20				0	2.3	21	2.3	.44	0			
21				0	1.7	310	1.7	.38	0			
22				15	1.6	32	1.3	.36	0			
23				52	1.6	17	1.2	.32	0			
24				10	1.6	11	1.0	.28	0			
25				1.7	1.7	12	1.0	.28	0			
26				2.6	1.4	7.9	.92	.28	0			
27				478	1.4	5.6	.82	.22	0			
28				159	1.4	4.5	.72	.20	0			
29				29	---	4.2	.72	.18	0			
30				14	---	3.7	.72	.20	0			
31		---		7.5	---	3.4	---	.14	---			---
TOTAL	0	0	0	760.8	172.91	501.80	49.80	11.34	.84	0	0	0
MEAN	0	0	0	24.8	6.18	16.2	1.66	.37	.028	0	0	0
MAX	0	0	0	478	61	310	3.2	.64	.16	0	0	0
MIN	0	0	0	0	.87	.87	.72	.14	0	0	0	0
AC-FT	0	0	0	1520	343	995	99	22	1.7	0	0	0
CAL YR 1980	TOTAL	6831.92	MEAN	18.7	MAX	1010	MIN	0	AC-FT	13550		
WTR YR 1981	TOTAL	1505.49	MEAN	4.12	MAX	478	MIN	0	AC-FT	2990		

11391020 SACRAMENTO RIVER AT FREMONT WEIR (WEST END), NEAR KNIGHTS LANDING, CA

LOCATION.--Lat 38°45'34", long 121°39'59", unsurveyed, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020104, at west end of Fremont Weir 4.0 mi (6.4 km) southeast of Knights Landing.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to current year.

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

WATER QUALITY DATA_WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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DATE	TIME	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA,DISS (MG/L)	MAGNESIUM MG,DISS (MG/L)	SODIUM NA,DISS (MG/L)
80/10/15	15 00	188	7.9	15.0	9.5			62	13	7	12
80/11/19	12 00	172	7.7	10.0	11.1			59	12	7	11
80/12/18	10 35	186	7.5	9.5	10.8			62	13	7	12
81/01/21	10 50	272	7.6	12.0	10.2			84	17	10	23
81/02/25	10 30	207	7.7	11.0	10.4			73	16	8	12
81/03/18	09 45	205	7.5	12.0	10.3			70	15	8	13
81/04/23	14 10	200	7.8	18.0	9.4	8.0	0.8	68	14	8	13
81/05/20	09 30	228	7.8	16.5	8.8	13	1.4	68	14	8	19
81/06/17	08 50	192	7.8	20.0	8.7	7.0	0.7	66	13	8	14
81/07/15	09 00	180	7.6	21.0	8.7			62	13	7	12
81/08/19	09 25	202	7.7	20.5	8.9			68	14	8	15
81/09/17	09 50	265	7.6		8.2			85	16	11	21

DATE	TIME	PTSSUM K,DISS (MG/L)	ALKA- LITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)
80/10/15	15 00	1.3	68	11	7	104					
80/11/19	12 00	1.2	62	10	6	109		0.10	0.00	0.20	0.05
80/12/18	10 35	1.5	73	12	7	118					
81/01/21	10 50	1.8	86	26	13	170		0.20	0.05	0.20	0.06
81/02/25	10 30	1.2	73	14	7	134					
81/03/18	09 45	1.3	70	16	8			0.24	0.00	0.20	0.08
81/04/23	14 10	1.5	70	14	7	122	36	0.17	0.02	0.20	0.08
81/05/20	09 30	1.5	73	22	9	148	77	0.11	0.02	0.40	0.14
81/06/17	08 50	1.2	70	12	7	126	34	0.12	0.02	0.30	0.11
81/07/15	09 00	1.2	69	12	6	128					
81/08/19	09 25	1.2	78	11	7	123					
81/09/17	09 50	1.4	99	18	10	156					

DATE	TIME	PHOS-DIS ORTHO P (MG/L)	BORON B,DISS (UG/L)	ORGANIC CARBON T (MG/L)
80/10/15	15 00		100	
80/11/19	12 00	0.03	0	
80/12/18	10 35		100	
81/01/21	10 50	0.03	100	
81/02/25	10 30		100	
81/03/18	09 45	0.02	1900	
81/04/23	14 10	0.03	100	2.1
81/05/20	09 30	0.04	300	4.5
81/06/17	08 50	0.03	0	3.4
81/07/15	09 00		100	
81/08/19	09 25		100	
81/09/17	09 50		100	

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DATE	TIME	ARSENIC AS,DISS (UG/L)	BARIUM BA,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CR,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGANESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)	SELENIUM SE,DISS (UG/L)
81/03/18	09 45	0	0	0	0	0	10	0	0	0.0	0

11392100 MIDDLE FORK FEATHER RIVER NEAR PORTOLA, CA

LOCATION.--Lat 39°49'13", long 120°26'26", in SW¼NW¼ sec. 29, T.23 N., R.14 E., Plumas County, Hydrologic Unit 18020123, 0.8 mi (1.3 km) downstream from Big Grizzly Creek and 1.5 mi (2.4 km) northeast of Portola.

DRAINAGE AREA.--590 mi² (1,528 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA,DISS (MG/L)	MANGANESE MG,DISS (MG/L)	SODIUM NA,DISS (MG/L)
80/11/26	11 00	127	7.4	2.0	11.4			49	13	4	7
81/03/02	11 15	154	7.6	5.5	10.0			56	14	5	10
81/03/25	14 10	141	7.3	8.0	9.5			49	13	4	9
81/05/29	09 35	160	7.6	19.0	6.7	30	0.5	60	16	5	10

DATE	TIME	PTSSUM K,DISS (MG/L)	ALKA- LINEITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)
80/11/26	11 00	2.4	59	1	2	83		0.04	0.01	0.00	0.00
81/03/02	11 15	2.5	68	5	4	114		0.00	0.01	0.50	0.03
81/03/25	14 10	2.1	61	1	3	94		0.47	0.00	0.60	0.05
81/05/29	09 35	1.9	75	0	2	122	19	0.00	0.01	0.70	0.04

DATE	TIME	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/11/26	11 00	0.00	
81/03/02	11 15	0.00	
81/03/25	14 10	0.00	
81/05/29	09 35	0.01	14

DATE	TIME	ARSENIC AS,DISS (UG/L)	BARIUM BA,DISS (UG/L)	BORON B,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CH,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGANESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)
80/11/26	11 00	0	0	0	0	0	0	50	0	20	0.0
81/03/02	11 15	0	0	0	0	0	0	50	0	20	0.0
81/03/25	14 10	0	0	100	0	0	0	50	10	20	0.0
81/05/29	09 35	0	0	200	0	0	10	90	0	60	0.0

DATE	TIME	SELENIUM SE,DISS (UG/L)
80/11/26	11 00	0
81/03/02	11 15	0
81/03/25	14 10	0
81/05/29	09 35	10

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020123, 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).

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 most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.5°C on Aug. 11; minimum recorded, 0.0°C on several days during December to February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

[illegible]

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020123, 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 mi² (2,751 km²).

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 km²) 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.--30 years, 1,368 ft³/s (38.74 m³/s), 991,100 acre-ft/yr (1.22 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 86,200 ft³/s (2,440 m³/s) Dec. 22, 1964, gage height, 26.5 ft (8.08 m) from floodmarks, present site, from rating curve extended above 19,000 ft³/s (538 m³/s) on basis of slope-area measurement of maximum flow; minimum daily, 51 ft³/s (1.44 m³/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 ft³/s (1,310 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,160 ft³/s (203 m³/s) Feb. 14 (1000 hrs), gage height, 10.11 ft (3.082 m), no other peak above base of 7,000 ft³/s (198 m³/s); minimum daily 114 ft³/s (3.23 m³/s) several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	230	407	426	1020	1100	1710	1880	675	225	136	120
2	188	230	755	408	944	1080	1580	1820	636	217	134	119
3	185	227	2020	409	866	1060	1460	1550	620	212	133	120
4	183	227	3260	537	798	1130	1380	1370	595	210	135	118
5	183	227	1140	502	758	1110	1370	1260	564	209	136	117
6	183	237	762	456	719	1070	1430	1160	540	207	135	117
7	183	274	627	430	677	1030	1450	1070	518	197	132	116
8	181	362	545	419	657	996	1420	1020	494	193	129	115
9	179	313	485	404	653	982	1400	992	480	187	127	116
10	177	273	465	389	664	973	1400	1010	456	183	128	116
11	177	264	418	376	720	978	1360	980	437	179	127	115
12	212	259	393	366	819	972	1290	966	418	175	127	115
13	282	258	378	357	1150	987	1280	954	412	174	126	114
14	312	253	362	353	5520	972	1340	922	400	173	126	115
15	291	250	361	349	3100	966	1390	902	387	170	127	116
16	258	247	385	380	2590	994	1400	896	370	167	125	117
17	242	246	391	437	2910	937	1420	852	355	170	126	115
18	237	246	390	430	2280	941	1480	1130	342	168	126	114
19	235	246	398	420	2190	1190	1690	1360	328	164	125	114
20	225	246	399	479	2410	1310	1550	1020	317	162	122	116
21	224	246	507	489	1890	1370	1510	887	301	158	124	114
22	227	254	763	517	1620	1450	1630	820	291	152	125	114
23	227	277	609	905	1480	1370	1830	780	295	149	124	115
24	227	285	522	855	1500	1320	2010	827	281	145	123	122
25	229	269	488	725	1390	2660	2040	1050	272	145	124	183
26	246	263	485	648	1280	3650	1950	1110	261	143	123	198
27	250	255	491	1620	1190	2620	1630	996	250	143	122	158
28	236	248	498	2640	1130	2220	1570	889	242	142	122	218
29	230	253	489	1830	---	2180	1670	813	231	140	121	170
30	230	605	462	1350	---	2020	1790	765	227	137	120	155
31	233	---	440	1140	---	1790	---	729	---	136	120	---
TOTAL	6860	8070	20095	21046	42925	43428	46430	32780	11995	5332	3930	3872
MEAN	221	269	648	679	1533	1401	1548	1057	400	172	127	129
MAX	312	605	3260	2640	5520	3650	2040	1880	675	225	136	218
MIN	177	227	361	349	653	937	1280	729	227	136	120	114
AC-FT	13610	16010	39860	41740	85140	86140	92090	65020	23790	10580	7800	7680
CAL YR 1980	TOTAL	617734	MEAN	1688	MAX	36900	MIN	177	AC-FT	1225000		
WTR YR 1981	TOTAL	246763	MEAN	676	MAX	5520	MIN	114	AC-FT	489500		

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.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 11, 13, 1981; minimum recorded, 0.0°C Jan. 31, Feb. 1, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.0°C Aug. 11, 13; minimum recorded, 2.5°C on several days during December.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11394500 MIDDLE FORK FEATHER RIVER NEAR MERRINAC, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

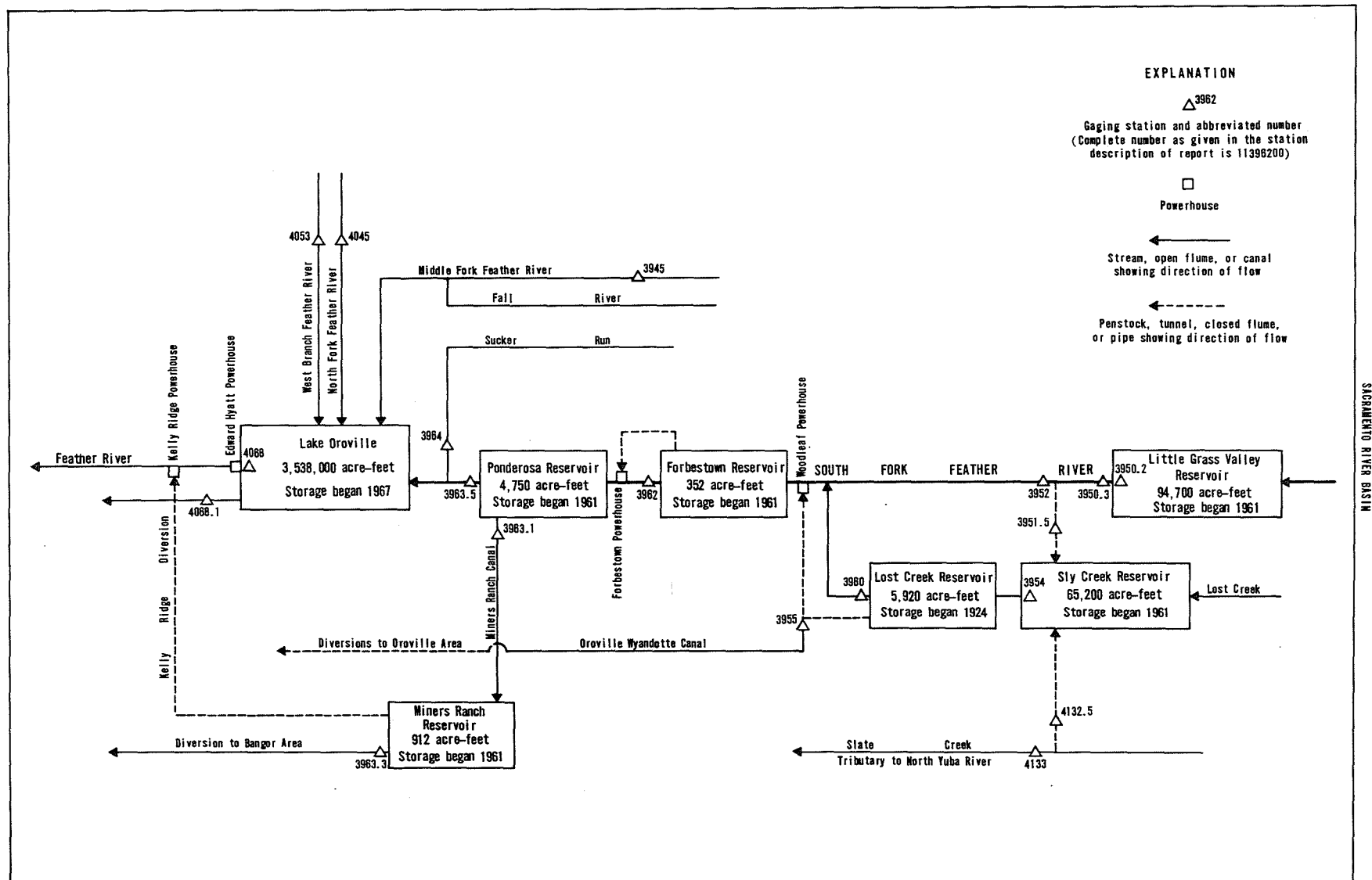


FIGURE 5. — Schematic diagram showing diversions and storage in South Fork Feather River basin.

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, Hydrologic Unit 18020123, 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 mi² (66.8 km²).

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 National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³) Apr. 29, 1965, elevation, 5,047.9 ft (1,538.60 m); minimum since reservoir first filled, 30,300 acre-ft (37.4 hm³) on many days in 1977, elevation, 4,994.8 ft (1,522.42 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 81,600 acre-ft (101 hm³) May 13-15, elevation, 5,038.7 ft (1,535.80 m); minimum, 47,000 acre-ft (58.0 hm³) Dec. 19, 20, elevation, 5,012.2 ft (1,527.72 m).

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

4,990	26,260
5,000	34,600
5,010	44,400
5,020	55,900
5,030	68,900
5,040	83,500
5,048	96,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56700	52200	47500	47800	51600	59400	67500	79400	80700	80400	79000	77500
2	56500	52100	47900	47800	51800	59500	67700	79700	80700	80300	78800	77500
3	56400	51900	48600	47900	51800	59700	68000	80000	80700	80300	78800	77400
4	56300	51800	48900	48000	51900	59900	68200	80300	80900	80300	78800	77400
5	56100	51500	48900	48000	52000	60200	68500	80400	80900	80300	78800	77400
6	55900	51400	48800	48100	52100	60300	68800	80600	80900	80100	78800	77400
7	55800	51300	48700	48100	52100	60300	69000	80900	80900	80100	78700	77200
8	55500	51200	48600	48100	52200	60600	69300	80900	80900	80100	78700	77200
9	55400	51100	48300	48100	52200	60700	69600	81100	80900	80100	78700	77200
10	55300	50800	48200	48200	52300	60800	70100	81300	80900	80000	78700	77200
11	55100	50700	48100	48200	52400	61000	70300	81400	80700	80000	78500	77100
12	55100	50500	48000	48200	52400	61100	70600	81400	80700	79800	78500	77100
13	55000	50400	47800	48200	53000	61200	70900	81600	80700	79800	78500	77100
14	54800	50200	47600	48200	53800	61300	71400	81600	80700	79800	78400	77100
15	54600	49900	47500	48300	54300	61600	71700	81600	80700	79700	78400	76900
16	54500	49800	47400	48300	54700	61900	72000	81400	80700	79700	78200	76900
17	54400	49600	47200	48400	55200	62000	72400	81300	80700	79700	78200	76900
18	54300	49500	47100	48600	55500	62100	72800	81400	80700	79500	78200	76900
19	54200	49200	47000	48600	56100	62500	73400	81400	80700	79500	78100	76800
20	54000	49100	47000	48700	56700	62800	73900	81300	80700	79500	78100	76800
21	53900	48900	47200	48800	57100	63000	74400	81100	80700	79500	78100	76600
22	53900	48800	47300	48900	57400	63200	74900	81000	80700	79500	77900	76600
23	53800	48700	47300	49100	57700	63300	75500	80900	80600	79400	77900	76600
24	53600	48400	47300	49200	58200	63600	76000	80600	80600	79400	77800	76600
25	53500	48300	47400	49400	58500	64600	76500	80600	80600	79400	77800	76600
26	53200	48100	47400	49500	58700	65100	77100	80400	80600	79400	77800	76600
27	53100	48000	47500	50300	59000	65600	77600	80400	80600	79200	77800	76600
28	52900	47800	47500	50800	59100	66000	77900	80600	80600	79200	77600	76600
29	52800	47600	47600	51200	---	66400	78500	80600	80400	79100	77600	76600
30	52600	47800	47600	51300	---	66800	79000	80600	80400	79100	77600	76600
31	52400	---	47600	51500	---	67100	---	80700	---	79000	77500	---
MAX	56700	52200	48900	51500	59100	67100	79000	81600	80900	80400	79000	77500
MIN	52400	47600	47000	47800	51600	59400	67500	79400	80400	79000	77500	76600
†	5017.0	5012.9	5012.8	5016.2	5022.5	5028.6	5036.9	5038.1	5037.9	5036.9	5035.9	5035.3
‡	-4300	-4600	-200	+3900	+7600	+8000	+11900	+1700	-300	-1400	-1500	-900

CAL YR 1980 † -7400

WTR YR 1981 ‡ +19900

† 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, Hydrologic Unit 18020123, Plumas National Forest, on left bank 0.1 mi (0.2 km) downstream from Little Grass Valley Dam, and 3.5 mi (5.6 km) northwest of La Porte.

DRAINAGE AREA.--25.9 mi² (67.1 km²).

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) National Geodetic Vertical Datum of 1929. 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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 20 ft³/s (0.566 m³/s) and fair below. 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).--27 years, 94.1 ft³/s (2.665 m³/s), 68,180 acre-ft/yr (84.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft³/s (120 m³/s) Feb. 1, 1963; minimum, 0.2 ft³/s (0.006 m³/s) Oct. 28-31, Nov. 2, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 184 ft³/s (5.21 m³/s) May 20, gage height, 9.03 ft (2.752 m); minimum daily, 4.7 ft³/s (0.13 m³/s) Dec. 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	90	87	4.9	6.3	6.4	7.5	11	11	12	11	10
2	44	90	89	4.8	6.1	6.4	7.6	10	11	12	12	10
3	74	90	96	5.0	6.1	6.4	7.1	9.6	10	12	13	10
4	74	90	96	5.1	6.4	6.4	7.2	9.5	10	12	13	10
5	73	90	87	5.0	6.4	6.4	7.5	9.3	10	12	13	10
6	73	90	86	4.9	6.4	6.4	7.7	9.2	11	12	13	10
7	73	90	85	4.8	6.4	6.4	7.8	9.2	11	12	13	10
8	73	89	84	5.0	6.4	6.3	7.7	10	11	12	13	10
9	73	89	84	5.0	6.4	6.4	7.7	11	11	12	13	10
10	73	89	84	5.0	6.4	6.4	7.8	11	11	12	13	10
11	72	89	84	5.0	6.4	6.4	7.7	11	11	12	13	10
12	72	89	84	5.0	6.4	6.4	7.7	11	11	12	14	10
13	72	89	84	5.0	9.4	6.4	7.5	11	11	12	14	10
14	72	88	84	5.0	19	6.4	7.9	58	11	12	14	10
15	72	88	84	5.0	9.0	6.4	8.1	120	11	12	13	10
16	72	88	84	5.1	8.8	6.5	8.1	120	11	12	13	10
17	72	88	84	5.4	9.7	6.4	8.3	119	11	13	13	10
18	72	88	84	5.3	8.5	6.4	8.9	120	11	12	13	10
19	71	88	35	5.3	9.5	6.6	9.4	122	11	12	13	10
20	71	88	4.9	5.5	8.6	6.4	8.6	146	11	12	13	10
21	39	88	5.6	5.7	7.7	6.4	9.1	159	11	12	13	10
22	16	88	6.0	6.4	7.4	6.6	9.4	159	11	12	13	10
23	62	88	5.1	7.1	7.2	6.8	9.8	159	11	12	13	10
24	93	88	4.8	6.5	7.3	6.7	8.8	159	13	12	13	10
25	92	88	4.7	6.2	7.0	15	7.0	162	12	12	13	10
26	92	88	5.0	6.1	6.6	9.5	6.3	162	12	12	13	10
27	92	88	5.1	13	6.4	8.0	5.8	72	12	12	11	10
28	91	88	5.0	7.6	6.4	7.8	6.1	11	12	12	10	10
29	91	88	4.9	6.9	---	8.0	6.7	10	12	12	10	10
30	91	88	4.8	6.6	---	7.7	8.5	10	12	11	10	10
31	90	---	5.0	6.4	---	7.6	---	11	---	11	10	---
TOTAL	2206.2	2660	1645.9	179.6	214.6	218.3	235.3	2011.8	335	371	389	300
MEAN	71.2	88.7	53.1	5.79	7.66	7.04	7.84	64.9	11.2	12.0	12.5	10.0
MAX	93	90	96	13	19	15	9.8	162	13	13	14	10
MIN	9.2	88	4.7	4.8	6.1	6.3	5.8	9.2	10	11	10	10
AC-FT	4380	5280	3260	356	426	433	467	3990	664	736	772	595
CAL YR 1980 TOTAL	50746.5											
WTR YR 1981 TOTAL	10766.7											
MEAN	139											
MAX	1720											
MIN	4.7											
AC-FT	100700											
MEAN	129											
AC-FT	41260											

‡ 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 NE¼Sec.30, T.21 N., R.8 E., Plumas County, Hydrologic Unit 18020123, 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 mi² (97.6 km²).

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

REVISED RECORDS.--WDR CA-80-4: 1976(M).

GAGE.--Water-stage recorder and since Nov. 7, 1962, concrete control. Datum of gage is 3,535.02 ft (1,077.474 m) National Geodetic Vertical Datum of 1929 (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 ft³/s (17.0 m³/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).--21 years, 146 ft³/s (4.135 m³/s), 105,800 acre-ft/yr (130 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,330 ft³/s (179 m³/s) Jan. 31, 1963, gage height, 13.21 ft (4.026 m), from rating curve extended above 700 ft³/s (19.8 m³/s) on basis of computation of peak flow over diversion dam; minimum daily, 0.3 ft³/s (0.008 m³/s) Dec. 25, 1962, to Jan. 2, 1963, Mar. 1-3, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 199 ft³/s (5.64 m³/s) Feb. 19, gage height, 4.07 ft (1.241 m); minimum daily, 4.3 ft³/s (0.122 m³/s) Mar. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	8.2	7.1	5.6	7.1	5.2	5.8	7.4	11	11	11	12
2	10	6.8	7.1	5.6	7.1	5.0	5.8	9.3	11	11	12	12
3	11	6.8	7.3	5.6	7.1	4.8	5.8	9.3	11	11	12	12
4	11	6.8	7.3	5.6	7.1	5.0	5.8	9.3	11	11	12	12
5	10	6.8	7.1	5.6	7.1	4.8	5.8	9.3	11	11	12	12
6	10	6.8	7.1	5.6	7.1	4.8	5.8	9.3	11	11	12	12
7	10	7.3	7.1	5.6	7.1	4.8	5.8	9.3	11	11	12	12
8	10	7.3	7.1	5.6	7.1	4.8	5.8	9.3	11	11	12	12
9	10	7.3	7.1	5.6	7.1	4.8	5.8	9.3	11	11	12	13
10	10	7.1	7.1	5.6	7.1	4.6	5.8	9.3	11	11	12	13
11	10	7.1	7.1	5.6	7.1	4.3	5.8	9.1	11	11	12	13
12	10	7.1	7.1	5.6	7.1	4.4	5.8	9.6	11	11	12	13
13	10	7.1	7.1	5.6	7.3	4.4	5.8	10	11	11	12	13
14	10	7.1	7.1	5.6	7.8	4.4	5.8	10	11	12	12	13
15	10	7.1	7.1	5.6	7.5	4.4	5.8	11	11	11	12	13
16	10	7.1	7.1	5.6	7.3	5.0	5.8	11	11	11	12	13
17	10	7.1	7.1	5.6	7.3	5.6	5.8	11	11	11	12	13
18	10	7.1	7.1	5.6	7.3	5.6	5.8	11	11	11	12	13
19	10	7.1	6.8	5.6	10	5.8	5.8	11	11	11	12	13
20	10	7.1	6.6	5.6	6.8	5.8	5.4	10	11	11	12	13
21	10	7.1	6.4	5.6	6.8	5.8	5.0	11	11	11	12	13
22	9.9	7.1	6.4	5.8	6.8	5.8	5.0	11	11	11	12	13
23	9.9	7.1	6.8	5.8	6.8	5.8	5.0	11	11	11	12	13
24	10	7.1	5.8	5.8	6.8	5.8	5.0	11	11	11	12	13
25	10	7.1	5.8	5.8	7.1	6.0	5.0	11	11	11	12	14
26	10	6.8	5.8	5.8	5.8	6.2	5.0	11	11	11	12	14
27	10	6.8	5.6	6.0	6.2	6.0	5.0	11	11	11	12	14
28	10	6.8	5.6	6.2	5.2	5.8	5.0	11	11	11	12	14
29	10	7.1	5.6	6.0	---	5.8	5.0	11	11	11	12	14
30	10	7.3	5.6	7.3	---	5.8	5.0	11	11	11	12	14
31	10	---	5.6	6.8	---	5.8	---	11	---	11	12	---
TOTAL	311.8	212.5	206.6	178.9	198.0	162.9	165.6	315.8	330	342	371	388
MEAN	10.1	7.08	6.66	5.77	7.07	5.25	5.52	10.2	11.0	11.0	12.0	12.9
MAX	11	8.2	7.3	7.3	10	6.2	5.8	11	11	12	12	14
MIN	9.9	6.8	5.6	5.6	5.2	4.3	5.0	7.4	11	11	11	12
AC-FT	618	421	410	355	393	323	328	626	655	678	736	770
MEAN †	55.0	89.4	74.6	30.2	81.2	85.7	72.3	81.6	20.2	17.1	16.0	12.9
AC-FT †	3380	5320	4590	1860	4510	5270	4300	5020	1200	1050	984	770
†	2760	4900	4180	1500	4120	4950	3970	4390	548	369	248	0
CAL YR 1980 TOTAL	25042.2											
WTR YR 1981 TOTAL	3183.1											
MEAN 68.4												
MAX 2370												
MIN 2.1												
AC-FT 49670												
MEAN † 140												
AC-FT † 101700												
MEAN † 52.8												
AC-FT † 38250												

† 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°06'59", in NE&NE4 sec.19, T.20 N., R.8 E., Butte County, Hydrologic Unit 18020123, 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 mi² (62.2 km²).

PERIOD OF RECORD.--November 1961 to current year (fragmentary prior to Mar. 14, 1962).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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. Reservoir completely drained Sept. 12 to Oct. 17, 1981, for powerhouse construction.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 65,600 acre-ft (80.9 hm³) June 22, 1978, elevation, 3,530.9 ft (1,076.22 m); minimum observed under normal operating conditions since reservoir first filled, 860 acre-ft (1.06 hm³) Feb. 11, 1976, elevation, 3,320.0 ft (1,011.94 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,600 acre-ft (76.0 hm³) May 27, elevation 3,524.3 ft (1,074.21 m); minimum, no contents Sept. 12-30, drained for powerhouse construction.

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

3,299	0	3,380	7,360
3,300	40	3,400	11,500
3,305	245	3,420	16,600
3,310	450	3,450	26,300
3,315	655	3,480	38,500
3,320	860	3,510	53,400
3,340	2,150	3,532	66,200
3,360	4,300		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	882	5140	6100	5670	9430	21700	37300	60000	60000	47000	22900	671
2	952	5340	6200	5360	9650	21300	38200	60200	59700	46400	22100	614
3	1020	5550	6800	5060	9610	21500	39100	60300	59700	45800	21300	552
4	1380	5780	9300	4760	9370	21800	39900	60400	59500	45000	20500	491
5	1540	6020	10300	4370	9370	22100	40700	60400	59400	44200	19700	430
6	1670	6260	10300	4220	9390	22400	41600	60400	59200	43400	19000	368
7	1820	6900	10200	4140	9340	22700	42500	60400	59000	42700	18200	306
8	1960	7400	10000	4040	9220	23100	43400	60400	58300	42000	17400	245
9	2100	7460	9890	3960	9050	23300	44300	60400	57400	41300	16600	184
10	2290	7540	9760	3960	9220	23300	45100	60300	57100	40500	15800	122
11	2490	7590	9450	3960	9560	23500	45800	60300	56700	39700	15000	60
12	2700	7670	9410	3900	9920	23900	46500	60100	56400	38900	14300	0
13	2900	7730	9260	3820	10100	24100	47200	60000	56200	38100	13500	0
14	3110	7790	9200	3740	11000	24100	48000	59900	55900	37400	12800	0
15	3270	7840	9410	3640	12100	24500	48700	59900	55700	36600	12000	0
16	3420	7880	9340	3640	13000	24800	49500	59800	55300	35800	11300	0
17	3590	7940	9140	3650	13800	24900	50300	59800	54700	35000	10500	0
18	3740	7900	9030	3650	14600	25300	51100	60000	54300	34300	9740	0
19	3900	7710	8890	3650	15500	26200	52200	60100	53800	33500	8970	0
20	4050	7550	8640	3450	16600	27100	53000	60100	53200	32700	8270	0
21	4220	7500	8540	3220	17700	28000	53900	60100	52600	31900	7550	0
22	4370	7420	8480	3100	18500	28800	54800	60400	52000	31100	6750	0
23	4520	7310	8330	3450	19400	29300	55800	60700	51500	30300	5870	0
24	4660	7060	8080	3800	20200	29200	56700	60900	51200	29400	4620	0
25	4820	6830	7710	4140	21200	30400	57600	61200	50800	28600	4120	0
26	4960	6580	7500	4520	22100	31700	58400	61500	50200	27900	2950	0
27	5110	6330	7520	5700	22400	33200	58800	61600	49700	27000	2420	0
28	4790	6100	7180	7280	22000	34700	59000	61600	49200	26200	1700	0
29	4510	5930	6800	8000	---	36100	59400	61500	48500	25400	930	0
30	4720	6020	6410	8600	---	36100	59800	61300	47700	24600	803	0
31	4930	---	6030	9050	---	36300	---	61200	---	23800	737	---
MAX	5110	7940	10300	9050	22400	36300	59800	61600	60000	47000	22900	671
MIN	882	5140	6030	3100	9050	21300	37300	59800	47700	23800	737	0
†	3364.5	3371.9	3372.0	3388.7	3437.7	3474.9	3521.1	3523.6	3499.1	3442.8	3317.0	3299.0
‡	+4027	+1090	+10	+3020	+12950	+14300	+23500	+1400	-13500	-23900	-23063	-737

CAL YR 1980 † -25870
WTR YR 1981 † -903

† 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, Hydrologic Unit 18020123, 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) National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Sept. 30, 1941, non-recording 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.--23 years (water years 1928-41, 1954-62, prior to closure of lumber mill), 21.0 ft³/s (0.595 m³/s), 15,200 acre-ft/yr (18.7 hm³/yr); 19 years (water years 1963-81), 8.81 ft³/s (0.249 m³/s), 6,380 acre-ft/yr (7.87 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft³/s (1.22 m³/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 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	7.8	5.9	5.1			0	4.9	10	24	27	22
2	19	6.5	5.9	5.0			0	5.7	13	24	27	22
3	19	5.1	2.2	5.1			0	5.8	14	24	27	22
4	19	5.0	0	5.1			0	5.8	14	24	27	23
5	20	5.1	0	5.0			0	5.8	15	24	27	23
6	20	5.0	0	5.1			0	5.8	15	24	27	23
7	20	5.1	0	5.0			0	5.8	15	24	14	23
8	20	5.1	0	5.0			0	5.7	15	24	20	23
9	20	5.1	0	5.1			0	5.7	15	24	27	23
10	20	5.1	0	5.0			0	5.7	15	25	27	23
11	20	5.1	0	5.0			0	5.7	15	26	27	21
12	20	5.1	0	5.1			0	6.4	15	26	27	21
13	20	5.1	0	5.0			0	7.2	15	26	27	21
14	20	5.1	0	5.0			0	9.8	15	26	26	21
15	20	5.2	0	5.1			0	11	15	26	25	21
16	20	5.2	0	5.1			0	11	16	26	25	21
17	20	4.9	1.2	5.0			.61	11	16	26	25	21
18	20	5.2	2.3	5.0			1.4	12	16	26	25	21
19	17	5.1	3.5	5.0			.71	14	16	26	25	21
20	15	5.4	4.1	5.1			.14	14	17	26	26	21
21	12	6.4	4.0	5.1			0	14	18	26	26	21
22	8.8	6.5	4.1	5.1			0	14	18	26	26	21
23	8.3	6.5	4.2	5.0			0	14	19	26	26	21
24	7.8	6.4	4.2	5.0			2.6	14	21	27	26	21
25	7.8	6.2	4.1	5.0			4.3	14	22	27	26	20
26	7.9	6.2	4.1	5.0			4.3	12	22	27	25	19
27	7.9	6.1	4.1	3.0			4.3	11	23	27	24	19
28	7.9	5.8	4.0	0			4.3	11	24	27	24	19
29	7.8	5.9	4.1	0	---		4.3	11	24	27	24	19
30	7.8	6.0	4.8	0	---		4.3	11	24	27	24	19
31	7.8	---	5.0	0	---		---	10	---	27	23	---
TOTAL	479.8	168.3	71.8	134.1	0	0	31.26	294.8	512	795	782	636
MEAN	15.5	5.61	2.32	4.33	0	0	1.04	9.51	17.1	25.6	25.2	21.2
MAX	20	7.8	5.9	5.1	0	0	4.3	14	24	27	27	23
MIN	7.8	4.9	0	0	0	0	0	4.9	10	24	14	19
AC-FT	952	334	142	266	0	0	62	585	1020	1580	1550	1260
CAL YR 1980	TOTAL	2753.59	MEAN	7.52	MAX	23	MIN	0	AC-FT	5460		
WTR YR 1981	TOTAL	3905.06	MEAN	10.7	MAX	27	MIN	0	AC-FT	7750		

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, Hydrologic Unit 18020123, 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 mi² (77.7 km²).

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 hm³) 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 ft³/s (2.07 m³/s), 52,850 acre-ft/yr (65.2 hm³/yr); 20 years (water years 1962-81), 20.4 ft³/s (0.578 m³/s), 14,780 acre-ft/yr (18.2 hm³/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,000 ft³/s (142 m³/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, 25 ft³/s (0.708 m³/s) July 8, gage height, 1.40 ft (0.427 m); minimum daily, 0.72 ft³/s (0.020 m³/s) for several days during July.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.89	1.0	1.4	1.0	1.1	1.1	1.0	1.2	1.2	1.2	.76	1.2
2	.89	1.0	1.7	1.0	1.1	1.1	1.0	1.2	1.2	1.2	.76	1.2
3	.89	1.0	2.4	1.0	1.1	1.1	1.0	1.2	1.2	1.2	.76	1.2
4	.89	1.0	1.8	1.0	1.1	1.2	.98	1.2	1.2	1.2	.76	1.2
5	.89	1.0	1.3	1.0	1.1	1.2	.98	1.2	1.2	1.2	.76	1.1
6	.85	1.0	1.3	1.0	1.1	1.2	.98	1.2	1.2	2.1	.80	1.1
7	.87	1.4	1.2	1.0	1.1	1.2	.93	1.2	1.2	5.1	.80	1.0
8	.98	1.5	1.2	1.0	1.1	1.2	.93	1.2	1.2	14	.76	1.0
9	.98	1.5	1.2	1.0	1.1	1.2	.93	1.2	1.2	16	.76	1.0
10	.98	1.5	1.2	1.0	1.1	1.2	.93	1.2	1.2	.76	.80	.98
11	1.0	1.5	1.2	1.0	1.1	1.1	.98	1.2	1.2	.76	.89	.98
12	1.1	1.5	1.2	1.0	1.1	1.1	.98	1.2	1.1	.76	.98	.98
13	1.1	1.5	1.2	1.0	1.3	1.1	.98	1.2	1.2	.76	.98	.98
14	1.1	1.5	1.2	1.0	1.4	1.1	.98	1.2	1.2	.72	.98	.93
15	1.0	1.5	1.2	1.0	1.3	1.1	.98	1.2	1.2	.72	1.0	.93
16	1.0	1.5	1.2	1.0	1.3	1.1	.98	1.2	1.2	.72	1.0	.93
17	1.0	1.5	1.2	1.0	1.3	1.1	.93	1.2	1.2	.76	1.0	.93
18	1.0	1.5	1.2	1.0	1.3	1.2	.98	1.3	1.2	.76	1.0	.93
19	1.0	1.5	1.2	1.0	1.3	1.3	1.1	1.2	1.2	3.0	1.1	.89
20	1.0	1.5	1.2	1.0	1.3	1.3	1.1	1.2	1.2	1.6	1.1	.89
21	1.0	1.5	1.2	1.0	1.2	1.4	1.1	1.2	1.2	1.1	1.1	.89
22	.98	1.5	1.2	1.0	1.2	1.3	1.1	1.2	1.2	.72	1.1	.89
23	.98	1.5	1.2	1.2	1.2	1.2	1.1	1.2	1.2	.76	1.2	.89
24	.98	1.5	1.2	1.1	1.2	1.2	1.2	1.2	1.2	.76	1.3	.93
25	1.0	1.5	1.2	1.0	1.2	1.3	1.2	1.2	1.2	.72	1.2	.85
26	1.0	1.5	1.2	1.0	1.1	1.2	1.2	1.2	1.2	.72	1.1	.85
27	1.0	1.5	1.2	1.5	1.1	1.2	1.2	1.2	1.2	.72	1.0	.85
28	1.0	1.5	1.2	2.1	1.1	1.1	1.2	1.2	1.2	.72	1.0	.89
29	1.0	1.6	1.2	1.4	---	1.1	1.2	1.2	1.2	.72	1.1	.89
30	1.0	1.6	1.2	1.2	---	1.0	1.2	1.2	1.2	.76	1.2	.85
31	1.0	---	1.0	1.2	---	1.0	---	1.2	---	.76	1.2	---
TOTAL	30.35	42.1	39.7	33.7	33.0	36.2	31.35	37.3	35.9	62.98	30.25	29.13
MEAN	.98	1.40	1.28	1.09	1.18	1.17	1.05	1.20	1.20	2.03	.98	.97
MAX	1.1	1.6	2.4	2.1	1.4	1.4	1.2	1.3	1.2	16	1.3	1.2
MIN	.85	1.0	1.0	1.0	1.1	1.0	.93	1.2	1.1	.72	.76	.85
AC-FT	60	84	79	67	65	72	62	74	71	125	60	58
‡	0	4920	11550	5550	8070	14560	2800	11830	14770	23530	23600	692
CAL YR 1980 TOTAL	18281.11											
WTR YR 1981 TOTAL	441.96											
MEAN	49.9						.72					
MAX	1550						.72					
MIN	16											
AC-FT	36260											
MIN	877											

‡ Diversion, in acre-feet, to Woodleaf powerplant.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020123, 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 mi² (226.6 km²).

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 except those for period of no gage-height record, which are fair. 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.--19 years, 54.1 ft³/s (1.532 m³/s), 39,200 acre-ft/yr (48.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,510 ft³/s (213 m³/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 ft³/s (0.017 m³/s) Apr. 4, 1963.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 232 ft³/s (6.57 m³/s) Dec. 4, on basis of flow over spillway computation; minimum daily, 5.3 ft³/s (0.15 m³/s) during several days in November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	8.4	5.7	6.0	5.9	6.0	5.8	11	8.5	13	13	12
2	11	5.3	5.9	6.0	5.9	6.0	5.7	11	8.5	16	13	12
3	11	5.3	6.1	6.0	5.9	6.0	5.8	11	8.5	16	13	12
4	11	5.3	5.4	6.0	6.0	6.2	5.8	11	8.5	16	13	12
5	11	5.4	6.0	6.0	5.9	6.0	5.7	10	8.5	16	13	12
6	11	5.3	6.0	6.0	5.9	6.0	5.8	11	8.4	16	13	12
7	11	5.3	6.0	5.9	5.9	6.0	5.8	11	8.3	16	13	12
8	11	5.4	6.0	5.9	6.0	5.9	5.9	11	8.3	16	13	12
9	11	5.3	6.0	5.9	6.0	6.0	5.8	12	8.5	16	13	12
10	11	5.3	6.0	5.9	6.0	6.0	5.7	12	8.3	16	13	12
11	11	5.3	6.0	5.7	5.9	6.0	5.8	11	8.3	16	13	12
12	11	5.3	6.0	5.8	6.0	6.0	5.7	8.3	8.3	16	13	12
13	11	5.4	6.0	5.9	6.1	5.8	5.7	8.3	8.2	16	13	12
14	12	5.5	6.0	5.9	6.1	5.8	5.7	8.3	8.3	16	13	12
15	12	5.4	6.0	5.9	5.9	5.8	5.7	8.3	8.3	15	13	12
16	22	5.5	6.0	5.9	6.0	5.8	5.7	8.3	8.3	12	13	12
17	19	5.5	6.0	5.9	6.0	5.8	5.7	8.4	8.3	12	13	12
18	21	5.6	6.0	5.9	6.0	5.9	5.8	8.4	8.3	12	13	12
19	24	5.6	6.0	5.9	6.0	6.0	5.7	8.4	8.3	12	13	12
20	23	5.6	6.0	5.9	5.9	5.9	5.7	8.4	8.2	13	13	13
21	23	5.6	6.0	5.9	5.9	5.9	5.7	8.5	8.3	12	13	14
22	23	5.6	6.0	6.0	5.9	5.8	5.6	8.5	8.3	13	13	14
23	23	5.6	6.0	6.1	6.0	5.9	5.6	8.5	8.3	13	12	14
24	16	5.6	6.0	5.9	6.0	5.9	5.6	8.5	8.3	13	12	15
25	11	5.6	6.0	5.9	6.0	6.2	5.6	8.5	8.3	13	12	16
26	11	5.6	6.0	5.9	6.0	6.1	5.7	8.5	8.4	13	13	16
27	11	5.6	6.0	6.3	6.0	6.1	5.7	8.5	8.3	13	13	15
28	11	5.7	6.0	6.2	5.9	6.0	5.7	8.5	8.3	13	12	15
29	11	5.7	6.0	6.1	---	6.1	5.7	8.5	8.4	13	12	15
30	11	5.8	6.0	5.9	---	6.1	8.8	8.5	8.4	13	12	15
31	11	---	6.0	5.9	---	6.1	---	8.5	---	13	12	---
TOTAL	439	167.4	233.7	184.4	167.0	185.1	174.7	290.6	250.4	439	396	390
MEAN	14.2	5.58	7.54	5.95	5.96	5.97	5.82	9.37	8.35	14.2	12.8	13.0
MAX	24	8.4	5.4	6.3	6.1	6.2	8.8	12	8.5	16	13	16
MIN	11	5.3	5.7	5.7	5.9	5.8	5.6	8.3	8.2	12	12	12
AC-FT	871	332	464	366	331	367	347	576	497	871	785	774
†	292	5070	11990	6680	9720	18180	3940	12280	15060	23150	23390	480
CAL YR 1980 TOTAL	42198.2											
WTR YR 1981 TOTAL	3317.3											
MEAN	115											
MAX	4380											
MIN	1.3											
AC-FT	83700											
†	6580											

† Diversion, in acre-feet, to Forbestown powerplant.

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, Hydrologic Unit 18020123, 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.--19 years, 201 ft³/s (5,692 m³/s), 145,600 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 292 ft³/s (8,269 m³/s) June 18-22, 1980; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	0	273	268	239	216	162	244	237	277	277	68
2	23	14	273	273	178	247	70	245	225	265	278	72
3	23	25	279	265	216	270	164	247	236	277	276	54
4	24	25	276	256	231	269	114	247	256	278	276	70
5	24	25	277	184	248	272	79	247	270	277	277	6.9
6	24	25	276	100	264	272	98	246	276	277	278	35
7	24	25	248	62	261	271	97	247	273	276	279	48
8	24	25	223	69	262	268	106	247	262	275	278	25
9	24	25	236	106	261	267	20	247	279	275	278	.70
10	24	41	270	105	262	269	125	249	281	276	278	.48
11	24	63	283	105	262	269	66	251	280	277	278	35
12	24	61	280	105	260	264	108	252	280	278	278	68
13	24	60	261	81	262	255	123	252	280	278	276	137
14	24	62	250	98	263	254	57	252	279	279	276	20
15	25	65	243	98	263	258	97	251	279	278	276	53
16	25	62	226	98	257	256	118	252	279	276	277	29
17	25	170	236	98	243	256	119	252	247	251	272	0
18	23	252	240	98	242	259	0	252	281	276	276	0
19	22	234	233	98	247	253	45	253	278	275	279	101
20	18	136	239	98	258	249	85	247	278	275	279	68
21	15	220	235	98	246	249	114	243	242	276	280	18
22	32	226	238	98	37	249	262	244	270	133	282	0
23	64	229	256	174	152	249	249	244	272	0	282	0
24	93	230	256	208	260	249	188	245	273	23	281	0
25	92	247	257	207	264	251	19	224	273	74	281	26
26	90	271	250	140	264	257	231	204	274	116	279	38
27	88	240	271	173	252	260	237	200	274	163	278	51
28	91	275	245	229	227	260	239	130	275	232	283	52
29	93	277	244	239	---	260	239	202	275	276	214	51
30	36	270	249	252	---	269	244	206	276	271	81	50
31	26	---	259	269	---	278	---	231	---	275	49	---
TOTAL	1191	3880	7882	4752	6681	8025	3875	7353	8060	7335	8132	1177.08
MEAN	38.4	129	254	153	239	259	129	237	269	237	262	39.2
MAX	93	277	283	273	264	278	262	253	281	279	283	137
MIN	15	0	223	62	37	216	0	130	225	0	49	0
AC-FT	2360	7700	15630	9430	13250	15920	7690	14580	15990	14550	16130	2330
‡	614	5540	12150	7250	12110	14800	6240	13110	13130	11350	13330	79
CAL YR 1980 TOTAL	83877.00											
MEAN	229											
MAX	292											
MIN	0											
AC-FT	166400											
WTR YR 1981 TOTAL	68343.08											
MEAN	187											
MAX	283											
MIN	0											
AC-FT	135600											

‡ Diversion, in acre-feet, to Kelly Ridge powerplant.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020124, 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 good. Flow regulated by Miners Ranch Reservoir, capacity, 912 acre-ft (1.12 hm³). Canal completed in November 1962. Water is used for irrigation. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE.--18 years, 15.5 ft³/s (0.439 m³/s), 11,230 acre-ft/yr (13.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 65 ft³/s (1.84 m³/s) Aug. 17-20, 1963; no flow for several days in 1965, 1969.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	14	11	5.6	4.2	6.1	7.5	7.0	16	26	22	21
2	14	14	11	5.8	4.3	6.3	7.5	7.0	17	27	23	21
3	14	14	9.1	5.8	5.6	6.7	7.4	7.0	17	27	24	22
4	14	14	8.1	5.8	6.5	6.8	7.4	8.3	16	28	24	22
5	14	11	8.3	5.9	6.4	7.0	7.3	10	17	28	23	22
6	15	8.8	7.8	5.8	6.5	7.2	7.2	10	17	29	23	21
7	16	9.0	7.5	5.9	6.5	7.5	7.8	12	17	28	23	21
8	17	9.0	7.1	6.0	6.5	6.8	7.7	13	17	28	23	21
9	17	9.5	6.7	6.0	6.5	6.0	7.5	13	17	28	23	20
10	16	9.5	6.4	5.9	6.6	6.2	7.7	14	17	27	22	20
11	16	8.8	6.5	5.9	6.7	6.2	7.7	14	18	27	23	20
12	15	8.2	6.6	5.9	6.7	6.2	7.5	14	19	27	23	21
13	14	7.9	6.3	5.9	6.7	6.2	7.5	14	20	26	23	23
14	13	9.0	6.7	6.1	6.7	6.4	7.5	14	23	27	23	23
15	14	9.7	8.0	6.2	6.7	5.8	8.4	14	23	28	23	21
16	14	9.7	8.8	6.2	6.7	5.4	9.4	14	23	27	23	19
17	12	9.1	8.4	6.2	6.7	5.3	9.4	14	24	27	23	16
18	11	9.3	8.4	6.2	6.5	6.1	9.5	14	25	27	23	16
19	11	9.9	8.2	6.2	6.4	7.0	9.3	14	26	28	23	17
20	11	11	7.5	6.2	6.5	7.0	7.8	15	26	27	23	17
21	11	10	7.3	6.2	6.5	6.9	7.0	15	25	25	22	16
22	11	9.6	7.6	6.2	6.8	7.0	7.0	15	23	25	21	16
23	11	10	7.9	6.3	6.4	7.0	7.0	15	23	23	22	16
24	11	10	7.7	6.4	6.1	7.0	7.2	15	25	21	22	17
25	11	10	8.1	6.4	6.0	7.0	7.3	15	26	23	22	15
26	11	11	7.8	6.3	6.8	7.0	7.4	15	26	24	22	14
27	11	11	8.1	5.5	6.4	7.0	7.2	14	26	23	22	14
28	11	10	8.2	4.2	6.4	7.0	7.0	13	26	23	22	14
29	11	10	7.4	4.0	---	7.0	7.0	12	26	23	22	13
30	11	11	7.5	3.9	---	7.2	7.0	13	26	23	22	13
31	12	---	6.2	4.1	---	7.4	---	15	---	22	21	---
TOTAL	404	308.0	242.2	179.0	177.3	205.7	230.1	399.3	647	802	700	552
MEAN	13.0	10.3	7.81	5.77	6.33	6.64	7.67	12.9	21.6	25.9	22.6	18.4
MAX	17	14	11	6.4	6.8	7.5	9.5	15	26	29	24	23
MIN	11	7.9	6.2	3.9	4.2	5.3	7.0	7.0	16	21	21	13
AC-FT	801	611	480	355	352	408	456	792	1280	1590	1390	1090
CAL YR 1980	TOTAL	4846.6	MEAN 13.2	MAX 25	MIN 4.2	AC-FT 9610						
WTR YR 1981	TOTAL	4846.6	MEAN 13.3	MAX 29	MIN 3.9	AC-FT 9610						

11396350 SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CA

LOCATION.--Lat 39°32'52", long 121°18'11", in NW4SE4 sec.33, T.20 N., R.6 E., Butte County, Hydrologic Unit 18020123, 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 mi² (280 km²).

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 National Geodetic Vertical Datum of 1929 (levels by Oroville-Wyandotte Irrigation District). Prior to Oct. 1, 1967, at site 1,800 ft (550 m) downstream at different datum.

REMARKS.--Records poor. Daily record June 4 to Aug. 29, 1981 was not determined as releases under partially open spillway gates could not be calculated. 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).--19 years, 436 ft³/s (12.35 m³/s), 315,900 acre-ft/yr (390 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s (312 m³/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 discharge, not determined; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18		0	0		0			0			
2	0		0	0		0			0			
3	0		0	0		0			---			
4	0		34	0		0			---			
5	0		0	0		0			---			
6	0		0	0		0			---			
7	0		0	0		0			---			
8	0		0	0		0			---			
9	0		0	0		0			---			
10	0		0	0		0			---			
11	0		0	0		0			---			
12	0		0	0		0			---			
13	0		0	0		0			---			
14	0		0	0		0			---			
15	0		0	0		0			---			
16	0		0	0		0			---			
17	0		0	0		0			---			
18	0		0	0		0			---			
19	0		0	0		.10			---			
20	0		0	0		.65			---			
21	0		0	0		0			---			
22	0		0	0		0			---			
23	0		0	0		91			---			
24	0		0	0		422			---			
25	0		0	0		484			---			
26	0		0	0		508			---			
27	0		0	1.1		460			---			
28	0		0	319		427			---			
29	0		0	236	---	410			---			
30	0		0	16	---	394			---			
31	0	---	0	0	---	257	---		---			---
TOTAL	18	0	34	572.1	0	3453.75	0	0	---			0
MEAN	.58	0	1.10	18.5	0	111	0	0	---			0
MAX	18	0	34	319	0	508	0	0	---			0
MIN	0	0	0	0	0	0	0	0	---			0
AC-FT	36	0	67	1130	0	6850	0	0	---			0
CAL YR 1980	TOTAL	116722.00	MEAN 319	MAX 6210	MIN 0	AC-FT 231500	MEAN ‡ 548	AC-FT ‡ 397900				
WTR YR 1981	TOTAL	13477.85	MEAN 36.9	MAX UNKNOWN	MIN 0	AC-FT 26730	MEAN ‡ 224	AC-FT ‡ 162300				
MEAN ‡	39.0	129	255	172	239	370	129	237	292	388	391	39.2
AC-FT ‡	2400	7700	15710	10560	13250	22770	7690	14580	17380	23870	24060	2330

‡ 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, Hydrologic Unit 18020123, 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 mi² (48.4 km²).

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.--16 years, 23.7 ft³/a (0.671 m³/s), 17,170 acre-ft/yr (21.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,320 ft³/s (37.4 m³/s) Jan. 21, 1967, gage height, 6.03 ft (1.838 m), from rating curve extended as explained below; minimum daily, 0.40 ft³/s (0.011 m³/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 ft³/s (62 m³/s) from rating curve extended above 600 ft³/s (17.0 m³/s) on basis of computation of maximum flow over rock control.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 299 ft³/s (8.47 m³/s) Jan. 28, gage height, 3.60 ft (1.097 m), no peak above base of 300 ft³/s (8.50 m³/s); minimum daily, 1.7 ft³/s (0.048 m³/s) Aug. 27-28, 30, Sept. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	5.1	8.7	7.0	29	15	26	12	8.0	4.1	2.2	1.9
2	3.8	5.1	18	7.0	25	15	24	12	7.9	3.9	2.3	1.8
3	3.8	5.1	100	7.0	22	14	22	12	7.7	3.8	2.3	2.0
4	3.9	5.1	70	7.0	20	32	21	11	7.3	3.8	2.4	2.0
5	3.9	5.1	17	7.0	19	35	20	10	7.0	3.9	2.4	2.1
6	3.8	5.1	13	7.0	18	24	19	9.2	6.9	3.9	2.4	2.0
7	3.8	5.6	12	7.0	17	21	18	9.1	6.9	3.7	2.4	2.0
8	3.8	6.9	11	6.7	17	19	17	9.0	6.7	3.6	2.2	1.8
9	3.8	5.7	10	6.7	16	18	17	8.9	6.4	3.4	2.0	1.7
10	3.9	5.5	9.6	6.7	16	17	17	9.1	6.4	3.4	2.2	1.8
11	3.9	5.5	9.2	6.7	17	16	16	8.8	6.3	3.4	2.1	1.9
12	5.0	5.4	8.9	6.8	17	16	16	8.5	6.0	3.4	2.1	1.9
13	5.6	5.5	8.6	7.0	23	15	15	8.4	6.0	3.3	1.9	2.0
14	6.6	5.5	8.6	7.0	55	15	15	8.7	5.9	3.1	1.9	1.8
15	5.4	5.5	8.3	6.7	31	16	15	9.5	5.6	3.1	1.9	1.8
16	5.1	5.4	8.3	7.7	26	20	14	8.9	5.5	3.1	1.9	1.9
17	5.0	5.4	8.0	8.2	25	16	14	8.6	5.4	3.0	1.9	1.9
18	5.0	5.4	8.0	7.6	22	16	14	11	5.3	3.0	1.9	2.0
19	4.9	5.4	7.7	7.8	21	57	20	10	5.1	3.0	1.8	3.6
20	4.9	5.5	7.7	7.9	20	55	17	9.7	5.0	2.8	1.8	3.6
21	4.9	5.4	7.5	7.7	18	67	15	9.3	5.0	2.8	1.8	4.4
22	5.1	6.4	7.5	8.6	17	51	14	9.0	4.9	2.8	1.8	4.6
23	5.0	6.7	7.5	31	17	38	14	8.8	4.8	2.8	1.8	4.8
24	4.9	6.4	7.5	34	19	31	14	8.6	4.9	2.8	1.8	5.9
25	5.1	5.9	7.2	17	18	84	14	10	4.7	2.6	1.8	9.5
26	6.3	5.9	7.2	15	17	84	15	13	4.5	2.6	1.8	5.0
27	5.5	5.7	7.2	124	17	54	14	9.5	4.5	2.2	1.7	4.5
28	5.3	5.7	7.2	188	16	41	13	8.7	4.4	2.3	1.7	5.9
29	5.3	5.9	7.2	95	---	36	13	8.6	4.3	2.2	1.8	4.6
30	5.1	18	7.2	53	---	32	12	8.4	4.3	2.1	1.7	4.0
31	5.1	---	7.2	36	---	28	---	8.2	---	2.2	1.9	---
TOTAL	147.5	180.8	433.0	751.8	595	998	495	296.5	173.6	96.1	61.6	94.7
MEAN	4.76	6.03	14.0	24.3	21.3	32.2	16.5	9.56	5.79	3.10	1.99	3.16
MAX	6.6	18	100	188	55	84	26	13	8.0	4.1	2.4	9.5
MIN	3.8	5.1	7.2	6.7	16	14	12	8.2	4.3	2.1	1.7	1.7
AC-FT	293	359	859	1490	1180	1980	982	588	344	191	122	188
CAL YR 1980	TOTAL	10235.9	MEAN 28.0	MAX 519	MIN 3.8	AC-FT 20300						
WTR YR 1981	TOTAL	4323.6	MEAN 11.8	MAX 188	MIN 1.7	AC-FT 8580						

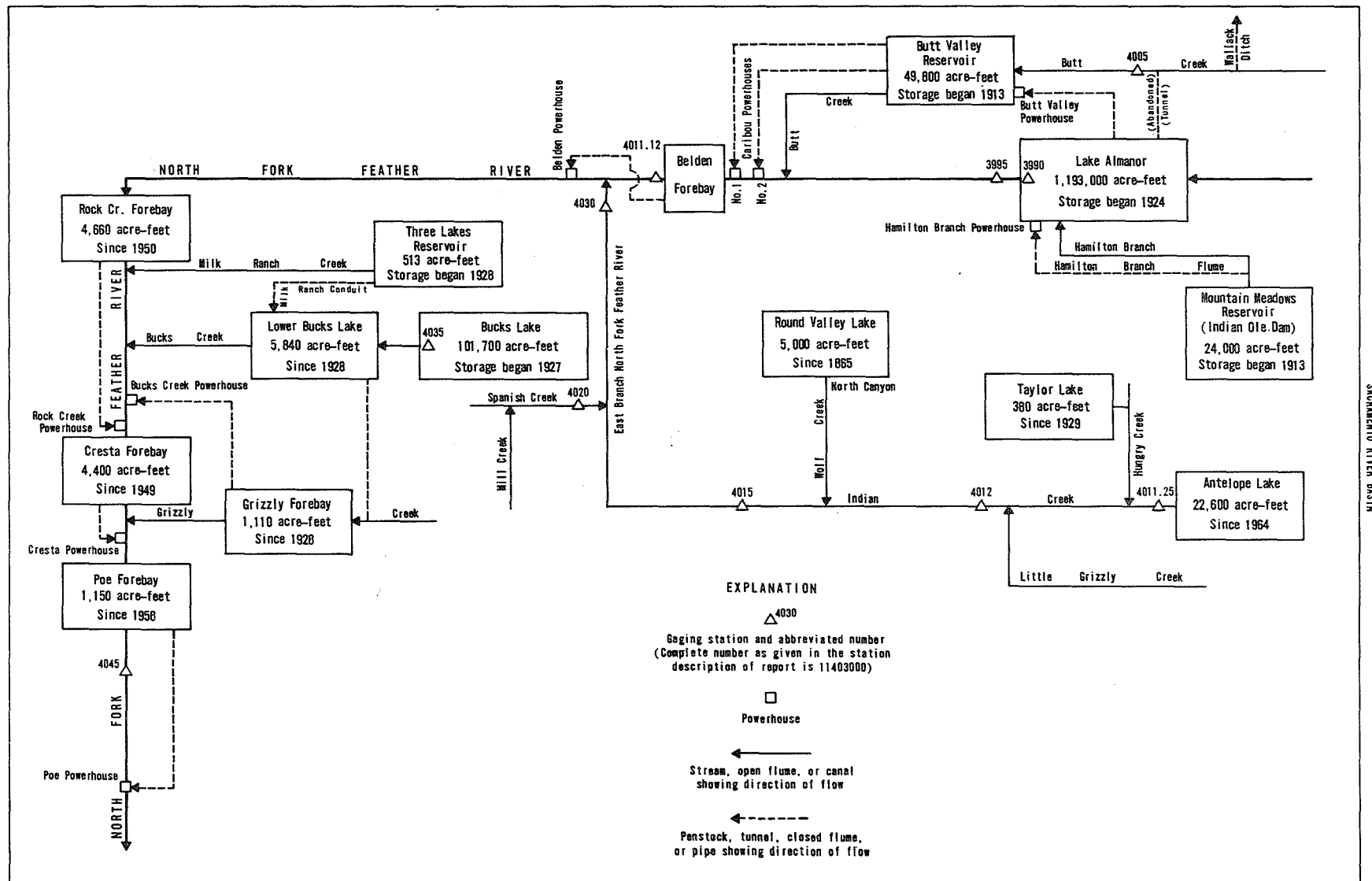


FIGURE 6. — Schematic diagram showing diversions and storage in North Fork Feather River basin.

SACRAMENTO 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, Hydrologic Unit 18020121, 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 Canyon Dam.

DRAINAGE AREA.--491 mi² (1,272 km²).

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 National Geodetic Vertical Datum of 1929 (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 km³) 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 hm³) 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 km³) June 4, 5, 10, 11, 1974, gage height, 4,493.96 ft (1,369.759 m); minimum, 5,230 acre-ft (6.45 hm³) Feb. 5, 1918, gage height, 4,416.1 ft (1,346.03 m).

EXTREMES (AT 2400) FOR CURRENT YEAR.--Maximum contents observed, 962,300 acre-ft (1.19 km³) Oct. 1, gage height, 4,487.14 ft (1,367.680 m); minimum observed, 707,700 acre-ft (873 hm³) Sept. 30, gage height, 4,476.56 ft (1,364.455 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4,422	8,950	4,432	34,200	4,450	220,800	4,475	672,700
4,424	10,100	4,434	49,500	4,455	294,500	4,480	787,300
4,426	11,300	4,437	74,200	4,460	376,700	4,485	908,500
4,428	13,500	4,440	101,900	4,465	467,000	4,490	1,036,000
4,430	21,200	4,445	156,400	4,470	565,500	4,495.5	1,184,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	960276	917688	880508	872166	864588	871677	872656	870942	887155	837901	804605	762430
2	958752	916439	885183	870698	863612	870942	873881	872901	887401	837177	804843	760566
3	957229	915190	892585	870698	861418	869964	873146	874371	884937	835490	803178	759169
4	956214	913943	895306	870208	861418	870453	872656	874371	882475	833803	801515	757540
5	954693	912696	895306	869474	860444	869474	871921	875842	879771	833322	800565	756145
6	953172	911449	896296	868007	859226	868496	871432	876578	877315	831156	799140	754519
7	951905	909954	895801	867030	858009	867519	871187	877806	874126	829953	796768	753590
8	950386	909207	893574	866053	857036	867030	870453	877315	871432	827791	795583	752198
9	949121	907713	892832	864832	856064	866541	869964	877069	870698	824910	794399	750575
10	947350	906718	891597	863368	855335	865809	869719	878542	871432	822991	792741	748722
11	945834	905226	890362	862393	854849	865565	869230	878051	872166	823231	792268	746177
12	944823	903984	889621	861175	854120	865565	868496	877560	871432	823471	791558	743635
13	944066	902742	888388	860200	855821	865076	867274	878051	871187	822512	790612	741328
14	943561	901005	887401	859226	858253	864588	866053	879771	871921	821314	789667	739023
15	941794	899517	885922	858009	859713	865565	865076	880508	870698	819638	788721	736721
16	940281	898277	885183	857036	862393	864832	864588	880016	868496	818441	787776	734421
17	937760	896543	883706	856307	864832	864100	864100	881491	867030	818680	786596	731436
18	935494	895553	882967	855335	866786	863612	864100	882721	865320	819159	784944	728684
19	934236	894316	881983	854849	869474	863856	866053	882475	863612	819638	784944	725936
20	934236	892832	881245	853877	871432	863368	866541	881737	860931	817963	785416	723420
21	932727	891597	880754	853391	872901	863368	867030	881245	858253	817245	783058	720679
22	931219	890609	880016	852905	872656	863856	867030	880508	855578	816289	782116	718398
23	929210	889621	879034	855578	872656	863368	867763	879525	854363	815094	780703	717258
24	927955	888388	878297	855578	873881	862393	868496	878788	851692	814616	780468	715209
25	928206	887155	878051	854849	873881	866297	868496	878788	849024	813422	779527	714071
26	926951	885183	877069	855092	873146	867763	869230	880262	846602	812945	777881	713161
27	925447	883952	876578	860200	872411	869230	871187	881737	845149	811752	775063	712707
28	923442	882475	875842	865320	872166	870698	870942	882967	843456	810321	771545	710435
29	921940	882229	874862	866297	---	872166	871187	884444	841552	808890	768502	709753
30	920438	881491	873881	866297	---	872166	871187	885429	838625	807223	767100	707712
31	918938	---	873146	865320	---	871432	---	886415	---	804843	765231	---
MAX	960276	917688	896296	872166	873881	872166	873881	886415	887401	837901	804843	762430
MIN	918938	881491	873146	852905	854120	862393	864100	870942	838625	804843	765231	707712
†	4485.42	4483.91	4483.57	4483.25	4483.53	4483.50	4483.49	4484.11	4482.15	4480.74	4479.06	4476.56
‡	-43400	-37400	-8340	-7830	+6850	-734	-245	+15200	-47800	-33800	-39600	-57500

CAL YR 1980 † +245300
WTR YR 1981 † -254600

† Elevation, 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, Hydrologic Unit 18020121, 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 mi² (1,277 km²).

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. Datum of gage is 4,390.09 ft (1,338.099 m) National Geodetic Vertical Datum of 1929. 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 hm³). 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).--76 years, 901 ft³/s (25.52 m³/s), 652,800 acre-ft/yr (805 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,000 ft³/s (283 m³/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 ft³/s (105 m³/s); no flow Apr. 15, 16, 1914, at times January to April 1919, Apr. 21, 1923.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 37 ft³/s (1.05 m³/s) many days; minimum daily, 5.3 ft³/s (0.15 m³/s) Nov. 5-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	36	35	35	35	36	35	37	34	35	35	35	35		
2	36	35	36	35	36	35	36	34	35	35	35	35		
3	36	19	36	35	36	35	34	35	36	35	35	35		
4	36	5.5	36	35	36	35	34	35	36	35	35	35		
5	36	5.3	35	35	36	35	34	35	36	35	35	35		
6	36	5.3	35	35	36	35	34	35	36	35	35	35		
7	36	5.3	35	35	36	35	34	35	36	35	35	35		
8	36	5.3	35	35	36	35	34	35	35	35	35	35		
9	36	5.3	35	35	36	35	35	35	35	35	35	35		
10	36	5.3	35	35	36	35	35	35	35	35	35	35		
11	36	5.3	35	35	36	35	35	35	35	35	35	35		
12	37	19	35	35	36	35	35	35	35	35	35	35		
13	37	34	35	35	36	36	35	35	35	35	35	35		
14	37	35	35	35	36	36	35	36	35	35	35	35		
15	37	35	35	35	36	36	35	36	35	35	35	34		
16	36	35	35	35	37	36	35	36	35	36	35	35		
17	36	35	35	35	37	36	35	36	35	36	35	36		
18	36	35	35	35	37	36	35	36	35	37	35	36		
19	36	35	36	35	37	36	35	35	35	37	35	35		
20	36	35	36	35	37	36	35	35	35	37	35	35		
21	36	35	36	35	37	36	35	35	35	36	35	35		
22	36	35	36	35	37	36	36	35	35	36	35	35		
23	36	35	36	36	36	36	35	35	35	35	35	35		
24	35	35	36	36	35	36	35	35	36	35	35	35		
25	35	35	36	36	35	36	35	34	35	35	35	35		
26	35	35	36	36	35	36	35	34	35	35	35	35		
27	35	35	36	36	35	36	35	35	35	35	35	35		
28	35	35	36	36	35	36	36	35	35	35	35	35		
29	35	35	36	36	---	36	35	35	35	35	35	35		
30	35	35	35	36	---	36	34	35	35	35	35	35		
31	35	---	35	36	---	37	---	35	---	35	35	---		
TOTAL	1112	779.6	1049	1094	1010	1105	1048	1086	1056	1095	1085	1051		
MEAN	35.9	26.0	35.5	35.3	36.1	35.6	34.9	35.0	35.2	35.3	35.0	35.0		
MAX	37	35	36	36	37	37	37	36	36	37	35	36		
MIN	35	5.3	35	35	35	35	34	34	35	35	35	34		
AC-FT	2210	1550	2180	2170	2000	2190	2080	2150	2090	2170	2150	2080		
MEAN ‡	1159	1105	989	956	721	791	846	517	1292	803	882	1251		
AC-FT ‡	71280	65760	60790	58780	40030	48630	50320	31800	76850	49370	54240	74440		
CAL YR 1980	TOTAL	13203.6	MEAN	36.1	MAX	47	MIN	5.3	AC-FT	26190	MEAN ‡	562	AC-FT ‡	408,300
WTR YR 1981	TOTAL	12620.6	MEAN	34.6	MAX	37	MIN	5.3	AC-FT	25030	MEAN ‡	942	AC-FT ‡	682,300

‡ Adjusted for diversion through Butt Valley powerhouse and leakage from Butt Valley tunnel No. 1.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020121, 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 mi² (179.5 km²).

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 power-house 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 5,810 acre-ft (7.16 hm³) 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).--45 years (including records for station 11400000 Butt Creek above Almanor-Butt Creek tunnel, near Prattville for water years 1960-64), 82.0 ft³/s (2.322 m³/s), 59,410 acre-ft/yr (73.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft³/s (108 m³/s) Dec. 23, 1964, gage height, 5.87 ft (1.789 m), from rating curve extended above 1,400 ft³/s (39.6 m³/s); minimum daily, 26 ft³/s (0.74 m³/s) May 26-28, June 1-5, 13-15, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 273 ft³/s (7.73 m³/s) Feb. 19, gage height, 1.56 ft (0.475 m); minimum daily, 33 ft³/s (0.93 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	50	56	57	65	79	109	102	54	36	34	33
2	50	50	110	55	65	79	100	97	54	36	34	33
3	50	50	135	61	62	79	95	88	53	35	34	33
4	50	50	188	62	61	84	94	83	52	36	34	33
5	50	50	88	58	62	81	98	79	52	37	35	33
6	50	49	69	56	60	78	105	76	50	37	34	33
7	50	52	60	55	59	78	104	74	49	36	34	33
8	50	53	55	54	60	79	100	72	49	36	34	33
9	46	50	55	53	61	81	99	71	49	36	34	33
10	42	50	53	53	60	85	103	70	48	35	34	33
11	43	50	53	52	62	86	98	67	48	35	34	33
12	50	50	52	52	63	86	93	62	48	36	34	33
13	50	50	52	52	74	89	92	58	48	35	33	33
14	56	50	52	52	193	84	94	62	47	36	33	33
15	49	49	54	52	131	85	94	60	46	35	33	33
16	46	49	56	56	132	86	92	59	45	36	34	33
17	45	50	54	61	169	79	94	58	44	35	34	33
18	45	50	55	57	129	80	96	109	44	35	34	33
19	45	49	54	61	164	95	133	81	42	35	34	36
20	44	49	54	64	163	87	107	71	41	35	34	37
21	47	50	68	70	124	86	103	66	41	35	34	37
22	50	54	74	74	112	85	106	64	41	35	34	37
23	51	55	61	94	109	84	110	62	41	35	34	37
24	50	52	57	72	111	85	113	62	39	35	34	41
25	51	50	67	64	97	179	113	69	40	35	34	45
26	52	49	65	64	89	156	118	67	39	35	34	40
27	51	49	65	71	84	124	102	66	38	35	33	41
28	50	49	70	74	80	119	96	61	36	33	33	51
29	50	50	64	72	---	131	99	58	36	34	33	42
30	50	86	60	69	---	114	102	56	36	34	33	41
31	50	---	59	65	---	108	---	54	---	34	33	---
TOTAL	1513	1544	2115	1912	2701	2931	3062	2184	1350	1093	1047	1079
MEAN	48.8	51.5	68.2	61.7	96.5	94.5	102	70.5	45.0	35.3	33.8	36.0
MAX	56	86	188	94	193	179	133	109	54	37	35	51
MIN	42	49	52	52	59	78	92	54	36	33	33	33
AC-FT	3000	3060	4200	3790	5360	5810	6070	4330	2680	2170	2080	2140
CAL YR 1980	TOTAL	38617	MEAN 106	MAX 1310	MIN 42	AC-FT 76600						
WTR YR 1981	TOTAL	22531	MEAN 61.7	MAX 193	MIN 33	AC-FT 44690						

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, Hydrologic Unit 18020121, 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 mi² (1,585 km²).

PERIOD OF RECORD.--October 1969 to current year. July 1959 to September 1969 in files of Pacific Gas and Electric Co.

REVISED RECORDS.--WDR CA-78-4: 1977 (monthly and yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 2,811.00 ft (856.793 m) National Geodetic Vertical Datum of 1929 (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 km³). 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).--12 years, 1,106 ft³/s (31.32 m³/s), 801,300 acre-ft/yr (988 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,040 ft³/s (86.1 m³/s) Nov. 18, 1974, gage height, 8.89 ft (2.710 m); minimum daily, 11 ft³/s (0.31 m³/s) Dec. 4-9, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 154 ft³/s (4.36 m³/s) Apr. 24, gage height, 3.56 ft (1.085 m); minimum daily, 19 ft³/s (0.54 m³/s) Nov. 12, 17, 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61	63	63	60	61	64	60	140	139	139	138	139
2	61	50	63	62	62	64	60	140	140	139	139	139
3	63	20	63	64	62	64	60	138	142	139	139	141
4	63	20	63	63	62	65	60	143	142	139	140	141
5	62	20	63	62	63	65	59	139	141	139	139	142
6	63	20	63	64	64	64	60	138	140	139	140	142
7	63	20	62	64	62	65	60	140	140	139	141	141
8	63	20	64	65	64	65	59	138	140	140	141	63
9	62	20	63	64	63	65	60	139	137	140	141	60
10	62	20	62	64	64	65	59	138	138	139	142	61
11	61	20	63	64	63	65	59	140	137	139	141	61
12	62	19	62	65	62	64	59	142	138	139	141	62
13	62	20	62	65	63	61	59	140	136	140	141	62
14	62	20	61	65	64	60	60	139	137	139	140	62
15	62	20	61	64	65	60	60	139	136	140	140	61
16	62	20	61	61	66	62	58	141	137	140	141	61
17	62	19	62	62	65	61	60	142	136	140	141	61
18	63	19	61	62	65	61	59	138	137	141	140	61
19	63	30	61	62	64	60	59	139	139	141	140	61
20	62	61	62	62	65	60	59	141	140	141	141	61
21	62	63	61	61	65	60	60	139	141	140	141	62
22	62	62	60	62	65	60	60	141	141	139	140	61
23	62	62	60	62	65	60	60	141	140	139	141	61
24	63	63	61	63	65	60	116	141	140	139	140	62
25	61	64	61	62	65	61	142	139	140	140	142	61
26	61	64	61	62	64	62	142	138	141	139	141	62
27	62	63	59	63	64	60	139	140	139	140	140	61
28	61	64	60	63	64	60	143	137	141	139	137	62
29	62	63	60	63	---	61	145	139	140	140	139	62
30	62	63	61	62	---	61	139	140	139	140	139	62
31	62	---	60	61	---	61	---	140	---	140	138	---
TOTAL	1924	1152	1909	1948	1786	1926	2335	4329	4174	4327	4344	2398
MEAN	62.1	38.4	61.6	62.8	63.8	62.1	77.8	140	139	140	140	79.9
MAX	63	64	64	65	66	65	145	143	142	141	142	142
MIN	61	19	59	60	61	60	58	137	136	139	137	60
AC-FT	3820	2280	3790	3860	3540	3820	4630	8590	8280	8580	8620	4760
MEAN ‡	1248	1200	1121	1093	1037	1026	1110	707	1260	882	952	1305
AC-FT ‡	76720	71420	68920	67230	57610	63070	66060	43500	75030	54210	58510	77650

CAL YR 1980 TOTAL 35700 MEAN 97.5 MAX 1250 MIN 19 AC-FT 70410 MEAN ‡ 760 AC-FT ‡ 551600
WTR YR 1981 TOTAL 32552 MEAN 89.2 MAX 145 MIN 19 AC-FT 64570 MEAN ‡ 1077 AC-FT ‡ 779900

‡ Adjusted for diversion through Belden powerhouse.

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, Hydrologic Unit 18020122, 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 mi² (1,914 km²).

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 period of no gage-height record and July to September, which are fair. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft (6.2 hm³), Taylor Lake since 1929, capacity, 380 acre-ft (469,000 m³), and Antelope Lake (station 11401120) since November 1963. Diversions above station for irrigation of about 11,800 acres (47.8 km²) of which 9,700 acres (39.2 km²) are in Indian and Genesee Valleys. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--60 years (water years 1907-9, 1912-17, 1931-81), 535 ft³/s (15.15 m³/s), 387,600 acre-ft/yr (478 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 25,000 ft³/s (708 m³/s) Mar. 19, 1907, gage height, 20.2 ft (6.16 m) site and datum then in use; minimum daily, 0.90 ft³/s (0.025 m³/s) July 28, 29, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0500	1,710 48.4	6.16 1.878
Feb. 14	1230	*2,120 60.0	6.67 2.033

Minimum daily, 5.2 ft³/s (0.15 m³/s) Aug. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	89	132	125	334	320	680	329	107	11	6.8	6.5
2	45	99	160	121	318	300	635	321	88	13	7.1	6.7
3	45	93	706	127	285	300	560	274	83	15	5.7	7.9
4	40	91	1350	165	260	315	500	243	70	15	6.0	6.8
5	41	88	571	157	255	340	462	203	62	19	6.5	11
6	40	88	312	152	238	335	466	180	56	19	8.2	11
7	43	87	226	143	226	315	462	172	48	13	7.1	10
8	45	93	166	135	224	300	445	163	50	16	5.7	11
9	45	88	163	128	224	285	421	160	50	12	6.8	7.5
10	43	88	144	122	224	280	402	149	46	13	8.8	10
11	45	89	138	119	227	280	376	134	50	9.2	9.8	11
12	50	85	130	116	240	280	350	124	43	8.6	12	9.8
13	60	84	125	118	313	285	338	116	36	8.1	12	11
14	87	84	122	116	1720	290	329	125	43	8.4	11	9.1
15	90	85	124	115	1370	280	319	130	41	12	8.5	11
16	85	85	126	120	939	300	320	128	42	8.8	5.2	5.9
17	79	85	124	125	1180	280	307	120	42	8.2	9.8	9.0
18	76	88	124	124	980	285	313	162	35	7.0	10	9.0
19	75	88	125	132	1020	342	443	205	35	9.3	8.6	12
20	75	87	123	145	1040	479	466	174	30	10	6.9	8.3
21	80	86	135	139	750	454	407	145	28	7.1	9.2	7.2
22	76	87	160	146	660	432	375	130	24	10	9.8	13
23	74	89	151	208	430	399	362	122	20	12	6.0	9.7
24	73	91	140	264	480	379	385	117	18	8.5	8.1	15
25	76	89	137	239	440	616	379	166	19	7.4	6.3	19
26	89	88	141	204	400	1230	369	192	15	8.6	8.1	19
27	87	86	143	524	360	1050	329	206	14	7.7	6.0	18
28	85	86	146	1250	330	835	289	185	16	7.2	6.2	21
29	83	88	143	856	---	776	284	150	11	8.0	6.0	21
30	85	153	136	578	---	766	307	128	11	6.5	6.5	21
31	98	---	131	413	---	713	---	118	---	6.5	7.1	---
TOTAL	2062	2707	6754	7426	15467	13841	12080	5271	1233	325.1	241.8	348.4
MEAN	66.5	90.2	218	240	552	446	403	170	41.1	10.5	7.80	11.6
MAX	98	153	1350	1250	1720	1230	680	329	107	19	12	21
MIN	40	84	122	115	224	280	284	116	11	6.5	5.2	5.9
AC-FT	4090	5370	13400	14730	30680	27450	23960	10460	2450	645	480	691
CAL YR 1980 TOTAL	245065.0			MEAN 670	MAX 14100	MIN 18	AC-FT 486100					
WTR YR 1981 TOTAL	67756.3			MEAN 186	MAX 1720	MIN 5.2	AC-FT 134400					

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, Hydrologic Unit 18020122, on right bank 200 ft (61 m) upstream from Blackhawk Creek, and 0.9 mi (1.4 km) southeast of Keddle.

DRAINAGE AREA.--184 mi² (477 km²).

PERIOD OF RECORD.--October 1933 to current year. Prior to October 1953, published as "at Keddle." 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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent. Flow regulated by five small reservoirs having a combined capacity of 800 acre-ft (986,000 m³). Approximately 4,600 acres (18.6 km²) irrigated above station (from information furnished by U.S. Forest Service). City of Quincy diverts about 450 acre-ft (555,000 m³) annually for municipal supply. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE.--48 years, 264 ft³/s (7.476 m³/s), 191,300 acre-ft/yr (236 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,400 ft³/s (436 m³/s) Dec. 22, 1964, gage height, 13.53 ft (4.124 m), from rating curve extended above 5,200 ft³/s (147 m³/s) on basis of slope-area measurement at gage height 12.47 ft (3.801 m); minimum, 3.8 ft³/s (0.11 m³/s) Aug. 12, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft³/s (48.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0500	2,110 59.8	5.62 1.713
Jan. 28	0930	1,810 51.3	5.30 1.615
Feb. 14	0430	*3,620 103	6.97 2.124

Minimum daily, 9.1 ft³/s (0.26 m³/s) Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	45	74	76	241	207	342	242	79	37	13	10
2	34	45	95	74	214	201	302	234	77	38	17	9.1
3	34	47	676	78	194	194	272	200	75	39	19	10
4	33	46	1280	121	178	213	252	181	71	38	17	12
5	33	46	297	97	168	235	244	166	65	39	14	14
6	33	45	175	89	157	217	257	150	56	37	13	15
7	34	46	133	84	148	203	259	144	61	27	13	15
8	34	53	109	80	143	192	250	131	60	24	15	15
9	33	51	98	76	141	189	242	122	58	20	14	13
10	33	49	88	74	144	186	236	122	47	21	15	13
11	39	49	82	71	154	186	226	122	50	23	14	12
12	45	49	78	70	182	184	215	119	52	26	15	12
13	48	48	74	69	331	191	208	116	54	29	14	16
14	62	47	71	68	2030	195	211	114	59	27	15	14
15	54	48	71	68	780	183	220	126	54	23	15	11
16	51	47	72	71	540	207	215	115	54	21	15	11
17	48	47	72	80	624	185	215	113	49	21	13	13
18	46	47	72	81	489	179	218	160	43	20	13	14
19	46	48	71	86	507	267	289	176	38	20	13	15
20	46	47	71	109	545	370	244	135	39	17	13	14
21	45	48	83	104	385	353	224	120	38	15	14	15
22	45	48	136	106	310	355	233	113	40	16	15	16
23	44	50	107	240	276	320	243	103	35	15	20	16
24	46	52	93	275	321	295	261	100	32	16	22	20
25	45	49	87	216	287	825	266	161	33	15	20	38
26	49	49	88	177	253	1040	267	161	31	16	18	32
27	47	47	89	870	232	665	227	140	33	16	17	29
28	45	47	91	1490	219	513	208	118	37	15	17	35
29	46	47	89	736	---	463	219	106	41	16	16	34
30	47	98	84	424	---	410	226	94	39	13	15	31
31	46	---	80	294	---	348	---	85	---	13	15	---
TOTAL	1327	1485	4786	6554	10193	9771	7291	4289	1500	713	479	524.1
MEAN	42.8	49.5	154	211	364	315	243	138	50.0	23.0	15.5	17.5
MAX	62	98	1280	1490	2030	1040	342	242	79	39	22	38
MIN	33	45	71	68	141	179	208	85	31	13	13	9.1
AC-FT	2630	2950	9490	13000	20220	19380	14460	8510	2980	1410	950	1040
CAL YR 1980 TOTAL	125354.0			MEAN 342	MAX 9610	MIN 23	AC-FT 248600					
WTR YR 1981 TOTAL	48912.1			MEAN 134	MAX 2030	MIN 9.1	AC-FT 97020					

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, Hydrologic Unit 18020122, 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 mi² (2,655 km²).

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.--24 years (water years 1951-61, 1969-81), 999 ft³/s (28.29 m³/s), 723,800 acre-ft/yr (892 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,300 ft³/s (1,370 m³/s) Dec. 22, 1964, gage height, 16.56 ft (5.048 m), from rating curve extended above 15,000 ft³/s (425 m³/s) on basis of study of upstream and downstream peak discharges; minimum daily, 23 ft³/s (0.65 m³/s) Aug. 29-31, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,630 ft³/s (159 m³/s) Feb. 14, gage height, 8.60 ft (2.621 m); minimum daily, 30 ft³/s (0.850 m³/s) Sept. 3.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	122	213	336	311	832	772	1370	839	318	80	39	42
2	121	206	363	301	745	757	1290	816	287	78	45	35
3	116	208	1530	302	685	753	1160	719	272	81	52	30
4	116	204	3150	381	629	767	1040	654	254	85	52	33
5	110	200	1260	376	599	822	975	593	234	85	50	37
6	110	197	715	354	571	760	987	538	207	90	44	48
7	112	203	538	339	543	721	992	504	191	85	47	53
8	118	210	432	324	523	686	966	490	189	69	50	50
9	120	212	386	312	519	668	928	471	189	75	49	58
10	113	204	360	299	522	659	900	467	175	66	43	51
11	120	202	336	290	529	656	856	447	167	70	50	48
12	145	201	323	283	578	650	803	425	173	68	49	50
13	168	196	308	279	706	664	781	410	156	72	61	47
14	206	194	299	280	4090	731	776	418	162	75	57	51
15	224	194	295	276	2910	720	771	426	168	70	56	51
16	207	194	298	283	1976	787	769	411	158	69	50	48
17	201	192	302	302	2230	718	755	402	155	61	45	44
18	187	195	301	312	1940	677	769	515	146	57	45	39
19	185	197	301	315	1750	769	953	580	131	57	49	43
20	182	195	298	369	2020	1150	997	505	124	56	44	50
21	183	194	321	368	1550	1120	894	446	115	56	42	47
22	188	197	416	375	1270	1130	893	411	113	47	47	43
23	180	200	395	557	1110	1050	891	390	104	49	51	56
24	177	207	359	744	1150	983	930	377	94	52	53	59
25	182	204	342	696	1110	1540	922	477	87	49	57	84
26	195	200	343	569	990	2860	902	519	88	42	52	122
27	205	197	349	1310	886	2280	816	527	79	45	51	117
28	197	194	352	3350	813	1830	755	462	82	45	48	130
29	192	199	349	2260	---	1640	754	422	88	42	44	129
30	194	322	336	1460	---	1610	796	370	86	44	42	120
31	195	---	322	1050	---	1440	---	339	---	42	42	---
TOTAL	5071	6131	16015	19027	33770	32370	27391	15370	4792	1962	1506	1815
MEAN	164	204	517	614	1206	1044	913	496	160	63.3	48.6	60.5
MAX	224	322	3150	3350	4090	2860	1370	839	318	90	61	130
MIN	110	192	295	276	519	650	754	339	79	42	39	30
AC-FT	10060	12160	31770	37740	66980	64210	54330	30490	9500	3890	2990	3600
CAL YR 1980	TOTAL	410016	MEAN	1120	MAX	21000	MIN	73	AC-FT	813300		
WTR YR 1981	TOTAL	165220	MEAN	453	MAX	4090	MIN	30	AC-FT	327700		

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, Hydrologic Unit 18020121, 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 mi² (74.1 km²).

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 National Geodetic Vertical Datum of 1929 (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 hm³) 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, NGVD. 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 m³) 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 hm³) June 23, 1938, elevation, 5,157.1 ft (1,571.88 m); minimum, 12,330 acre-ft (15.2 hm³) Feb. 27, 1929, elevation, 5,090.7 ft (1,551.65 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 84,000 acre-ft (104 hm³) June 15, elevation, 5,144.81 ft (1,568.138 m); minimum, 47,770 acre-ft (58.9 hm³) Jan. 8, elevation, 5,121.65 ft (1,561.079 m).

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

5,064.75	274	5,075	2,400	5,100	21,200	5,125	52,500
5,066	388	5,080	4,740	5,105	26,600	5,130	60,000
5,068	635	5,085	7,920	5,110	32,500	5,140	75,900
5,070	977	5,090	11,700	5,115	38,800	5,150	93,000
5,072	1,440	5,095	16,200	5,120	45,500	5,160	111,200

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73600	62304	53130	48964	50386	56973	63233	73110	82747	79716	78361	77217
2	73273	61994	53568	48681	50386	56973	63389	73600	82917	79548	78361	77052
3	72784	61685	54745	48540	50671	57124	63389	74089	83087	79548	78214	76886
4	72459	61377	55335	48398	50671	57425	63545	74580	83087	79548	78214	76886
5	72135	60917	55483	48117	50671	57575	63710	74909	82917	79548	78214	76886
6	71811	60764	55483	47838	50671	57726	64013	75237	82747	79361	78880	76886
7	71487	60457	55040	47838	50814	57575	64325	75566	82917	79213	78880	76886
8	71163	60304	54597	47838	50814	57726	64481	75894	82917	79213	78714	76721
9	70679	59997	54450	47838	50957	57876	64794	76059	83087	79047	78714	76225
10	70518	59693	54302	47977	51100	58027	65266	76390	83087	78880	78714	75566
11	70036	58934	54007	47977	51245	58117	65581	76556	83087	78880	78714	75237
12	69553	58934	53568	48117	51389	58328	65581	76886	83257	78880	78714	74745
13	69073	58782	53130	48117	51967	58478	65738	77217	83597	78880	78714	74252
14	68753	58478	52837	48257	52837	58934	65738	77548	83767	78880	78714	73763
15	68274	58177	52691	48257	53276	59238	66369	77881	83767	78880	78714	73110
16	67955	57726	52256	48257	53714	59238	66527	78214	82917	78547	78714	72784
17	67637	57425	51823	48398	54007	59238	67003	78381	82917	78547	78714	72297
18	67320	56973	51678	48540	54302	59541	67320	79047	82577	78547	78714	71611
19	67003	56526	51534	48681	54597	59845	67637	79381	82071	78547	78714	71325
20	66686	56079	51100	48823	54893	59997	68114	79548	81902	78547	78714	70840
21	66369	55930	51100	48540	55188	60150	68434	79883	81733	78547	78714	70518
22	66053	55632	50814	48540	55335	60304	68753	80051	81564	78547	78714	70036
23	65581	55188	50957	48681	55483	60457	69073	80218	81564	78547	78714	69232
24	65581	55040	50671	48540	56079	60610	69714	80554	81395	78547	78714	68913
25	65109	54597	50671	48398	56228	61530	70357	81227	81227	78547	78714	68434
26	64481	54302	50243	48540	56526	61685	70679	82564	80721	78547	78547	67955
27	64325	54007	49814	49388	56675	62458	71163	81902	80554	78547	78214	67637
28	63857	53714	49957	49814	56824	62458	71487	82071	80051	78547	77715	67478
29	63389	53422	49671	50100	---	62613	71973	82408	79716	78547	77383	67795
30	63233	53422	49388	50243	---	62768	72459	82408	79716	78547	77383	67795
31	62922	---	49247	50243	---	62422	---	82577	---	78547	77383	---
MAX	73600	62304	55483	50243	56824	62922	72459	82577	83767	79716	78880	77217
MIN	62922	53422	49247	47838	50386	56973	63233	73110	79716	78547	77383	67478
†	5131.9	5125.6	5122.7	5123.4	5127.9	5131.9	5137.9	5144.0	5142.3	5141.6	5140.9	5135.0
‡	-11000	-9500	-4180	+996	+6580	+6100	+9540	+10100	-2860	-1170	-1160	-9590

CAL YR ‡ +15600

WTR YR ‡ -6130

* Elevations, 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, Hydrologic Unit 18020121, 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 mi² (5,058 km²).

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. WDR CA-77-4: 1976 (yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 1,305.62 ft (397.953 m), National Geodetic Vertical Datum of 1929. 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 km³). Diversion through Poe powerhouse began on May 29, 1958. See schematic diagram of North Fork Feather River basin.

COOPERATION.--Gage-height record and nine 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).--71 years, 2,941 ft³/s (83.29 m³/s), 2,131,000 acre-ft/yr (2.63 km³/yr).

EXTREMES FOR PERIOD OF RECORD (prior to diversion to Poe powerhouse).--Maximum discharge, 72,400 ft³/s (2,050 m³/s) Dec. 23, 1955, gage height, 35.60 ft (10.851 m) present datum, from rating curve extended above 34,000 ft³/s (963 m³/s); minimum daily, 235 ft³/s (6.66 m³/s) Oct. 31, 1932. 1958 to current year: Maximum discharge, 73,000 ft³/s (2,070 m³/s) Dec. 22, 1964, gage height, 35.80 ft (10.912 m), from rating curve extended above 34,000 ft³/s (963 m³/s); minimum daily, 5.4 ft³/s (0.15 m³/s) Sept. 18, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,100 ft³/s (286 m³/s) Dec. 4, gage height, 15.23 ft (4.642 m); minimum daily, 36 ft³/s (1.02 m³/s) Oct. 7, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	50	50	53	78	67	80	51	51	54	56	50
2	37	52	86	52	74	64	74	50	48	52	54	51
3	39	49	171	53	72	55	70	50	49	54	55	52
4	39	46	2400	53	69	71	68	51	50	51	56	52
5	38	47	91	53	67	71	68	49	53	54	54	53
6	38	46	60	55	67	65	66	52	53	53	55	52
7	36	52	58	56	64	61	64	55	54	52	55	52
8	38	50	56	53	63	60	62	54	55	54	55	62
9	36	49	55	52	62	57	62	55	53	57	54	51
10	44	49	55	53	62	57	61	53	52	55	54	52
11	50	46	54	54	66	55	59	54	52	57	55	53
12	51	46	53	52	66	53	58	51	53	55	56	50
13	52	48	54	52	87	53	58	51	52	55	54	51
14	52	47	54	51	3380	53	57	54	53	55	54	52
15	52	49	54	53	1160	60	56	51	52	57	54	51
16	53	48	53	57	90	67	56	52	52	56	54	51
17	51	46	54	57	82	59	56	54	52	58	54	51
18	51	50	53	57	74	62	55	63	51	56	55	50
19	49	50	55	57	77	96	67	54	52	55	55	50
20	46	52	53	56	73	88	58	53	55	55	54	49
21	46	52	57	56	69	127	57	53	56	56	53	51
22	46	52	56	60	69	117	56	51	55	56	49	54
23	49	53	60	84	68	98	56	51	55	55	50	54
24	49	50	53	85	72	87	55	53	53	56	53	55
25	50	50	53	68	69	187	56	53	54	57	52	55
26	48	50	54	62	70	849	60	54	54	54	51	54
27	49	50	53	145	70	144	55	58	54	54	51	54
28	47	50	53	1120	69	97	52	52	54	54	50	56
29	48	53	53	582	---	90	52	51	54	55	51	53
30	47	55	54	105	---	83	51	50	54	55	50	53
31	51	---	53	89	---	78	---	50	---	55	52	---
TOTAL	1419	1487	4298	3535	6389	3231	1805	1633	1585	1702	1655	1574
MEAN	45.8	49.6	139	114	228	104	60.2	52.7	52.8	54.9	53.4	52.5
MAX	53	55	2480	1120	3380	849	80	63	56	58	56	62
MIN	36	46	50	51	62	53	51	49	48	51	49	49
AC-FT	2810	2950	8530	7010	12670	6410	3580	3240	3140	3380	3280	3120
MEAN †	1773	1770	2287	2287	3104	2859	2889	1921	1751	1132	1156	1704
AC-FT †	109000	105300	140600	140600	172400	175800	171900	118100	104200	69600	71100	101400
CAL YR 1980	TOTAL	282413	MEAN 772	MAX 37500	MIN 36	AC-FT 560200	MEAN † 3065	AC-FT 2225000				
WTR YR 1981	TOTAL	30313	MEAN 83.0	MAX 3380	MIN 36	AC-FT 60130	MEAN † 2044	AC-FT 1480000				

† 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, 25.5°C on several days during August 1981; minimum recorded, 0.5°C Jan. 4, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 25.5°C on several days during August; minimum recorded, 4.5°C on several days during December and February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA

LOCATION.--Lat 39°47'12", long 121°33'42", in SE4SE4 sec.6, T.22 N., R.4 E., Butte County, Hydrologic Unit 18020121, 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 mi² (285 km²).

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 DeSabra and Centerville plants of Pacific Gas and Electric Co. Upper Miocene Canal diverts about 50 ft³/s (1.42 m³/s) to Lime Saddle powerplant. Flow regulated by Round Valley Reservoir, usable capacity, 5,000 acre-ft (6.16 hm³) and Philbrook Reservoir, capacity, 5,010 acre-ft (6.18 hm³).

AVERAGE DISCHARGE.--24 years, 295 ft³/s (8.354 m³/s), 213,700 acre-ft/yr (263 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,300 ft³/s (745 m³/s) Dec. 22, 1964, gage height, 26.2 ft (7.99 m) from floodmarks, from rating curve extended above 14,000 ft³/s (396 m³/s); minimum daily, 0.29 ft³/s (0.008 m³/s) Aug. 24, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,000 ft³/s (56.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0515	2,420 68.5	9.20 2.804
Feb. 14	0500	*2,850 80.7	9.51 2.899

Minimum daily, 0.57 ft³/s (0.016 m³/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.6	1.5	8.0	15	170	146	350	416	45	1.9	1.3	.91
2	6.6	1.5	224	13	142	134	302	381	37	1.9	1.3	.92
3	3.5	1.5	1410	13	116	128	266	282	30	1.8	1.3	.97
4	.98	2.1	1330	36	103	271	240	229	24	1.8	1.3	.97
5	.75	1.8	241	20	96	262	247	203	19	1.7	1.3	.91
6	.79	2.1	81	15	89	209	287	174	16	1.8	1.3	.94
7	.88	1.6	46	13	81	176	281	154	16	1.8	1.3	.79
8	1.3	2.2	30	11	76	156	252	141	17	1.6	1.3	.87
9	1.4	2.3	24	9.5	74	148	240	139	15	1.5	1.3	.78
10	1.4	1.9	18	8.0	71	145	254	150	12	1.4	1.2	.87
11	1.4	1.8	14	6.4	91	145	246	146	11	1.2	1.2	.86
12	1.9	1.7	12	5.6	109	138	222	131	9.5	2.8	1.2	1.0
13	2.7	1.6	10	5.1	235	141	214	121	8.4	2.7	1.2	.91
14	11	1.5	9.1	4.5	1740	122	235	138	7.3	2.2	1.2	.91
15	4.1	1.5	8.8	4.3	735	137	255	137	5.7	1.1	1.2	.91
16	2.0	1.4	25	9.3	551	189	223	97	4.1	1.0	1.4	.91
17	1.7	1.3	27	29	767	135	232	80	3.2	1.1	1.2	.85
18	1.6	1.3	20	29	549	128	251	551	2.7	1.2	1.2	.84
19	1.5	1.3	19	19	583	402	344	394	21	2.7	1.3	.80
20	1.5	1.3	16	30	574	309	261	189	2.2	4.4	1.3	.80
21	1.5	1.2	46	47	357	488	248	142	1.9	1.5	1.3	.78
22	1.5	1.4	134	40	294	447	282	127	2.0	1.5	1.2	.57
23	1.5	1.8	51	312	316	333	350	105	2.2	1.4	1.1	.64
24	1.5	3.8	31	243	393	279	378	98	2.2	1.4	1.0	.94
25	1.5	1.9	25	90	327	1040	359	198	2.1	1.3	.94	3.0
26	1.6	1.5	28	64	249	955	388	223	2.1	1.3	1.0	1.2
27	1.6	1.3	26	666	178	616	290	162	2.1	1.3	1.0	1.1
28	1.5	1.3	30	1190	165	500	271	119	2.1	1.3	1.1	7.9
29	1.5	1.2	26	745	---	482	376	81	2.0	1.2	.98	8.7
30	1.5	33	21	393	---	391	405	68	1.9	1.2	.98	3.6
31	1.5	---	18	221	---	339	---	59	---	1.3	.98	---
TOTAL	70.30	81.6	4008.9	4306.7	9231	9491	8549	5635	326.7	52.3	36.88	46.15
MEAN	2.27	2.72	129	139	330	306	285	182	10.9	1.69	1.19	1.54
MAX	11	33	1410	1190	1740	1040	405	551	45	4.4	1.4	8.7
MIN	.75	1.2	8.0	4.3	71	122	214	59	1.9	1.0	.94	.57
AC-FT	139	162	7950	8540	18310	18830	16960	11180	648	104	73	92
CAL YR 1980 TOTAL	143393.77			MEAN 392	MAX 9690	MIN .75	AC-FT 284400					
WTR YR 1981 TOTAL	41835.53			MEAN 115	MAX 1740	MIN .57	AC-FT 82980					

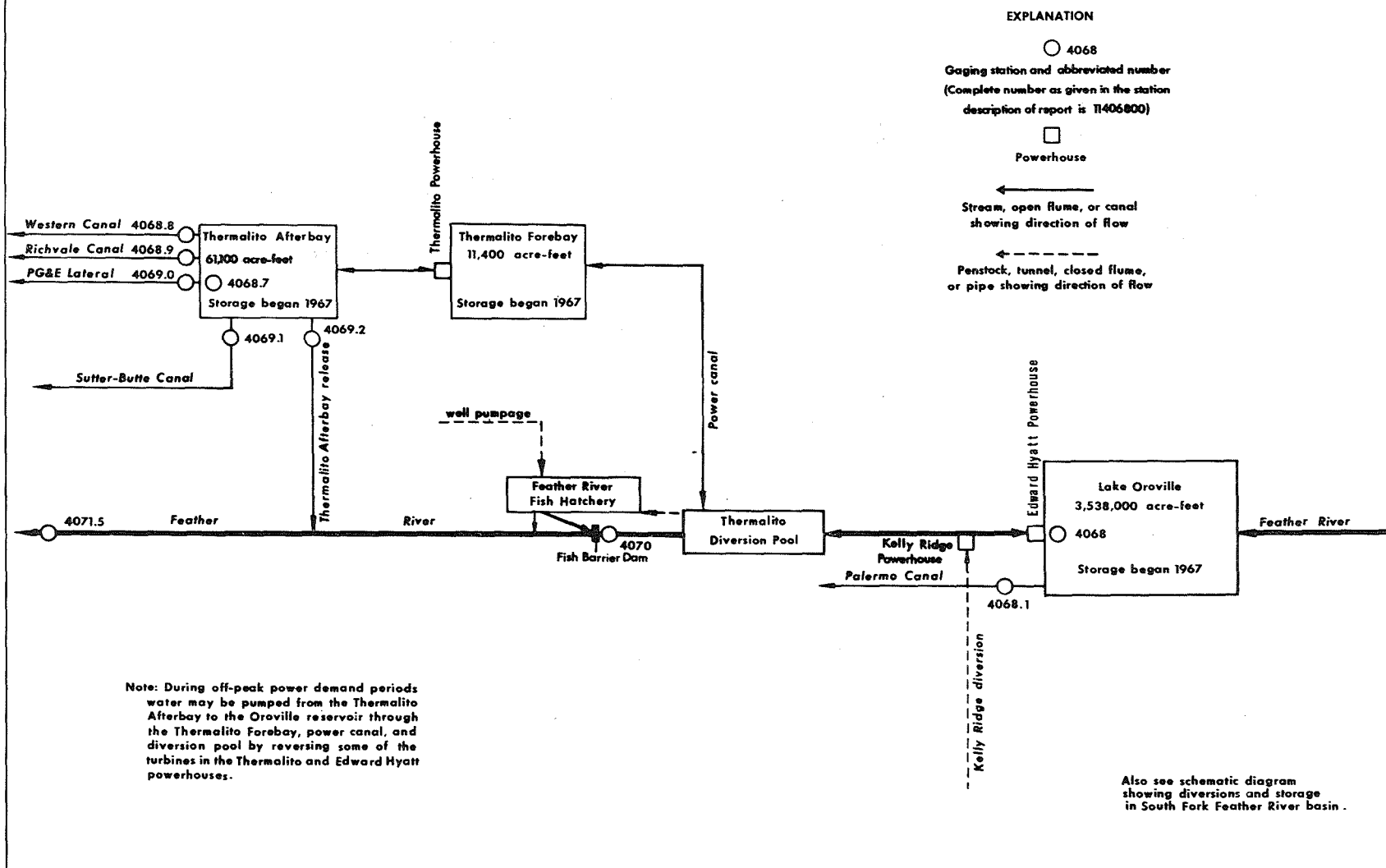


FIGURE 7.—Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

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, Hydrologic Unit 18020123, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory 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, 3,411,206 acre-ft (4.21 km³) May 3, gage height 891.90 ft (271.851 m); minimum, 2,345,874 acre-ft (2.89 km³) Sept. 19, gage height, 813.34 ft (247.906 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

640	852,192	730	1,498,175	820	2,425,571
650	911,975	740	1,586,086	830	2,548,850
660	974,560	750	1,677,554	840	2,676,446
670	1,040,003	760	1,772,690	850	2,808,349
680	1,108,406	770	1,871,511	860	2,944,741
690	1,179,915	780	1,974,240	870	3,085,747
700	1,254,634	790	2,080,969	880	3,231,454
710	1,332,547	800	2,191,742	890	3,382,038
720	1,413,685	810	2,306,597	900	3,537,577

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2611849	2601274	2620151	2736833	2891145	3091052	3259389	3406896	3249414	3099240	2658707	2438803
2	2611721	2604711	2622965	2738809	2897310	3092488	3257601	3408435	3246886	3090622	2643366	2432729
3	2608661	2603565	2939766	2741974	2900602	3092201	3258495	3411206	3247184	3076868	2629369	2425210
4	2613763	2603820	2663490	2746725	2905132	3098953	3266101	3409974	3241093	3068436	2620151	2418559
5	2615806	2604838	2672554	2746989	2908980	3106147	3276263	3405204	3239312	3056460	2613508	2411077
6	2608533	2603183	2676706	2744745	2910356	3108452	3281502	3397981	3240499	3047784	2602038	2405776
7	2608916	2602420	2682028	2746329	2916825	3115229	3286298	3387857	3240499	3037282	2590906	2396760
8	2611084	2603183	2684496	2747386	2922891	3118549	3292299	3374391	3234269	3027937	2582493	2384656
9	2608151	2604711	2688007	2748574	2923166	3120861	3299210	3367368	3230273	3022849	2574148	2376411
10	2611594	2603438	2693865	2752276	2921511	3124185	3304475	3358222	3222580	3012549	2564436	2370925
11	2610191	2605221	2695428	2756113	2925789	3125631	3313667	3347727	3215785	3002836	2555127	2367709
12	2609553	2605985	2695428	2757172	2931867	3128381	3321516	3339681	3206055	2991742	2547345	2370448
13	2609043	2604202	2698949	2758231	2939063	3134174	3325900	3326202	3197080	2977462	2538580	2367947
14	2608916	2603820	2701298	2756377	2971457	3140846	3333619	3316684	3195610	2963927	2531333	2361405
15	2606494	2603311	2701037	2755980	2992163	3149708	3338468	3307939	3190617	2948768	2527341	2359979
16	2605857	2605093	2704823	2756113	3007619	3155238	3342716	3299962	3185776	2926755	2519370	2356418
17	2605093	2605093	2705215	2760351	3021295	3154510	3348943	3284649	3183724	2908156	2513651	2353571
18	2608278	2603056	2701820	2765125	3032324	3156549	3353352	3279556	3179769	2888818	2508562	2349543
19	2609553	2603056	2704040	2766717	3042246	3163400	3358679	3278508	3174648	2865081	2502242	2345874
20	2608023	2603311	2708353	2764992	3050627	3168947	3362336	3276712	3170116	2846758	2495439	2353808
21	2607131	2600893	2714242	2768974	3056318	3180941	3367368	3269088	3168217	2827844	2486552	2352979
22	2606112	2604074	2717910	2771100	3062587	3185630	3370115	3264609	3162525	2813985	2487909	2356181
23	2607259	2607514	2720271	2778947	3062872	3190617	3373780	3262968	3155966	2796027	2482241	2355706
24	2605730	2607004	2719746	2786544	3066295	3193994	3377448	3262520	3151599	2776019	2474493	2357842
25	2603438	2605475	2725521	2793219	3074008	3207528	3389390	3265654	3143749	2760086	2466271	2358317
26	2603565	2603438	2722764	2792151	3082164	3223762	3401515	3258197	3139830	2746329	2461739	2359979
27	2603438	2607386	2728412	2806738	3084312	3238125	3399364	3260284	3134899	2730121	2458925	2361049
28	2599748	2609808	2731962	2832834	3086606	3249414	3399364	3260582	3127657	2716075	2454647	2355113
29	2600384	2614402	2703647	2855162	---	3258495	3399824	3257452	3117972	2702603	2453548	2354994
30	2595808	2619128	2730778	2871206	---	3250284	3404282	3256409	3111623	2689308	2454769	2354401
31	2598604	---	2732357	2881027	---	3259687	---	3252836	---	2672943	2446716	---
MAX	2615806	2619128	2939766	2881027	3086606	3260284	3404282	3411206	3249414	3099240	2658707	2438803
MIN	2595808	2600893	2620151	2736833	2891145	3091052	3257601	3252836	3111623	2672943	2446716	2345874
†	883.94	835.55	844.28	855.37	870.06	881.90	891.45	881.44	871.80	839.73	821.74	814.06
‡	-12607	+20524	+113229	+148670	+205579	+173081	+144595	-151446	-141213	-438680	-226227	-92315
††	5711	2805	1243	856	1737	2228	4708	7070	10840	11124	9264	6944

CAL YR 1980 ‡ -81,628
WTR YR 1981 ‡ -256,910

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020106, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 11.7 ft³/s (0.331 m³/s) 8,480 acre-ft/yr (10.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 28 ft³/s (0.79 m³/s) on several days during July to September 1967; no flow at times in some years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	9.9	4.5	3.3	2.4	0	3.2	6.7	17	19	18	23
2	19	9.9	3.3	3.3	2.4	0	3.2	6.7	17	19	18	23
3	19	9.9	3.3	3.3	2.85	0	3.2	9.1	17	19	18	23
4	18	9.9	3.3	3.3	0	0	3.2	10	17	19	18	23
5	17	9.9	3.3	3.3	0	0	3.2	10	17	19	18	23
6	17	9.9	3.3	3.3	0	0	3.2	12	17	19	18	23
7	17	9.9	3.3	3.3	0	0	3.2	15	17	19	18	23
8	17	9.9	3.3	3.3	0	0	6.6	15	17	19	18	23
9	17	9.9	3.3	3.3	0	0	3.2	14	17	19	18	23
10	17	9.9	3.3	3.3	0	0	3.2	14	17	19	18	23
11	17	9.9	3.3	3.3	0	0	3.2	14	17	19	18	23
12	17	8.4	3.3	3.3	0	0	3.2	14	17	19	18	23
13	17	7.7	3.3	3.3	0	0	3.2	14	17	19	18	23
14	16	7.7	3.3	3.3	0	0	3.2	14	17	19	19	23
15	14	7.6	3.3	3.3	0	0	5.4	14	17	19	19	23
16	13	7.6	3.3	3.3	0	0	6.5	14	17	19	19	23
17	11	7.6	3.3	3.3	0	0	6.5	14	17	19	19	23
18	10	6.6	3.3	3.3	0	0	6.5	14	17	19	19	22
19	9.9	5.4	3.3	3.3	0	0	6.5	14	17	19	19	20
20	10	5.4	3.3	3.3	0	0	4.5	14	17	19	19	19
21	9.9	5.4	3.3	3.3	0	0	3.4	14	17	19	19	18
22	9.9	5.4	3.3	3.0	0	0	3.4	14	18	19	19	18
23	9.9	5.4	3.3	2.4	0	0	3.4	14	19	19	18	18
24	9.9	5.4	3.3	2.4	0	0	3.4	14	19	19	19	18
25	9.9	5.4	3.3	2.4	0	0	3.4	14	19	19	19	18
26	9.9	5.4	3.3	2.4	0	1.9	3.4	16	19	19	19	18
27	9.9	5.4	3.3	2.4	0	3.2	3.4	17	19	19	19	16
28	9.9	5.4	3.3	2.4	0	3.2	3.4	18	19	19	20	15
29	9.9	5.4	3.3	2.4	---	3.2	5.8	18	19	19	21	14
30	9.9	5.4	3.3	2.4	---	3.2	6.7	17	19	18	21	13
31	9.9	---	3.3	2.4	---	3.2	---	17	---	18	22	---
TOTAL	420.8	226.9	103.5	93.9	5.65	17.9	123.8	425.5	527	587	583	618
MEAN	13.6	7.56	3.34	3.03	2.0	5.8	4.13	13.7	17.6	18.9	18.8	20.6
MAX	19	9.9	4.5	3.3	2.4	3.2	6.7	18	19	19	22	23
MIN	9.9	5.4	3.3	2.4	0	0	3.2	6.7	17	18	18	13
AC-FT	835	450	205	186	11	36	246	844	1050	1160	1160	1230

CAL YR 1980 TOTAL 4121.75 MEAN 11.3 MAX 23 MIN 0 AC-FT 8180
WTR YR 1981 TOTAL 3732.95 MEAN 10.2 MAX 23 MIN 0 AC-FT 7400

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE4SE4 sec.33, T.19 N., R.3 E., Butte County, Hydrologic Unit 18020106, 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) National Geodetic Vertical Datum of 1929 (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 hm³) 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 ft³/s (113 m³/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 Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 57,300 acre-ft (70.7 hm³) May 24, 1969, gage height, 136.56 ft (41.623 m); minimum since initial operation began, 5,590 acre-ft (6.89 hm³) Mar. 1, 1968, gage height, 119.09 ft (36.299 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 28,249 acre-ft (34.8 hm³) Jan. 27, gage height, 128.79 ft (39.255 m); minimum, 13,134 acre-ft (16.2 hm³) Apr. 12, gage height, 123.11 ft (37.524 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

120	7,054	128	25,832
122	10,792	130	32,150
124	15,157	134	46,719
126	20,171	139	68,198

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22272	16058	15297	17959	14163	14690	20493	22748	21827	21387	23516	21442
2	20573	13377	20199	17732	13959	16179	21689	22272	21332	23316	22664	19509
3	23458	14852	22918	15747	15015	18727	25146	18086	19142	24412	23060	19325
4	18778	14598	22805	14163	15628	19116	21196	18086	24324	21497	22272	18443
5	16299	14163	22077	16348	16010	18495	17381	18960	25562	21966	19325	18778
6	21689	15250	21196	20119	18546	19142	18188	21332	21938	21005	21689	15509
7	20708	16010	18727	20172	16591	15962	19325	21497	17381	21524	24063	15675
8	17833	15675	19641	20119	15132	14072	19038	25981	19641	23003	21882	21772
9	19404	14437	19090	20039	17581	13914	18960	23003	17306	20870	19906	23316
10	15132	15462	16348	17782	21827	14760	18264	20816	18856	22160	20681	24121
11	14969	14437	16396	15580	21882	17959	15509	22608	18188	22272	21196	22467
12	14644	13959	17909	14690	20439	18908	13134	21827	21497	21250	20573	16348
13	14969	15179	15794	14277	21060	17732	15086	24353	24324	23401	21966	14806
14	14806	15132	14690	17331	18546	15580	13444	24324	19959	23401	22355	17431
15	16518	15462	16518	18367	16179	13600	14004	22805	21005	22608	19404	15086
16	18598	14483	15015	19404	14598	14163	16299	20762	22551	24881	20708	16591
17	19377	15509	15628	17257	15015	17606	15890	24412	20870	23060	20762	19456
18	16227	18495	20199	15132	14852	19773	15086	25711	22077	23202	18960	22355
19	13770	18856	19325	15086	14969	20119	14644	23259	24063	25532	19220	26131
20	14969	19038	17033	18778	15628	18443	17481	21827	23918	24998	20199	18188
21	15344	21634	15015	18137	15842	14072	18264	23602	20978	25294	24470	18086
22	16179	19641	14852	19959	15462	14852	20306	26312	22636	22467	18727	14072
23	14277	16812	14852	20252	19456	15086	22636	24005	23060	22608	17656	14118
24	14072	17732	18778	18727	21442	15675	24939	22861	21579	25087	18495	14437
25	15297	20627	16179	17157	18675	18137	19404	17481	23918	24412	22216	14690
26	14391	22861	20386	22664	14852	20066	13779	24208	21827	22805	23602	13801
27	14391	20119	17656	28249	15391	18856	18495	20816	20066	23401	24616	13533
28	16910	17959	15415	26464	16591	17331	20978	19588	20386	23717	26615	19641
29	16689	15675	18341	23717	---	16227	24792	20762	23458	23060	23717	21579
30	21005	13801	19694	18856	---	21387	23259	19038	20386	22355	17732	23116
31	18443	---	20199	16469	---	20172	---	19456	---	23659	19826	---
MAX	23458	22861	22918	28249	21882	21387	25146	26312	25562	25532	26615	26131
MIN	13770	13377	14690	14163	13959	13600	13134	17481	17306	20870	17656	13533
†	125.34	123.41	126.01	124.55	124.60	126.00	127.12	125.73	126.08	127.26	125.87	127.07
‡	-4673	-4642	+6398	-3730	+122	+3581	+3087	-3803	+930	+3273	-3833	+3290
††	894	606	209	135	221	500	956	1479	1696	1714	1881	1316

CAL YR 1980 ‡ +2011
WTR YR 1981 ‡ 0

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020105, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years, 315 ft³/s (8.921 m³/s), 228,200 acre-ft/yr (281 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,200 ft³/s (34.0 m³/s) May 12, 1981; no flow for several months most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	167	256	253	141			0	513	675	1080	1000	548
2	206	256	252	141			0	580	682	1060	1000	524
3	243	257	94	140			0	680	701	1060	1000	494
4	246	252	0	140			0	791	723	1060	1010	444
5	248	252	0	141			0	996	742	1060	1010	414
6	249	252	0	145			0	1100	770	1060	1010	413
7	249	251	0	145			0	1170	804	1040	1010	396
8	246	251	0	144			0	1180	840	1030	1010	363
9	200	251	0	146			0	1170	861	1030	1000	305
10	183	252	60	145			0	1170	920	1040	990	258
11	248	254	201	145			0	1180	956	1040	986	246
12	250	254	203	144			0	1200	970	1040	984	208
13	250	254	203	146			0	1190	970	1040	963	196
14	253	255	203	145			0	1190	960	1040	963	196
15	254	255	204	89			31	1190	966	1040	962	170
16	253	254	200	0			54	1200	1000	1040	964	135
17	254	255	200	0			56	1190	1030	1030	952	123
18	253	252	200	0			53	1170	1070	1020	934	99
19	253	252	201	0			51	1090	1100	1020	910	80
20	254	251	199	0			87	1030	1110	1010	885	82
21	255	252	199	0			105	962	1110	1010	849	73
22	254	251	161	0			137	896	1110	1020	834	70
23	254	252	140	0			158	810	1110	1020	838	57
24	255	253	140	0			156	759	1110	1020	830	30
25	253	253	139	0			181	636	1110	1020	802	25
26	254	253	140	0			208	562	1100	1020	764	25
27	254	253	140	0			210	550	1060	1010	720	30
28	257	253	141	0			244	572	1060	1010	650	32
29	256	253	141	0	---		299	620	1080	1010	610	27
30	257	252	142	0	---		390	645	1080	1010	585	29
31	257	---	141	0	---		---	645	---	1010	558	---
TOTAL	7565	7591	4297	2097	0	0	2420	28637	28780	32000	27583	6092
MEAN	244	253	139	67.6	0	0	80.7	924	959	1032	890	203
MAX	257	257	253	146	0	0	390	1200	1110	1080	1010	548
MIN	167	251	0	0	0	0	0	513	675	1010	558	25
AC-FT	15010	15060	8520	4160	0	0	4800	56800	57090	63470	54710	12080
CAL YR 1980	TOTAL	133444.00	MEAN 365	MAX 1100	MIN 0	AC-FT 264700						
WTR YR 1981	TOTAL	147062.00	MEAN 403	MAX 1200	MIN 0	AC-FT 291700						

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, Hydrologic Unit 18020105, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years, 119 ft³/s (3.370 m³/s) 86,220 acre-ft/yr (106 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 511 ft³/s (14.5 m³/s) May 16, 1974; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	179	216	429	371	212
2							0	181	226	435	371	193
3							0	232	260	438	372	183
4							0	315	277	421	370	183
5							0	300	279	408	369	137
6							0	308	277	406	369	106
7							0	367	277	398	359	104
8							0	380	277	399	359	102
9							0	403	275	399	360	101
10							0	417	294	400	359	101
11							0	417	320	398	368	87
12							0	424	331	397	371	92
13							0	460	330	399	370	102
14							0	462	329	398	369	102
15							0	453	329	400	369	99
16							0	413	352	394	371	79
17							0	327	355	388	366	61
18							0	298	348	388	354	43
19							21	288	349	388	357	32
20							0	288	358	388	339	35
21							0	289	365	371	323	25
22							0	279	377	335	323	16
23							0	262	382	325	324	6.3
24							42	243	376	375	324	0
25							79	225	374	386	294	0
26							89	210	373	379	257	0
27							93	197	373	374	245	0
28							142	198	374	371	246	0
29					---		160	197	401	371	247	0
30					---		175	197	418	370	226	0
31		---			---		---	194	---	371	209	---
TOTAL	0	0	0	0	0	0	801	9403	9872	12099	10311	2201.3
MEAN	0	0	0	0	0	0	26.7	303	329	390	333	73.4
MAX	0	0	0	0	0	0	175	462	418	438	372	212
MIN	0	0	0	0	0	0	0	179	216	325	209	0
AC-FT	0	0	0	0	0	0	1590	18650	19580	24000	20450	4370
CAL YR 1980	TOTAL	47474.00	MEAN 130	MAX 443	MIN 0	AC-FT 94160						
WTR YR 1981	TOTAL	44687.30	MEAN 122	MAX 462	MIN 0	AC-FT 88640						

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020106, 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) National Geodetic Vertical Datum of 1929 (levels by California Department of Water Resources).

REMARKS.--Flow regulated at outlet works from Thermalito Afterbay; water is used for irrigation.

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

AVERAGE DISCHARGE.--13 years, 4.98 ft³/s (0.141 m³/s), 3,610 acre-ft/yr (4.45 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 46 ft³/s (1.30 m³/s) Apr. 24, 1977, May 16, 1978; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0						0	15	17	18	17	4.1
2	0						0	15	18	18	17	4.3
3	0						0	27	18	18	17	4.1
4	0						0	32	19	18	16	4.1
5	0						0	39	20	18	16	3.6
6	0						0	42	20	18	17	3.4
7	0						0	42	20	17	16	3.3
8	1.2						0	38	20	16	17	3.3
9	.80						0	35	20	17	17	3.3
10	0						0	33	18	17	17	3.3
11	0						9	27	16	18	17	3.3
12	0						0	21	15	17	17	3.1
13	0						0	19	12	16	18	3.3
14	1.1						0	16	13	17	17	3.3
15	.72						0	11	12	17	16	4.3
16	0						0	8.1	12	17	17	4.1
17	0						0	8.5	21	16	16	2.8
18	0						0	8.3	26	17	16	.91
19	0						0	4.5	26	17	13	0
20	0						0	4.1	26	17	12	0
21	0						0	6.4	20	16	10	0
22	0						0	7.0	17	17	9.2	0
23	0						0	7.0	18	17	9.2	0
24	0						0	11	18	17	8.8	0
25	0						0	12	17	17	8.3	0
26	0						0	11	18	17	8.3	0
27	0						0	12	18	17	8.1	0
28	0						0	13	18	17	8.1	0
29	0						9.7	17	18	17	8.3	0
30	0						15	18	18	17	8.1	0
31	0	---					---	18	---	17	5.6	---
TOTAL	3.82	0	0	0	0	0	24.7	577.9	549	530	418.0	61.91
MEAN	.12	0	0	0	0	0	.82	18.6	18.3	17.1	13.5	2.06
MAX	1.2	0	0	0	0	0	15	42	26	18	18	4.3
MIN	0	0	0	0	0	0	0	4.1	12	16	5.6	0
AC-FT	7.6	0	0	0	0	0	49	1150	1090	1050	829	123
CAL YR 1980	TOTAL	2099.22	MEAN 5.74	MAX 32	MIN 0	AC-FT 4160						
WTR YR 1981	TOTAL	2165.33	MEAN 5.93	MAX 42	MIN 0	AC-FT 4290						

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, Hydrologic Unit 18020105, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years, 657 ft³/s (18.61 m³/s), 476,000 acre-ft/yr (587 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 2,110 ft³/s (59.8 m³/s) Apr. 22-24, 1968; no flow for several months in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	377						0	1540	1430	1760	1650	1410
2	376						0	1670	1440	1740	1660	1370
3	373						0	1750	1450	1750	1640	1350
4	362						0	1700	1470	1770	1620	1330
5	361						0	1680	1470	1780	1620	1320
6	365						0	1670	1490	1740	1620	1300
7	363						0	1770	1530	1720	1610	1310
8	363						0	1840	1550	1730	1610	1270
9	364						0	1870	1540	1710	1620	1210
10	363						0	1890	1550	1710	1610	1150
11	364						0	1930	1560	1710	1600	1080
12	366						158	1950	1560	1710	1590	1000
13	366						282	1950	1550	1700	1580	971
14	358						347	1930	1500	1700	1580	936
15	344						430	1910	1490	1700	1570	916
16	337						564	1870	1540	1670	1570	876
17	335						601	1840	1640	1670	1550	783
18	333						604	1840	1680	1680	1550	737
19	333						557	1650	1670	1680	1550	715
20	335						477	1550	1700	1680	1530	684
21	335						481	1520	1750	1700	1520	653
22	334						533	1550	1810	1720	1500	612
23	333						624	1560	1840	1730	1500	593
24	334						677	1560	1850	1710	1500	526
25	334						728	1530	1860	1700	1480	476
26	334						843	1520	1860	1700	1480	463
27	334						954	1490	1860	1700	1470	455
28	336						1110	1490	1830	1680	1470	429
29	336						1310	1490	1810	1680	1460	397
30	337						1430	1480	1780	1690	1460	374
31	237	---			---	---	---	1470	---	1670	1460	---
TOTAL	10722	0	0	0	0	0	12710	52460	49060	52990	48230	26696
MEAN	346	0	0	0	0	0	424	1692	1635	1709	1556	890
MAX	377	0	0	0	0	0	1430	1950	1860	1780	1660	1410
MIN	237	0	0	0	0	0	0	1470	1430	1670	1460	374
AC-FT	21270	0	0	0	0	0	25210	104100	97310	105100	95660	52950
CAL YR 1980 TOTAL	246322.00			MEAN 673	MAX 1900	MIN 0	AC-FT 488600					
WTR YR 1981 TOTAL	252868.00			MEAN 693	MAX 1950	MIN 0	AC-FT 501600					

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, Hydrologic Unit 18020106, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years, 3,806 ft³/s (107.8 m³/s), 2,757,000 acre-ft/yr (3.40 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s (612 m³/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 daily discharge, 7,150 ft³/s (202 m³/s) July 21; minimum daily, 793 ft³/s (22.5 m³/s) Sept. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1390	1270	1290	1280	1270	2590	6080	1930	909	2900	5650	2180
2	1390	1270	1300	1280	1300	2620	4360	1930	905	3440	5350	2930
3	1390	1290	1310	1280	1310	2620	3240	1920	901	3420	4640	2930
4	1380	1290	1290	1280	1310	2610	2830	1920	898	3420	4390	2910
5	1380	1290	1290	1300	1310	2610	2060	1980	905	3420	3360	2910
6	1400	1290	1300	1310	1310	2630	2090	2760	895	3160	3180	2900
7	1380	1290	1290	1300	1280	2590	2080	3750	1180	2930	3180	2910
8	1380	1280	1290	1290	1280	2600	2070	3950	1940	2690	3170	2920
9	1390	1280	1290	1290	1300	2610	2040	3920	1940	2450	2670	2910
10	1370	1280	1280	1280	1310	2180	2070	3880	1950	2450	2680	2910
11	1370	1280	1290	1270	1300	1950	1870	3930	1920	2460	2660	2910
12	1340	1280	1300	1270	1300	1740	1660	3930	1690	3160	2040	2890
13	1340	1290	1280	1290	1310	1530	1500	3930	1530	3690	1830	2430
14	1330	1280	1280	1310	1300	1320	1290	3920	1320	4710	1640	2150
15	1320	1280	1300	1310	1300	1310	1090	3910	1130	5660	1440	1800
16	1300	1280	1290	1320	1300	1700	911	3890	949	6660	1350	1600
17	1300	1290	1300	1290	1470	2370	1160	3920	923	7000	1250	1420
18	1270	1290	1310	1280	1790	2370	1910	3850	900	6670	1030	1230
19	1270	1290	1300	1300	2080	3070	1910	3110	906	6700	937	1020
20	1300	1290	1280	1310	2410	3400	1930	2750	909	7040	930	846
21	1300	1300	1270	1300	2610	3120	1920	2340	899	7150	921	821
22	1290	1280	1290	1300	2620	3150	1930	2040	1180	7120	903	818
23	1290	1270	1300	1310	2620	3110	1930	1830	1940	7140	907	829
24	1280	1280	1320	1290	2620	3080	1930	1750	1960	7130	920	807
25	1300	1300	1290	1270	2580	3090	1900	1730	1970	6380	919	793
26	1280	1300	1300	1300	2570	3090	1890	1750	1960	5670	917	793
27	1290	1280	1280	1310	2590	3070	1930	1560	1960	5690	914	799
28	1300	1280	1270	1290	2610	3070	1920	1440	1970	5690	920	820
29	1290	1270	1290	1280	---	3060	1930	1210	2180	5670	912	814
30	1300	1270	1310	1280	---	4200	1930	1000	2890	5650	1160	810
31	1270	---	1300	1280	---	6860	---	910	---	5640	1910	---
TOTAL	41180	38510	40080	40050	49360	85320	63361	82640	43509	152960	64680	54810
MEAN	1328	1284	1293	1292	1763	2752	2112	2666	1450	4934	2086	1827
MAX	1400	1300	1320	1320	2620	6860	6080	3950	2890	7150	5650	2930
MIN	1270	1270	1270	1270	1270	1310	911	910	895	2450	903	793
AC-FT	81680	76380	79500	79440	97910	169200	125700	163900	86300	303400	128300	108700
CAL YR 1980	TOTAL	1388575	MEAN	3794	MAX	18000	MIN	799	AC-FT	2754000		
WTR YR 1981	TOTAL	756460	MEAN	2072	MAX	7150	MIN	793	AC-FT	1500000		

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, 27.0°C June 21; minimum recorded, 6.5°C on several days during December and January.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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, Hydrologic Unit 18020106, 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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory 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).--80 years, 5,847 ft³/s (165.6 m³/s), 4,236,000 acre-ft/yr (5.22 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, 69,600 ft³/s (1,970 m³/s) Jan. 15, 1980; 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, 420 ft³/s (11.9 m³/s) July 1, gage height, 0.64 ft (0.195 m); minimum daily, 289 ft³/s (8.18 m³/s) Nov. 2. Combined flow, maximum daily discharge, 428 ft³/s (12.1 m³/s) Jan. 27; minimum daily, 389 ft³/s (11.0 m³/s) Mar. 30, Apr. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	411	405	406	403	398	408	395	415	407	413	411	416	
2	425	394	407	403	400	410	389	417	404	398	404	413	
3	422	397	411	403	399	412	389	415	409	402	395	413	
4	420	396	407	401	399	421	396	415	404	398	399	412	
5	418	401	402	402	400	416	405	416	405	400	408	412	
6	419	406	402	405	400	411	406	409	402	399	409	411	
7	415	405	399	402	399	409	402	410	403	394	410	412	
8	421	405	399	401	402	408	400	416	406	394	409	415	
9	420	405	398	402	410	412	400	411	401	401	410	412	
10	412	404	397	401	409	410	400	416	399	406	411	413	
11	412	407	397	398	405	408	400	420	398	402	409	412	
12	411	402	398	400	404	405	399	421	403	400	407	408	
13	405	402	397	400	405	406	401	420	401	405	409	408	
14	405	404	396	401	405	405	399	411	397	406	397	410	
15	404	405	397	400	402	406	393	410	402	404	391	411	
16	403	404	397	401	402	406	407	406	408	405	399	415	
17	408	402	399	401	405	410	409	411	406	406	409	414	
18	404	403	404	398	407	411	406	411	405	399	409	409	
19	408	402	402	397	406	418	407	412	406	396	408	407	
20	412	403	401	401	404	411	414	406	411	396	407	402	
21	405	405	400	399	401	415	412	409	410	401	407	403	
22	406	406	401	400	401	413	417	414	412	404	408	403	
23	398	399	401	408	402	412	417	416	411	403	407	406	
24	402	399	403	403	406	411	416	418	411	403	406	405	
25	400	400	400	400	406	417	413	415	416	407	407	405	
26	400	400	402	403	407	396	409	418	415	410	407	403	
27	407	399	401	428	408	391	409	415	411	414	408	402	
28	403	399	402	410	409	392	413	414	407	413	409	405	
29	409	401	402	413	---	390	413	413	405	412	410	402	
30	406	401	403	406	---	389	414	409	405	409	406	402	
31	409	---	405	399	---	391	---	406	---	412	408	---	
TOTAL	12700	12061	12436	12489	11301	12620	12150	12815	12180	12512	12594	12261	
MEAN	410	402	401	403	404	407	405	413	406	404	406	409	
MAX	425	407	411	428	410	421	417	421	416	414	411	416	
MIN	398	394	396	397	398	389	389	406	397	394	391	402	
AC-FT	25190	23920	24670	24770	22420	25030	24100	25420	24160	24820	24980	24320	
MEAN †	2183	2289	3822	4142	5917	6084	5642	3685	2702	1669	1784	2084	
AC-FT †	134200	136200	235000	254700	328600	374100	335700	226600	160800	102600	109700	124000	
CAL YR 1980 TOTAL	669125	MEAN	1828	MAX	64700	MIN	380	AC-FT	1327000	MEAN †	6818	AC-FT †	4949000
WTR YR 1981 TOTAL	148119	MEAN	406	MAX	428	MIN	389	AC-FT	293800	MEAN †	3484	AC-FT †	2522000

† Adjusted for diversions in and out of, change in contents in, and evaporation from Lake Oroville, Thermalito diversion pool, Thermalito Forebay, and Thermalito Afterbay.

SACRAMENTO RIVER BASIN

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, 1951-77.

SPECIFIC CONDUCTANCE: Water years 1972-78.

WATER TEMPERATURES: Water years 1954, 1957 to current year.

SEDIMENT RECORDS: Water years 1957-79.

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: January to December 1906.

SPECIFIC CONDUCTANCE: March 1972 to September 1978.

WATER TEMPERATURES: October 1953 to September 1954, November 1956 to current year.

SEDIMENT DISCHARGE: November 1956 to September 1979.

REVISED RECORDS.--WDR CA-74-2: 1966, sediment.

INSTRUMENTATION.--Temperature recorder October 1953 to September 1954, and since November 1956.

REMARKS.--Extremes affected by construction of Oroville Dam in 1967, and are given for two separate periods--
Water years 1954, 1957-67, and 1969 to current 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.

Water years 1969-81.--

WATER TEMPERATURES: Maximum recorded, 20.0°C on several days in 1977; minimum recorded, 6.5°C on many days
in 1971-73, 1974-75, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 16.5°C July 24-30; minimum recorded, 8.5°C Feb. 19, 21, 26, 27.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020106, 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 mi² (9,521 km²).

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.

REVISED RECORDS.--WDR CA-66-2: 1965. WDR CA-80-4: 1967 (M), 1968 (M).

GAGE.--Water-stage recorder. Datum of gage is 2.91 ft (0.887 m) below National Geodetic Vertical Datum of 1929. 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) National Geodetic Vertical Datum of 1929.

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.--17 years, 4,727 ft³/s (133.9 m³/s), 3,425,000 acre-ft/yr (4.22 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 151,000 ft³/s (4,280 m³/s) Dec. 23, 1964, gage height, 100.43 ft (30.611 m), present datum; minimum daily, 117 ft³/s (3.31 m³/s) June 27, 1966. Maximum discharge since construction of Oroville Dam in 1967, 90,100 ft³/s (2,550 m³/s) Jan. 15, 1980, gage height, 94.45 ft (28.788 m); minimum daily, 366 ft³/s (10.4 m³/s) July 26, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 102.25 ft (31.166 m) corrected present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,260 ft³/s (234 m³/s) July 17, gage height 78.60 ft (23.957 m); minimum daily, 1,180 ft³/s (33.4 m³/s) Aug. 20, Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1720	1610	1420	1410	1510	3110	6900	2260	1300	3370	5450	2410
2	1750	1610	1460	1380	1520	3150	5310	2250	1300	4020	5250	3130
3	1750	1580	1590	1380	1540	3110	3900	2240	1310	4050	4530	3210
4	1740	1560	1480	1370	1550	3150	3470	2250	1320	4050	4310	3200
5	1730	1550	1430	1390	1550	3120	2510	2250	1330	4050	3430	3210
6	1740	1540	1440	1410	1560	3090	2490	2960	1310	3760	3160	3220
7	1740	1550	1400	1390	1540	3070	2490	4200	1500	3360	3160	3250
8	1730	1520	1420	1390	1530	3040	2480	4550	2240	3170	3160	3270
9	1740	1500	1430	1380	1560	3140	2470	4490	2270	2830	2760	3270
10	1720	1490	1420	1370	1580	2640	2470	4420	2270	2810	2730	3280
11	1710	1510	1430	1360	1600	2370	2310	4460	2260	2770	2720	3270
12	1700	1490	1430	1350	1590	2190	2120	4460	2040	3340	2250	3270
13	1700	1480	1440	1360	1620	1990	1950	4470	1850	3980	2030	2870
14	1700	1480	1420	1380	1630	1790	1770	4440	1650	5180	1870	2610
15	1680	1450	1440	1400	1610	1770	1580	4410	1480	6340	1660	2240
16	1670	1460	1430	1430	1610	1930	1400	4330	1290	7560	1550	2060
17	1670	1450	1420	1410	1710	2650	1510	4390	1240	8060	1490	1870
18	1660	1450	1450	1400	2030	2790	2210	4380	1200	7570	1300	1690
19	1640	1440	1450	1410	2320	3460	2320	3490	1190	7620	1200	1470
20	1660	1440	1410	1430	2850	4680	2290	3080	1200	7200	1180	1270
21	1680	1450	1440	1440	3440	4070	2280	2640	1190	6770	1190	1210
22	1670	1450	1410	1450	3210	4090	2280	2350	1370	6780	1200	1200
23	1670	1420	1430	1520	3140	4060	2300	2130	2050	6810	1190	1210
24	1660	1390	1440	1470	3290	3960	2290	2040	2140	6820	1210	1230
25	1680	1410	1430	1430	3250	4050	2280	2020	2130	6180	1210	1200
26	1690	1420	1410	1450	3210	3950	2220	2020	2120	5480	1230	1200
27	1670	1420	1410	1610	3210	3910	2220	1880	2110	5460	1220	1200
28	1670	1400	1390	1610	3260	3880	2230	1780	2100	5460	1240	1200
29	1670	1400	1390	1600	---	3820	2260	1580	2250	5450	1240	1200
30	1660	1420	1400	1560	---	4410	2270	1380	3000	5430	1430	1180
31	1640	---	1410	1520	---	7710	---	1280	---	5430	2120	---
TOTAL	52510	44340	44370	44460	60020	104150	76580	94880	52010	161160	69670	66100
MEAN	1694	1478	1431	1434	2144	3360	2553	3061	1734	5199	2247	2203
MAX	1750	1610	1590	1610	3440	7710	6900	4550	3000	8060	5450	3280
MIN	1640	1390	1390	1350	1510	1770	1400	1280	1190	2770	1180	1180
AC-FT	104200	87950	88010	88190	119000	206600	151900	188200	103200	319700	138200	131100
CAL YR 1980 TOTAL	2063430		MEAN	5638	MAX	87600	MIN	1130	AC-FT	4093000		
WTR YR 1981 TOTAL	870250		MEAN	2384	MAX	8060	MIN	1180	AC-FT	1726000		

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to current year.
 WATER TEMPERATURES: Water years 1965 to current year.
 SEDIMENT RECORDS: Water years 1965 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1964 to June 1978.
 SEDIMENT RECORDS: October 1964 to current year.

REVISED RECORDS.--WDR-CA-73-2: 1966, sediment. WDR CA-74-2: 1965, 1970, 1971, 1973, sediment.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (water years 1965-69, 1971-78): 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 metric tons) Dec. 23, 1964; minimum daily, 1.4 tons (1.3 metric tons) Oct. 27, 1966.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 91 mg/L June 12; minimum daily mean, 3 mg/L for many days.
 SEDIMENT DISCHARGE: Maximum daily, 522 tons (474 metric tons) July 17; minimum daily, 9.7 tons (8.8 metric tons) Sept. 22, 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW+ INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA+DISS (MG/L)	MAGNESIUM MG+DISS (MG/L)
80/11/20	10 35	1420	91	7.3	10.5	10.7			36	8	4
81/02/25	11 45	3320	93	7.5	10.5	11.5			39	9	4
81/03/26	10 10	3860	87	7.3	11.5	10.9			36	8	4
81/05/28	10 30	1740	93	7.6	21.0	8.3	4.0	1.3	36	8	4

DATE	TIME	SODIUM NA+DISS (MG/L)	POTASSIUM K+DISS (MG/L)	ALKALINITY (MG/L)	SULFATE SO4+DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N+DISS (MG/L)	AMMONIA N DISS (MG/L)
80/11/20	10 35	4	0.8	39	3	2	45		0.10	0.02
81/02/25	11 45	4	0.8	39	1	1	67		0.14	0.01
81/03/26	10 10	4	0.9	37	0	2	56		0.06	0.00
81/05/28	10 30	4	0.9	39	0	1	65	4	0.07	0.01

DATE	TIME	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/11/20	10 35	0.20	0.02	0.01	
81/02/25	11 45	0.10	0.02	0.01	
81/03/26	10 10	0.20	0.02	0.00	
81/05/28	10 30	0.20	0.03	0.01	3.0

DATE	TIME	ARSENIC AS+DISS (UG/L)	BARIUM BA+DISS (UG/L)	BORON B+DISS (UG/L)	CADMIUM CD+DISS (UG/L)	CHROMIUM CR+DISS (UG/L)	COPPER CU+DISS (UG/L)	IRON FE+DISS (UG/L)	LEAD PB+DISS (UG/L)	MANGANESE MN+DISS (UG/L)	MERCURY HG+TOTAL (UG/L)
80/11/20	10 35	0	0	0	0	0	0	30	0	0	0.0
81/02/25	11 45			0							
81/03/26	10 10	0	0	0	0	0	0	20	10	0	0.0
81/05/28	10 30	0	0	100	0	0	10	30	0	10	0.0

DATE	TIME	SELENIUM SE+DISS (UG/L)
80/11/20	10 35	0
81/02/25	11 45	
81/03/26	10 10	10
81/05/28	10 30	10

[illegible]

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1720	6	28	1610	6	26	1420	6	23
2	1750	6	28	1610	6	26	1460	6	24
3	1750	6	28	1580	6	26	1590	8	34
4	1740	6	28	1560	6	25	1480	7	28
5	1730	7	33	1550	7	29	1430	6	23
6	1740	7	33	1540	8	33	1440	6	23
7	1740	7	33	1550	7	29	1400	8	30
8	1730	7	33	1520	5	21	1420	9	35
9	1740	7	33	1500	6	24	1430	7	27
10	1720	7	33	1490	7	28	1420	5	19
11	1710	7	32	1510	7	29	1430	4	15
12	1700	8	37	1490	6	24	1430	4	15
13	1700	8	37	1480	6	24	1440	4	16
14	1700	8	37	1480	6	24	1420	4	15
15	1680	7	32	1450	4	16	1440	4	16
16	1670	7	32	1460	3	12	1430	4	15
17	1670	6	27	1450	4	16	1420	4	15
18	1660	5	22	1450	4	16	1450	4	16
19	1640	5	22	1440	4	16	1450	4	16
20	1660	4	18	1440	3	12	1410	4	15
21	1680	4	18	1450	4	16	1440	5	19
22	1670	3	14	1450	4	16	1410	4	15
23	1670	5	23	1420	4	15	1430	4	15
24	1660	9	40	1390	4	15	1440	4	16
25	1680	11	50	1410	3	11	1430	4	15
26	1690	9	41	1420	3	12	1410	5	19
27	1670	7	32	1420	3	12	1410	5	19
28	1670	9	41	1400	4	15	1390	4	15
29	1670	10	45	1400	4	15	1390	4	15
30	1660	8	36	1420	5	19	1400	4	15
31	1640	6	27	---	---	---	1410	5	19
TOTAL	52510	---	973	44340	---	602	44370	---	602

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	1410	5	19	1510	9	37	3110	10	84
2	1380	5	19	1520	7	29	3150	9	77
3	1380	6	22	1540	7	29	3110	8	67
4	1370	6	22	1550	8	33	3150	9	77
5	1390	6	23	1550	8	33	3120	9	76
6	1410	6	23	1560	8	34	3090	9	75
7	1390	6	23	1540	7	29	3070	9	75
8	1390	5	19	1530	7	29	3040	9	74
9	1380	5	19	1560	9	38	3140	9	76
10	1370	6	22	1580	10	43	2640	6	43
11	1360	5	18	1600	7	30	2370	5	32
12	1350	5	18	1590	7	30	2190	8	47
13	1360	6	22	1620	8	35	1990	9	48
14	1380	6	22	1630	8	35	1790	9	43
15	1400	6	23	1610	7	30	1770	8	38
16	1430	6	23	1610	6	26	1930	8	42
17	1410	6	23	1710	10	46	2650	10	72
18	1400	6	23	2030	13	71	2790	9	68
19	1410	6	23	2320	16	100	3460	10	93
20	1430	6	23	2850	20	154	4680	11	139
21	1440	7	27	3440	18	167	4070	11	121
22	1450	8	31	3210	11	95	4090	11	121
23	1520	10	41	3140	9	76	4060	10	110
24	1470	8	32	3290	8	71	3960	8	86
25	1430	6	23	3250	9	79	4050	9	98
26	1450	7	27	3210	8	69	3950	9	96
27	1610	11	48	3210	9	78	3910	9	95
28	1610	14	61	3260	10	88	3880	9	94
29	1600	12	52	---	---	---	3820	9	93
30	1560	11	46	---	---	---	4410	13	158
31	1520	11	45	---	---	---	7710	22	459
TOTAL	44460	---	862	60020	---	1614	104150	---	2877

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	6900	11	205	2260	10	61	1300	16	56
2	5310	7	100	2250	15	91	1300	17	60
3	3900	5	53	2240	20	121	1310	17	60
4	3470	4	37	2250	24	146	1320	16	57
5	2510	4	27	2250	24	146	1330	16	57
6	2490	5	34	2960	19	152	1310	15	53
7	2490	7	47	4200	15	170	1500	18	74
8	2480	7	47	4550	15	184	2240	41	245
9	2470	7	47	4490	15	182	2270	43	264
10	2470	7	47	4420	16	191	2270	42	257
11	2310	7	44	4460	17	205	2260	54	327
12	2120	8	46	4460	14	169	2040	91	502
13	1950	8	42	4470	12	145	1850	79	400
14	1770	8	38	4440	15	180	1650	41	189
15	1580	7	30	4410	18	214	1480	27	108
16	1400	6	23	4330	16	187	1290	27	94
17	1510	8	33	4390	13	154	1240	40	134
18	2210	13	78	4380	11	130	1200	48	156
19	2320	12	75	3490	9	85	1190	40	129
20	2290	10	62	3080	8	67	1200	22	71
21	2280	8	49	2640	7	50	1190	16	51
22	2280	7	43	2350	10	63	1370	13	48
23	2300	6	37	2130	12	69	2050	14	77
24	2290	6	37	2040	14	77	2140	14	81
25	2280	6	37	2020	15	82	2130	14	81
26	2220	8	48	2020	11	60	2120	13	74
27	2220	12	72	1880	8	41	2110	12	68
28	2230	17	102	1780	12	58	2100	11	62
29	2260	20	122	1580	15	64	2250	14	83
30	2270	16	98	1380	15	56	3000	21	170
31	---	---	---	1280	15	52	---	---	---
TOTAL	76580	---	1760	94880	---	3652	52010	---	4088

DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	3370	21	191	5450	24	353	2410	17	111
2	4020	18	195	5250	24	340	3130	12	101
3	4050	13	142	4530	23	281	3210	9	78
4	4050	9	98	4310	22	256	3200	7	60
5	4050	10	109	3430	21	194	3210	6	52
6	3760	14	142	3160	19	162	3220	6	52
7	3360	13	118	3160	18	154	3250	10	88
8	3170	12	103	3160	14	119	3270	11	97
9	2830	11	84	2760	11	82	3270	8	71
10	2810	10	76	2730	12	88	3280	7	62
11	2770	8	60	2720	12	88	3270	5	44
12	3340	10	90	2250	10	61	3270	4	35
13	3980	13	140	2030	9	49	2870	4	31
14	5180	17	238	1870	8	40	2610	4	28
15	6340	13	223	1660	8	36	2240	3	18
16	7560	11	225	1550	9	38	2060	3	17
17	8060	24	522	1490	10	40	1870	3	15
18	7570	25	511	1300	10	35	1690	3	14
19	7620	23	473	1200	10	32	1470	3	12
20	7200	18	350	1180	10	32	1270	3	10
21	6770	13	238	1190	10	32	1210	3	9.8
22	6780	11	201	1200	10	32	1200	3	9.7
23	6810	10	184	1190	10	32	1210	3	9.8
24	6820	9	166	1210	10	33	1230	3	10
25	6180	9	150	1210	10	33	1200	3	9.7
26	5480	10	148	1230	8	27	1200	4	13
27	5460	12	177	1220	7	23	1200	4	13
28	5460	13	192	1240	6	20	1200	4	13
29	5450	14	206	1240	6	20	1200	4	13
30	5430	15	220	1430	9	38	1180	4	13
31	5430	21	308	2120	18	103	---	---	---
TOTAL	161160	---	6280	69670	---	2873	66100	---	1110.0
YEAR	870250		27293.0						

SACRAMENTO RIVER BASIN

179

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	DIS- CHARGE, IN CUBIC FEET PER SECOND	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
APR 13...	1330	1490	17.0	10	40	86	89	89	100

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020106, 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 mi² (122.0 km²).

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 hm³).

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

AVERAGE DISCHARGE.--20 years, 48.8 ft³/s (1.382 m³/s), 35,360 acre-ft/yr (43.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,700 ft³/s (303 m³/s) Dec. 26, 1964, gage height, 11.57 ft (3.527 m), from rating curve extended above 4,600 ft³/s (130 m³/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, 2,610 ft³/s (73.9 m³/s) Jan. 29, gage height, 9.27 ft (2.825 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	2.9	5.5	33	23	32	11	1.0			
2		0	5.1	5.2	24	36	32	8.6	0			
3		0	186	4.9	21	47	29	6.8	0			
4		0	193	5.0	19	220	27	5.3	0			
5		0	25	5.3	18	381	25	5.1	0			
6		0	15	5.0	17	125	25	6.2	0			
7		0	10	4.7	17	79	25	8.1	0			
8		0	8.1	4.5	17	60	25	8.9	0			
9		0	7.1	4.5	17	49	25	9.2	0			
10		0	6.3	4.3	17	44	23	9.4	0			
11		0	5.8	4.4	17	42	22	9.5	0			
12		0	5.6	4.4	18	42	21	9.2	0			
13		0	5.5	4.4	20	43	20	8.1	0			
14		0	5.2	4.4	66	52	19	6.9	0			
15		0	4.9	4.4	40	66	18	5.4	0			
16		0	4.9	4.8	31	170	18	3.9	0			
17		0	4.9	5.2	35	101	20	3.0	0			
18		0	5.3	5.8	30	84	20	2.3	0			
19		0	5.2	6.0	27	482	24	2.0	0			
20		0	5.2	6.3	26	344	30	2.1	0			
21		0	6.5	6.5	23	369	27	2.8	0			
22		0	12	6.7	22	240	25	3.5	0			
23		0	9.9	192	20	127	23	4.4	0			
24		0	8.5	172	21	91	22	4.9	0			
25		0	7.6	43	25	610	20	5.1	0			
26		.10	7.3	22	24	283	19	3.9	0			
27		.70	7.2	1220	24	119	20	1.0	0			
28		1.6	6.9	653	22	75	19	.90	0			
29		1.8	6.5	982	---	56	16	1.1	0			
30		2.7	6.0	179	---	45	13	1.3	0			
31		---	5.8	64	---	37	---	1.2	---			---
TOTAL	0	6.90	595.2	3639.2	691	4542	684	161.10	1.0	0	0	0
MEAN	0	.23	19.2	117	24.7	147	22.8	5.20	.033	0	0	0
MAX	0	2.7	193	1220	66	610	32	11	1.0	0	0	0
MIN	0	0	2.9	4.3	17	23	13	.90	0	0	0	0
AC-FT	0	14	1180	7220	1370	9010	1360	320	2.0	0	0	0
CAL YR 1980	TOTAL	20829.20	MEAN 56.9	MAX 2410	MIN 0	AC-FT 41310						
WTR YR 1981	TOTAL	10320.40	MEAN 28.3	MAX 1220	MIN 0	AC-FT 20470						

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, Hydrologic Unit 18020124, 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 mi² (79.3 km²).

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 fair. Some small diversions upstream for irrigation.

AVERAGE DISCHARGE.--31 years, 34.8 ft³/s (0.986 m³/s), 25,210 acre-ft/yr (31.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s (498 m³/s) Dec. 26, 1964, gage height, 19.25 ft (5.867 m), from rating curve extended above 2,200 ft³/s (62.3 m³/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, 2,150 ft³/s (60.9 m³/s) Jan. 29 (0245 hrs), gage height, 7.91 ft (2.411 m), no other peak above base of 1,400 ft³/s (39.6 m³/s); minimum daily, 0.05 ft³/s (0.001 m³/s) Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	1.7	5.5	5.1	34	11	29	8.3	3.2	1.9	.85	.87
2	.73	1.7	8.8	5.2	25	10	26	7.6	3.0	1.9	1.0	.84
3	.85	1.4	184	6.5	20	10	24	7.7	2.6	1.8	1.2	.56
4	.77	1.4	98	8.5	17	84	22	7.7	2.2	1.8	1.1	.52
5	.57	1.4	16	7.2	17	101	20	7.1	2.2	1.8	1.0	.54
6	.82	1.5	8.5	5.5	15	48	19	6.2	2.4	1.6	.81	.51
7	1.0	1.5	6.2	5.3	13	31	18	5.8	2.7	1.4	.71	.38
8	.97	1.8	5.5	4.9	11	25	17	5.4	2.8	1.3	.50	.42
9	.90	2.3	4.5	4.9	11	22	16	5.1	2.5	1.8	.15	.56
10	.98	2.2	3.9	4.9	9.6	19	15	4.8	3.0	1.8	.05	.56
11	1.6	2.1	3.6	4.8	9.8	17	14	4.6	2.4	1.8	.33	.54
12	3.1	2.0	3.3	4.8	9.8	15	13	4.3	2.1	1.3	.75	.44
13	3.5	2.0	3.1	4.8	13	14	12	4.0	2.1	1.4	.55	.28
14	4.0	2.2	2.9	5.0	46	13	14	4.1	2.0	1.1	.44	.29
15	3.4	2.2	2.7	5.1	23	19	16	5.1	1.9	.97	.48	.25
16	3.1	2.4	2.4	5.8	17	42	14	7.3	2.0	.73	.45	.35
17	3.1	2.5	2.4	6.4	18	23	13	7.5	2.3	.40	.36	.48
18	3.2	2.6	2.4	6.9	15	23	12	8.6	2.1	.72	.39	.40
19	3.2	2.6	2.4	6.6	13	294	33	11	1.6	1.3	.43	.45
20	3.2	2.6	2.6	6.9	13	145	26	9.4	1.5	1.1	.62	.51
21	2.9	2.6	5.1	6.3	11	180	20	8.4	1.6	2.0	.61	.45
22	2.4	3.5	9.1	5.9	9.9	99	17	7.6	1.5	1.9	.59	.35
23	2.2	4.4	6.5	89	8.9	64	14	6.8	1.2	1.5	.70	.22
24	2.2	4.4	5.7	71	12	48	11	6.8	1.7	1.2	.83	.87
25	2.3	3.8	5.1	24	14	340	11	6.2	1.9	.87	.76	4.3
26	2.5	3.8	4.7	15	14	156	12	5.1	2.0	1.2	.77	3.7
27	2.6	3.7	4.6	635	13	83	11	5.1	2.2	1.6	.70	3.0
28	1.9	3.6	4.9	365	12	60	10	4.8	2.1	1.1	.71	3.5
29	1.6	3.7	4.8	611	---	51	9.4	4.3	1.8	1.3	.78	3.7
30	1.6	9.2	4.8	119	---	42	8.9	3.9	2.1	1.2	.78	3.4
31	1.7	---	4.9	56	---	34	---	3.7	---	.97	.94	---
TOTAL	63.53	82.8	428.9	2112.3	445.0	2123	497.3	194.3	64.7	42.76	20.34	33.24
MEAN	2.05	2.76	13.8	68.1	15.9	68.5	16.6	6.27	2.16	1.38	.66	1.11
MAX	4.0	9.2	184	635	46	340	33	11	3.2	2.0	1.2	4.3
MIN	.57	1.4	2.4	4.8	8.9	10	8.9	3.7	1.2	.40	.05	.22
AC-FT	126	164	851	4190	883	4210	986	385	128	85	40	66
CAL YR 1980 TOTAL	14511.33			MEAN 39.6	MAX 1510	MIN .52	AC-FT 28780					
WTR YR 1981 TOTAL	6108.17			MEAN 16.7	MAX 635	MIN .05	AC-FT 12120					

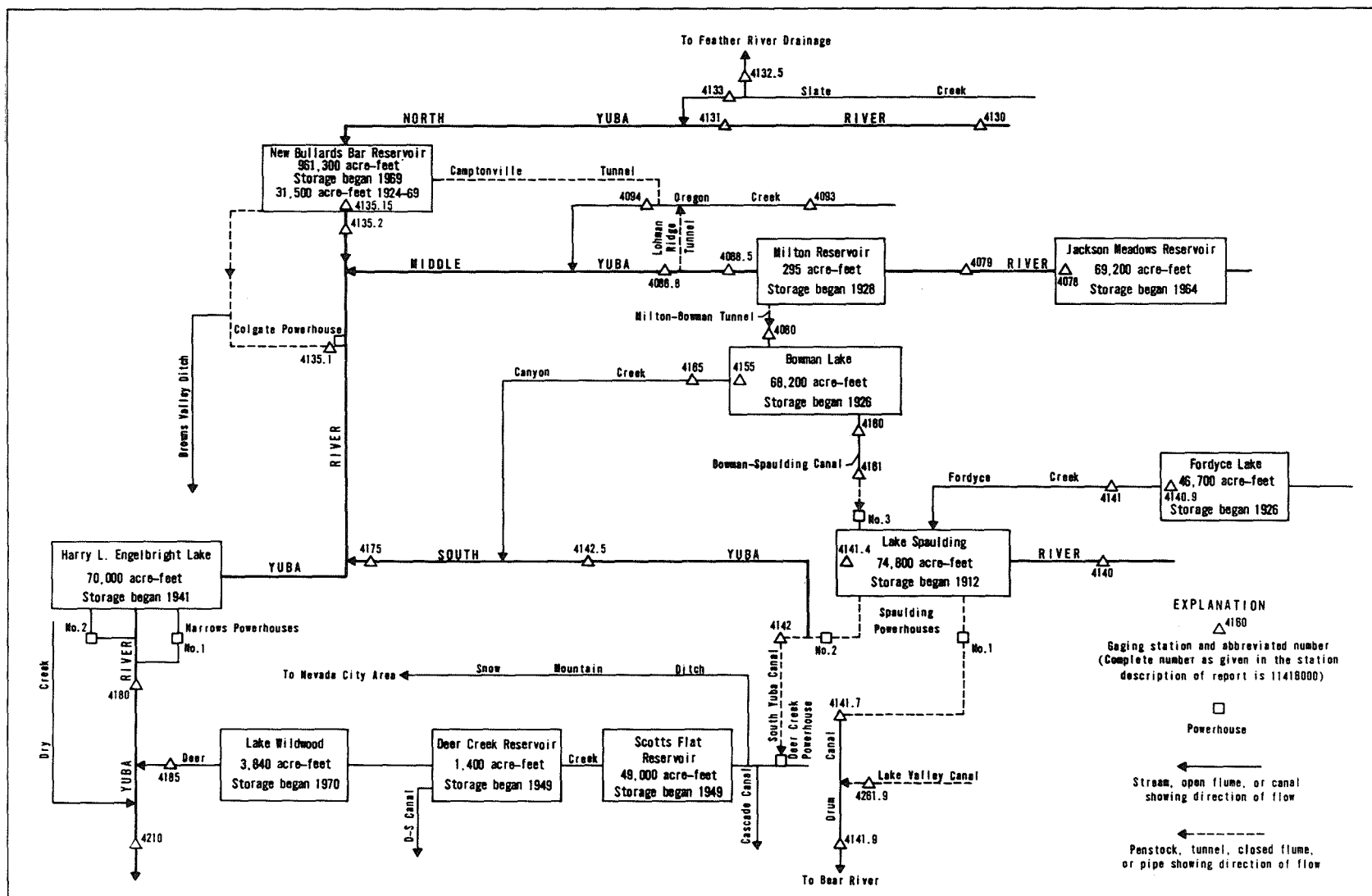


FIGURE 8. — Schematic diagram showing diversions and storage in Yuba River basin.

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, Hydrologic Unit 18020125, 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 mi² (97.4 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³). 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 hm³) 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 hm³) Sept. 27-29, 1976, elevation, 5,933.1 ft (1,808.41 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 54,200 acre-ft (66.8 hm³) on several days during June and July, elevation, 6,021.1 ft (1,835.231 m); minimum, 20,700 acre-ft (25.5 hm³) Nov. 25-29, elevation, 5,979.5 ft (1,822.552 m).

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

5,930	2,000	5,990	27,600
5,940	3,920	6,000	35,300
5,950	6,760	6,010	43,900
5,960	10,600	6,020	53,200
5,970	15,400	6,030	63,000
5,980	21,000	6,040	73,500

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54100	34700	20800	21600	22600	25500	28700	41300	52800	54200	53600	52900
2	53500	34100	20800	21600	22600	25600	28900	42000	53000	54200	53600	52900
3	52900	33500	21000	21600	22600	25700	28900	42500	53200	54200	53600	52800
4	52200	32900	21200	21600	22600	25700	29000	43100	53400	54200	53600	52800
5	51600	32300	21300	21600	22600	25800	29200	43400	53500	54100	53600	52800
6	50900	31700	21300	21700	22700	25900	29400	43800	53600	54100	53600	52800
7	50300	31100	21300	21700	22700	25900	29600	44200	53700	54100	53500	52800
8	49600	30500	21300	21700	22700	26000	29800	44500	53700	54100	53500	52700
9	49000	30000	21300	21700	22800	26100	30000	44900	53800	54000	53500	52700
10	48300	29500	21300	21700	22800	26100	30200	45300	53800	54000	53500	52700
11	47700	28900	21300	21700	22800	26200	30400	45700	53800	54000	53500	52700
12	47000	28200	21300	21700	22800	26300	30700	46000	53900	53900	53400	52600
13	46500	27600	21300	21700	22900	26300	30900	46400	53900	53900	53400	52600
14	45800	27000	21300	21800	23300	26500	31200	46800	54000	53900	53400	52600
15	45200	26400	21300	21800	23500	26600	31600	47200	54000	53900	53300	52600
16	44600	25900	21300	21800	23700	26600	32000	47500	54000	53900	53300	52500
17	43900	25200	21300	21800	23900	26700	32400	47800	54100	53900	53300	52500
18	43300	24600	21300	21800	24100	26800	32800	48400	54100	53900	53300	52500
19	42700	24000	21300	21800	24300	26900	33200	48900	54200	53800	53200	52500
20	42100	23400	21300	21800	24500	27000	33500	49200	54200	53800	53200	52500
21	41500	22800	21400	21800	24600	27100	34000	49500	54200	53800	53200	52400
22	40900	22200	21400	21900	24800	27200	34600	49800	54200	53800	53200	52400
23	40200	21600	21400	21900	24900	27300	35300	50100	54200	53800	53200	52400
24	39600	21000	21400	21900	25100	27400	36300	50300	54200	53800	53100	52400
25	39000	20700	21400	22000	25200	27700	37100	50800	54200	53800	53100	52400
26	38400	20700	21500	22000	25300	27900	37600	51200	54200	53800	53100	52400
27	37800	20700	21500	22200	25400	28100	38100	51600	54200	53800	53000	52300
28	37200	20700	21500	22400	25400	28200	38700	51800	54200	53800	53000	52300
29	36600	20700	21500	22500	---	28300	39500	52100	54200	53700	52900	52300
30	35900	20800	21600	22500	---	28500	40300	52400	54200	53700	52900	52300
31	35300	---	21600	22600	---	28600	---	52600	---	53700	52900	---
MAX	54100	34700	21600	22600	25400	28600	40300	52600	54200	54200	53600	52900
MIN	35300	20700	20800	21600	22600	25500	28700	41300	52800	53700	52900	52300
+	5999.9	5979.6	5980.9	5982.5	5986.9	5991.3	6005.9	6019.4	6021.1	6020.5	6019.7	6019.1
†	-19500	-14500	+800	+1000	+2800	+3200	+11700	+12300	+1600	-500	-800	-600

CAL YR 1980 † -4500
WTR YR 1981 † -2500

† Elevation, in feet NGVD, 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 SE4NW4 sec.18, T.19 N., R.13 E., Sierra County, Hydrologic Unit 18020125, 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 mi² (99.2 km²).

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) National Geodetic Vertical Datum of 1929 (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).--17 years, 106 ft³/s (3.002 m³/s), 76,800 acre-ft/yr (94.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft³/s (65.1 m³/s) Sept. 1, 1965, gage height, 6.60 ft (2.012 m), from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of computation of flow over Milton Dam at gage height, 10.57 ft (3.222 m); no flow many days in 1976-77.

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 ft³/s (283 m³/s) by computation of flow over Milton Dam, adjusted for diversion and inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 324 ft³/s (9.18 m³/s) on several days during October, gage height, 4.79 ft (1.460 m); minimum daily, 0.01 ft³/s (<0.001 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	324	314	4.3	4.0	4.1	5.7	8.2	7.7	5.7	5.0	5.0	5.0
2	324	311	4.3	4.0	4.4	5.7	7.7	7.7	5.7	5.0	5.0	5.0
3	322	311	5.5	4.0	4.4	5.7	7.7	7.4	5.7	5.0	5.0	5.0
4	321	314	6.7	4.0	4.4	5.7	7.7	7.3	5.7	5.0	5.0	5.0
5	324	318	4.8	4.0	4.4	5.7	7.7	7.2	5.7	5.0	5.0	5.0
6	322	318	4.6	4.0	4.4	5.7	8.2	6.5	5.7	5.0	5.0	5.0
7	321	318	4.0	4.0	4.4	5.7	8.2	6.5	5.7	5.0	5.0	5.0
8	322	314	4.0	4.0	4.4	5.7	8.2	6.5	5.7	5.0	5.0	5.0
9	321	314	3.7	4.0	4.4	5.7	8.2	6.2	5.7	5.0	5.0	5.0
10	321	311	3.7	4.0	4.4	6.1	8.2	6.1	5.7	5.0	5.0	5.0
11	320	311	3.7	4.0	4.7	6.1	7.7	6.1	5.7	5.0	5.0	5.0
12	318	311	3.7	3.8	4.7	6.1	7.7	6.1	5.7	5.0	5.0	5.0
13	324	313	3.7	3.8	6.2	6.1	7.7	6.1	5.7	5.0	5.0	5.0
14	321	312	3.7	3.8	14	6.1	8.2	6.1	5.7	5.0	5.0	5.0
15	321	311	3.8	3.8	8.4	6.1	8.2	6.2	5.7	5.0	5.0	5.0
16	321	311	4.0	3.8	7.8	6.1	8.2	6.1	5.7	5.0	5.0	5.0
17	321	311	4.0	3.8	8.6	6.1	8.2	6.1	5.7	5.0	5.0	5.0
18	321	313	4.0	3.8	7.4	6.1	8.2	8.3	5.7	5.0	5.0	5.0
19	314	311	4.0	3.8	9.1	6.1	8.2	7.5	5.7	5.0	5.0	5.0
20	311	311	4.0	3.8	8.6	6.1	8.2	6.7	5.7	5.0	5.0	5.0
21	311	310	4.1	3.8	7.7	6.1	8.2	6.5	5.7	5.0	5.0	5.0
22	314	308	4.3	3.8	7.3	6.5	8.2	6.1	5.7	5.0	5.0	5.0
23	314	308	4.3	3.8	7.3	6.5	8.2	6.1	5.7	5.0	5.0	5.0
24	314	305	4.1	3.8	7.3	6.5	8.2	6.1	5.7	5.0	5.0	5.2
25	314	159	4.0	4.1	7.2	13	8.0	6.8	5.7	5.0	5.0	5.4
26	314	4.7	4.0	4.1	6.9	11	7.7	6.2	5.4	5.0	5.0	5.4
27	314	4.6	4.0	5.8	6.1	8.7	7.7	6.1	5.2	5.0	5.0	3.7
28	314	4.3	4.0	4.8	5.7	8.2	7.7	6.1	5.0	5.0	5.0	.76
29	318	4.2	4.0	4.5	---	8.2	7.7	6.1	5.0	5.0	5.0	.33
30	318	4.4	4.0	4.4	---	8.2	7.7	5.9	5.0	5.0	5.0	.01
31	314	---	4.0	4.1	---	8.2	---	5.7	---	5.0	5.0	---
TOTAL	9873	7670.2	129.0	125.2	178.7	209.5	239.8	202.1	168.1	155.0	155.0	135.80
MEAN	318	256	4.16	4.04	6.38	6.76	7.99	6.52	5.60	5.00	5.00	4.53
MAX	324	318	6.7	5.8	14	13	8.2	8.3	5.7	5.0	5.0	5.4
MIN	311	4.2	3.7	3.8	4.1	5.7	7.7	5.7	5.0	5.0	5.0	.01
AC-FT	19580	15210	256	248	354	416	476	401	333	307	307	269

CAL YR 1980 TOTAL 57994.00 MEAN 158 MAX 734 MIN 3.7 AC-FT 115000 MEAN ‡ 152 AC-FT ‡ 110500
WTR YR 1981 TOTAL 19241.40 MEAN 52.7 MAX 324 MIN .01 AC-FT 38170 MEAN ‡ 49.3 AC-FT ‡ 35670

‡ 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, Hydrologic Unit 18020125, 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) National Geodetic Vertical Datum of 1929. 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 is regulated by Jackson Meadows Reservoir (station 11407800) since November 1964. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--53 years, 72.4 ft³/s (2.050 m³/s), 52,450 acre-ft/yr (64.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 492 ft³/s (13.9 m³/s) Feb. 11, 1941; minimum daily, 0.4 ft³/s (0.011 m³/s) Oct. 7, 1944.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	305	6.6	4.1	6.2	11	18	27	9.2	4.6	3.9	1.7
2	318	304	7.4	3.9	6.0	10	16	24	8.9	4.6	3.9	1.7
3	318	303	11	4.2	5.8	10	16	21	8.5	4.5	4.0	1.7
4	317	303	22	5.7	5.7	10	16	19	8.0	4.5	3.9	1.7
5	316	306	9.9	4.7	5.7	10	17	18	7.9	4.7	3.9	1.7
6	315	306	6.8	4.3	5.5	9.7	19	16	7.6	4.8	3.9	1.7
7	314	307	5.8	4.1	5.4	9.7	19	15	7.3	4.6	3.8	1.6
8	313	307	5.0	4.1	5.4	9.7	19	14	7.0	4.6	3.6	1.6
9	313	303	4.7	4.0	5.3	9.8	20	14	6.9	4.5	3.5	1.6
10	313	302	4.5	3.9	5.2	10	20	14	6.5	4.5	3.5	1.6
11	312	302	4.3	3.9	5.6	11	19	14	6.4	4.7	3.5	1.6
12	315	300	4.2	3.9	5.8	11	18	13	6.3	4.8	3.6	1.6
13	312	299	4.1	3.9	8.6	11	19	13	6.2	4.8	3.3	1.7
14	312	302	4.0	3.9	32	11	20	13	6.0	4.8	2.0	1.7
15	310	301	3.9	3.9	21	10	22	14	6.0	4.6	2.0	1.7
16	309	299	4.3	4.1	17	11	23	12	5.8	4.5	2.0	1.7
17	308	298	4.1	4.2	21	10	23	12	5.7	4.4	1.9	1.7
18	307	298	4.1	4.2	18	10	24	22	5.6	4.4	1.9	1.7
19	306	300	4.1	4.3	19	12	27	24	5.6	4.3	1.9	1.7
20	305	298	4.0	4.6	22	12	24	17	5.6	4.4	1.9	1.7
21	305	296	5.3	4.7	17	12	24	15	5.5	4.5	1.9	1.7
22	309	296	6.8	4.6	16	13	28	14	5.3	4.4	1.9	1.7
23	308	294	5.3	4.6	15	13	32	13	5.2	4.4	1.9	1.7
24	307	292	4.8	4.6	16	13	34	13	5.1	4.5	1.9	1.7
25	307	218	4.6	4.7	14	24	30	16	5.2	4.5	1.8	1.9
26	307	12	4.7	4.6	12	27	27	14	5.1	4.2	1.7	1.9
27	305	6.5	4.6	4.6	12	20	23	13	4.9	4.1	1.7	1.9
28	304	5.4	4.5	4.5	11	18	23	12	4.8	4.0	1.7	1.9
29	307	5.0	4.3	4.6	---	20	26	11	4.6	4.0	1.7	1.9
30	307	7.2	4.3	5.0	---	18	28	10	4.6	3.9	1.7	1.9
31	306	---	4.1	5.7	---	17	---	9.8	---	3.9	1.7	---
TOTAL	9617	7475.1	178.1	136.1	339.2	403.9	674	476.8	187.3	138.0	81.5	51.6
MEAN	310	249	5.75	4.39	12.1	13.0	22.5	15.4	6.24	4.45	2.63	1.72
MAX	318	307	22	5.7	32	27	34	27	9.2	4.8	4.0	1.9
MIN	304	5.0	3.9	3.9	5.2	9.7	16	9.8	4.6	3.9	1.7	1.6
AC-FT	19080	14830	353	270	673	801	1340	946	372	274	162	102
CAL YR 1980	TOTAL	29994.7	MEAN	82.0	MAX	318	MIN	3.9	AC-FT	59490		
WTR YR 1981	TOTAL	19758.6	MEAN	54.1	MAX	318	MIN	1.6	AC-FT	39190		

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, Hydrologic Unit 18020125, 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 mi² (352 km²).

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 fair. 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.--14 years, 302 ft³/s (8.553 m³/s), 218,800 acre-ft/yr (270 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft³/s (439 m³/s) Jan. 13, 1980, gage height, 16.00 ft (4.877 m); minimum daily, 11 ft³/s (0.31 m³/s) July 29, Aug. 17, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,750 ft³/s (49.6 m³/s) Mar. 25, gage height, 8.83 ft (2.691 m); minimum daily, 20 ft³/s (0.57 m³/s) Sept. 7-8, 11-12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	36	80	51	158	202	446	378	96	35	28	21
2	30	36	68	49	147	198	408	363	93	37	27	21
3	30	36	255	56	141	191	371	297	89	37	28	21
4	30	36	521	81	136	229	340	252	84	37	29	21
5	30	37	161	63	135	242	330	217	79	37	29	21
6	30	37	104	57	128	221	349	195	75	38	30	21
7	30	43	85	54	120	210	355	175	72	36	28	20
8	30	81	73	52	117	199	347	161	71	34	27	20
9	30	54	67	51	117	190	341	152	70	34	26	21
10	30	45	63	50	120	187	341	153	67	33	26	21
11	30	41	60	48	131	185	335	148	66	32	25	20
12	40	41	59	48	147	182	311	143	65	31	24	20
13	44	41	57	47	202	182	283	138	62	30	24	21
14	45	40	51	46	1120	177	278	138	60	28	23	21
15	42	39	50	46	601	177	300	147	59	27	30	21
16	36	38	52	53	417	197	300	136	60	26	32	21
17	36	38	54	52	491	178	300	122	60	26	31	21
18	36	38	52	52	402	170	326	169	58	26	54	21
19	36	38	51	49	394	326	433	248	53	26	31	21
20	36	38	50	49	451	404	382	170	50	25	24	21
21	36	38	59	49	337	461	344	146	48	25	23	21
22	35	43	86	50	283	513	353	131	46	24	23	21
23	35	45	71	129	256	429	398	120	44	24	22	21
24	35	49	63	169	301	389	437	114	43	24	22	23
25	37	45	59	108	270	1060	433	141	44	24	22	36
26	47	42	58	87	242	1110	402	154	44	24	22	31
27	42	42	57	547	222	773	332	152	41	23	22	26
28	38	40	56	758	211	626	308	126	40	23	21	29
29	37	40	54	393	---	573	347	115	38	24	21	28
30	37	97	52	259	---	507	363	108	37	25	21	24
31	36	---	52	190	---	447	---	103	---	26	21	---
TOTAL	1096	1314	2680	3793	7797	11135	10593	5312	1814	901	816	676
MEAN	35.4	43.8	86.5	122	278	359	353	171	60.5	29.1	26.3	22.5
MAX	47	97	521	758	1120	1110	446	378	96	38	54	36
MIN	30	36	50	46	117	170	278	103	37	23	21	20
AC-FT	2170	2610	5320	7520	15470	22090	21010	10540	3600	1790	1620	1340
CAL YR 1980	TOTAL	167972	MEAN 459	MAX 10700	MIN 30	AC-FT 333200						
WTR YR 1981	TOTAL	47927	MEAN 131	MAX 1120	MIN 20	AC-FT 95060						

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, Hydrologic Unit 18020125, 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 mi² (376 km²).

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,957.51 ft (596.649 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 4, 1970, at datum 10.0 ft (3.05 m) higher.

REMARKS.--Records good. 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 up to 400 ft (122 m) upstream to Oregon Creek and then to New Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--13 years, 120 ft³/s (3.398 m³/s), 86,940 acre-ft/yr (107 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,800 ft³/s (419 m³/s) Jan. 13, 1980, gage height, 23.01 ft (7.013 m) present datum; minimum daily, 3.2 ft³/s (0.091 m³/s) Oct. 21 to Nov. 4, 1970.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,040 ft³/s (29.5 m³/s) Mar. 25, gage height, 14.25 ft (4.343 m); minimum daily, 17 ft³/s (0.48 m³/s) Aug. 10-14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	30	27	27	29	30	30	53	50	29	24	22
2	31	30	27	27	29	30	30	53	50	29	24	22
3	31	30	29	28	29	30	30	53	50	29	24	22
4	28	30	31	28	29	30	29	53	50	29	23	22
5	24	30	29	28	29	30	29	52	50	29	24	22
6	24	30	32	28	29	30	29	52	50	29	24	22
7	24	30	35	28	29	30	29	52	50	29	24	22
8	24	29	35	28	29	30	29	51	50	29	24	22
9	25	26	33	28	29	30	29	51	50	29	19	22
10	29	27	30	28	29	30	29	51	50	29	17	22
11	30	27	34	28	29	30	29	52	50	29	17	22
12	31	27	34	28	29	37	29	52	50	29	17	22
13	31	27	31	30	29	38	29	52	50	29	17	22
14	31	27	27	34	318	34	41	48	50	28	17	22
15	31	27	27	32	35	26	51	43	39	28	22	22
16	31	27	27	30	33	26	51	45	30	28	28	22
17	36	27	27	30	33	26	51	47	30	28	29	23
18	35	27	27	30	36	26	52	48	30	29	30	22
19	27	27	27	30	40	27	53	50	30	29	30	22
20	27	28	27	30	41	29	53	49	30	29	29	22
21	27	32	27	30	36	29	53	49	29	28	28	22
22	27	30	27	27	29	30	52	48	29	28	27	22
23	27	26	27	26	29	30	52	49	29	28	22	22
24	27	26	27	27	29	29	54	50	29	27	21	22
25	29	26	27	26	29	413	54	51	29	26	22	24
26	30	26	27	26	29	337	54	52	29	26	23	27
27	30	25	27	44	29	35	53	52	29	26	24	30
28	30	25	27	78	29	30	53	52	29	26	23	30
29	30	27	27	30	---	30	53	51	29	26	22	33
30	30	27	27	28	---	30	52	51	29	25	22	33
31	30	---	27	28	---	30	---	50	---	25	22	---
TOTAL	898	833	893	950	1152	1622	1262	1562	1179	867	719	706
MEAN	29.0	27.8	28.8	30.6	41.1	52.3	42.1	50.4	39.3	28.0	23.2	23.5
MAX	36	32	35	78	318	413	54	53	50	29	30	33
MIN	24	25	27	26	29	26	29	43	29	25	17	22
AC-FT	1780	1650	1770	1880	2280	3220	2500	3100	2340	1720	1430	1400
†	590	1210	4050	6350	14640	20950	20480	8430	1600	240	340	70
CAL YR 1980 TOTAL	72440				10900							
WTR YR 1981 TOTAL	12643				413							
MEAN 198												
MAX												
MIN 18												
AC-FT												
143700												
25080												

† 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, Hydrologic Unit 18020125, 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 mi² (59.6 km²).

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. No regulation or diversion above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--14 years, 65.9 ft³/s (1.866 m³/s), 47,740 acre-ft/yr (58.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,830 ft³/s (108 m³/s) Jan. 13, 1980, gage height, 10.83 ft (3.301 m); minimum daily, 0.53 ft³/s (0.015 m³/s) Aug. 14-16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 500 ft³/s (14.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Feb. 14	0500	557	15.8	5.87	1.789
Mar. 25	1530	*626	17.7	5.99	1.826

Minimum daily, 1.0 ft³/s (0.028 m³/s) on many days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	2.4	11	4.5	46	52	147	38	12	3.2	1.3	1.0
2	1.8	2.2	8.9	4.3	42	54	135	33	11	3.1	1.3	1.0
3	1.7	2.2	45	7.4	39	54	124	29	11	3.0	1.2	1.0
4	1.7	2.2	95	14	37	75	113	25	11	2.8	1.2	1.0
5	1.7	2.2	27	8.8	36	88	104	24	9.9	2.7	1.2	1.0
6	1.7	2.1	16	7.3	33	81	101	22	9.4	2.7	1.2	1.0
7	1.6	5.2	12	6.5	31	71	99	21	9.3	2.6	1.2	1.0
8	1.6	13	9.2	6.0	30	64	98	20	9.1	2.5	1.2	1.0
9	1.7	4.4	7.9	5.6	30	59	97	19	8.9	2.4	1.2	1.0
10	1.7	3.3	7.0	5.3	31	55	94	18	8.5	2.3	1.2	1.0
11	1.7	3.0	6.3	5.0	38	52	89	18	8.2	2.3	1.2	1.0
12	2.9	2.8	5.8	4.8	45	49	84	17	8.1	2.2	1.2	1.0
13	4.3	2.5	5.5	4.7	69	47	81	16	8.2	2.1	1.1	1.0
14	5.2	2.5	5.1	4.5	342	45	78	18	7.9	2.0	1.1	1.0
15	3.6	2.5	4.9	4.5	174	47	78	23	7.2	2.0	1.1	1.0
16	3.1	2.5	4.7	6.7	120	61	78	17	6.9	1.9	1.1	1.0
17	2.9	2.5	4.5	6.8	108	52	77	16	6.5	1.8	1.1	1.0
18	2.8	2.4	4.4	6.1	92	49	81	24	6.2	1.8	1.1	1.0
19	2.7	2.4	4.2	6.2	87	107	104	28	5.8	1.7	1.1	1.0
20	2.6	2.4	4.1	6.9	83	135	92	21	5.7	1.7	1.1	1.0
21	2.6	2.4	8.0	6.4	73	190	80	18	5.4	1.6	1.1	1.0
22	2.4	3.4	14	7.1	64	188	77	17	5.1	1.6	1.1	1.1
23	2.3	4.0	8.7	52	58	150	72	16	4.8	1.5	1.1	1.3
24	2.2	3.7	7.3	80	66	135	70	15	4.6	1.5	1.1	5.2
25	2.6	2.8	6.5	43	58	404	74	17	4.4	1.5	1.1	16
26	4.7	2.6	6.0	28	54	434	80	17	4.2	1.4	1.1	13
27	3.3	2.5	5.6	200	51	309	75	18	3.9	1.4	1.1	11
28	2.6	2.4	5.3	273	52	228	60	15	3.7	1.4	1.1	14
29	2.5	2.3	5.0	123	---	188	54	14	3.5	1.3	1.1	14
30	2.4	25	4.8	74	---	163	44	13	3.4	1.3	1.1	12
31	2.4	---	4.6	55	---	146	---	12	---	1.3	1.1	---
TOTAL	78.8	115.8	364.3	1067.4	1989	3832	2640	619	213.8	62.6	35.5	108.6
MEAN	2.54	3.86	11.8	34.4	71.0	124	88.0	20.0	7.13	2.02	1.15	3.62
MAX	5.2	25	95	273	342	434	147	38	12	3.2	1.3	16
MIN	1.6	2.1	4.1	4.3	30	45	44	12	3.4	1.3	1.1	1.0
AC-FT	156	230	723	2120	3950	7600	5240	1230	424	124	70	215
CAL YR 1980 TOTAL	32466.7			MEAN 88.7	MAX 2680	MIN 1.6	AC-FT 64400					
WTR YR 1981 TOTAL	11126.8			MEAN 30.5	MAX 434	MIN 1.0	AC-FT 22070					

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, Hydrologic Unit 18020125, 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 mi² (75.4 km²).

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,919.96 ft (585.204 m) National Geodetic Vertical Datum of 1929 (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 good except for May 7 to June 15, which are fair. Camptonville tunnel, maximum capacity, about 830 ft³/s (23.5 m³/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.--13 years, 32.7 ft³/s (0.926 m³/s), 23,690 acre-ft/yr (29.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,860 ft³/s (138 m³/s) Jan. 12, 1980, gage height, 9.80 ft (2.987 m); minimum daily, 0.34 ft³/s (0.010 m³/s) Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 204 ft³/s (5.78 m³/s) Mar. 25, gage height, 3.53 ft (1.076 m); minimum daily, 0.41 ft³/s (0.012 m³/s) Oct. 17.

REVISIONS.--The maximum discharge for the water year 1980 has been revised to 4,860 ft³/s (138 m³/s) Jan. 12, 1980, gage height, 9.80 ft (2.987 m), superseding figure published in the report for 1980.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	2.3	3.6	7.5	8.6	5.9	13	14	13	5.6	2.0	1.7
2	5.5	2.3	3.6	7.2	7.8	6.2	8.5	14	13	2.4	2.0	1.8
3	5.6	2.1	4.2	7.4	7.2	5.9	8.2	13	12	5.4	2.1	1.8
4	7.0	2.0	5.4	7.8	7.2	6.5	7.9	13	11	6.3	2.1	1.8
5	11	2.0	4.6	7.5	7.2	7.0	7.7	12	10	7.5	2.1	1.8
6	12	2.0	6.3	7.5	7.2	6.2	6.9	12	11	7.7	2.0	1.8
7	12	2.2	7.7	7.5	6.9	5.5	6.7	12	12	7.0	2.0	1.8
8	10	2.6	7.8	7.5	6.9	5.5	6.7	12	12	6.3	1.9	1.7
9	5.8	2.4	7.6	7.5	6.9	5.4	6.6	12	12	3.7	1.8	1.7
10	3.3	2.6	7.7	7.5	7.0	5.3	6.5	12	12	1.2	2.7	1.8
11	2.3	3.0	7.5	7.5	7.2	5.3	7.8	12	12	1.4	4.1	1.8
12	2.5	2.8	7.5	7.7	7.5	5.3	9.3	12	12	1.8	4.1	1.7
13	2.3	2.7	7.5	7.5	7.8	5.3	9.2	12	12	2.2	4.2	1.7
14	2.2	2.7	7.7	5.8	20	5.3	11	12	11	2.5	4.2	1.7
15	.75	2.4	7.8	6.7	13	5.3	14	12	9.6	2.9	5.3	1.8
16	.48	1.9	7.7	7.6	12	5.4	14	12	9.8	2.6	5.9	1.9
17	.41	1.7	7.8	8.3	12	5.1	14	13	9.7	2.5	5.1	1.9
18	1.1	2.0	7.8	8.3	12	7.3	14	13	9.8	2.4	5.6	1.9
19	1.7	2.3	7.8	8.2	12	11	15	13	9.5	2.4	4.9	1.9
20	1.6	2.5	7.7	8.3	11	12	14	12	8.1	2.4	1.9	1.9
21	2.2	2.4	7.5	8.3	10	13	14	11	7.2	2.4	1.9	1.9
22	2.5	2.2	7.9	8.4	10	14	14	10	7.5	2.3	1.9	1.9
23	2.7	2.1	7.8	9.4	9.5	13	14	10	7.4	2.2	1.9	1.9
24	2.6	2.3	7.7	9.8	9.5	12	14	10	7.2	2.2	2.4	2.7
25	2.6	4.4	7.7	8.9	9.3	7.9	14	10	8.5	2.2	4.2	7.8
26	2.5	3.1	7.7	8.6	8.9	4.3	14	11	8.3	2.1	3.9	6.9
27	2.2	3.1	7.6	13	8.6	18	13	11	8.3	2.1	2.1	3.6
28	2.1	3.3	7.5	15	7.3	16	13	11	8.3	2.1	1.8	3.5
29	2.3	3.2	7.5	10	---	16	13	11	8.1	2.0	1.7	4.0
30	2.2	3.6	7.5	4.2	---	15	13	11	8.0	1.9	1.7	3.0
31	2.1	---	7.5	8.9	---	14	---	12	---	2.0	1.7	---
TOTAL	119.34	76.2	219.2	260.3	260.5	379.7	337.0	367	300.3	99.7	91.2	73.1
MEAN	3.85	2.54	7.07	8.40	9.30	12.2	11.2	11.8	10.0	3.22	2.94	2.44
MAX	12	4.4	7.9	15	20	79	15	14	13	7.7	5.9	7.8
MIN	.41	1.7	3.6	5.8	6.9	5.1	6.5	10	7.2	1.2	1.7	1.7
AC-FT	237	151	435	516	517	753	668	728	596	198	181	145
‡	550	1350	4530	8510	19120	29810	26440	9260	1540	199	248	197

CAL YR 1980 TOTAL 15070.54 MEAN 41.2 MAX 3270 MIN .41 AC-FT 29890
WTR YR 1981 TOTAL 2583.54 MEAN 7.08 MAX 79 MIN .41 AC-FT 5120

‡ Camptonville tunnel diversion, in acre-feet, to New Bullards Bar Reservoir.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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 mi² (648 km²).

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) National Geodetic Vertical Datum of 1929 (river-profile survey).

REMARKS.--Records good. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--51 years, 743 ft³/s (21.04 m³/s), 538,300 acre-ft/yr (664 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s (1,130 m³/s) Feb. 1, 1963, gage height, 25.8 ft (7.25 m) from floodmarks, from rating curve extended above 8,500 ft³/s (241 m³/s) on basis of one float measurement at 17,900 ft³/s (507 m³/s) and slope-area measurements at gage heights 19.15 ft (5.837 m) and 23.8 ft (7.25 m); minimum daily, 60 ft³/s (1.70 m³/s) Sept. 7-14, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,710 ft³/s (105 m³/s) Feb. 14 (0630 hrs), gage height, 8.26 ft (2.518 m), no other peak above base of 3,200 ft³/s (90.6 m³/s); minimum daily, 93 ft³/s (2.63 m³/s) Sept. 22-23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	149	219	197	375	515	918	1700	531	185	121	97
2	142	148	270	192	347	503	836	1600	504	181	121	97
3	139	147	776	208	328	492	784	1330	472	179	121	98
4	139	148	1150	266	316	544	749	1180	443	176	121	98
5	138	150	439	225	309	537	768	1080	416	175	119	97
6	138	149	298	208	297	516	853	965	397	174	118	96
7	135	174	249	199	287	502	884	880	374	170	115	95
8	135	322	220	192	283	485	866	844	359	165	112	95
9	134	191	212	188	285	487	865	850	347	162	110	96
10	134	171	200	182	285	496	871	886	325	160	109	96
11	135	167	196	178	312	502	822	867	313	158	110	94
12	186	163	192	175	335	498	779	835	307	157	109	94
13	186	158	188	175	490	490	794	828	297	154	110	94
14	213	153	184	170	2600	462	874	849	290	153	109	94
15	184	151	185	168	1400	462	969	859	280	149	108	94
16	170	148	221	183	1030	479	988	743	267	147	107	95
17	166	149	219	189	1270	441	1010	685	256	144	106	94
18	164	146	211	183	1020	443	1090	1040	249	143	106	94
19	160	145	206	188	1110	644	1230	1070	241	141	105	94
20	159	144	199	196	1190	710	1010	798	235	139	105	94
21	157	144	224	199	886	799	1040	697	230	137	105	94
22	154	163	383	218	767	876	1250	660	224	135	105	93
23	151	176	274	357	718	778	1500	638	218	133	104	93
24	150	187	242	369	756	745	1720	642	213	133	103	101
25	165	161	221	288	677	1750	1680	886	210	131	102	150
26	202	157	225	265	612	1980	1440	892	205	130	101	120
27	172	153	234	1050	566	1390	1150	800	201	128	100	109
28	160	150	230	1290	540	1160	1180	705	197	127	99	126
29	156	149	222	782	---	1110	1430	660	193	125	98	120
30	153	300	212	523	---	989	1620	624	189	123	97	109
31	151	---	205	428	---	899	---	572	---	122	97	---
TOTAL	4872	5013	8706	9631	19391	22684	31970	27665	8983	4636	3353	3021
MEAN	157	167	281	311	693	732	1066	892	299	150	108	101
MAX	213	322	1150	1290	2600	1980	1720	1700	531	185	121	150
MIN	134	144	184	168	283	441	749	572	189	122	97	93
AC-FT	9660	9940	17270	19100	38460	44990	63410	54870	17820	9200	6650	5990
CAL YH 1980	TOTAL	398395	MEAN	1089	MAX	26500	MIN	134	AC-FT	790200		
WTR YR 1981	TOTAL	149925	MEAN	411	MAX	2600	MIN	93	AC-FT	297400		

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, Hydrologic Unit 18020125, 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 mi² (909 km²).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Several small diversions above station for irrigation and mining. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--13 years, 1,139 ft³/s (32.26 m³/s), 825,200 acre-ft/yr (1.02 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,600 ft³/s (1,230 m³/s) Jan. 13, 1980, gage height, 22.12 ft (6.742 m); minimum daily, 71 ft³/s (2.01 m³/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 ft³/s (1,800 m³/s) from slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (127 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 14	0700	*6,510 184	11.17 3.405
Mar. 25	1800	5,350 152	10.61 3.234

Minimum daily, 122 ft³/s (3.46 m³/s) on several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	184	322	274	653	806	1530	2120	720	240	152	126
2	175	183	334	263	594	786	1400	1980	680	236	150	124
3	170	183	1410	277	559	770	1290	1820	625	234	147	124
4	170	182	2480	399	537	900	1200	1640	590	228	147	124
5	168	180	744	322	517	938	1210	1490	560	225	146	124
6	167	182	477	295	487	896	1320	1370	525	224	145	124
7	167	198	390	278	464	852	1360	1230	505	219	143	124
8	165	396	332	269	454	808	1340	1150	480	215	141	124
9	165	244	313	260	454	792	1300	1160	468	209	140	124
10	165	212	295	251	450	798	1240	1250	441	206	138	124
11	165	202	280	244	495	807	1160	1230	423	201	138	124
12	199	199	276	240	566	798	1140	1210	414	200	138	123
13	226	193	270	237	782	791	1210	1200	405	198	138	123
14	277	187	266	237	4520	741	1340	1220	384	197	138	123
15	231	183	260	234	2370	732	1380	1240	376	192	138	122
16	208	183	300	253	1670	796	1370	1140	364	186	136	122
17	200	180	309	271	2060	723	1480	1100	348	183	133	122
18	198	180	298	269	1650	711	1780	1560	336	181	133	122
19	195	178	291	260	1730	1160	1490	1640	324	180	133	122
20	194	178	280	284	1930	1370	1440	1320	313	178	133	122
21	192	179	302	278	1400	1490	1650	1210	306	175	133	122
22	191	196	542	301	1210	1650	1990	1130	295	170	133	122
23	187	205	408	632	1100	1400	2300	1070	288	168	133	122
24	184	237	345	706	1180	1290	2290	1060	284	167	131	128
25	188	199	314	522	1060	3300	1980	1310	274	165	131	192
26	250	188	310	437	958	3770	1560	1350	270	165	131	152
27	211	184	322	1990	878	2560	1520	1200	263	162	131	135
28	196	183	321	2710	847	2040	1830	1070	256	158	129	145
29	191	181	311	1560	---	1910	2080	950	253	157	129	151
30	189	424	295	984	---	1710	2190	850	246	155	127	135
31	187	---	285	756	---	1520	---	780	---	152	126	---
TOTAL	5946	6183	13682	16293	31575	39615	46370	40050	12016	5926	4241	3871
MEAN	192	206	441	526	1128	1278	1546	1292	401	191	137	129
MAX	277	424	2480	2710	4520	3770	2300	2120	720	240	152	192
MIN	165	178	260	234	450	711	1140	780	246	152	126	122
AC-FT	11790	12260	27140	32320	62630	78580	91970	79440	23830	11750	8410	7680
CAL YR 1980	TOTAL	558025	MEAN	1525	MAX	39700	MIN 165	AC-FT	1107000			
WTR YR 1981	TOTAL	225768	MEAN	619	MAX	4520	MIN 122	AC-FT	447800			

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, Hydrologic Unit 18020125, 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 National Geodetic Vertical Datum of 1929.

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.--15 years, 95.5 ft³/s (2.705 m³/s), 69,190 acre-ft/yr (85.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 863 ft³/s (24.4 m³/s) Apr. 6, 1963; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	2.7	23	0	109	164	343	284	54	9.2		
2	0	.10	70	0	98	157	307	253	51	8.4		
3	0	.10	200	0	89	147	278	208	47	8.2		
4	0	.09	380	0	84	174	260	180	43	7.9		
5	0	.08	150	0	80	169	271	160	41	7.4		
6	0	.06	55	0	73	174	299	141	39	5.7		
7	0	7.2	47	0	68	168	302	127	36	3.9		
8	0	24	35	0	67	161	293	118	34	3.1		
9	0	5.5	32	0	66	164	287	114	34	2.4		
10	0	2.9	26	0	65	168	279	113	31	1.8		
11	0	1.9	23	0	80	172	259	107	29	1.2		
12	0	1.2	22	0	97	173	243	99	28	.81		
13	0	.85	21	0	186	171	244	94	26	.44		
14	0	.56	19	0	232	157	264	94	25	.30		
15	0	.42	21	0	268	156	279	97	23	.16		
16	0	.25	38	0	241	161	271	83	21	.10		
17	0	.20	34	0	244	150	278	74	20	.05		
18	0	.23	34	0	341	149	309	155	19	0		
19	0	.22	32	0	473	270	384	141	18	0		
20	0	.23	29	0	467	248	332	97	17	0		
21	0	.22	57	0	363	243	328	83	16	0		
22	0	2.6	100	0	305	274	355	75	15	0		
23	0	5.6	59	76	275	267	384	71	15	.18		
24	0	8.8	45	97	287	267	405	69	14	.54		
25	0	3.7	40	74	239	494	372	115	14	.39		
26	0	2.3	39	67	208	556	327	136	13	.23		
27	0	1.4	41	323	186	591	269	95	12	.20		
28	0	1.1	38	377	174	467	258	79	11	0		
29	0	1.8	36	281	---	443	280	70	11	0		
30	0	84	20	175	---	390	291	65	10	0		
31	14	---	0	129	---	348	---	59	---	0		---
TOTAL	14	160.31	1766	1599	5465	7793	9051	3656	767	62.60	0	0
MEAN	.45	5.34	57.0	51.6	195	251	302	118	25.6	2.02	0	0
MAX	14	84	380	377	473	591	405	284	54	9.2	0	0
MIN	0	.06	0	0	65	147	243	59	10	0	0	0
AC-FT	28	318	3500	3170	10840	15460	17950	7250	1520	124	0	0
CAL YR 1980	TOTAL	19098.79	MEAN 52.2	MAX 727	MIN 0	AC-FT 37880						
WTR YR 1981	TOTAL	30333.91	MEAN 83.1	MAX 591	MIN 0	AC-FT 60170						

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, Hydrologic Unit 18020125, 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 mi² (127.9 km²).

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 ft³/s (25.5 m³/s) from Slate Creek Reservoir, capacity, 223 acre-ft (275,000 m³) 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).--21 years, 202 ft³/s (5.721 m³/s), 146,300 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 13,100 ft³/s (371 m³/s) Dec. 22, 1964, gage height, 16.42 ft (5.005 m), from rating curve extended above 5,500 ft³/s (156 m³/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 ft³/s (0.008 m³/s) Mar. 4, 5, 1962.
Combined flow, maximum discharge, 13,900 ft³/s (394 m³/s) Dec. 22, 1964; minimum daily, 2.3 ft³/s (0.065 m³/s) Nov. 23, 1961.

EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 2,020 ft³/s (57.2 m³/s) Feb. 14, gage height, 7.55 ft (2.301 m); minimum daily, 3.5 ft³/s (0.099 m³/s) Oct. 23.
Combined flow, maximum discharge, 2,230 ft³/s (63.2 m³/s) Feb. 14; minimum daily, 3.5 ft³/s (0.099 m³/s) Oct. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.1	9.8	40	8.9	5.1	12	11	10	9.4	9.4	6.6
2	10	9.6	10	37	8.9	4.4	12	11	10	9.4	9.4	6.6
3	10	9.6	120	44	8.9	9.5	12	11	10	9.4	9.2	6.5
4	10	9.6	394	64	8.9	11	12	11	10	9.4	8.9	6.5
5	10	9.6	9.8	48	8.9	11	12	11	10	9.4	8.8	6.4
6	10	9.6	9.8	43	8.9	11	12	11	10	10	8.4	6.3
7	10	9.7	9.8	40	8.9	11	12	10	10	11	8.1	6.1
8	10	9.8	9.8	37	8.9	11	12	10	10	11	7.8	6.3
9	10	9.8	9.8	35	8.9	11	12	10	10	11	7.7	6.4
10	9.9	9.8	9.8	34	8.8	11	12	10	10	11	7.7	6.3
11	10	9.8	9.8	32	8.9	12	12	10	10	11	8.1	6.3
12	15	9.8	9.8	31	8.9	12	12	10	10	11	8.0	6.2
13	20	9.7	9.8	30	61	12	12	10	10	11	8.0	6.1
14	28	9.6	9.8	29	1080	12	12	10	10	11	7.8	6.1
15	16	9.6	9.8	28	312	12	12	10	10	11	7.6	6.1
16	13	9.6	9.8	38	209	12	12	10	10	11	7.5	6.1
17	12	9.6	9.8	48	156	12	12	10	10	11	7.4	5.7
18	11	9.7	9.8	44	8.7	12	12	10	9.8	11	7.3	6.0
19	11	9.8	9.8	44	8.7	12	12	10	9.8	11	7.2	7.0
20	11	9.8	9.8	49	8.7	12	11	10	9.8	11	7.9	7.9
21	11	9.8	9.8	51	8.7	12	11	10	9.8	11	9.0	8.0
22	7.7	9.8	9.8	58	8.7	12	11	10	9.8	10	9.9	7.9
23	3.5	9.8	9.8	77	8.7	12	11	10	9.6	9.0	9.9	9.9
24	3.8	9.8	9.8	10	8.7	12	11	10	9.6	8.9	13	27
25	11	9.8	9.8	10	8.0	468	11	10	9.6	8.9	12	40
26	15	9.7	9.8	10	7.3	349	11	10	9.6	8.9	10	33
27	12	9.6	9.8	160	6.6	13	11	10	9.6	10	8.8	13
28	11	9.6	9.8	126	5.8	12	11	10	9.6	9.8	8.0	12
29	11	9.7	9.8	11	---	12	11	10	9.4	12	7.5	14
30	10	10	9.9	9.4	---	12	11	10	9.4	11	7.1	11
31	7.4	---	39	9.2	---	12	---	10	---	9.8	6.9	---
TOTAL	350.3	287.8	827.7	1326.6	2013.3	1142.0	349	316	295.4	320.3	264.3	303.3
MEAN	11.3	9.59	26.7	42.8	71.9	36.8	11.6	10.2	9.85	10.3	8.53	10.1
MAX	28	10	394	160	1080	468	12	11	10	12	13	40
MIN	3.5	6.1	9.8	9.2	5.8	4.4	11	10	9.4	8.9	6.9	5.7
AC-FT	695	571	1640	2630	3990	2270	692	627	586	635	524	602
CAL YR 1980 TOTAL	77026.0	MEAN 210	MAX 9060	MIN 3.5	AC-FT 152800	MEAN † 263	AC-FT † 190700					
WTR YR 1981 TOTAL	7796.0	MEAN 21.4	MAX 1080	MIN 3.5	AC-FT 15460	MEAN † 104	AC-FT † 75630					
MEAN †	11.8	14.9	83.6	94.3	267	288	313	128	35.5	12.3	8.52	10.1
AC-FT †	723	889	5140	5800	14830	17730	18640	7880	2110	759	524	602

† 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, Hydrologic Unit 18020125, 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 ft³/s (0.28 m³/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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 1,281 ft³/s (36.28 m³/s) 928,100 acre-ft/yr (1.14 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 4,200 ft³/s (119 m³/s) June 2, 1971; no flow for several days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2890	860	1110	0	657	382	61	902	587	701	603	159
2	2800	877	1010	295	325	389	417	0	716	1530	976	325
3	2490	934	479	337	421	519	312	0	466	1260	683	571
4	2890	1050	485	379	431	550	142	508	1160	935	789	575
5	2950	518	1010	255	483	246	161	358	1150	250	782	703
6	2870	1080	925	54	545	130	700	1040	361	421	1030	0
7	2900	1210	1200	204	132	32	197	982	227	681	1310	78
8	2750	1020	1240	352	271	0	183	1020	700	887	0	1250
9	2390	865	1280	389	537	549	485	1310	216	690	0	1100
10	1470	1090	1310	202	754	378	370	70	578	773	844	454
11	930	881	645	0	527	874	186	610	989	276	584	964
12	1230	927	1110	436	656	667	335	536	750	605	638	15
13	1460	1090	1600	356	404	323	511	416	116	1150	920	0
14	1250	1230	762	1040	0	146	340	604	918	1130	733	305
15	1250	1000	1290	384	0	352	193	847	1520	657	297	983
16	708	964	573	759	0	583	102	0	776	774	337	894
17	597	879	1740	571	529	361	38	269	995	466	791	924
18	49	957	1790	174	302	339	0	715	1060	642	362	314
19	106	1020	801	510	630	615	0	1040	924	800	376	422
20	754	875	1280	234	474	103	0	402	860	1360	944	82
21	650	1260	1280	197	287	43	338	326	370	1140	1120	481
22	904	596	953	410	78	244	314	861	1350	996	0	405
23	870	434	1190	612	999	438	565	781	1120	727	18	883
24	391	1170	2260	514	813	617	504	416	1100	827	613	25
25	494	1550	986	606	564	77	104	276	800	405	453	0
26	767	1150	956	612	461	204	0	1140	724	183	1280	185
27	935	976	1380	659	369	308	276	1730	342	1230	907	307
28	895	854	835	626	357	134	1330	731	0	1430	998	1000
29	1040	782	784	483	---	169	1120	554	708	767	748	601
30	1370	920	217	587	---	417	780	565	401	378	0	642
31	1180	---	85	617	---	672	---	187	---	771	601	---
TOTAL	44230	29019	32566	12854	12006	10861	10064	19196	21984	24842	19737	14647
MEAN	1427	967	1051	415	429	350	335	619	733	801	637	488
MAX	2950	1550	2260	1040	999	874	1330	1730	1520	1530	1310	1250
MIN	49	434	85	0	0	0	0	0	0	183	0	0
AC-FT	87730	57560	64590	25500	23810	21540	19960	38080	43610	49270	39150	29050
CAL YR 1980 TOTAL	919075			2511	MAX	3560	MIN	49	AC-FT	1823000		
WTR YR 1981 TOTAL	252006			690	MAX	2950	MIN	.00	AC-FT	499900		

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, Hydrologic Unit 18020125, 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 mi² (1,267 km²).

PERIOD OF RECORD.--January 1969 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³). Total capacity at normal gross pool, 961,300 acre-ft (1.19 km³), 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 Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 964,757 acre-ft (1.19 km³) June 30, 1975, elevation, 1,955.72 ft (596.103 m); minimum since reservoir first filled, 178,230 acre-ft (220 hm³) Dec. 29, 1980, elevation, 1,700.00 ft (518.160 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 489,770 acre-ft (604 hm³) June 1, elevation, 1,834.40 ft (559.125 m); minimum, 178,230 acre-ft (220 hm³) Dec. 29, elevation, 1,700.00 ft (518.160 m).

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

1,600	64,900	1,750	270,110
1,630	90,570	1,800	389,980
1,660	122,990	1,850	539,750
1,690	162,980	1,900	721,130
1,720	211,770	1,960	985,471

CONTENTS, IN ACRE-Feet, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	333482	258368	212302	179414	202479	265600	363474	453051	489770	468917	430596	398442
2	327803	256897	210720	179493	203516	266958	366648	457805	489459	466501	428876	397978
3	323021	255411	213267	179810	204210	267922	369581	461691	489770	464483	427732	397023
4	317251	253548	220805	179889	204940	269793	372529	464092	488838	463041	426305	395933
5	311273	252740	220622	180206	205427	272182	375388	466199	487752	462980	425165	394846
6	305509	250970	220255	181080	205863	274500	377442	466802	487907	462590	423175	394982
7	299820	248968	219158	181607	206545	276916	380485	467406	488528	461691	420823	395064
8	294093	247772	217520	181431	207123	279217	383543	467617	488063	460493	421078	392677
9	289763	246580	215350	181383	207175	280276	385813	467406	488528	459297	421304	390786
10	286899	244898	213374	181575	206825	281661	388496	469584	488838	458402	419890	390031
11	285146	243578	211946	182198	206790	281878	391056	470735	487288	458104	418986	388362
12	283400	242145	209993	181878	207000	282552	393490	471949	486668	456614	417888	388523
13	280578	240289	207000	181798	209110	284054	395390	473469	487288	455127	416116	388630
14	278635	238153	205688	180127	221908	285803	397568	474383	486359	453347	414713	388254
15	276702	236415	203170	179889	229835	287119	400576	474993	483579	452311	414377	386483
16	275781	234686	202238	179177	235357	288152	403874	477130	483024	451276	414012	384877
17	274990	233347	199561	178829	238734	289542	406913	478661	481823	450686	412558	383196
18	275268	231634	196420	179051	242635	290869	410522	479888	480346	450096	412083	382743
19	275673	230024	195240	178703	245392	293312	415273	480963	479274	448622	411525	381998
20	274486	228610	193146	178861	249568	297789	418930	482654	478140	446271	409827	382131
21	273605	227203	191483	179019	252579	302997	421757	483949	478140	444160	407827	381307
22	272148	226173	190324	179335	255614	307806	424937	484196	476213	442494	408021	380617
23	270764	225427	188514	179493	256428	311273	428104	484504	474383	441298	408243	379027
24	270384	223200	186229	181399	257754	313832	432465	485431	472861	439929	407245	379504
25	269899	220989	183963	181718	259495	323878	437374	486885	471888	439407	406387	379955
26	268888	218479	182198	181878	261141	334699	439552	487288	470977	439348	404150	380087
27	267419	217157	180349	183561	262753	341566	444512	486204	470826	437230	402498	379690
28	266080	215819	179335	195240	264247	347400	445537	486978	471281	434626	400713	377970
29	264247	214630	178230	199732	---	352418	447299	487597	470432	433473	399426	377047
30	261760	213124	178309	201532	---	356340	450391	488218	470068	432752	399590	375993
31	259701	---	178703	202134	---	359269	---	489335	---	431458	398605	---
MAX	333482	258368	220805	202134	264247	359269	450391	489335	489770	468917	430596	398442
MIN	259701	213124	178230	178703	202479	265600	363474	453051	470068	431458	398605	375993
†	1745.00	1720.76	1700.30	1714.50	1747.20	1788.30	1821.40	1834.26	1827.98	1814.90	1803.14	1794.75
‡	-79525	-46577	-34421	+23431	+62113	+95022	+91122	+38944	-19267	-38610	-32853	-22612

CAL YR 1980 ‡ -245525

WTR YR 1981 ‡ +36767

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

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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 mi² (1,269 km²).

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

GAGE.--Water-stage recorder. 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 New Bullards Bar Dam, unadjusted).--12 years (water years 1970-81), 142 ft³/s (4,021 m³/s), 102,900 acre-ft/yr (127 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,200 ft³/s (1,590 m³/s) Jan. 22, 1970, gage height, 35.29 ft (10.756 m), from rating curve extended above 40,000 ft³/s (1,130 m³/s) on basis of computation of flow over old Colgate Dam; minimum daily, 0.42 ft³/s (0.012 m³/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, 91,600 ft³/s (2,590 m³/s), from computation of flow over old Colgate Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13 ft³/s (0.368 m³/s) May 18, gage height, 5.46 ft (1.664 m); minimum daily, 2.2 ft³/s (0.062 m³/s) Jan. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	6.9	6.7	2.4	5.4	5.6	5.7	6.2	10	3.6	6.6	5.3
2	7.5	7.0	7.0	2.3	5.2	5.4	5.7	6.0	9.8	3.6	6.6	5.3
3	7.4	7.0	8.5	2.6	5.1	5.4	5.6	5.8	9.6	3.6	6.6	5.3
4	7.8	6.9	8.1	2.6	5.0	6.4	5.6	5.5	9.6	3.6	6.6	5.3
5	8.0	7.1	6.9	2.3	4.9	6.6	5.6	4.9	9.4	3.6	6.6	5.3
6	7.9	7.2	6.6	2.2	4.9	6.0	5.6	4.6	9.1	3.6	6.6	5.3
7	7.5	7.3	6.5	2.9	4.9	5.7	5.5	4.7	9.1	3.6	6.5	5.3
8	7.2	7.3	6.3	3.3	4.9	5.6	5.3	7.3	8.7	3.6	6.6	5.3
9	6.9	7.2	6.2	3.5	4.9	5.6	4.7	8.2	6.1	3.6	6.6	5.3
10	6.8	7.1	6.1	3.6	4.9	5.6	4.6	8.1	4.5	3.6	6.6	5.5
11	6.7	7.0	5.8	3.6	4.9	5.4	4.4	8.1	3.8	3.6	6.6	5.9
12	6.8	6.9	5.6	3.7	4.9	5.4	4.3	8.1	3.6	3.6	6.6	6.0
13	6.8	6.9	5.6	3.7	5.2	5.4	4.1	11	3.4	3.6	6.6	6.0
14	6.7	6.7	5.5	3.7	6.3	5.4	4.1	12	3.4	3.4	6.6	6.1
15	6.8	6.6	5.3	4.7	5.6	5.6	4.0	12	3.2	3.2	6.6	6.2
16	6.8	6.7	5.3	5.7	5.4	6.0	3.8	12	3.2	3.2	6.6	6.2
17	6.8	6.7	5.3	5.4	5.3	5.7	3.6	12	3.1	3.2	6.6	6.2
18	7.0	6.7	5.3	4.9	5.2	5.7	4.5	12	4.0	3.2	6.6	6.2
19	7.0	6.7	5.3	4.9	5.2	7.7	6.5	12	4.3	3.2	6.5	6.2
20	7.0	6.7	5.2	4.9	5.2	7.5	6.4	12	4.3	3.0	6.5	6.2
21	7.0	6.7	5.4	4.9	5.2	7.9	6.1	11	4.4	2.5	6.0	6.2
22	7.0	6.7	5.4	5.0	5.2	7.2	6.1	11	4.2	2.5	5.6	6.2
23	7.0	6.9	5.2	6.5	5.2	6.5	6.0	11	4.2	2.5	5.4	6.2
24	7.0	6.8	5.2	6.3	5.9	6.1	6.2	11	4.2	2.5	5.4	6.5
25	7.2	6.7	5.1	5.4	5.7	8.9	6.2	11	4.1	2.5	5.4	6.7
26	7.8	6.7	4.9	5.2	5.7	7.8	6.4	11	4.1	2.5	5.4	6.4
27	7.9	6.6	4.9	9.2	5.6	6.8	6.4	10	4.0	2.4	5.4	6.4
28	7.9	6.4	4.8	8.1	5.6	6.3	6.2	10	4.1	4.2	5.3	6.4
29	7.9	6.2	3.8	8.2	---	6.0	6.2	10	3.8	6.2	5.3	6.4
30	7.2	7.1	2.7	6.6	---	5.8	6.2	10	3.7	6.4	5.3	6.4
31	6.7	---	2.5	5.8	---	5.7	---	10	---	6.5	5.3	---
TOTAL	223.7	205.4	173.0	144.1	147.4	192.7	161.6	288.5	163.0	109.9	191.5	178.2
MEAN	7.22	6.85	5.58	4.65	5.26	6.22	5.39	9.31	5.43	3.55	6.18	5.94
MAX	8.0	7.3	8.5	9.2	6.3	8.9	6.5	12	10	6.5	6.6	6.7
MIN	6.7	6.2	2.5	2.2	4.9	5.4	3.6	4.6	3.1	2.4	5.3	5.3
AC-FT	444	407	343	286	292	382	321	572	323	218	380	353
CAL YR 1980	TOTAL	63840.9	MEAN	174	MAX	14800	MIN	2.5	AC-FT	126600		
WTR YR 1981	TOTAL	2179.0	MEAN	5.97	MAX	12	MIN	2.2	AC-FT	4320		

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'12", long 120°33'38", in SE4SW4 sec.19, T.17 N., R.13 E., Nevada County, Hydrologic Unit 18020126, 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 mi² (134.2 km²).

WATER-DISCHARGE RECORDS

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 good. Low flow regulated by several small lakes operated by Pacific Gas and Electric Co.

AVERAGE DISCHARGE.--39 years, 195 ft³/s (5.522 m³/s), 141,300 acre-ft/yr (174 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/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 ft³/s (130 m³/s) on basis of slope-area measurement at gage height 15.8 ft (4.81 m); minimum daily, 0.1 ft³/s (0.003 m³/s) Nov. 5-7, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,520 ft³/s (43.0 m³/s) Apr. 24 (1900 hrs), gage height, 6.47 ft (1.972 m), no other peak above base of 1,500 ft³/s (42.5 m³/s); minimum daily, 2.6 ft³/s (0.074 m³/s) Nov. 21, 22, 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	13	5.8	16	35	91	145	945	152	8.7	5.3	4.2
2	22	20	7.4	14	33	87	125	748	141	9.0	5.2	4.2
3	20	20	18	15	36	86	118	533	123	8.1	5.2	4.3
4	19	16	75	21	33	94	134	450	107	8.0	5.2	4.3
5	17	15	21	21	33	87	216	389	95	7.8	4.8	4.0
6	17	14	13	17	31	87	320	319	80	7.7	4.6	4.0
7	17	9.6	10	15	29	98	320	301	71	7.1	5.3	4.1
8	16	12	8.8	15	29	95	292	329	62	6.8	6.0	4.0
9	16	9.7	7.7	15	29	114	322	394	56	6.8	5.8	4.1
10	15	6.1	7.0	14	28	138	342	413	47	6.5	5.6	4.0
11	15	6.4	6.6	13	33	153	281	383	40	6.5	5.4	4.5
12	19	6.9	6.5	13	40	147	245	353	37	7.1	5.3	6.3
13	16	6.0	6.3	12	105	136	311	357	34	6.7	5.2	6.0
14	17	5.3	6.2	12	666	113	434	371	30	6.9	5.3	6.4
15	23	4.6	6.6	12	351	108	512	339	25	6.7	5.3	6.4
16	23	3.6	9.6	13	256	104	498	232	22	6.4	5.0	6.5
17	22	3.2	12	14	403	96	494	201	20	7.7	5.2	6.5
18	20	3.0	14	15	281	95	509	737	19	8.4	5.1	6.0
19	18	2.8	14	15	318	110	418	559	17	8.3	5.0	4.5
20	17	2.7	12	19	293	101	306	306	15	8.8	5.1	4.6
21	16	2.6	17	22	188	102	474	238	13	8.1	5.1	4.7
22	35	2.6	42	36	168	119	757	244	13	7.7	5.0	4.7
23	35	2.8	27	47	178	118	939	236	13	7.5	5.0	4.7
24	33	3.1	19	39	173	125	1130	245	12	7.5	4.8	5.6
25	33	3.0	16	29	141	238	826	388	10	7.4	4.7	30
26	32	3.0	18	28	119	211	566	424	9.4	7.3	4.7	26
27	27	2.8	21	70	104	143	380	356	9.0	6.7	4.6	26
28	21	2.6	22	57	96	145	600	264	9.4	6.5	4.6	26
29	8.9	2.6	20	48	---	193	882	230	9.0	6.3	4.3	25
30	4.7	4.9	18	45	---	148	979	208	8.6	6.0	4.2	24
31	3.5	---	17	40	---	138	---	174	---	5.7	4.1	---
TOTAL	620.1	209.9	504.5	762	4229	3820	13875	11666	1299.4	226.7	156.0	275.6
MEAN	20.0	7.00	16.3	24.6	151	123	463	376	43.3	7.31	5.03	9.19
MAX	35	20	75	70	666	238	1130	945	152	9.0	6.0	30
MIN	3.5	2.6	5.8	12	28	86	118	174	8.6	5.7	4.1	4.0
AC-FT	1230	416	1000	1510	8390	7580	27520	23140	2580	450	309	547
CAL YR 1980 TOTAL	97797.4			MEAN 267	MAX 7370	MIN 2.6	AC-FT 194000					
WTR YR 1981 TOTAL	37644.2			MEAN 103	MAX 1130	MIN 2.6	AC-FT 74670					

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1980 to current year.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA, DISS (MG/L)	MAGNESIUM MG, DISS (MG/L)
80/11/26	09 10	3.0	93	7.1	1.5	10.7			19	6	1
81/04/30	08 15	748	20	7.3	4.0	11.4	7.0	1.0	5	2	0
81/06/24	11 30	11	72	7.2	19.0	7.6			16	5	1

DATE	TIME	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKA- LINITY (MG/L)	SULFATE SO4, DISS (MG/L)	CHLORIDE CL, DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N, DISS (MG/L)	AMMONIA N, DISS (MG/L)	AMMONIA+ ORG TOT N (MG/L)
80/11/26	09 10	9	1.0	16	4	12	51		0.04	0.00	0.10
81/04/30	08 15	2	0.3	4	0	2	19	2	0.02	0.00	0.10
81/06/24	11 30	7	0.9	16	1	8	51		0.05	0.00	0.10

DATE	TIME	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/11/26	09 10	0.00	0.00	
81/04/30	08 15	0.01	0.00	2.6
81/06/24	11 30	0.01	0.00	

DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	BORON B, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGANESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)
80/11/26	09 10	0	0	0	0	0	0	90	0	0	0.0
81/04/30	08 15	0	0	0	0	0	0	20	0	0	0.0
81/06/24	11 30	0	0	0	0	0	0	110	0	10	0.0

DATE	TIME	SELENIUM SE, DISS (UG/L)
80/11/26	09 10	0
81/04/30	08 15	0
81/06/24	11 30	0

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°22'43", long 120°29'39", in NE4SE4 sec.34, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, near left abutment of Fordyce Dam on Fordyce Creek, 5.3 mi (8.5 km) northeast of Cisco.

DRAINAGE AREA.--31.7 mi² (82.1 km²).

PERIOD OF RECORD.--October 1977 to current year. Periodic elevations only for October 1965 to September 1976 and daily contents for water year 1977 are in the files of the Geological Survey.

GAGE.--Water-stage recorder. Datum of gage is 6,290.5 ft (1,917.34 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). Prior to November 29, 1976, nonrecording gage on upstream side of dam at same datum.

REMARKS.--Lake is formed by a rockfill dam; storage began in 1926. In 1980 the capacity of Fordyce Lake was increased by the addition of 3 ft (0.91 m) of flashboards. Capacity, 49,903 acre-ft (61.5 hm³) between gage heights 0.85 ft (0.259 m), bottom of outlet valve and 114.6 ft (34.93 m), top of flashboards in spillway. Released water flows down Fordyce Creek (station 11414100) to Lake Spaulding (station 11414140) for use in a power and irrigation system. 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 Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR WATER YEARS 1978-81.--Maximum contents, 46,762 acre-ft (57.7 hm³) July 1, 2, 1978, gage height, 111.76 ft (34.064 m); minimum, 250 acre-ft (0.31 hm³) Oct. 31 to Nov. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 38,552 acre-ft (47.5 hm³) May 30, gage height, 98.83 ft (31.123 m); minimum, 3,477 acre-ft (4.29 hm³) Dec. 1, gage height, 23.61 ft (7.196 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

4	219	40	8,183
5	278	50	11,797
10	774	60	16,174
15	1,570	70	21,196
20	2,608	80	26,770
25	3,827	90	32,820
30	5,170	100	39,342
35	6,628	114.6	49,903

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17454	4453	3477	3830	4520	8053	10462	25054	38505	31198	29566	27904
2	16697	4450	3507	3853	4520	8111	10537	25906	38384	31198	29524	27869
3	15955	4445	3563	3880	4520	8157	10597	26560	38250	31075	29440	27798
4	15239	4437	3602	3900	4520	8219	10676	27121	38103	31002	29344	27762
5	14531	4429	3602	3918	4520	8268	10858	27804	37930	30977	29350	27715
6	13840	4418	3602	3928	4658	8317	11095	28225	37730	30916	29302	27668
7	13083	4426	3602	3938	4677	8372	11344	28583	37471	30867	29259	27597
8	12378	4434	3602	3948	4694	8425	11587	29020	37206	30879	29175	27562
9	11664	4426	3604	3956	4713	8495	11841	29554	36935	30769	29151	27520
10	10945	4429	3602	3964	4729	8591	11841	30196	36613	30720	29080	27467
11	10206	4426	3599	3966	4748	8691	12305	30763	36240	30671	29038	27408
12	9491	4421	3597	3971	4768	8798	12506	31603	35907	30610	29002	27397
13	8746	4415	3597	3981	4768	8883	12779	31878	35504	30567	28966	27391
14	8043	4405	3594	3984	4768	8961	13170	32488	35162	30530	28966	27385
15	7332	4399	3599	3989	5878	9039	13621	33021	34801	30470	28866	27385
16	6714	4394	3599	3994	6087	9115	14065	33323	34403	30402	28816	27391
17	6060	4384	3604	4002	6388	9170	14529	33595	34014	30342	28766	27385
18	5460	4384	3607	4002	6619	9228	14996	34615	33608	30311	28716	27397
19	4862	4376	3607	4017	6892	9343	15327	35123	33254	30202	28666	27385
20	4525	4368	3609	4030	7105	9409	15600	35381	32820	30177	28616	27379
21	4520	4254	3650	4048	7255	9490	15698	35699	32444	30159	28523	27355
22	4514	4360	3685	4089	7388	9547	16785	36063	32033	30117	28463	27355
23	4514	4360	3697	4143	7526	9604	17811	36416	31667	30044	28404	27355
24	4501	4362	3712	4179	7680	9672	19071	36856	31469	30008	28326	27379
25	4504	4247	3724	4200	7787	9830	19966	37624	31445	29953	28278	27361
26	4501	4174	3746	4228	7864	9917	20580	38070	31358	29905	28213	27320
27	4488	3895	3766	4339	7934	9935	20864	38264	31377	29856	28189	27244
28	4485	3716	3781	4431	7998	10081	21574	38174	31334	29790	28136	27150
29	4479	3536	3798	4477	---	10202	22609	38485	31303	29735	28064	27132
30	4469	3490	3818	4512	---	10294	23855	38552	31241	29687	28029	27150
31	4466	---	3830	4520	---	10376	---	38545	---	29627	27970	---
MAX	17454	4453	3830	4520	7998	10376	23855	38552	38505	31198	29566	27904
MIN	4466	3490	3477	3830	4520	8053	10462	25054	31241	29627	27970	27132
†	27.44	23.66	25.01	27.64	39.43	46.31	74.89	98.82	87.46	84.81	82.04	80.65
‡	-13714	-976	+340	+690	+3478	+2378	+13479	+14690	-7304	-1614	-1657	-820

CAL YR 1980 † -4362
WTR YR 1981 † +8970

† Gage height, in feet, at end of month.
‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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 mi² (82.1 km²).

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 hm³). 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 124 ft³/s (3.512 m³/s), 89,840 acre-ft/yr (111 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,660 ft³/s (132 m³/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 ft³/s (28.3 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 3.5 ft³/s (0.099 m³/s) Jan. 2-9, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 450 ft³/s (12.7 m³/s) May 26, gage height, 3.74 ft (1.140 m); minimum daily, 4.6 ft³/s (0.13 m³/s) on many days during December to January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	432	5.8	58	4.6	5.4	8.3	11	17	205	22	21	21
2	427	5.8	4.8	4.6	5.4	8.4	11	18	207	22	21	21
3	422	5.8	5.0	4.6	5.4	8.7	11	18	205	22	21	21
4	415	5.8	5.4	4.6	5.4	8.9	11	18	203	22	21	21
5	411	5.7	5.6	4.6	5.4	8.9	12	18	201	22	21	21
6	406	5.5	5.2	4.6	5.4	8.9	12	18	202	22	21	21
7	401	5.6	5.0	4.6	5.4	8.9	12	18	203	22	21	21
8	393	5.6	4.8	4.6	5.4	9.0	12	19	203	22	21	21
9	387	5.6	5.0	4.6	5.4	9.3	12	19	204	22	21	21
10	382	5.6	5.0	4.6	5.4	9.5	12	19	204	22	21	20
11	374	5.6	5.0	4.6	5.4	9.5	12	19	203	22	21	20
12	368	5.6	5.0	4.6	5.4	9.5	12	20	202	22	21	20
13	361	5.6	5.0	4.6	7.5	9.5	12	20	202	22	21	20
14	350	5.6	4.8	4.6	10	9.5	12	21	201	22	21	20
15	346	5.6	5.2	4.6	7.0	9.5	13	21	201	22	21	20
16	337	5.6	5.1	4.6	8.0	9.5	13	21	200	22	21	20
17	329	5.6	5.0	4.6	8.0	9.5	13	22	199	22	21	20
18	323	5.6	4.8	4.6	7.9	9.5	13	25	197	22	21	20
19	314	5.6	4.8	4.6	8.9	9.5	13	24	198	22	21	20
20	182	5.6	4.8	4.6	8.6	9.5	13	24	198	22	21	20
21	6.7	5.6	5.5	4.6	8.3	9.5	14	24	196	22	21	20
22	6.6	5.6	5.3	4.6	8.3	9.6	14	23	194	22	21	20
23	6.4	5.6	4.8	4.8	8.3	10	15	23	196	22	21	20
24	6.3	28	4.8	4.8	8.3	11	15	23	91	21	21	39
25	6.3	33	4.8	4.8	8.3	11	16	24	22	21	21	64
26	6.3	92	4.8	4.8	8.3	11	16	138	22	21	21	64
27	6.2	92	4.8	5.5	8.3	11	16	205	22	21	21	63
28	6.0	92	4.8	5.4	8.3	11	16	205	22	21	21	64
29	6.0	92	4.8	5.4	---	11	16	204	22	21	21	41
30	5.9	92	4.7	5.4	---	11	16	205	22	21	21	20
31	5.8	---	4.6	5.4	---	11	---	207	---	21	21	---
TOTAL	7428.5	650.6	207.0	147.5	147.1	300.9	396	1680	4847	674	651	824
MEAN	240	21.7	6.68	4.76	7.04	9.71	13.2	54.2	162	21.7	21.0	27.5
MAX	432	92	58	5.5	10	11	16	207	207	22	21	64
MIN	5.8	5.5	4.6	4.6	5.4	8.3	11	17	22	21	21	20
AC-FT	14730	1290	411	293	391	597	785	3330	9610	1340	1290	1630
CAL YR 1980	TOTAL	69985.1	MEAN	191	MAX	917	MIN	4.6	AC-FT	138800		
WTR YR 1981	TOTAL	18003.6	MEAN	49.3	MAX	432	MIN	4.6	AC-FT	35710		

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, Hydrologic Unit 18020125, near center of Spaulding Dam on South Yuba River, 2.5 mi (4.0 km) northeast of Emigrant Gap.

DRAINAGE AREA.--118 mi² (306 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 4,809.6 ft (1,465.97 m) National Geodetic Vertical Datum of 1929 (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 hm³) 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 Energy Regulatory Commission Project. Contents not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 75,100 acre-ft (92.6 hm³) July 13, 1967, gage height, 205.5 ft (62.64 m); minimum, 914 acre-ft (1.13 hm³) Feb. 28, 1976, gage height, 25.5 ft (7.77 ft).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 71,410 acre-ft (88.0 hm³) June 1, gage height, 200.12 ft (60.997 m); minimum, 1,711 acre-ft (2.11 hm³) Sept. 27, gage height, 33.00 ft (10.058 m).

Capacity table (gage height, in feet, and contents, in acre-feet)

20	566	70	9,632
25	874	100	19,541
30	1,352	150	41,545
40	2,742	200	71,329
50	4,578	206	75,473

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39701	44251	33372	19212	15846	20046	25915	58253	71410	51617	31911	14265
2	39499	44347	32691	19121	15771	19909	26554	59960	71206	50419	31765	13504
3	39353	43799	32360	19038	15402	19791	27227	61010	70976	49566	31078	12767
4	39332	43048	33052	19016	15402	19758	27949	61479	70403	48944	30242	12241
5	39454	42288	32544	18528	15099	19604	29002	61611	69698	48514	29395	12241
6	40623	41535	31888	18087	14901	19498	30366	61517	69912	47715	28654	12250
7	41825	40942	31141	17587	15402	19150	31665	61354	70134	46862	27846	12250
8	43022	41050	30460	17098	15557	19056	32806	61398	69885	45924	27070	11796
9	44118	41132	29830	16608	15280	19012	33990	62449	69444	44968	26312	11269
10	45313	40547	29181	16857	14705	18976	35262	63566	69016	44331	25553	10029
11	46490	39854	28486	17115	14186	18976	36298	64090	68571	44198	24817	9253
12	47643	39146	27812	16969	13699	19052	37207	64090	68299	44043	24158	8667
13	48826	38434	27142	16431	13712	19005	38339	64096	68425	43386	23421	7916
14	49617	37907	26466	15904	16535	18838	39347	64135	68538	42555	22831	7237
15	49989	37977	25865	15388	17284	18686	40536	64199	67750	41700	22781	6497
16	52290	38041	25084	15018	17739	18535	41597	64520	66653	41700	22734	5772
17	53083	37611	24358	15301	18849	18337	42638	65152	65786	40118	22205	5032
18	53112	36927	23603	15581	19289	18055	43746	66921	64848	39996	21449	4479
19	53141	36274	22940	15547	20068	17931	44785	67855	64045	39747	20713	4235
20	52921	35655	22878	15223	20694	17735	45350	67974	63732	39106	19980	3937
21	52105	35061	22886	14918	20799	17796	45978	67789	63419	38240	19296	3589
22	51319	34994	22599	14708	20837	18427	47345	67638	62486	37408	19253	2766
23	50532	34913	21887	14648	20905	18582	49173	67955	61423	36576	19223	2178
24	49763	34245	21229	14818	21108	18976	51525	68319	60227	35886	18679	2048
25	49027	33601	21180	15085	20935	20893	53025	69083	58821	35833	17948	2048
26	48236	33228	21142	15059	20440	21826	53812	69698	57481	35780	17193	1923
27	47423	33335	21127	15761	20310	22152	54029	69979	56564	35166	16411	1711
28	46512	33475	21093	15822	20176	22964	54435	70167	55619	34373	15693	1937
29	45696	33629	20563	15679	---	23983	55554	70167	54358	33517	15567	1978
30	44882	33849	19744	15618	---	24829	56925	70794	52915	32650	15520	1909
31	44230	---	19307	15696	---	25275	---	71383	---	32062	14995	---
MAX	53141	44347	33372	19212	21108	25275	56925	71383	71410	51617	31911	14265
MIN	39332	33228	19307	14648	13699	17735	25915	58253	52915	32062	14995	1711
†	155.11	134.41	99.36	89.11	101.72	114.85	177.49	200.08	170.71	130.55	87.03	34.50
‡	+4381	-10381	-14542	-3611	+4480	+5099	+31650	+14458	-18468	-20853	-17067	-13086

CAL YR 1980 † -154
WTR YR 1981 ‡ -37940

† 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 SE4SW4 sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 515 ft³/s (14.58 m³/s), 373,100 acre-ft/yr (460 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 858 ft³/s (24.3 m³/s) July 4, 1978; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	728	209	486	216	126	487	135	624	459	785	260	624
2	714	207	573	216	258	485	94	199	515	788	260	631
3	715	549	537	217	299	488	41	199	515	618	539	629
4	636	652	417	218	297	473	37	415	724	510	610	518
5	546	649	570	456	357	497	27	507	729	419	613	242
6	16	645	583	408	252	495	27	507	196	580	616	245
7	0	600	587	423	105	488	27	507	192	619	650	249
8	0	207	554	419	109	487	27	408	460	658	616	532
9	0	208	538	391	350	486	27	5.5	518	678	618	624
10	0	576	536	5.0	481	487	29	4.0	515	645	615	698
11	0	642	564	5.0	482	488	31	298	514	260	613	634
12	0	639	559	251	490	439	29	500	400	267	608	549
13	0	634	551	421	489	488	29	497	185	537	613	629
14	0	543	546	411	496	488	220	496	185	589	535	619
15	0	215	539	387	494	483	271	496	709	619	243	619
16	0	215	573	307	499	483	279	171	832	624	243	611
17	76	508	582	1.6	494	487	285	4.0	712	546	518	596
18	512	622	580	1.7	489	487	241	342	733	287	615	484
19	513	612	528	174	489	489	275	491	657	290	610	282
20	630	491	199	290	490	489	308	493	424	528	609	278
21	685	498	193	290	491	357	494	493	421	619	585	272
22	682	229	478	287	487	159	497	460	719	619	237	277
23	678	223	586	257	497	389	504	193	796	624	235	177
24	674	535	521	109	490	265	503	193	796	549	524	127
25	673	532	182	43	652	266	506	193	786	175	605	81
26	664	472	186	209	738	308	501	442	747	176	616	93
27	664	200	188	313	512	301	487	632	552	519	631	113
28	745	200	188	386	503	47	645	501	540	594	599	31
29	664	200	443	353	---	53	685	589	721	616	280	0
30	659	199	581	264	---	44	673	193	783	610	248	0
31	591	---	382	146	---	245	---	193	---	499	538	---
TOTAL	12465	12911	14530	7875.3	11916	12128	7934	11245.5	17035	16447	15702	11464
MEAN	402	430	469	254	426	391	264	363	568	531	507	382
MAX	745	652	587	456	738	497	685	632	832	788	650	698
MIN	0	199	182	1.6	105	44	27	4.0	185	175	235	0
AC-FT	24720	25610	28820	15620	23640	24060	15740	22310	33790	32620	31140	22740
CAL YR 1980	TOTAL	248172.0	MEAN 678	MAX 845	MIN 0	AC-FT 492200						
WTR YR 1981	TOTAL	151652.8	MEAN 415	MAX 832	MIN 0	AC-FT 300800						

LOCATION.--Lat 39°15'50", long 120°43'47", in NE¼SW¼ sec.10, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on right bank 1.2 mi (1.9 km) west of Blue Canyon, and 1.5 mi (2.4 km) upstream from Drum Forebay.

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 Afterbay. 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 519 ft³/s (14.70 m³/s), 376,000 acre-ft/yr (464 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 845 ft³/s (23.9 m³/s) June 28, 30, 1980; no flow at times in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	197	445	177	104	514	145	658	452	791	231	625
2	694	192	565	178	222	504	107	206	523	795	233	634
3	695	506	535	180	273	508	67	201	524	646	496	630
4	628	638	435	181	271	501	67	405	695	533	604	532
5	571	635	560	411	333	523	59	521	710	429	610	239
6	40	631	572	390	261	523	64	519	199	574	611	245
7	14	621	580	405	88	515	63	517	188	635	645	250
8	13	190	562	401	91	513	61	449	465	671	611	476
9	12	187	536	413	317	509	61	32	534	690	614	627
10	12	522	536	18	484	510	54	28	534	531	611	702
11	12	623	559	13	485	510	35	276	534	249	610	640
12	11	620	558	202	492	460	40	508	428	254	607	538
13	11	616	553	400	501	503	59	503	194	503	611	630
14	11	557	548	401	525	501	288	503	195	635	546	619
15	11	192	544	395	515	499	306	504	680	630	243	618
16	11	192	570	352	522	504	313	211	821	625	244	608
17	117	459	584	15	522	510	319	23	725	562	482	594
18	535	601	582	14	516	499	296	334	745	269	612	488
19	536	597	560	150	520	520	320	517	701	570	607	280
20	618	549	189	288	523	529	313	507	434	489	607	277
21	675	508	181	288	515	414	527	504	434	612	599	273
22	672	208	447	289	508	214	531	485	703	613	240	276
23	672	200	590	267	518	420	539	192	810	617	236	171
24	668	488	555	124	519	288	543	192	798	566	491	96
25	663	528	168	59	648	324	542	195	795	176	607	73
26	659	489	173	197	750	348	539	435	773	177	618	67
27	657	175	175	344	543	341	516	605	568	463	631	100
28	725	176	175	409	535	95	638	516	555	581	615	35
29	653	177	408	372	---	102	691	563	717	609	287	14
30	650	182	582	272	---	89	674	176	792	607	252	14
31	613	---	413	138	---	272	---	175	---	511	511	---
TOTAL	12559	12456	14440	7743	12105	13062	8777	11460	17226	16313	15522	11371
MEAN	405	415	466	250	432	421	293	370	574	526	501	379
MAX	725	638	590	413	750	529	691	658	821	795	645	702
MIN	11	175	168	13	88	89	35	23	188	176	231	14
AC-FT	24910	24710	28640	15360	24010	25910	17410	22730	34170	32360	30790	22550
CAL YR 1980	TOTAL	246950	MEAN 675	MAX 845	MIN 11	AC-FT	489800					
WTR YR 1981	TOTAL	153034										

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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. Downstream from the gage some flow is diverted to Boardman Canal (station 11421720) via the Bear River. The remainder of the water enters Deer Creek at Deer Creek powerhouse. 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 93.6 ft³/s (2.651 m³/s), 67,810 acre-ft/yr (83.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 165 ft³/s (4.67 m³/s) Aug. 3, 1965; no flow Apr. 20-22, 1966 and Apr. 6-11, 1971.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	63	52	50	64	50	2.3	53	76	88	93	75
2	73	65	54	49	62	51	2.3	55	87	89	93	74
3	74	67	57	49	59	51	2.3	53	86	90	93	93
4	73	68	47	49	57	55	2.3	53	88	89	93	93
5	72	68	50	58	57	52	2.3	54	88	88	93	91
6	70	66	51	65	57	49	2.3	54	88	92	94	91
7	74	65	50	66	57	49	2.3	61	89	91	95	93
8	77	63	50	66	57	50	2.5	65	90	92	95	92
9	77	63	50	65	58	50	2.6	66	93	92	94	93
10	78	60	49	66	60	50	2.3	65	86	90	95	93
11	76	56	49	68	60	46	38	67	80	93	95	94
12	77	55	48	66	56	48	20	69	88	92	94	95
13	77	55	48	65	57	49	2.6	68	86	91	94	95
14	76	52	48	65	49	50	2.7	68	86	94	93	94
15	75	49	45	64	45	51	2.7	61	86	94	92	92
16	73	51	48	65	49	52	2.7	56	83	94	91	90
17	74	49	51	65	48	51	39	53	83	77	70	83
18	68	48	52	68	48	51	51	52	87	87	69	77
19	63	49	50	65	48	56	54	54	87	93	69	80
20	66	48	50	68	48	61	54	56	88	92	69	81
21	66	48	47	65	48	60	51	60	89	92	70	81
22	62	49	48	65	49	52	53	61	90	94	70	83
23	61	51	49	66	50	48	55	59	90	93	70	84
24	64	53	48	64	50	48	55	60	90	92	71	90
25	67	53	46	64	59	45	55	59	89	90	73	97
26	68	52	47	65	55	46	56	61	87	92	72	93
27	68	50	46	62	49	49	54	62	85	94	75	92
28	68	50	47	70	49	46	54	59	87	94	75	93
29	67	51	50	69	---	48	54	59	87	94	74	94
30	65	53	51	68	---	12	54	58	88	94	73	94
31	64	---	51	69	---	2.3	---	58	---	94	74	---
TOTAL	2179	1670	1529	1969	1505	1478.3	851.9	1839	2607	2831	2571	2670
MEAN	70.3	55.7	49.3	63.5	53.8	47.7	28.4	59.3	86.9	91.3	82.9	89.0
MAX	78	68	57	70	64	61	56	69	93	94	95	97
MIN	61	48	45	49	45	2.3	2.3	52	76	77	69	74
AC-FT	4320	3310	3030	3910	2990	2930	1690	3650	5170	5620	5100	5300
CAL YR 1980	TOTAL	37260.2	MEAN	102	MAX	164	MIN	1.2	AC-FT	73910		
WTR YR 1981	TOTAL	23700.2	MEAN	64.9	MAX	97	MIN	2.3	AC-FT	47010		

LOCATION.--Lat 39°19'07", long 120°39'27", in SW¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, Hydrologic Unit 18020125, 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.

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

GAGE.--Water-stage recorder. Datum of gage is 4,432.44 ft (1,351.008 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years (water years 1967-81), 67.3 ft³/s (1.906 m³/s), 48,760 acre-ft/yr (60.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) Jan. 13, 1980, gage height, 19.6 ft (5.97 m), from floodmarks; minimum daily, 2.1 ft³/s (0.060 m³/s) on several days during July and September 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 136 ft³/s (3.85 m³/s) Mar. 25, gage height, 3.46 ft (1.055 m); minimum daily, 2.7 ft³/s (0.076 m³/s) Sept. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	5.6	5.6	5.2	9.5	9.3	15	5.3	6.5	6.0	5.1	3.5
2	5.4	5.6	6.3	5.1	9.4	9.7	14	5.1	6.9	4.9	5.1	3.5
3	5.5	5.6	20	5.6	9.1	9.9	11	4.9	6.6	5.3	5.2	3.5
4	5.5	5.6	46	5.4	8.8	11	10	5.0	6.3	5.8	5.7	3.5
5	5.5	5.6	12	5.1	8.6	11	9.2	5.3	6.1	5.2	4.8	3.5
6	5.3	5.7	7.7	5.9	8.3	10	8.6	5.2	5.8	5.1	4.2	3.5
7	5.7	6.5	6.1	5.5	7.9	9.3	8.3	5.1	5.5	5.3	4.1	3.3
8	5.9	7.2	5.4	5.0	7.7	8.6	7.6	5.9	5.4	5.2	5.8	3.7
9	5.9	6.5	5.0	5.1	8.0	8.1	7.3	5.2	5.5	4.8	4.1	3.3
10	6.0	6.4	4.9	5.1	8.6	7.6	6.8	5.7	5.4	4.8	4.1	5.4
11	5.9	6.3	4.9	5.1	12	7.1	6.5	5.2	5.2	5.2	4.1	5.5
12	6.4	6.2	4.9	5.4	12	6.6	6.3	5.0	5.3	4.5	4.0	4.7
13	6.2	5.8	4.9	5.6	31	6.5	6.0	5.2	5.5	4.1	3.5	3.7
14	6.2	5.7	4.4	5.6	76	6.5	5.7	5.3	5.2	4.6	4.2	3.0
15	6.1	3.8	3.9	5.6	41	6.4	5.5	5.5	5.1	5.2	3.9	3.4
16	6.0	4.4	4.6	6.0	24	7.9	5.5	4.7	5.2	5.3	3.6	3.6
17	5.0	5.9	5.7	5.8	24	7.8	5.5	5.0	5.0	4.8	4.5	3.4
18	5.3	5.9	5.3	5.3	17	7.2	5.9	11	6.2	5.1	4.2	3.2
19	6.2	5.8	5.0	5.1	18	14	19	9.9	6.6	5.1	3.9	2.7
20	6.2	4.0	3.9	5.0	17	15	22	7.7	5.6	5.1	4.5	4.0
21	5.8	3.8	6.1	5.0	12	22	7.2	6.6	5.1	5.2	4.1	4.4
22	5.7	4.8	6.4	5.3	10	28	5.8	6.0	5.7	5.2	3.8	4.7
23	5.4	5.2	5.5	9.2	9.3	22	5.3	5.7	5.8	5.3	4.3	5.1
24	5.3	4.6	5.2	8.3	11	19	5.0	5.4	5.0	5.1	4.5	5.6
25	5.6	5.1	5.1	6.6	11	69	4.9	5.8	4.7	4.7	3.9	3.9
26	5.4	5.1	5.0	6.1	10	40	5.8	7.2	5.0	5.2	4.1	6.3
27	5.7	5.1	5.1	61	9.4	24	5.2	7.5	5.9	5.5	4.0	5.1
28	6.2	5.1	5.6	30	9.4	20	5.3	6.5	5.7	5.1	3.9	5.5
29	6.2	5.1	5.6	18	---	19	5.4	5.8	5.1	4.2	3.8	6.2
30	5.9	7.7	5.6	13	---	17	5.2	5.4	5.6	5.2	4.2	5.4
31	5.6	---	5.6	11	---	14	---	5.5	---	5.0	3.8	---
TOTAL	178.6	165.7	227.3	281.0	440.0	473.5	240.8	184.6	168.5	157.1	133.0	126.1
MEAN	5.76	5.52	7.33	9.06	15.7	15.3	8.03	5.95	5.62	5.07	4.29	4.20
MAX	6.4	7.7	46	61	76	69	22	11	6.9	6.0	5.8	6.3
MIN	5.0	3.8	3.9	5.0	7.7	6.4	4.9	4.7	4.7	4.1	3.5	2.7
AC-FT	354	329	451	557	873	939	478	366	334	312	264	250
CAL YR 1980	TOTAL	44950.9	MEAN	123	MAX	4560	MIN	3.8	AC-FT	89160		
WTH YR 1981	TOTAL	2776.2	MEAN	7.61	MAX	76	MIN	2.7	AC-FT	5510		

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'10", in SE4SW4 sec.5, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, 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 mi² (70.2 km²).

PERIOD OF RECORD.--December 1926 to current year.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³), 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, Sept. 21-30, 1981.

COOPERATION.--Seventy-four gage-height readings furnished by Nevada Irrigation District.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 71,000 acre-ft (87.5 hm³) 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 hm³) Mar. 4, 1931, elevation, 5,430.1 ft (1,655.09 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 49,400 acre-ft (60.9 hm³) Nov. 24, 25, elevation, 5,539.5 ft (1,688.44 m); minimum, 0 acre-ft (0 hm³) Sept. 21-30.

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

5,419.6	0	5,460	6,900
5,425	500	5,470	10,200
5,430	900	5,480	14,200
5,435	1,400	5,510	30,000
5,440	2,100	5,540	49,800
5,450	4,100	5,570	73,800

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47400	48800	47100	36300	29500	26300	20900	32800	41300	37600	27500	10600
2	47500	48800	46700	36100	29200	25900	21000	33400	41300	37300	27100	10000
3	47600	48800	46600	35800	28900	25400	21000	33800	41300	37000	26800	9440
4	47600	48800	46400	35500	28700	25000	21000	34100	41200	36700	26500	8850
5	47700	48800	46000	35300	28500	24600	21100	34400	41200	36300	26100	8370
6	47800	48800	45500	35000	28300	24200	21200	34700	41100	35900	25600	7890
7	47800	48800	45100	34700	28000	23800	21400	34900	41000	35600	25000	7380
8	47800	48800	44700	34500	27700	23300	21700	35000	41000	35300	24400	6930
9	47900	48800	44300	34300	27400	23000	22000	35200	40800	35000	23800	6330
10	48000	48800	43800	34000	27200	22800	22200	35500	40800	34600	23200	5700
11	48000	48900	43400	33700	26900	22500	22400	35700	40600	34300	22700	5080
12	48000	48900	42900	33400	26700	22200	22600	35900	40400	33900	22200	4520
13	48100	48900	42400	33200	27000	22000	22700	36100	40400	33500	21600	3900
14	48200	48800	42000	32900	26000	21800	23000	36400	40300	33200	21000	3260
15	48200	48800	41500	32600	26100	21400	23400	36800	40100	32900	20500	2680
16	48300	48800	41100	32300	26300	21200	23800	37100	40000	32600	20000	2180
17	48300	48800	40800	32000	26400	21000	24200	37300	39900	32300	19400	1600
18	48400	48800	40400	31700	26500	20800	24700	38000	39800	32000	18800	1210
19	48400	48800	40100	31400	26600	20600	25300	38700	39600	31700	18200	840
20	48400	48900	39700	31200	26700	20600	25600	39000	39400	31400	17600	350
21	48500	49000	39400	30900	26700	20400	26100	39200	39300	31100	17000	0
22	48500	49200	39100	30700	26600	20400	26800	39400	39200	30700	16200	0
23	48500	49300	38700	30600	26400	20200	27500	39500	39100	30400	15600	0
24	48500	49400	38500	30400	26200	20100	28400	39700	38900	30100	15100	0
25	48500	49400	38100	30100	27800	20400	29200	40100	38700	29800	14600	0
26	48600	49100	37800	29900	27500	20600	29700	40400	38500	29500	14000	0
27	48600	48700	37600	30100	27100	20800	30200	40800	38500	29200	13500	0
28	48600	48300	37300	30200	26700	20800	30700	41000	38200	28800	13000	0
29	48700	47800	37000	30100	---	20800	31500	41200	38000	28500	12400	0
30	48700	47500	36800	29900	---	20900	32200	41300	37900	28100	11800	0
31	48700	---	36500	29800	---	20900	---	41300	---	27800	11200	---
MAX	48700	49400	47100	36300	29500	26300	32200	41300	41300	37600	27500	10600
MIN	47400	47500	36500	29800	26700	20100	20900	32800	37900	27800	11200	0
†	5538.4	5536.7	5520.9	5509.6	5504.5	5494.0	5513.7	5527.9	5523.0	5506.4	5472.6	---
‡	1300	-1200	-11000	-6700	-3100	-5800	+11300	+9100	-3400	-10100	-16600	-11200
CAL YR 1980	†	-6800										
WTR YR 1981	‡	-47400										

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

‡ Change in contents, in acre-feet.

LOCATION.--Lat 39°26'26", long 120°39'30", in NW¼SW¼ sec.8, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, 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.

REVISED RECORDS,--WSP 1395: 1935-36, 1940.

REMARKS.--Records good. 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.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 339 ft³/s (9.60 m³/s) July 24, 1973; no flow at times in most years.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	290	313	222	162	159	264	98	5.0	83	174	230	299
2	295	312	223	161	159	262	85	4.9	83	221	230	297
3	294	313	227	163	159	262	84	4.9	82	226	229	293
4	293	311	225	165	157	262	84	11	80	225	229	298
5	290	311	221	165	157	262	85	26	77	225	269	297
6	289	312	220	164	157	260	85	34	77	227	284	302
7	290	316	220	164	157	259	56	34	80	233	282	306
8	297	312	219	164	157	258	33	33	83	235	279	305
9	295	309	221	164	157	237	35	33	83	234	277	299
10	293	309	224	163	157	215	34	33	83	233	275	294
11	292	309	223	163	158	215	34	32	84	233	283	287
12	294	308	222	162	157	214	34	32	84	232	286	288
13	293	307	222	163	160	214	35	45	84	231	283	316
14	288	308	223	165	163	213	35	49	84	231	292	299
15	284	308	225	164	158	213	30	49	84	230	304	282
16	289	307	200	164	160	213	23	49	83	230	300	293
17	293	308	181	163	160	205	24	48	86	229	295	285
18	292	308	181	163	159	174	24	51	88	229	291	243
19	292	308	181	162	161	157	26	49	88	228	287	199
20	292	250	181	162	160	156	16	50	88	228	295	230
21	291	212	183	162	180	157	13	49	88	230	301	58
22	291	216	182	162	198	157	8.5	48	88	231	306	8.1
23	291	219	171	163	200	156	5.7	48	88	231	309	5.1
24	293	220	163	162	240	156	5.1	49	88	230	304	6.8
25	291	219	163	161	268	143	5.2	48	88	230	299	14
26	294	219	163	161	267	107	5.6	49	88	229	294	8.1
27	298	219	162	166	266	106	5.3	48	88	229	298	7.6
28	296	218	162	161	265	106	5.1	48	89	231	302	7.7
29	296	219	162	161	---	107	5.1	48	93	231	297	4.5
30	295	224	162	160	---	106	5.1	68	94	231	297	4.2
31	303	---	162	160	---	106	---	83	---	231	300	---
TOTAL	9074	8324	6096	5045	5056	5922	1025.7	1258.8	2556	7068	8807	5836.1
MEAN	293	277	197	163	181	191	34.2	40.6	85.2	228	284	195
MAX	303	316	227	166	268	264	98	83	94	235	309	316
MIN	284	212	162	160	157	106	5.1	4.9	77	174	229	4.2
AC-FT	18000	16510	12090	10010	10030	11750	2030	2500	5070	14020	17470	11580
CAL YR 1980	TOTAL	83931.70	MEAN	229	MAX	316	MIN	.20	AC-FT	166500		
WTR YR 1981	TOTAL	66068.60	MEAN	181	MAX	316	AC-FT	131000				

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 220 ft³/s (6.230 m³/s), 159,400 acre-ft/yr (197 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 330 ft³/s (9.35 m³/s) Dec. 22, 1964; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	296	229	159	169	283	152	111	115	219	227	294
2	275	298	227	158	170	281	141	115	107	221	227	285
3	302	298	247	159	170	280	137	109	109	221	226	285
4	297	298	295	162	168	281	136	88	133	223	235	284
5	293	299	252	162	167	281	136	80	105	223	226	287
6	293	299	227	161	166	280	140	84	111	223	287	288
7	293	299	222	161	165	279	125	88	109	209	278	293
8	294	305	222	161	165	278	104	88	109	229	275	284
9	295	303	222	159	165	275	104	88	109	230	271	286
10	295	302	223	159	165	247	106	88	109	230	270	286
11	297	302	223	159	165	239	111	88	109	230	279	285
12	301	301	223	159	166	242	113	86	109	232	281	282
13	303	300	223	158	168	243	110	85	109	228	278	283
14	304	299	222	159	196	242	109	86	109	228	287	284
15	301	297	224	163	206	240	111	90	109	227	299	284
16	299	299	206	166	229	241	111	91	109	227	295	282
17	299	297	181	166	209	238	111	91	108	227	290	283
18	299	297	182	167	194	198	119	116	108	228	286	273
19	299	297	182	165	205	188	122	144	109	227	282	216
20	299	267	182	154	230	197	141	115	109	227	290	190
21	298	219	182	153	229	192	131	103	109	226	296	122
22	297	218	186	171	231	195	118	96	109	226	301	0
23	297	219	175	167	234	197	139	96	110	226	304	0
24	297	221	161	170	271	197	142	94	106	226	299	0
25	297	223	161	169	299	243	138	94	97	227	294	0
26	298	222	161	168	294	241	137	96	110	226	289	0
27	297	222	161	209	288	167	113	99	109	226	293	0
28	298	220	161	202	286	166	94	97	109	226	293	0
29	297	219	161	180	---	168	94	95	108	226	292	0
30	295	227	160	178	---	167	102	94	106	226	292	0
31	294	---	159	172	---	163	---	107	---	227	295	---
TOTAL	9182	8163	6242	5156	5770	7129	3647	3002	3277	6997	8637	5656
MEAN	296	272	201	166	206	230	122	96.8	109	226	279	189
MAX	304	305	295	209	299	283	152	144	133	232	304	294
MIN	275	218	159	153	165	163	94	80	97	209	226	0
AC-FT	18210	16190	12380	10230	11440	14140	7230	5950	6500	13880	17130	11220
CAL YR 1980	TOTAL	101203.00		MEAN	277	MAX	323	MIN	0	AC-FT	200700	
WTR YR 1981	TOTAL	72858.00		MEAN	200	MAX	305	MIN	0	AC-FT	144500	

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'39", in NE4SE4 sec.7, T.18 N., R.12 E., Nevada County, Hydrologic Unit 18020125, 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 mi² (73.3 km²).

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 period of no gage-height record, Apr. 28 to June 4, which are fair. Flow regulated by French Lake, usable capacity, 13,840 acre-ft (17.1 hm³), Bowman Lake (station 11415500), several smaller reservoirs, and diversion into Bowman-Spaulding Canal (station 11416000). See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--54 years, 34.6 ft³/s (0.980 m³/s), 25,070 acre-ft/yr (30.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,740 ft³/s (106 m³/s) Jan. 22, 1970, gage height, 9.42 ft (2.871 m) in gage well, 10.32 ft (3.146 m) from floodmarks, from rating curve extended above 1,500 ft³/s (42.5 m³/s) on basis of slope-area measurement of maximum flow; no flow at times some years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 49 ft³/s (1.39 m³/s) Mar. 25, gage height, 3.99 ft (1.216 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Nov. 18-20.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	2.7	3.0	2.3	3.5	5.1	3.7	2.5	3.0	3.5	3.1	3.1
2	3.6	2.7	4.7	2.3	3.4	5.2	3.4	2.5	3.0	3.6	3.1	3.1
3	3.6	2.7	13	2.6	3.3	5.0	3.1	2.5	3.1	3.6	3.1	3.0
4	3.6	2.7	13	2.8	3.3	4.0	3.1	2.5	3.2	3.6	3.1	3.0
5	3.5	2.2	4.6	2.4	3.5	3.9	3.2	2.6	3.2	3.6	3.2	3.1
6	3.6	1.5	3.7	2.3	3.3	4.0	3.2	2.6	3.2	3.3	3.3	3.0
7	3.5	2.8	3.4	2.2	3.3	4.0	3.1	2.6	3.2	3.2	3.2	3.1
8	3.6	3.0	3.2	2.2	3.7	3.9	2.9	2.6	3.2	3.1	3.2	3.1
9	3.6	2.0	3.0	2.1	4.2	3.8	2.8	2.7	3.2	3.1	3.2	3.1
10	3.5	1.8	2.9	2.1	4.2	3.8	2.7	2.7	3.1	3.1	3.1	3.0
11	3.6	1.7	2.9	2.1	4.8	3.7	2.5	2.8	2.3	3.1	3.3	3.0
12	3.8	1.5	2.8	2.1	5.0	3.7	2.4	2.8	2.0	3.1	3.3	3.0
13	2.9	1.5	2.7	2.1	9.7	3.7	2.3	2.8	2.0	3.1	3.3	3.1
14	2.9	1.4	2.7	2.1	18	3.4	2.3	2.9	2.0	3.1	3.3	3.1
15	2.7	1.4	2.7	2.1	7.1	2.9	2.4	2.9	1.9	3.1	3.3	3.0
16	2.8	1.4	2.7	2.2	7.7	3.1	2.7	3.0	2.5	3.1	3.2	3.0
17	2.7	1.4	2.6	2.2	7.7	3.1	3.0	3.0	3.3	3.1	3.2	2.9
18	2.7	1.2	2.6	2.1	6.6	2.9	3.3	3.4	3.3	3.0	3.1	2.8
19	2.7	1.2	2.5	2.1	7.8	4.0	4.6	4.0	3.3	3.0	3.1	2.7
20	2.7	1.2	2.5	2.1	6.6	3.5	3.9	3.3	3.3	3.0	3.1	2.7
21	2.5	2.5	3.2	2.1	5.5	3.9	3.4	3.3	3.3	3.0	3.1	7.1
22	2.5	2.6	3.2	2.2	5.4	5.4	3.2	3.3	3.3	3.0	3.1	6.6
23	2.5	2.7	2.9	2.9	5.3	4.6	3.3	3.3	3.3	3.0	3.1	6.5
24	2.5	2.7	2.7	2.7	6.0	4.3	3.0	3.3	3.2	3.0	3.1	5.9
25	2.7	2.6	2.6	2.5	5.6	17	3.0	3.3	3.4	3.0	3.1	3.2
26	2.7	2.5	2.6	2.5	5.3	6.3	3.2	3.3	3.3	3.0	3.0	3.3
27	2.7	2.5	2.5	2.6	5.2	4.4	3.0	3.3	3.3	3.0	3.0	2.9
28	2.7	2.5	2.5	2.5	5.1	4.4	2.8	3.2	3.3	3.0	3.1	3.4
29	2.6	2.6	2.4	2.5	---	4.3	2.6	3.2	3.3	3.1	3.0	4.3
30	2.6	5.2	2.3	2.7	---	3.8	2.5	3.1	3.3	3.1	3.0	4.3
31	2.6	---	2.3	3.5	---	3.4	---	3.1	---	3.1	3.0	---
TOTAL	93.8	66.4	110.4	73.2	160.1	138.5	90.6	92.4	90.3	97.7	97.4	107.4
MEAN	3.03	2.21	3.56	2.36	5.72	4.47	3.02	2.98	3.01	3.15	3.14	3.58
MAX	3.8	5.2	13	3.5	18	17	4.6	4.0	3.4	3.6	3.3	7.1
MIN	2.5	1.2	2.3	2.1	3.3	2.9	2.3	2.5	1.9	3.0	3.0	2.7
AC-FT	186	132	219	145	318	275	180	183	179	194	193	213

CAL YR 1980 TOTAL 4126.3 MEAN 11.3 MAX 179 MIN 1.2 AC-FT 8180
WTR YR 1981 TOTAL 1218.2 MEAN 3.34 MAX 18 MIN 1.2 AC-FT 2420

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, Hydrologic Unit 18020125, 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 mi² (798 km²).

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 good. Flow regulated by Lake Spaulding, Fordyce Lake, Bowman Lake (stations 11414040, 11414090, 11415500), and many smaller reservoirs. Diversions into and out of basin for several powerhouses and for irrigation of about 20,000 acres (81 km²) by the Nevada Irrigation District. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--30 years, 435 ft³/s (12.32 m³/s), 315,200 acre-ft/yr (389 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,600 ft³/s (1,520 m³/s) Dec. 22, 1964, gage height, 25.0 ft (7.62 m) from floodmarks, from rating curve extended above 23,000 ft³/s (651 m³/s) on basis of slope-area measurement of maximum flow; minimum, 1.0 ft³/s (0.028 m³/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, 2,780 ft³/s (78.7 m³/s) Jan. 27, gage height, 9.34 ft (2.847 m); minimum daily, 28 ft³/s (0.793 m³/s) Sept. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	66	133	63	252	225	415	160	86	42	32	33
2	41	84	92	62	224	219	401	152	83	43	32	33
3	41	54	251	67	208	214	364	145	84	43	32	32
4	41	54	787	89	192	321	331	138	83	42	32	33
5	42	53	239	86	180	392	313	134	77	43	33	32
6	42	53	134	72	171	293	309	127	74	43	34	32
7	42	54	107	69	161	255	300	122	71	42	34	32
8	42	93	92	67	153	231	282	117	69	41	34	32
9	43	84	84	65	153	215	266	114	70	41	33	32
10	43	65	80	64	157	205	258	111	69	40	32	32
11	43	62	76	63	164	197	243	106	67	39	32	32
12	51	61	74	63	197	189	228	102	65	39	32	33
13	65	61	72	62	204	184	220	98	63	39	33	33
14	62	59	71	62	982	180	218	96	62	38	34	33
15	64	58	69	62	550	178	218	101	59	38	34	33
16	58	57	68	67	377	253	212	104	57	38	35	32
17	55	54	68	74	423	205	209	95	55	38	34	31
18	55	55	68	73	348	191	210	109	55	37	33	32
19	53	57	67	69	315	679	289	258	54	37	33	31
20	53	57	66	69	364	780	288	165	54	36	33	30
21	53	56	71	68	281	676	252	134	52	36	33	29
22	53	55	99	73	238	704	228	120	50	36	34	28
23	53	59	90	231	219	553	222	112	47	36	34	37
24	51	63	77	298	292	465	218	105	48	36	33	42
25	52	60	73	169	315	1320	207	112	47	35	33	60
26	67	56	70	127	276	1370	211	125	47	34	34	66
27	65	56	68	1150	245	829	200	140	45	34	33	51
28	56	55	67	1550	234	633	180	119	44	34	33	49
29	54	54	66	911	---	549	172	104	45	34	34	51
30	54	78	65	463	---	511	167	95	43	33	33	48
31	54	---	64	316	---	430	---	90	---	31	33	---
TOTAL	1588	1833	3508	6724	7875	13646	7631	3810	1825	1178	1028	1104
MEAN	51.2	61.1	113	217	281	440	254	123	60.8	38.0	33.2	36.8
MAX	67	93	787	1550	982	1370	415	258	86	43	35	66
MIN	40	53	64	62	153	178	167	90	43	31	32	28
AC-FT	3150	3640	6960	13340	15620	27070	15140	7560	3620	2340	2040	2190
CAL YR 1980	TOTAL	208204	MEAN	569	MAX	12200	MIN	40	AC-FT	413000		
WTR YR 1981	TOTAL	51750	MEAN	142	MAX	1550	MIN	28	AC-FT	102600		

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, Hydrologic Unit 18020125, 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 mi² (2,870 km²).

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) National Geodetic Vertical Datum of 1929 (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 ft³/s (51.0 m³/s), see stations 11413250, 11414190, 11414200. Flow regulation by Lake Spaulding (station 11414140), Jackson Meadows and New Bullards Bar Reservoirs (stations 11407800, 11413515), Englebright Reservoir beginning in 1941, capacity, 70,000 acre-ft (86.3 hm³), Bowman and Fordyce Lakes (stations 11415500, 11414090), and many smaller reservoirs. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--40 years, 2,445 ft³/s (69.24 m³/s), 1,771,000 acre-ft/yr (2.18 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 171,000 ft³/s (4,840 m³/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 ft³/s (708 m³/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, 3,440 ft³/s (97.4 m³/s) Mar. 25, gage height, 8.14 ft (2.481 m); minimum daily, 480 ft³/s (13.6 m³/s) Sept. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3130	1140	1160	1070	597	1050	1070	871	859	859	854	566
2	3160	1130	1140	1060	872	882	1070	863	859	862	853	572
3	3160	1150	1140	1050	1050	609	888	867	859	865	816	572
4	3160	1140	1280	1060	1060	609	619	893	869	867	712	568
5	3160	1130	1400	1070	1310	611	619	887	964	868	702	568
6	3160	1130	1390	1090	1160	950	619	856	869	872	704	568
7	3160	1130	1390	1090	620	1060	618	853	894	862	978	568
8	3160	1130	1410	1100	615	1060	614	853	866	836	685	568
9	2900	1130	1420	1110	614	797	614	814	863	852	683	568
10	1830	1130	1410	1110	614	613	645	751	851	859	679	846
11	1770	1130	1410	1120	614	605	618	815	872	855	679	932
12	1790	1130	1410	1120	604	604	614	860	872	853	679	564
13	1800	1130	1410	1130	604	833	614	855	863	853	679	564
14	1800	1130	1410	1140	1320	1070	614	872	857	864	654	564
15	1320	1130	1410	1010	926	1070	614	858	872	864	629	564
16	592	1130	1410	600	606	814	614	848	865	859	629	564
17	590	1130	1420	597	604	609	614	873	875	853	629	564
18	590	1130	1430	595	608	605	614	876	1020	853	629	633
19	590	1130	1430	595	629	908	652	865	1050	853	629	710
20	652	1130	1410	595	600	1650	625	865	864	857	587	710
21	710	1130	1400	591	600	1720	619	861	865	862	561	705
22	710	1130	1400	590	600	1410	618	851	876	859	564	608
23	713	1130	1410	683	600	1400	614	862	877	859	563	491
24	825	1130	1420	767	600	1250	614	865	871	860	559	484
25	1040	1140	1390	737	909	1800	614	865	872	847	559	484
26	1050	1140	1390	742	1060	3290	614	865	865	859	577	482
27	1090	1140	1410	749	1050	1430	661	867	855	859	891	480
28	1140	1130	1420	744	1040	1310	831	869	853	862	1160	494
29	1140	1140	1420	651	---	1070	874	855	860	864	772	510
30	1140	1160	1370	525	---	1070	878	857	872	858	551	618
31	1140	---	1190	513	---	1070	---	859	---	853	553	---
TOTAL	52172	34010	42510	26604	22086	33829	20506	26571	26429	26608	21399	17689
MEAN	1683	1134	1371	858	789	1091	684	857	881	858	690	590
MAX	3160	1160	1430	1140	1320	3290	1070	893	1050	872	1160	932
MIN	590	1130	1140	513	597	604	614	751	851	836	551	480
AC-FT	103500	67460	84320	52770	43810	67100	40670	52700	52420	52780	42440	35090
CAL YR 1980	TOTAL	1300962	MEAN	3555	MAX	28200	MIN	590	AC-FT	2580000		
WTR YR 1981	TOTAL	350413	MEAN	960	MAX	3290	MIN	480	AC-FT	695000		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020125, 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 mi² (219.1 km²).

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 hm³), increased to 49,000 acre-ft (60.4 hm³) in July 1964, Deer Creek Reservoir, capacity, 1,400 acre-ft (1.73 hm³), Lake Wildwood, capacity, 3,840 acre-ft (4.73 hm³) 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.--46 years, 126 ft³/s (3,568 m³/s), 91,290 acre-ft/yr (113 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,600 ft³/s (329 m³/s) Oct. 13, 1962, gage height, 13.77 ft (4.197 m), from rating curve extended above 5,200 ft³/s (147 m³/s); minimum daily, 0.06 ft³/s (0.002 m³/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 ft³/s (396 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,180 ft³/s (90.1 m³/s) Jan. 27, gage height, 8.25 ft (2.515 m); minimum daily, 0.95 ft³/s (0.027 m³/s) July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.9	7.9	6.8	79	35	55	5.3	2.5	1.8	1.5	1.6
2	1.1	2.7	8.6	6.7	60	30	49	5.9	2.2	1.7	1.6	1.5
3	1.1	2.4	40	8.3	51	28	42	6.2	2.2	1.9	1.6	1.8
4	1.1	2.3	51	15	42	194	36	5.1	2.1	1.7	1.8	1.7
5	1.2	3.1	15	13	36	296	31	3.6	1.8	2.0	1.6	2.2
6	1.2	3.0	11	12	31	86	32	3.3	1.9	2.3	1.4	2.4
7	1.3	3.2	7.0	12	28	55	31	3.4	2.1	2.0	1.6	2.1
8	1.4	6.9	4.6	12	27	44	29	4.1	2.0	1.9	1.6	2.2
9	1.8	6.1	3.5	11	26	38	27	2.8	1.8	1.7	1.7	2.0
10	2.1	5.2	3.2	9.6	24	34	23	2.9	1.9	1.6	1.6	2.0
11	2.1	4.6	4.9	9.4	25	31	19	3.0	1.7	1.5	1.6	2.0
12	3.5	4.2	7.0	8.5	24	28	18	2.1	1.9	1.4	1.6	1.8
13	4.8	2.4	5.3	7.6	29	25	17	2.0	1.9	1.2	1.7	1.7
14	238	1.8	2.7	7.6	121	22	17	3.0	1.9	1.0	1.6	2.0
15	385	2.0	2.8	7.2	65	33	14	3.7	1.8	1.2	1.6	2.0
16	141	3.1	2.9	8.2	43	116	12	2.9	1.9	1.3	1.8	1.8
17	2.6	4.2	2.8	8.5	41	50	9.0	2.1	1.7	1.3	1.9	1.7
18	2.2	4.0	2.9	8.3	33	45	10	3.0	1.7	1.4	1.8	1.8
19	2.1	3.9	2.2	8.5	31	781	28	4.4	1.4	1.4	1.9	2.0
20	1.8	3.1	2.9	8.2	32	437	36	3.7	1.5	1.3	2.3	2.0
21	1.6	2.6	6.1	7.6	27	283	22	3.8	1.8	1.3	2.2	2.1
22	1.4	2.8	11	8.7	25	194	16	3.4	1.9	1.1	2.2	2.2
23	1.3	3.8	8.1	129	24	108	14	3.9	1.7	.95	2.8	9.2
24	115	3.7	8.0	81	40	75	13	3.7	1.5	1.0	2.8	14
25	1.9	3.5	7.6	22	64	626	12	3.5	1.6	1.0	2.4	9.2
26	1.5	3.6	5.1	16	56	316	12	2.9	1.5	1.1	2.2	3.5
27	1.4	3.9	4.9	1230	43	148	12	3.3	1.5	1.0	1.8	2.8
28	1.2	3.3	6.9	847	36	93	11	3.9	1.6	1.1	1.8	2.6
29	1.3	2.3	7.0	1060	---	73	8.3	3.7	1.7	1.2	1.8	2.6
30	1.4	3.8	7.2	293	---	62	5.4	3.3	1.8	1.3	1.7	2.2
31	3.5	---	6.8	141	---	74	---	3.0	---	1.5	1.7	---
TOTAL	928.0	104.3	266.9	4023.7	1163	4440	660.7	110.9	54.5	44.15	57.2	88.7
MEAN	29.9	3.48	8.61	130	41.5	143	22.0	3.58	1.82	1.42	1.85	2.96
MAX	385	6.9	51	1230	121	781	55	6.2	2.5	2.3	2.8	14
MIN	1.1	1.8	2.2	6.7	24	22	5.4	2.0	1.4	.95	1.4	1.5
AC-FT	1840	207	529	7980	2310	8810	1310	220	108	88	113	176
†	31498	31493	32480	35789	38875	44725	45577	43794	40271	34758	29087	24678

CAL YR 1980 TOTAL 56986.70 MEAN 156 MAX 4220 MIN 1.1 AC-FT 113000
WTR YR 1981 TOTAL 11942.05 MEAN 32.7 MAX 1230 MIN .95 AC-FT 23690

† Contents, in acre-feet, at end of month for Scotts Flat Reservoir, furnished by Nevada Irrigation District.

11421000 YUBA RIVER NEAR MARYSVILLE, CA

LOCATION.--Lat 39°10'33", long 121°31'26", in New Helvetia Grant, Yuba County, Hydrologic Unit 18020107, 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 mi² (3,468 km²).

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 National Geodetic Vertical Datum of 1929. 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 km²) between stations below Englebright Dam and near Marysville. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--38 years (water years 1944-81), 2,448 ft³/s (69.33 m³/s), 1,774,000 acre-ft/yr (2.19 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-81), 180,000 ft³/s (5,100 m³/s) Dec. 22, 1964, gage height, 90.15 ft (27.478 m) from floodmarks, from rating curve extended above 91,000 ft³/s (2,580 m³/s) on basis of Corps of Engineers flood routing study; minimum recorded, 10 ft³/s (0.28 m³/s) July 2, 1959.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,600 ft³/s (130 m³/s) Jan. 27, gage height, 63.80 ft (19.446 m); minimum daily, 165 ft³/s (4.67 m³/s) Aug. 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3030	938	983	944	852	1170	1280	397	392	284	336	278
2	3030	930	989	913	1010	1130	1260	357	388	288	331	285
3	3050	942	1240	913	1260	736	1180	332	379	292	331	280
4	3080	942	1300	941	1260	767	799	370	379	302	229	273
5	3070	940	1360	939	1410	1230	741	357	468	301	204	269
6	3050	942	1320	947	1560	1080	729	316	424	301	197	283
7	3070	942	1320	945	819	1240	704	296	398	308	320	296
8	3060	945	1330	948	760	1230	692	293	377	291	364	302
9	3040	945	1320	954	729	1100	685	289	371	265	214	324
10	1890	946	1320	943	721	760	679	238	354	296	205	482
11	1650	953	1340	947	715	731	679	248	356	295	197	893
12	1660	958	1330	960	700	713	643	304	367	283	197	453
13	1680	951	1330	969	705	777	626	304	360	288	202	406
14	1710	946	1330	972	1120	1160	620	308	330	312	201	407
15	1480	948	1320	988	1480	1210	576	340	350	346	172	408
16	465	950	1320	588	772	1230	560	308	353	341	172	403
17	410	953	1330	634	739	806	493	328	347	335	178	401
18	405	958	1340	620	719	752	425	361	360	332	207	418
19	405	958	1340	629	731	1830	458	374	513	330	230	535
20	472	960	1300	654	702	2520	524	402	428	330	226	571
21	530	958	1330	635	688	2410	503	397	312	335	185	586
22	530	970	1350	633	681	2010	483	379	308	343	165	581
23	530	961	1330	927	679	1800	463	420	312	338	167	429
24	580	961	1330	1090	691	1670	430	420	303	338	185	424
25	860	961	1310	883	878	2290	353	420	308	333	179	450
26	870	961	1310	848	1170	4070	289	411	296	336	180	427
27	890	964	1310	1990	1180	2230	289	411	269	348	298	431
28	938	957	1320	2740	1170	1790	415	420	269	347	803	428
29	942	962	1310	2790	---	1400	478	397	275	348	679	446
30	942	981	1290	1360	---	1340	444	392	293	343	312	490
31	942	---	1120	1010	---	1300	---	392	---	343	289	---
TOTAL	48261	28583	40072	32254	25901	44482	18500	10981	10639	9872	8155	12659
MEAN	1557	953	1293	1040	925	1435	617	354	355	318	263	422
MAX	3080	981	1360	2790	1560	4070	1280	420	513	348	803	893
MIN	405	930	983	588	679	713	289	238	269	265	165	269
AC-FT	95730	56690	79480	63980	51370	88230	36690	21780	21100	19580	16180	25110
CAL YR 1980 TOTAL	1334796			3647		33400		405		2648000		
WTR YR 1981 TOTAL		290359		796		4070		165		575900		

SACRAMENTO RIVER BASIN

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 (station 11421500) during water years 1966, 1973-76.

WATER TEMPERATURES: Water years 1973-78.

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

WATER QUALITY RECORDS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA, DISS (MG/L)	MANGANESE MG, DISS (MG/L)
80/10/29	14 30	775	80	7.6	13.5	11.3	2.0		35	9	3
80/11/20	11 45	807	79	7.4	10.0	12.1	3.0		35	9	3
80/12/29	13 10	1168	90	7.5	9.0	12.0	2.0		40	11	3
81/01/28	09 30	2732	105	7.4	9.5	11.0	9.0		42	10	4
81/02/25	12 40	735	99	8.1	9.5	12.8	5.0		42	10	4
81/03/26	11 30	4069	92	7.3	11.0	11.8	6.0		39	9	4
81/04/30	12 15	453	96	7.9	18.0	10.3	3.0	0.6	42	10	4
81/05/28	12 50	415	101	8.0	20.0	10.3	2.0		42	10	4
81/06/24	13 30	277	99	8.0	25.0	10.1	2.0		44	11	4

DATE	TIME	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKAL- LINITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/29	14 30	2	0.5	32	3	1	56	6	0.02	0.00
80/11/20	11 45	2	0.5	32	3	1		0	0.00	0.00
80/12/29	13 10	2	0.6	36	3	1	53	0	0.02	0.01
81/01/28	09 30	4	1.1	38	4	2	76		0.40	0.03
81/02/25	12 40	3	0.6	38	4	2	70	2	0.07	0.00
81/03/26	11 30	3	0.7	35	4	2	62		0.07	0.00
81/04/30	12 15	3	0.6	37	4	1	59	0	0.03	0.02
81/05/28	12 50	3	0.6	38	4	1	66	1	0.02	0.00
81/06/24	13 30	3	0.7	39	4	2	67	0	0.07	0.00

DATE	TIME	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	BORON B, DISS (UG/L)
80/10/29	14 30	0.10	0.00	0.00	0
80/11/20	11 45	0.10	0.01	0.00	0
80/12/29	13 10	0.10	0.01	0.00	100
81/01/28	09 30	0.50	0.05	0.00	100
81/02/25	12 40	0.10	0.01	0.00	0
81/03/26	11 30	0.20	0.03	0.00	0
81/04/30	12 15	0.10	0.01	0.00	0
81/05/28	12 50	0.10	0.01	0.00	100
81/06/24	13 30	0.10	0.01	0.00	0

DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGANESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)	SELENIUM SE, DISS (UG/L)
81/04/30	12 15	0	0	0	0	0	10	0	0	0.0	0

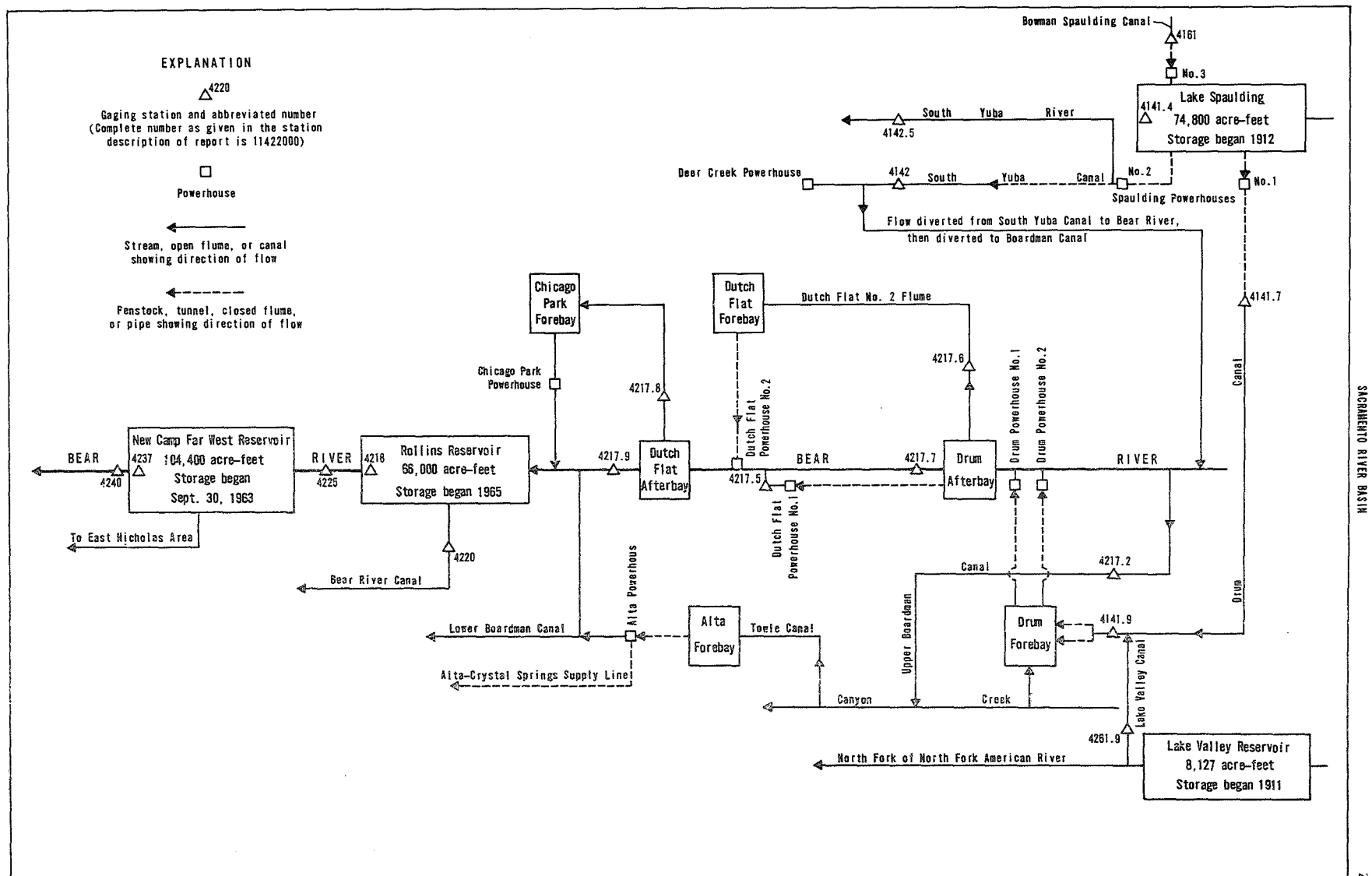


FIGURE 9. — Schematic diagram showing diversion and storage in Bear River basin.

11421720 BOARDMAN CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'49", long 120°42'08", in SEkNEk sec.35, T.17 N., R.11 E., Placer County, Hydrologic Unit 18020126, 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 4,490 ft (1,370 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 20.9 ft³/s (0.592 m³/s), 15,140 acre-ft/yr (18.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 43 ft³/s (1.22 m³/s) Dec. 21, 1964; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	25	15	12	17	15	9.3	.67	15	27	28	0
2	19	25	19	12	19	16	10	.55	20	29	28	0
3	19	27	23	13	16	15	9.2	.49	19	29	28	0
4	19	29	24	13	13	14	7.9	.49	20	28	29	0
5	19	29	21	12	17	14	7.8	.49	20	27	29	0
6	20	28	18	11	16	13	6.5	.49	19	27	30	0
7	20	26	16	12	16	11	5.2	13	18	27	30	0
8	20	26	16	11	15	11	5.0	23	19	27	30	0
9	22	24	16	13	15	11	5.0	20	22	28	30	0
10	24	22	15	13	15	11	5.0	14	23	28	30	0
11	24	19	15	13	15	11	4.9	19	24	28	30	0
12	25	19	15	13	16	11	4.9	21	24	27	30	0
13	24	19	15	14	14	11	4.7	21	24	28	30	0
14	25	18	15	14	13	11	4.7	21	24	28	30	0
15	24	14	14	14	12	11	5.9	7.6	25	29	30	0
16	23	14	14	15	12	10	7.0	.51	27	31	30	0
17	22	14	14	15	12	11	6.9	.49	26	31	30	.42
18	22	14	14	14	11	12	6.6	.49	27	30	30	14
19	23	15	14	14	11	14	6.7	.49	27	30	30	23
20	23	14	14	15	12	17	6.8	2.8	25	30	30	23
21	21	14	15	15	12	20	7.3	12	25	31	30	23
22	19	14	14	14	11	15	7.3	16	26	30	30	23
23	21	14	14	17	11	10	7.2	13	28	20	30	23
24	24	14	14	18	16	10	6.8	13	27	14	29	23
25	26	14	14	16	18	11	7.0	14	26	29	26	24
26	28	14	13	16	17	9.8	6.6	16	26	29	26	23
27	30	13	14	14	16	9.5	7.3	16	25	29	26	23
28	30	14	15	16	15	9.4	3.2	14	25	29	26	24
29	28	14	16	16	---	9.4	.71	14	26	29	26	25
30	26	17	15	15	---	9.4	.68	12	26	29	26	26
31	26	---	12	16	---	9.3	---	12	---	29	10	---
TOTAL	715	563	483	436	403	372.8	184.09	323.56	708	867	877	297.42
MEAN	23.1	18.8	15.6	14.1	14.4	12.0	6.14	10.4	23.6	28.0	28.3	9.91
MAX	30	29	24	18	19	20	10	23	28	31	30	26
MIN	19	13	12	11	11	9.3	.68	.49	15	14	10	0
AC-FT	1420	1120	958	865	799	739	365	642	1400	1720	1740	590
CAL YR 1980	TOTAL	6074.38	MEAN	16.6	MAX	31	MIN	.33	AC-FT	12050		
WTR YR 1981	TOTAL	6229.87	MEAN	17.1	MAX	31	MIN	0	AC-FT	12360		

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, Hydrologic Unit 18020126, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 236 ft³/s (6.684 m³/s), 171,000 acre-ft/yr (211 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 548 ft³/s (15.5 m³/s) for several days in 1965 and 1980; no flow at times most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT.	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	245	166	349	173	142	119	228	245	197	349	150	189
2	261	142	529	142	295	9.9	142	95	166	330	220	166
3	205	150	515	173	245	0	95	111	278	220	220	205
4	220	158	501	173	278	0	55	150	349	158	166	126
5	181	150	529	158	339	0	79	150	228	278	158	189
6	0	166	529	270	189	0	79	197	134	253	181	173
7	0	111	529	245	111	0	9.9	119	126	220	228	166
8	0	197	529	253	111	0	95	142	142	253	173	220
9	0	205	501	270	253	71	63	0	126	245	212	158
10	0	181	529	0	111	303	79	0	126	150	189	261
11	0	150	515	0	36	312	0	181	95	220	166	220
12	0	126	501	103	111	173	9.9	142	142	150	197	228
13	0	150	474	303	63	134	103	236	103	205	181	173
14	0	126	501	359	181	79	79	134	134	253	111	181
15	0	142	515	278	103	126	79	142	261	220	220	173
16	0	181	515	228	71	79	95	79	320	189	228	158
17	0	181	529	0	63	212	71	0	270	126	212	166
18	87	166	515	0	71	95	71	111	286	126	173	150
19	87	220	339	220	103	166	95	205	378	228	189	261
20	142	487	166	111	111	87	173	111	150	270	166	205
21	126	461	166	220	36	0	173	150	368	134	134	228
22	181	261	245	220	55	36	270	87	398	181	220	142
23	181	142	111	197	71	111	158	197	330	189	205	79
24	126	448	71	103	189	111	205	189	330	126	212	79
25	173	515	111	36	197	270	158	173	339	95	228	71
26	150	438	236	126	320	126	71	142	173	158	181	55
27	166	150	166	339	134	134	166	295	142	205	173	111
28	212	261	197	312	103	111	320	150	158	189	278	9.9
29	158	142	228	87	---	126	303	236	245	173	111	0
30	158	197	197	111	---	134	270	55	388	158	181	0
31	111	---	103	166	---	166	---	63	---	150	212	---
TOTAL	3170	6570	11441	5376	4092	3290.9	3794.8	4287	6882	6201	5875	4542.9
MEAN	102	219	369	173	146	106	126	138	229	200	190	151
MAX	261	515	529	359	339	312	320	295	398	349	278	261
MIN	0	111	71	0	36	0	0	0	95	95	111	0
AC-FT	6290	13030	22690	10660	8120	6530	7530	8500	13650	12300	11650	9010
CAL YR 1980 TOTAL	114455.0			MEAN 313	MAX 548	MIN 0	AC-FT 227000					
WTR YR 1981 TOTAL	65522.6			MEAN 180	MAX 529	MIN 0	AC-FT 130000					

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, Hydrologic Unit 18020126, on left bank 60 ft (18 m) downstream from Drum Afterbay Dam, and 3.5 mi (5.6 km) west of Blue Canyon.

DRAINAGE AREA.--12.3 mi² (31.9 km²).

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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 13.2 ft³/s (0.374 m³/s), 9,560 acre-ft/yr (11.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,880 ft³/s (81.6 m³/s) Jan. 21, 1970, gage height, 3.68 ft (1.122 m), from rating curve extended above 900 ft³/s (25.5 m³/s); minimum daily, 1.0 ft³/s (0.028 m³/s) Dec. 9, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 11 ft³/s (0.31 m³/s) Apr. 23; minimum daily, 4.7 ft³/s (0.13 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	5.1	5.1	4.9	5.5	5.2	10	10	10	10	10	10
2	4.7	5.1	5.0	4.9	5.5	4.9	10	10	10	10	10	10
3	5.1	5.1	5.0	5.1	5.4	5.1	10	10	10	10	10	10
4	5.2	5.1	5.0	5.1	5.4	5.0	10	10	10	10	10	10
5	5.3	5.1	5.0	5.1	5.2	5.2	10	10	10	10	10	10
6	5.3	5.1	5.0	5.1	5.2	6.6	10	10	10	10	10	10
7	5.2	5.1	5.1	5.2	5.4	10	10	10	10	10	10	10
8	5.2	5.1	5.1	5.1	5.4	9.9	10	10	10	10	10	10
9	5.2	5.1	5.0	5.2	5.3	10	10	10	10	10	10	10
10	5.1	5.1	5.1	5.1	5.1	10	10	10	10	10	10	10
11	5.1	5.1	5.1	5.0	5.0	10	10	10	10	10	10	10
12	5.1	5.1	5.0	5.1	5.1	10	10	10	10	10	10	10
13	5.1	5.1	5.0	4.9	5.0	10	10	10	10	10	10	10
14	5.1	5.1	4.9	5.1	4.9	10	10	10	10	10	10	10
15	5.1	5.1	5.1	5.1	4.8	10	10	9.9	10	10	10	10
16	5.1	5.1	4.8	5.2	4.9	10	10	10	10	10	10	10
17	5.1	5.1	4.9	5.4	5.1	10	10	10	10	10	10	10
18	5.1	5.1	5.1	5.3	5.4	10	10	10	10	10	10	10
19	5.1	5.1	4.9	5.4	5.0	10	10	10	10	10	10	10
20	5.1	5.1	5.4	5.1	5.2	10	10	10	10	10	10	10
21	5.1	5.1	5.4	5.2	5.2	10	10	10	10	10	10	10
22	5.1	5.1	5.2	5.4	5.3	10	10	10	10	10	10	10
23	5.1	5.1	5.0	5.3	5.4	10	11	10	10	10	10	10
24	5.1	5.1	4.9	5.0	5.1	10	10	10	10	10	10	10
25	5.1	5.1	5.2	4.9	5.0	10	10	10	10	10	10	10
26	5.1	5.1	5.3	5.0	5.2	10	10	10	10	10	10	10
27	5.1	5.1	5.1	4.8	5.0	10	10	10	10	10	10	10
28	5.1	5.1	4.8	5.3	5.1	10	10	10	10	10	10	10
29	5.1	5.1	4.8	5.0	---	10	10	10	10	10	10	10
30	5.1	5.1	4.8	5.4	---	10	10	10	10	10	10	10
31	5.1	---	4.9	5.3	---	10	---	10	---	10	10	---
TOTAL	163.4	153.0	156.0	154.0	145.1	281.9	301	309.9	300	310	310	300
MEAN	5.27	5.10	5.03	5.13	5.18	9.09	10.0	10.0	10.0	10.0	10.0	10.0
MAX	10	5.1	5.4	5.4	5.5	10	11	10	10	10	10	10
MIN	4.7	5.1	4.8	4.8	4.8	4.9	10	9.9	10	10	10	10
AC-FT	324	303	309	315	288	559	597	615	595	615	615	595
CAL YR 1980 TOTAL	12233.4					1830						
WTR YR 1981 TOTAL		2689.3				11						
MEAN	33.4					2.7						
MAX	1830					11						
MIN	2.7					4.7						
AC-FT	24260					5730						

NOTE.--No gage-height record Oct. 10 to Nov. 24 and June 18 to Sept. 28.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020126, 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 good except flows below 70 ft³/s (1.98 m³/s), which are poor. Flow regulated by Dutch Flat Afterbay. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE.--15 years, 601 ft³/s (17.02 m³/s), 435,400 acre-ft/yr (537 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,110 ft³/s (31.4 m³/s) Jan. 15, 21, 1980; no flow for several days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	676	184	507	245	165	601	211	588	466	807	279	601
2	652	213	569	198	345	630	202	278	578	863	280	605
3	691	577	602	198	430	537	164	279	521	628	464	605
4	715	638	702	206	296	574	148	423	742	452	579	537
5	776	635	614	387	451	582	154	494	672	453	579	230
6	55	617	557	406	325	598	152	496	235	629	582	253
7	0	576	564	410	111	589	148	494	246	677	656	252
8	0	234	563	407	109	545	145	368	529	694	608	419
9	0	229	561	410	388	572	148	113	563	700	603	562
10	0	503	561	23	609	470	148	108	564	494	603	670
11	0	602	560	20	480	485	148	304	559	297	605	648
12	0	591	559	157	484	436	59	489	442	298	593	443
13	0	615	538	453	697	573	20	509	232	512	585	660
14	0	641	494	359	846	529	253	541	232	694	508	664
15	0	206	556	486	557	522	326	536	726	675	285	598
16	0	247	584	360	486	573	352	188	899	643	290	556
17	0	496	590	20	601	525	372	20	717	533	457	606
18	185	628	584	20	544	520	370	315	850	288	559	525
19	529	612	540	113	549	765	369	529	748	286	561	233
20	635	532	212	326	605	618	451	648	323	447	555	313
21	674	520	210	335	616	469	559	532	349	587	558	314
22	661	212	443	334	559	459	560	528	917	587	252	313
23	680	304	583	305	554	518	556	110	752	587	247	130
24	654	526	559	160	557	484	559	209	834	574	468	20
25	650	498	194	72	633	757	559	214	825	220	615	229
26	643	486	188	204	883	592	557	536	624	220	627	20
27	644	239	255	699	526	421	555	693	538	443	650	20
28	714	236	286	571	526	268	657	538	624	596	610	169
29	642	241	438	564	---	282	717	564	707	596	245	118
30	608	242	571	251	---	199	695	231	756	597	249	20
31	594	---	524	109	---	445	---	227	---	464	444	---
TOTAL	12078	13080	15268	8808	13932	16138	10314	12102	17770	16541	15196	11333
MEAN	390	436	493	284	498	521	344	390	592	534	490	378
MAX	776	641	702	699	883	765	717	693	917	863	656	670
MIN	0	184	188	20	109	199	20	20	232	220	245	20
AC-FT	23960	25940	30280	17470	27630	32010	20460	24000	35250	32810	30140	22480
CAL YR 1980	TOTAL	291772	MEAN 797	MAX 1110	MIN 0	AC-FT 578700						
WTR YR 1981	TOTAL	162560	MEAN 445	MAX 917	MIN 0	AC-FT 322400						

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE&NW¼ sec.34, T.16 N., R.10 E., Placer County, Hydrologic Unit 18020126, 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 mi² (55.7 km²).

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 except those for period of no gage-height record, which are good. 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 Energy Regulatory 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.--15 years, 26.2 ft³/s (0.742 m³/s), 18,890 acre-ft/yr (23.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,200 ft³/s (90.6 m³/s) Jan. 13, 1980; minimum daily, 0.08 ft³/s (0.002 m³/s) Mar. 8-19, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 50 ft³/s (1.42 m³/s) Oct. 10, 11; minimum daily, 5.3 ft³/s (0.15 m³/s) on many days during November and January.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	11	11	11
2	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	11	10	11
3	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	11	11	11
4	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	11	11	11
5	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	11	11	11
6	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	10	11	11
7	11	5.3	5.5	5.5	5.5	5.5	5.7	11	11	10	11	11
8	11	5.5	5.5	5.7	5.5	5.5	5.7	11	11	10	11	11
9	11	5.5	5.5	5.7	5.5	5.5	5.7	11	11	10	11	11
10	18	5.5	5.5	5.7	5.5	5.5	5.7	11	11	10	11	11
11	32	5.5	5.5	5.5	5.5	5.5	5.5	11	11	10	11	11
12	11	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
13	11	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
14	11	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
15	11	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
16	11	5.5	5.5	5.3	5.5	5.7	5.5	11	11	10	11	11
17	11	5.5	5.5	5.3	5.5	5.7	5.5	11	11	10	11	11
18	11	5.5	5.5	5.3	5.5	5.7	5.5	11	11	10	11	11
19	11	5.5	5.5	5.3	5.7	5.7	5.5	11	11	10	11	11
20	11	5.5	5.5	5.3	5.7	5.7	5.5	11	11	10	11	11
21	11	5.5	5.5	5.3	5.5	5.7	5.5	11	11	10	11	11
22	11	5.5	5.5	5.3	5.5	5.9	5.5	11	11	10	11	11
23	11	5.5	5.5	5.3	5.5	5.9	5.5	11	11	10	11	11
24	11	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
25	11	5.5	5.7	5.5	5.5	5.7	5.5	11	11	11	11	11
26	11	5.5	5.7	5.5	5.5	5.7	5.5	11	11	10	11	11
27	11	5.5	5.7	5.5	5.5	5.7	5.5	11	11	10	11	11
28	10	5.5	5.5	5.5	5.5	5.7	5.5	11	11	10	11	11
29	10	5.5	5.5	5.3	---	5.7	5.5	11	11	10	11	11
30	10	5.5	5.5	5.3	---	5.7	7.9	11	11	10	11	11
31	7.6	---	5.5	5.5	---	5.7	---	11	---	10	11	---
TOTAL	362.6	163.6	171.1	169.1	154.4	174.9	169.4	341	330	316	340	330
MEAN	11.7	5.45	5.52	5.45	5.51	5.64	5.65	11.0	11.0	10.2	11.0	11.0
MAX	32	5.5	5.7	5.7	5.7	5.9	7.9	11	11	11	11	11
MIN	7.6	5.3	5.5	5.3	5.5	5.5	5.5	11	11	10	10	11
AC-FT	719	325	339	335	306	347	336	676	655	627	674	655
CAL YR 1980 TOTAL	19710.9											
WTR YR 1981 TOTAL	3022.1											
MEAN	53.9											
MAX	1750											
MIN	4.3											
AC-FT	39100											
WTR YR 1981 TOTAL	5990											

NOTE: No gage-height record Apr. 16 to June 19.

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'05", long 120°56'54", in NE&SE¼ sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, on left bank just upstream from Rollins Dam on Bear River, 2.3 mi (3.7 km) north of Colfax.

DRAINAGE AREA.--104 mi² (269 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) between elevations 1,970.0 ft (600.46 m), invert of outlet tunnel and 2,171.0 ft (661.72 m), spillway crest. Dead storage, 270 acre-ft (333,000 m³). 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 hm³) Jan. 21, 1970, elevation, 2,175.8 ft (663.18 m); minimum since reservoir first filled, 4,250 acre-ft (5.24 hm³) Oct. 10, 1977, elevation, 2,022.5 ft (616.46 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 61,500 acre-ft (75.8 hm³) Mar. 27-29, elevation, 2,165.4 ft (660.01 m); minimum, 29,600 acre-ft (36.5 hm³) Jan. 12, elevation 2,113.5 ft (644.19 m).

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

2,020	3,920	2,100	23,900
2,030	5,320	2,120	32,700
2,040	6,990	2,140	43,800
2,050	8,940	2,160	57,300
2,060	11,200	2,176	70,200
2,080	16,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55800	49200	44900	33700	40600	47500	61100	54900	45800	50600	48900	50100
2	55600	49600	44600	32900	40600	47900	60800	54400	45900	51200	48400	50600
3	55600	50700	44600	32000	40700	48100	60200	53900	45800	51400	48200	51000
4	55500	52000	44900	31200	40500	48600	59600	53700	46100	51200	48200	51200
5	55800	53200	44900	30900	40600	49200	58900	53700	46400	51000	48400	50700
6	54700	53700	44600	30700	40600	49600	58300	53700	45700	51100	48500	50300
7	53200	53900	44300	30800	40000	50000	57600	53600	45000	51300	48800	49900
8	51900	53400	44100	30900	39900	50000	56900	53400	44900	51500	49000	49800
9	50600	52800	43800	31100	39400	50600	56100	52500	44900	51800	49200	50000
10	49500	52700	43500	30600	39600	50700	55400	51600	45100	51700	49400	50400
11	48400	52900	43200	30100	39800	50700	54700	51000	45200	51100	49600	50800
12	47200	53200	42900	29600	39900	50600	53700	50900	45200	50600	49700	50800
13	46100	53400	42600	29900	41100	50900	53100	50900	44700	50400	49800	51200
14	44900	53800	42100	29900	42100	51100	52700	50900	44200	50700	49900	51600
15	43600	53100	41800	29900	42300	51300	52400	50900	44600	51000	49500	51900
16	42400	52300	41700	30100	42800	51700	52300	50300	45400	51200	49000	52100
17	41300	51900	41500	30100	43000	52000	52100	49200	45900	51300	48900	52400
18	40600	51900	41300	30100	43300	52100	52000	48700	46600	50700	49000	52700
19	40600	51900	41000	30100	43600	53200	51900	48800	47100	50200	49200	52200
20	40700	51800	40600	30700	44100	54700	52100	49000	46700	50000	49400	51900
21	40900	51800	39400	31100	44400	55500	52300	49000	46400	50100	49600	51600
22	41200	51100	38600	31800	44600	56300	52500	49100	47100	50200	49200	51300
23	41500	50400	38500	32600	44800	56900	52700	48300	47600	50400	48800	50700
24	41700	50000	38400	33200	45100	57100	52900	47600	48200	50500	48700	49900
25	41900	49600	37400	33300	45600	58900	53100	47000	48900	49900	49100	49900
26	42100	49200	36500	33600	46500	60700	53300	47000	49100	49300	49500	48700
27	43500	48000	35700	36200	46800	61500	53400	47200	49100	49000	49900	47900
28	45100	47100	35000	39000	47100	61500	53900	47300	49300	49200	50400	47400
29	46500	46200	34600	40900	---	61500	54400	47400	49600	49400	50000	47000
30	47800	45400	34600	41100	---	61200	54800	46800	50000	49500	49600	46400
31	49000	---	34400	40800	---	61400	---	46100	---	49400	49700	---
MAX	55800	53900	44900	41100	47100	61500	61100	54900	50000	51800	50400	52700
MIN	40600	45400	34400	29600	39400	47500	51900	46100	44200	49000	48200	46400
†	2148.2	2142.6	2123.3	2135.1	2145.4	2165.3	2156.6	2143.7	2149.8	2148.9	2149.3	2144.3
‡	-6800	-3600	-11000	+6400	+6300	+14300	-6600	-8700	+3900	-600	+300	-3300

CAL YR 1980 † -32400

WTR YR 1981 ‡ -9400

† Elevation, in feet NGVD, 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 SW1SE1 sec.22, T.15 N., R.9 E., Placer County, Hydrologic Unit 18020126, 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 KSP 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--58 years (water years 1913-53, 1965-81), 297 ft³/s (8.411 m³/s), 215,200 acre-ft/yr (265 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 531 ft³/s (15.0 m³/s) Oct. 5, 6, 1980; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	530	60	495	483	365	474	475	484	472	413	423	298
2	530	18	479	483	365	476	476	484	472	414	422	299
3	530	19	459	482	423	467	482	484	473	415	421	310
4	530	20	460	482	461	471	494	483	474	415	423	345
5	531	54	484	481	431	461	492	483	475	416	427	357
6	531	389	492	453	359	486	491	483	473	438	427	356
7	530	485	492	375	421	493	491	482	476	460	427	355
8	529	484	491	277	465	494	492	483	477	454	427	355
9	501	484	492	288	471	494	494	482	415	438	426	355
10	484	484	492	295	482	494	495	481	359	438	425	357
11	486	483	491	293	483	493	493	482	362	436	426	357
12	487	482	491	292	483	492	491	481	363	435	426	358
13	486	481	492	292	484	492	492	477	364	435	426	358
14	487	485	494	357	488	490	491	475	363	435	415	357
15	487	491	492	411	490	487	491	475	364	432	406	358
16	488	492	487	127	489	482	492	474	367	425	405	359
17	488	496	487	75	490	483	491	473	368	422	405	353
18	489	497	486	62	493	482	491	470	367	422	406	348
19	490	495	486	63	493	470	490	469	367	421	400	348
20	489	495	486	56	495	463	467	466	366	421	390	347
21	491	495	487	57	495	467	487	465	366	423	380	346
22	491	483	487	55	495	454	486	464	368	425	366	346
23	492	495	487	29	495	468	486	463	386	426	366	345
24	492	494	485	42	496	480	486	462	396	427	353	343
25	493	495	485	53	488	459	485	463	404	426	344	342
26	493	495	485	39	470	452	485	459	410	424	347	341
27	44	496	486	27	472	464	485	457	409	423	342	339
28	7.6	495	485	32	473	477	484	465	410	420	331	337
29	7.4	495	484	114	---	475	485	469	410	420	328	258
30	7.4	479	484	367	---	473	485	470	412	424	310	182
31	44	---	484	366	---	473	---	471	---	424	301	---
TOTAL	13165.4	12316	15067	7308	13015	14811	14645	14679	12188	13247	12121	10109
MEAN	425	411	486	236	465	478	488	474	406	427	391	337
MAX	531	497	495	483	496	494	495	484	477	460	427	359
MIN	7.4	18	459	27	359	452	475	457	359	413	301	182
AC-FT	26110	24430	29890	14500	25820	29380	29050	29120	24170	26280	24040	20050
CAL YR 1980	TOTAL	171794.4	MEAN	469	MAX	531	MIN	7.4	AC-FT	340800		
WTR YR 1981	TOTAL	152671.4	MEAN	418	MAX	531	MIN	7.4	AC-FT	302800		

SACRAMENTO RIVER BASIN

11422500 BEAR RIVER BELOW ROLLINS DAM, NEAR COLFAX, CA

LOCATION.--Lat 39°07'53", long 120°57'29", in SE4SW4 sec.22, T.15 N., R.9 E., Nevada County, Hydrologic Unit 18020126, 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 mi² (272 km²).

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) National Geodetic Vertical Datum of 1929. 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).--22 years (water years 1913, 1916, 1951-53, 1965-81), 359 ft³/s (10.17 m³/s), 260,100 acre-ft/yr (321 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (prior to construction of Rollins Dam in 1964), 9,620 ft³/s (272 m³/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 ft³/s (102 m³/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 ft³/s (360 m³/s) Jan. 21, 1970, gage height, 11.72 ft (3,572 m), from rating curve extended above 6,000 ft³/s (170 m³/s); minimum daily, 0.5 ft³/s (0.014 m³/s) Nov. 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 509 ft³/s (14.4 m³/s) Mar. 25, gage height, 2.58 ft (0.786 m); minimum daily, 15 ft³/s (0.42 m³/s) Jan. 16, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	172	18	204	108	17	22	27	64	80	87	79	83
2	172	17	217	106	22	22	24	82	80	87	79	83
3	171	19	239	104	22	23	28	79	79	87	79	82
4	171	20	238	100	20	35	35	78	80	87	79	82
5	171	20	214	99	22	36	33	79	82	87	79	81
6	170	21	207	55	23	22	32	78	71	86	79	82
7	167	34	205	17	23	22	27	78	82	81	82	82
8	165	33	205	16	22	22	21	79	79	80	86	82
9	120	32	204	16	21	22	23	79	81	79	82	82
10	83	30	204	16	17	21	26	77	84	79	79	82
11	74	35	203	16	17	21	29	77	83	79	79	82
12	83	30	202	16	17	21	29	79	81	79	79	82
13	82	19	202	16	17	21	28	81	79	79	79	82
14	79	22	197	17	19	23	27	82	79	79	79	81
15	76	71	200	16	18	27	26	84	79	79	78	82
16	74	137	202	15	18	32	26	85	79	79	78	82
17	71	136	202	15	19	32	26	84	79	79	78	81
18	68	132	201	16	22	32	26	81	79	79	78	81
19	67	124	201	16	24	53	29	80	93	79	78	81
20	77	106	199	16	22	50	30	79	115	79	78	81
21	73	49	197	17	21	47	28	80	116	79	79	81
22	74	90	197	17	20	52	27	81	115	79	83	81
23	74	113	161	18	21	44	28	81	93	79	84	81
24	75	149	167	18	23	33	29	80	77	79	83	81
25	76	212	151	17	22	63	30	79	82	81	83	81
26	76	211	148	16	21	50	31	79	87	83	83	81
27	24	208	145	31	22	44	31	79	87	84	83	81
28	20	206	144	27	22	32	28	78	87	79	83	81
29	19	206	131	26	---	34	27	77	87	79	81	77
30	19	196	111	19	---	35	29	81	87	79	81	72
31	19	---	110	18	---	31	---	82	---	79	82	---
TOTAL	2862	2696	5808	1020	574	1024	840	2462	2562	2510	2492	2433
MEAN	92.3	89.9	187	32.9	20.5	33.0	28.0	79.4	85.4	81.0	80.4	81.1
MAX	172	212	239	108	24	63	35	85	116	87	86	83
MIN	19	17	110	15	17	21	21	64	71	79	78	72
AC-FT	5680	5350	11520	2020	1140	2030	1670	4880	5080	4980	4940	4830
WTR YR 1980	TOTAL	234066	MEAN 640	MAX 7720	MIN 17	AC-FT	464300					
CAL YR 1981	TOTAL	27283	MEAN 74.7	MAX 239	MIN 15	AC-FT	54120					

11423700 NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CA

LOCATION.--Lat 39°03'01", long 121°18'53", in NE&SW sec.21, T.14 N., R.6 E., on Yuba-Placer County line, Hydrologic Unit 18020126, 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 mi² (733 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³). See schematic diagram of Bear River basin.

COOPERATION.--Records furnished by South Sutter Water District and California Department of Water Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 120,200 acre-ft (148 hm³) Jan. 21, 1970, elevation, 307.3 ft (93.66 m); minimum, 2,200 acre-ft (2.71 hm³) 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 contents, 107,700 acre-ft (133 hm³) Mar. 20, elevation, 301.45 ft (91.882 m); minimum observed, 4,600 acre-ft (5.67 hm³) Sept. 30, elevation, 189.0 ft (57.61 m).

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

170	1,400	250	34,200
180	3,000	260	44,000
190	4,800	270	55,500
200	7,000	280	69,500
210	9,800	290	85,600
220	14,000	300	104,400
230	19,400	320	151,000
240	25,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65700	66000	70000	86900	105300	104800	105300	101400	80900	61400	37700	12600
2	65900	---	---	87300	105100	104800	105300	100600	80600	60700	36800	11900
3	66000	---	---	87500	105100	104800	105100	100100	80100	59800	36100	11100
4	66000	---	74800	88000	105100	105300	105100	99300	79600	59100	35200	10500
5	66100	65700	---	88200	105100	105700	105100	98600	79300	58300	34400	9800
6	66100	---	---	88600	104800	105500	105100	98200	78700	57600	33600	9400
7	66300	---	---	88800	104800	105300	105100	97800	78200	56900	32900	8900
8	66300	---	75800	88800	104800	105100	105100	97100	77700	56100	32100	8400
9	66400	65400	---	88800	104800	105100	105100	96300	77200	55300	31400	8100
10	66600	---	---	89000	104800	105100	105100	95400	76700	54600	30700	7800
11	66600	---	76600	89000	104800	105100	104800	94600	76100	53900	29900	7400
12	66700	---	77700	89000	104800	105100	104800	92900	75500	53200	29100	7000
13	66700	---	---	89000	104800	104800	104800	92200	74700	52500	28300	6800
14	66700	65400	---	89200	104800	104800	104800	91400	74300	51800	27500	6500
15	66700	---	79300	89200	105100	104800	104800	90500	73500	51100	26600	6300
16	66600	---	---	89200	104800	105300	104800	89500	72700	50400	25700	6100
17	66600	65900	---	89200	104800	105500	104800	88800	72200	49800	25000	5900
18	66400	---	80800	89200	104800	105300	104600	87900	71300	49100	24200	5700
19	66300	---	---	89400	104800	106600	104600	87300	70500	48300	23400	5500
20	66100	---	---	89400	104800	107700	104600	86700	69700	47500	22500	5200
21	66000	66300	---	89400	104800	106800	104400	86000	68900	46800	21800	5000
22	66000	---	82900	89700	104800	106400	104400	85300	68200	45800	20700	4900
23	66000	66600	---	90500	104800	105900	104200	84800	67500	45200	19800	4800
24	66000	---	---	91200	104800	105700	104000	84300	66600	44300	18900	4800
25	66000	66700	---	91400	105100	107000	103600	84000	65700	43400	18200	4800
26	66000	---	---	91800	105100	106800	103500	83500	64900	42600	17300	---
27	66000	---	---	95400	105100	106100	103100	83000	64200	41800	16400	---
28	66000	---	---	99100	105100	105700	102900	82700	63300	41100	15600	4700
29	66000	---	86000	103800	---	105500	102500	82400	62500	40300	14800	---
30	66000	68500	86400	105300	---	105300	102000	81700	61700	39500	13900	4600
31	66000	---	86700	105300	---	105300	---	81400	---	38600	13200	---
MAX	66700	---	---	105300	105300	107700	105300	101400	80900	61400	37700	---
MIN	65700	---	---	86900	104800	104800	102000	81400	61700	38600	13200	---
†	277.5	279.3	290.6	300.4	300.3	300.4	298.7	287.4	274.4	254.5	218.2	189.0
‡	+100	+2500	+18200	+18600	-200	+200	-3300	-20600	-19700	-23100	-25400	-8600

CAL YR 1980 ‡ +54200
WTR YR 1981 ‡ -61300

† Elevation, in feet NGVD, 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 SE4SW4 sec.3, T.13 N., R.5 E., Placer County, Hydrologic Unit 18020108, 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) National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to May 28, 1970.

REMARKS.--Records fair. 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).--52 years, 453 ft³/s (12.83 m³/s), 328,200 acre-ft/yr (405 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, 2,110 ft³/s (59.8 m³/s) Mar. 20, gage height, 8.15 ft (2.484 m); minimum daily, 0.78 ft³/s (0.022 m³/s) Apr. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.5	6.7	12	8.0	334	132	190	11	9.9	8.8	4.3	6.8
2	8.0	4.9	15	8.0	252	117	177	12	13	8.3	4.5	6.5
3	8.9	5.8	16	8.4	194	106	148	12	11	7.1	4.8	4.6
4	7.0	29	15	9.3	164	114	130	17	10	6.4	5.8	4.4
5	9.2	14	11	8.9	139	426	120	16	10	5.5	4.8	4.7
6	6.4	25	11	8.9	133	412	115	15	9.0	6.6	4.8	3.7
7	6.6	18	11	8.4	124	280	107	15	9.3	6.4	6.8	4.8
8	5.5	15	9.0	8.4	118	201	100	13	10	5.8	7.0	4.0
9	5.3	14	11	8.4	113	158	86	12	11	5.9	8.2	3.3
10	5.8	19	10	8.7	106	135	77	12	10	4.1	6.0	3.1
11	6.1	9.4	10	9.4	103	120	64	14	11	4.8	6.6	6.9
12	6.5	7.2	10	8.9	100	109	56	14	11	6.1	6.5	6.0
13	6.5	9.1	9.1	8.9	101	101	48	13	11	6.1	4.9	2.8
14	6.9	11	8.5	8.9	122	94	19	13	10	6.3	4.7	2.4
15	7.4	9.3	8.4	8.9	171	104	32	14	11	6.0	5.2	2.5
16	6.9	8.5	8.3	8.9	162	221	4.0	13	12	5.9	4.8	2.9
17	6.8	4.9	8.0	10	150	259	1.2	12	11	8.8	4.8	3.8
18	6.8	6.9	8.0	10	139	216	.78	13	11	7.0	5.4	5.6
19	6.7	14	8.0	11	131	734	6.1	14	11	6.5	6.2	5.4
20	5.9	26	8.0	12	126	1870	6.9	13	12	6.8	6.4	5.6
21	5.8	16	9.5	11	94	1130	3.9	12	11	8.4	6.3	5.4
22	7.3	16	9.7	12	91	816	4.0	13	11	7.6	6.1	5.1
23	4.6	13	8.3	18	88	549	4.1	13	11	9.5	7.1	4.6
24	2.1	11	8.0	14	90	400	21	13	11	8.4	9.4	3.6
25	2.4	10	8.0	12	122	657	17	13	12	7.8	9.0	4.7
26	3.1	10	8.0	12	158	1340	16	14	12	6.5	10	4.2
27	3.7	10	8.0	29	160	775	11	13	12	5.0	10	4.1
28	3.4	10	8.0	35	144	501	14	11	12	4.3	6.9	5.4
29	3.4	9.0	8.0	62	---	355	13	11	11	3.6	6.7	3.1
30	3.2	13	8.0	148	---	266	8.4	11	9.0	4.3	6.8	1.6
31	3.3	---	8.0	382	---	220	---	10	---	4.7	6.3	---
TOTAL	179.0	375.7	298.8	917.3	3929	12918	1600.38	402	326.2	199.3	197.1	131.6
MEAN	5.77	12.5	9.64	29.6	140	417	53.3	13.0	10.9	6.43	6.36	4.39
MAX	9.2	29	16	382	334	1870	190	17	13	9.5	10	6.9
MIN	2.1	4.9	8.0	8.0	88	94	.78	10	9.0	3.6	4.3	1.6
AC-FT	355	745	593	1820	7790	25620	3170	797	647	395	391	261
†	3785	1611	0	0	0	0	5027	20003	18165	21503	22128	8259

CAL YR 1980 TOTAL 208399.20 MEAN 569 MAX 13000 MIN 2.1 AC-FT 413400 MEAN ‡ 644 AC-FT ‡ 467600
WTR YR 1981 TOTAL 21474.38 MEAN 58.8 MAX 1870 MIN .78 AC-FT 42590 MEAN ‡ 113 AC-FT ‡ 81770

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

WATER QUALITY DATA--WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	HARDNESS (MG/L AS CAC03)	CALCIUM CA, DISS (MG/L)	MAGNESIUM MG, DISS (MG/L)	SODIUM NA, DISS (MG/L)
80/11/20	12 40	17	106	7.4	12.0	7.0	11.4	43	9	5	4
80/12/29	13 45	8.0	113	7.6	10.5		11.8	46	10	5	4
81/01/28	10 45	38	94	7.3	11.0		10.5	36	8	4	4
81/02/25	13 20	133	80	7.9	11.5	3.0	11.7	30	7	3	3
81/03/26	12 15	1390	90	7.3	14.0	5.0	11.0	32	8	3	3
81/04/30	14 25	8.4	137	8.2	28.0	2.0	9.6	54	12	6	5
81/05/28	13 45	12	144	8.6	30.5	1.0	10.2	59	12	7	5
81/06/24	14 15	11	156	8.4	33.0	1.0	9.3	62	13	7	6
81/09/18	08 30	5.6	212	8.0		1.0	8.6	90	18	11	8

DATE	TIME	POTASSIUM K, DISS (MG/L)	ALKAL- LITY (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)
80/11/20	12 40	0.7	36	4	66
80/12/29	13 45	0.6	36	4	74
81/01/28	10 45	1.2	27	4	73
81/02/25	13 20	0.7	27	3	58
81/03/26	12 15	0.8	26	4	57
81/04/30	14 25	0.8	43	5	87
81/05/28	13 45	0.9	49	5	89
81/06/24	14 15	1.1	54	6	97
81/09/18	08 30	1.0	78	7	124

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA

LOCATION.--Lat 38°53'26", long 121°36'12", in SE¼NE¼ sec.14, T.12 N., R.3 E., Sutter County, Hydrologic Unit 18020106, 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 mi² (15,335 km²).

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 National Geodetic Vertical Datum of 1929. 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 fair prior to April 15, good thereafter. Flow partly regulated by many reservoirs, total capacity, 6,868,000 acre-ft (8.47 km³), 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 km²) between stations at Oroville and near Nicolaus.

AVERAGE DISCHARGE.--38 years (water years 1944-81), 7,894 ft³/s (223.6 m³/s), 5,719,000 acre-ft/yr (7.05 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944-81), 357,000 ft³/s (10,100 m³/s) Dec. 23, 1955; maximum gage height, 51.60 ft (15.728 m) Dec. 23, 1955; no flow on several days in 1924 and 1931.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 17,500 ft³/s (496 m³/s) Jan. 28; maximum gage height, 30.98 ft (9.443 m) Jan. 31; minimum daily discharge, 1,460 ft³/s (41.3 m³/s) June 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5020	2170	2270	2700	4150	4940	9700	2670	1840	3160	6060	2320
2	5090	2140	2290	2590	3260	4810	9100	2550	1790	3270	6020	2630
3	5160	2140	2610	2570	3240	4560	7900	2510	1740	3710	5770	3170
4	5150	2250	5600	2590	3390	4400	6300	2540	1700	3880	5240	3270
5	5130	2220	5000	2600	3330	6200	5100	2480	1690	3920	4820	3300
6	5110	2220	4550	2600	3460	8400	4200	2490	1860	3950	4100	3340
7	5090	2230	4260	2640	3600	5800	3700	3130	1660	3660	3840	3340
8	5050	2260	4070	2620	3080	5180	3500	4160	1940	3350	3950	3360
9	5060	2250	3900	2620	2820	4990	3300	4420	2410	3100	3650	3410
10	4420	2250	3810	2610	2770	4610	3240	4360	2470	2860	3290	3430
11	3510	2250	3520	2590	2790	3940	3190	4320	2480	2880	3270	3670
12	3490	2250	3130	2600	2760	3620	3000	4400	2460	2950	3170	3690
13	3470	2230	2960	2610	2750	3390	2820	4440	2290	3620	2810	3400
14	3460	2220	2930	2630	2830	3400	2630	4470	1810	4410	2570	3090
15	3630	2220	2910	2650	3800	3440	2440	4460	1980	5580	2360	2850
16	2790	2210	2910	2540	3820	3790	2220	4410	1830	6640	2180	2570
17	1970	2220	2890	2410	3000	4090	2040	4420	1630	7820	2030	2430
18	1850	2220	2920	2350	3140	4310	2090	4580	1490	8280	2010	2290
19	1830	2240	2940	2360	3350	5340	2740	4580	1620	8140	1870	2160
20	1820	2240	2930	2490	3660	11200	3010	3900	1630	8290	1770	2080
21	1910	2240	2930	2540	4090	12700	2970	3580	1490	7700	1720	1980
22	1980	2280	3050	2500	4640	12000	2890	3250	1460	7380	1650	1890
23	1970	2280	3030	2800	4420	10000	2850	3040	1570	7310	1570	1820
24	2020	2260	3040	4600	4410	8500	2800	2860	2130	7340	1580	1740
25	2140	2240	3010	4300	4550	7500	2770	2740	2280	7260	1600	1870
26	2220	2270	2970	3100	4880	12500	2730	2640	2300	6630	1590	1850
27	2220	2270	2970	2700	4970	12700	2680	2620	2290	6170	1590	1830
28	2220	2250	2960	17500	4970	8600	2640	2480	2300	6120	1860	1820
29	2240	2230	2930	12800	---	7500	2780	2350	2360	6100	2120	1800
30	2200	2260	2930	16300	---	6600	2780	2120	2550	6060	1880	1780
31	2180	---	2870	7200	---	7100	---	1940	---	6060	1840	---
TOTAL	101400	67010	101090	127710	101930	206110	110110	104910	59050	167600	89780	78180
MEAN	3271	2234	3261	4120	3640	6649	3670	3384	1968	5406	2896	2606
MAX	5160	2280	5600	17500	4970	12700	9700	4580	2550	8290	6060	3690
MIN	1820	2140	2270	2350	2750	3390	2040	1940	1460	2860	1570	1740
AC-FT	201100	132900	200500	253300	202200	408800	218400	208100	117100	332400	178100	155100
CAL YR 1980 TOTAL	3865750		MEAN 10560		MAX 111000	MIN 1820	AC-FT 7668000					
WTR YR 1981 TOTAL	1314880		MEAN 3602		MAX 17500	MIN 1460	AC-FT 2608000					

NOTE.--Stage-discharge relation indefinite Jan. 24 to Feb. 8.

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, 1980 to current year. Published as "at Nicolaus" 1951-66.

WATER TEMPERATURES: Water years 1951-58, 1960 to current year. Published as station 11425100 1964-74.

SEDIMENT RECORDS: Water years 1979 to May 1980.

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.

SEDIMENT RECORDS: November 1978 to May 1980 (storm season only).

INSTRUMENTATION.--Temperature recorder since November 1961.

REMARKS.--Prior to 1964 water year, thermograph located at gaging station "at Nicolaus", 1.3 mi (2.1 km) upstream. Temperature records from October 1964 to September 1974 were obtained 2.5 mi (4.0 km) downstream and are considered equivalent. Recorded temperatures may be affected by backwater from the Sacramento River during the following periods: Dec. 5-8, Jan. 24 to Feb. 8, 15-21, Mar. 6, 7, Mar. 22 to Apr. 7.

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

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.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 334 mg/L Jan. 13, 1980; minimum daily mean, 9 mg/L Dec. 14, 15, 1979.

SEDIMENT DISCHARGE: Maximum daily, 89,000 tons (80,700 metric tons) Jan. 17, 1980; minimum daily, 98 tons (89 metric tons) May 8, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 30.5°C June 5, 22; minimum recorded, 6.0°C on several days during December.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA, DISS (MG/L)
80/10/15	15 50	3680	86	7.9	15.0		10.5	6.0			
80/11/19	12 50	2240	81	7.6	10.0		11.1	7.0			
80/12/18	09 35	2920	91	7.3	8.5		11.6	3.0		39	9
81/01/21	14 00	2550	113	7.6	12.0		11.5	1.0			
81/02/23	13 50	4400	96	7.7	13.0		10.5	7.0			
81/03/18	10 45	4320	110	7.5	12.0	7.0	10.6	9.0		39	9
81/04/23	15 15	2850	102	8.1	23.5		10.1	5.0	0.7		
81/05/20	12 40	4200	97	7.8	19.0		9.7	6.0	0.8		
81/06/17	13 25	1630	102	8.0	25.5	2.0	8.9	5.0	0.4	39	9
81/07/15	09 50	5580	90	7.4	22.0		8.5				
81/08/19	08 30	4140	106	7.8	21.0	1.0	8.8			46	10
81/09/17	09 00	2240	109	7.7	20.0	2.0	9.2			42	10

DATE	TIME	MGNSIUM MG, DISS (MG/L)	SODIUM NA, DISS (MG/L)	PTSIUM K, DISS (MG/L)	ALKA- LINITY (MG/L)	SULFATE SO4, DISS (MG/L)	CHLORIDE CL, DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N, DISS (MG/L)
80/10/15	15 50								8	0.03
80/11/19	12 50								12	0.02
80/12/18	09 35	4	4	0.9	39	3	2	58	2	0.06
81/01/21	14 00								5	0.07
81/02/23	13 50								18	0.06
81/03/18	10 45	4	5	1.0	43		3	79	10	0.08
81/04/23	15 15								6	0.03
81/05/20	12 40								8	0.05
81/06/17	13 25	4	4	0.9	41		2	67	5	0.04
81/07/15	09 50									0.02
81/08/19	08 30	5	4	0.9	47		2	61		
81/09/17	09 00	4	5	1.0	45		3	55		0.02

DATE	TIME	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	BORON B, DISS (UG/L)	ORGANIC CARBON T (MG/L)
80/10/15	15 50	0.00	0.10	0.03	0.01		
80/11/19	12 50	0.02	0.20	0.02	0.01		
80/12/18	09 35	0.00	0.10	0.02	0.00	0	
81/01/21	14 00	0.03	0.20	0.03	0.01		
81/02/23	13 50	0.00	0.20	0.03	0.02		
81/03/18	10 45	0.00	0.20	0.05	0.02		
81/04/23	15 15	0.02	0.20	0.02	0.00		2.6
81/05/20	12 40	0.02	0.20	0.04	0.01		2.6
81/06/17	13 25	0.02	0.20	0.03	0.02		3.0
81/07/15	09 50	0.00	0.20	0.03	0.01		
81/08/19	08 30						
81/09/17	09 00	0.00	0.10	0.02	0.01		

DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGNESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)	SELENIUM SE, DISS (UG/L)
81/02/23	13 50	0	0	0	0	0	20	0	20	0.0	0

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

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

LOCATION. -- Lat 38°46'51", long 121°36'12", in SW¼SE¼ sec.23, T.11 N., R.3 E., Sutter County, Hydrologic Unit 18020109, 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.

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 National Geodetic Vertical Datum of 1929.

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 ft³/s (1,560 m³/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).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,900 ft³/s (2,290 m³/s) Feb. 22, 1980, gage height, 38.12 ft (11.619 m); maximum gage height, 41.20 ft (12.558 m) May 1, 1940; minimum daily discharge, 304 ft³/s (8.61 m³/s) July 23, 24, 1931; maximum reverse flow, 16,800 ft³/s (476 m³/s) Dec. 4, 1950, backwater from American River. Maximum combined discharge of Sacramento River at Verona and Fremont weir, about 322,000 ft³/s (9,120 m³/s) Dec. 25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,300 ft³/s (1,510 m³/s) Jan. 31, gage height, 29.89 ft (9.110 m); minimum daily, 6,050 ft³/s (171 m³/s) June 20.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11600	7940	9840	11400	50500	17400	33600	9550	10700	10200	15300	11300
2	11600	7940	9990	11300	41700	16500	31900	8950	9740	10700	15400	11300
3	11700	8100	10800	11200	33200	15700	29900	8240	9130	11200	15600	11700
4	11700	8630	13700	11000	28800	15100	27500	8050	8580	11400	15300	11900
5	11600	9020	24000	10700	25800	15700	25000	7720	8080	11700	15000	12000
6	11600	9130	26700	10600	23000	20600	22100	7570	7670	12100	14300	12300
7	11500	9270	22500	10600	20300	22400	20100	8070	7140	12200	13700	12100
8	11500	9330	19600	10500	18200	20200	18000	8790	7260	11900	13900	11900
9	11500	9310	17500	10400	16400	18100	15700	9430	7520	11600	13900	11900
10	11400	9390	15900	10200	15100	16400	14600	9550	7660	11100	13800	12300
11	10700	9350	15000	10100	14200	15000	13900	9970	7680	11000	13500	12500
12	10300	9360	14200	10100	13500	14000	13400	10200	7800	11200	13200	13100
13	9980	9290	13400	9890	13200	13300	12700	10400	7870	11700	12800	13200
14	10200	9270	12800	9650	14000	12800	11700	10300	7860	12300	12600	12900
15	10200	9150	12200	9440	20200	13500	10600	10300	7730	13400	12300	12800
16	10100	9300	11900	9380	29500	14100	9740	10600	7290	14600	12300	12700
17	9060	9550	11700	9230	29400	15000	8910	11100	7090	15900	12200	12500
18	8180	9720	11600	9120	26100	17900	8470	11900	6560	16800	12200	11800
19	7820	9760	11600	9320	23600	18400	9490	13400	6150	16800	12200	11100
20	7780	9570	11600	10100	21700	24200	11500	14800	6050	16900	12200	10800
21	7820	9510	11700	10600	20300	28900	12900	16200	6230	16700	12600	10300
22	7900	9640	11800	11200	19400	29100	14100	16000	6820	16400	12700	9910
23	7850	9800	11900	12900	18000	32400	13400	15300	7210	16300	12600	9520
24	7850	9880	12200	23800	16700	33700	12800	14600	7580	16200	12800	9300
25	7930	9790	12100	31400	16000	33400	12100	14100	7800	16100	12700	9290
26	8170	9760	12000	30100	16300	36300	11600	13700	7950	15800	13000	9530
27	8160	9700	11800	25600	18600	39200	11300	13700	8220	15500	12900	9620
28	8030	9650	11900	30300	18100	38600	11200	14000	8540	15400	12600	9480
29	8050	9640	11800	40600	---	37100	11000	13900	9220	15400	12600	9030
30	8010	9770	11700	46900	---	35100	10300	13000	9560	15400	12000	8820
31	7940	---	11600	52300	---	33500	---	11700	---	15400	11500	---
TOTAL	297730	279520	427030	519930	621800	713600	469510	355090	234			

11426000 SACRAMENTO WEIR SPILL TO YOLO BYPASS, NEAR SACRAMENTO, CA

LOCATION.--Lat 38°36'25", long 121°33'15", unsurveyed, Sacramento County, Hydrologic Unit 18020109, two 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 National Geodetic Vertical Datum of 1929. 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.--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.--42 years, 201 ft³/s (5.692 m³/s) 145,600 acre-ft/yr (180 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 118,000 ft³/s (3,340 m³/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.

11426190 LAKE VALLEY CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'56", long 120°38'31", in SE4NE4 sec.32, T.17 N., R.12 E., Placer County, Hydrologic Unit 18020128, on right bank 0.8 mi (1.3 km) upstream from inlet to Carpenter Flat siphon and 1.5 mi (2.4 km) east of Emigrant Gap.

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

GAGE.--Water-stage recorder and concrete control. Altitude of gage is 5,410 ft (1,649 m), from topographic map. Prior to Oct. 1, 1979, on right bank 0.7 mi (1.1 km) downstream at different datum.

REMARKS.--Canal diverts from right bank of the North Fork of North Fork American River, 2.0 mi (3.2 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--17 years, 14.4 ft³/s (0.408 m³/s), 10,430 acre-ft/yr (12.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 75 ft³/s (2.124 m³/s) Jan. 13, 1980; no flow many days in each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.24	.18	.18	.18	.21	23	19	26	3.2	.18	.03	.09
2	.23	.18	.18	.18	.25	16	18	21	3.1	.18	.03	.09
3	.19	.18	.25	.18	.23	16	19	17	2.6	.18	.03	.09
4	.19	.15	6.8	.18	.21	21	19	14	2.0	.18	.01	.07
5	.19	.13	3.8	.18	.18	24	25	13	1.7	.18	.01	.06
6	.19	.13	4.3	.18	.21	23	33	11	1.4	.18	.01	.06
7	.19	.17	2.0	.18	.23	24	29	9.0	1.3	.18	.01	.06
8	.19	.19	1.2	.18	.21	22	27	8.4	1.2	.18	.01	.06
9	.13	.18	.60	.18	.21	20	27	8.2	1.1	.18	.01	.06
10	.13	.18	.47	.18	.20	21	27	7.9	1.1	.15	.01	.06
11	.13	.18	.39	.18	.18	19	23	7.2	1.0	.13	0	.04
12	.13	.18	.36	.18	1.4	15	21	6.5	.98	.13	0	.03
13	.13	.18	.33	.18	7.4	11	24	5.8	.92	.13	0	.03
14	.13	.18	.30	.15	12	9.7	29	5.8	.90	.13	0	.03
15	.13	.18	.27	.13	15	10	31	5.8	.85	.13	0	.03
16	.13	.18	.18	.13	19	17	29	4.6	.62	.12	0	.03
17	.11	.14	.18	.13	20	19	29	3.9	.37	.09	0	.03
18	.09	.13	.18	.13	20	9.2	34	22	.31	.09	0	.13
19	.09	.13	.18	.13	22	22	36	22	.29	.09	0	.20
20	.09	.13	.18	.13	24	34	32	13	.24	.09	0	.21
21	.09	.13	.18	.13	18	34	32	10	.25	.09	.21	.20
22	.09	.13	2.1	.13	16	35	33	8.4	.29	.09	.18	.19
23	3.1	.13	1.8	.18	16	27	36	7.2	.23	.09	.15	.21
24	1.5	.13	.20	.18	22	19	40	6.2	.23	.06	.13	.23
25	.28	.13	.18	.18	26	27	36	7.6	.23	.06	.13	1.4
26	.23	.13	.18	.18	25	29	35	11	.23	.06	.13	.78
27	.18	.13	.18	11	29	32	26	10	.23	.06	.13	.51
28	.18	.13	.18	16	29	29	26	6.5	.23	.06	.13	.18
29	.18	.13	.18	11	---	31	28	4.9	.23	.06	.11	.18
30	.18	.21	.18	.57	---	26	29	4.3	.21	.06	.09	.18
31	.18	---	.18	.18	---	22	---	3.7	---	.03	.09	---
TOTAL	9.22	4.66	27.87	43.00	324.12	686.9	852	311.9	27.54	3.62	1.64	5.52
MEAN	.30	.16	.90	1.39	11.6	22.2	28.4	10.1	.92	.12	.053	.18
MAX	3.1	.21	6.8	16	29	35	40	26	3.2	.18	.21	1.4
MIN	.09	.13	.18	.13	.18	9.2	18	3.7	.21	.03	0	.03
AC-FT	18	9.2	55	85	643	1360	1690	619	55	7.2	3.3	11
CAL YR 1980 TOTAL	9528.39			MEAN 26.0	MAX 75	MIN .09	AC-FT 18900					
WTR YR 1981 TOTAL	2297.99			MEAN 6.30	MAX 40	MIN 0	AC-FT 4560					

SACRAMENTO RIVER BASIN

11426200 NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°08'37", long 120°45'30", in NW¼sec.17, T.15 N., R.11 E., Placer County, Hydrologic Unit 18020128, 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 mi² (4.35 km²).

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 hm³). Some diversion above station for mining.

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years, 4.37 ft³/s (0.124 m³/s), 3,170 acre-ft/yr (3.91 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 377 ft³/s (10.7 m³/s) Jan. 22, 1970, gage height, 4.76 ft (1.451 m); no flow many days in 1964-66, 1977, 1981.

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, 9.7 ft³/s (0.275 m³/s) Apr. 3, gage height, 2.37 ft (0.722 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	.23	.23	.17	.23	2.7	6.7	8.4	4.9	.08	.01	
2	.80	.23	.23	.17	.23	2.7	6.7	8.2	4.8	.08	.01	
3	.74	.30	.26	.17	.23	2.7	8.3	8.2	4.6	.08	.01	
4	.74	.38	.37	.17	.23	4.8	9.4	8.2	4.3	.08	.01	
5	.74	.38	.20	.17	.23	5.9	9.4	8.2	3.8	.08	.01	
6	.74	.38	.20	.17	.23	5.9	9.4	8.0	2.1	.08	.01	
7	.74	.42	.17	.17	.23	5.9	9.4	7.5	.68	.08	.01	
8	.68	.42	.17	.17	.23	5.9	9.4	7.5	.79	.08	0	
9	.68	.42	.17	.17	.23	5.9	9.4	7.5	.56	.08	0	
10	.68	.42	.17	.17	.23	5.9	9.4	7.5	.46	.08	0	
11	.68	.46	.17	.17	.91	5.9	9.1	7.5	.42	.08	0	
12	.87	.42	.17	.17	2.7	5.9	9.1	7.3	.37	.08	0	
13	.74	.38	.17	.17	2.7	5.7	8.9	7.3	.33	.06	0	
14	.74	.42	.17	.17	3.1	5.7	8.9	7.3	.29	.06	0	
15	.74	.42	.17	.17	2.8	5.7	8.9	7.3	.29	.06	0	
16	.74	.42	.17	.17	2.7	5.5	9.1	7.1	.29	.06	0	
17	.74	.42	.20	.17	2.4	5.5	9.1	6.7	.29	.06	0	
18	.62	.42	.20	.20	2.7	5.5	9.1	6.7	.29	.06	0	
19	.62	.38	.20	.20	2.7	5.9	9.1	6.5	.26	.06	0	
20	.56	.38	.20	.20	2.7	5.9	9.4	6.5	.23	.06	0	
21	.23	.38	.23	.20	2.7	4.2	9.1	6.3	.23	.02	0	
22	.23	.38	.23	.20	2.7	1.3	9.1	6.1	.23	.01	0	
23	.17	.42	.23	.26	2.7	3.6	8.9	5.9	.20	.01	0	
24	.17	.38	.20	.26	2.7	5.9	8.9	5.9	.20	.01	0	
25	.23	.38	.17	.26	2.7	6.5	8.9	5.9	.20	.01	0	
26	.26	.38	.17	.23	2.7	6.7	8.9	5.9	.20	.01	0	
27	.23	.38	.17	.46	2.7	6.5	8.7	5.9	.17	.01	0	
28	.23	.38	.17	.62	2.7	6.5	8.7	5.7	.14	.01	0	
29	.23	.38	.17	.46	---	6.7	8.4	5.5	.14	.01	0	
30	.23	.30	.17	.30	---	6.7	8.4	5.3	.11	.01	0	
31	.23	---	.17	.26	---	6.9	---	5.3	---	.01	0	---
TOTAL	16.83	11.46	6.07	7.00	49.31	167.0	266.2	213.1	31.87	1.56	.07	0
MEAN	.54	.38	.20	.23	1.76	5.39	8.87	6.87	1.06	.050	.002	0
MAX	.87	.46	.37	.62	3.1	6.9	9.4	8.4	4.9	.08	.01	0
MIN	.17	.23	.17	.17	.23	1.3	6.7	5.3	.11	.01	0	0
AC-FT	33	23	12	14	98	331	528	423	63	3.1	.1	0
CAL YR 1980	TOTAL	2531.86	MEAN 6.92	MAX	163	MIN .17	AC-FT 5020					
WTR YR 1981	TOTAL	770.47	MEAN 2.11	MAX	9.4	MIN 0	AC-FT 1530					

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, Hydrologic Unit 18020128, 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 mi² (23.57 km²).

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 hm³).

COOPERATION.--Records furnished by Bureau of Reclamation and reviewed by Geological Survey.

AVERAGE DISCHARGE.--25 years, 19.6 ft³/s (0.555 m³/s), 14,200 acre-ft/yr (17.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,370 ft³/s (95.4 m³/s) Jan. 13, 1980, gage height, 12.32 ft (3.755 m), from rating curve extended above 590 ft³/s (16.7 m³/s) on basis of slope-area measurement of peak flow; 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 ft³/s (46.7 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 175 ft³/s (4.96 m³/s) Mar. 25, gage height, 5.16 ft (1.573 m) from rating curve extended above 15 ft³/s (0.425 m³/s); minimum daily, 0.01 ft³/s (<0.001 m³/s) Oct. 10, Sept. 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	.49	.55	.57	5.9	7.4	35	8.6	2.7	.30	.07	.02
2	.03	.59	.56	.36	5.3	7.9	30	8.3	1.1	.30	.07	.02
3	.02	.59	.58	.24	5.1	8.2	28	7.9	.45	.30	.07	.02
4	.02	.59	7.7	.34	5.0	12	26	7.6	.48	.30	.07	.02
5	.02	.53	.56	.36	5.0	26	24	7.6	.71	.30	.07	.02
6	.03	.47	.45	.36	4.8	21	22	7.6	.90	.30	.07	.02
7	.02	.54	.49	.28	4.4	17	21	7.2	1.0	.30	.07	.02
8	.02	.61	.49	.23	4.5	16	19	7.7	.95	.28	.07	.02
9	.02	.64	.49	.30	4.6	14	18	4.8	1.0	.28	.06	.02
10	.01	.66	.49	.27	5.0	13	18	6.0	1.0	.28	.06	.02
11	.02	.64	.38	.26	6.2	12	16	8.6	1.0	.27	.05	.02
12	.05	.70	.34	.17	8.4	10	16	9.5	1.1	.27	.05	.01
13	.27	.61	.36	.20	8.2	9.4	15	6.6	1.1	.27	.05	.01
14	.54	.41	.37	.26	35	11	18	4.9	1.2	.25	.05	.02
15	.60	.53	.38	.36	27	10	11	1.5	1.2	.23	.04	.02
16	.64	.48	.40	.27	20	11	14	1.5	1.2	.23	.04	.02
17	.64	.58	.43	.24	18	12	14	3.4	1.2	.22	.04	.02
18	.64	.64	.45	.24	14	11	16	7.5	.83	.22	.04	.02
19	.64	.58	.45	.23	13	43	13	6.2	.28	.20	.03	.02
20	.64	.52	.49	.23	13	57	8.5	5.7	.30	.19	.02	.02
21	.66	.52	.50	.23	12	67	9.3	5.7	.32	.19	.03	.02
22	.66	.56	.52	.30	10	58	11	3.4	.34	.18	.03	.02
23	.66	.59	.68	1.4	7.9	46	11	1.8	.39	.18	.03	.02
24	.61	.58	.72	1.8	7.6	42	10	3.4	.39	.13	.03	.02
25	.61	.58	.72	.84	7.9	106	10	3.5	.42	.10	.03	.02
26	.62	.55	.68	.60	7.6	116	11	6.4	.45	.10	.02	.02
27	.59	.49	.62	7.5	7.2	89	9.8	6.8	.48	.09	.02	.03
28	.57	.49	.57	55	7.2	69	9.3	4.9	.47	.10	.02	.03
29	.57	.52	.32	21	---	58	9.1	2.9	.32	.09	.02	.03
30	.46	.57	.28	15	---	47	8.8	2.9	.30	.07	.02	.03
31	.43	---	.46	12	---	38	---	2.8	---	.07	.02	---
TOTAL	11.34	16.85	22.48	121.44	280.0	1064.9	481.8	173.2	23.58	6.59	1.36	.62
MEAN	.37	.56	.73	3.92	10.0	34.4	16.1	5.59	.79	.21	.044	.021
MAX	.66	.70	7.7	55	35	116	35	9.5	2.7	.30	.07	.03
MIN	.01	.41	.28	.17	4.5	7.4	8.5	1.5	.28	.07	.02	.01
AC-FT	22	33	45	241	555	2110	956	344	47	13	2.7	1.2
CAL YR 1980 TOTAL	11089.27			MEAN 30.3	MAX 1170	MIN .01	AC-FT 22000					
WTR YR 1981 TOTAL	2204.16			MEAN 6.04	MAX 116	MIN .01	AC-FT 4370					

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020128, 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 mi² (886 km²).

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) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good. Minor regulation by Lake Clementine, usable capacity, 12,800 acre-ft (15.8 hm³) formed by North Fork Dam. Storage in Big Reservoir and Lake Valley Reservoir, combined capacity, 10,300 acre-ft (12.7 hm³) 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.--40 years, 798 ft³/s (22.60 m³/s), 578,200 acre-ft/yr (713 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft³/s (1,850 m³/s) Dec. 23, 1964, gage height, 11.87 ft (3.618 m), from rating curve extended above 24,000 ft³/s (680 m³/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, 4,580 ft³/s (130 m³/s) Mar. 25 (2030 hrs), gage height, 3.62 ft (1.103 m), no other peak above base of 4,300 ft³/s (122 m³/s); minimum daily, 21 ft³/s (0.595 m³/s) Sept. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	49	102	102	433	429	880	1300	300	66	31	24
2	50	48	101	99	371	413	829	1200	277	64	31	24
3	47	48	107	100	337	404	740	901	259	62	31	24
4	47	48	848	107	313	455	689	743	236	60	31	23
5	47	48	452	115	297	650	691	666	225	58	30	23
6	47	51	203	112	285	535	793	588	219	57	30	23
7	44	54	145	107	257	485	842	527	207	54	30	23
8	44	73	122	99	242	456	786	494	192	53	30	23
9	44	89	109	95	240	434	767	501	185	51	30	23
10	41	73	101	93	238	441	800	533	180	50	28	23
11	44	63	97	91	242	453	748	529	165	49	28	23
12	50	62	93	89	285	455	672	499	159	49	28	23
13	52	62	94	87	312	436	661	482	143	47	27	23
14	56	61	92	86	1720	414	721	486	137	47	27	23
15	59	60	90	85	1430	391	836	486	129	46	27	23
16	56	58	90	90	794	501	883	429	123	46	27	23
17	52	59	102	95	1060	437	870	374	117	44	27	24
18	49	57	104	94	873	401	911	438	113	43	26	24
19	47	58	103	93	782	828	1050	1110	109	42	25	23
20	48	58	103	92	933	1660	889	659	104	41	25	22
21	47	58	105	93	685	1250	788	490	100	40	25	22
22	47	59	135	99	551	1370	978	424	99	38	25	21
23	47	59	197	212	512	1160	1260	396	92	36	25	21
24	46	60	149	301	607	993	1530	388	89	36	25	24
25	49	65	126	232	613	2060	1480	416	86	36	25	37
26	53	62	116	175	533	3210	1160	540	83	35	27	43
27	60	61	115	939	472	1870	886	573	79	35	26	37
28	53	60	117	1930	447	1400	798	458	75	34	25	32
29	51	59	116	1720	---	1240	1030	394	74	33	24	30
30	51	71	112	822	---	1130	1230	369	70	32	24	30
31	49	---	106	577	---	939	---	337	---	32	24	---
TOTAL	1527	1793	4652	9031	15864	27300	27198	17730	4426	1416	844	761
MEAN	49.3	59.8	150	291	567	881	907	572	148	45.7	27.2	25.4
MAX	60	89	848	1930	1720	3210	1530	1300	300	66	31	43
MIN	41	48	90	85	238	391	661	337	70	32	24	21
AC-FT	3030	3560	9230	17910	31470	54150	53950	35170	8780	2810	1670	1510
CAL YR 1980	TOTAL	416299	MEAN	1137	MAX	32000	MIN 41	AC-FT	825700			
WTR YR 1981	TOTAL	112542	MEAN	308	MAX	3210	MIN 21	AC-FT	223200			

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 years 1977, 1979 to September 1980.

BIOLOGICAL DATA: Water years 1979 to September 1980.

WATER TEMPERATURES: Water years 1960 to current year.

SEDIMENT RECORDS: Water years 1979 to September 1980.

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, 29.0°C Aug. 8, 9, 1978; minimum recorded, 3.5°C Dec. 31, 1978, Jan. 1, 2, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 28.0°C Aug. 8; minimum recorded, 7.0°C on several days during December to February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

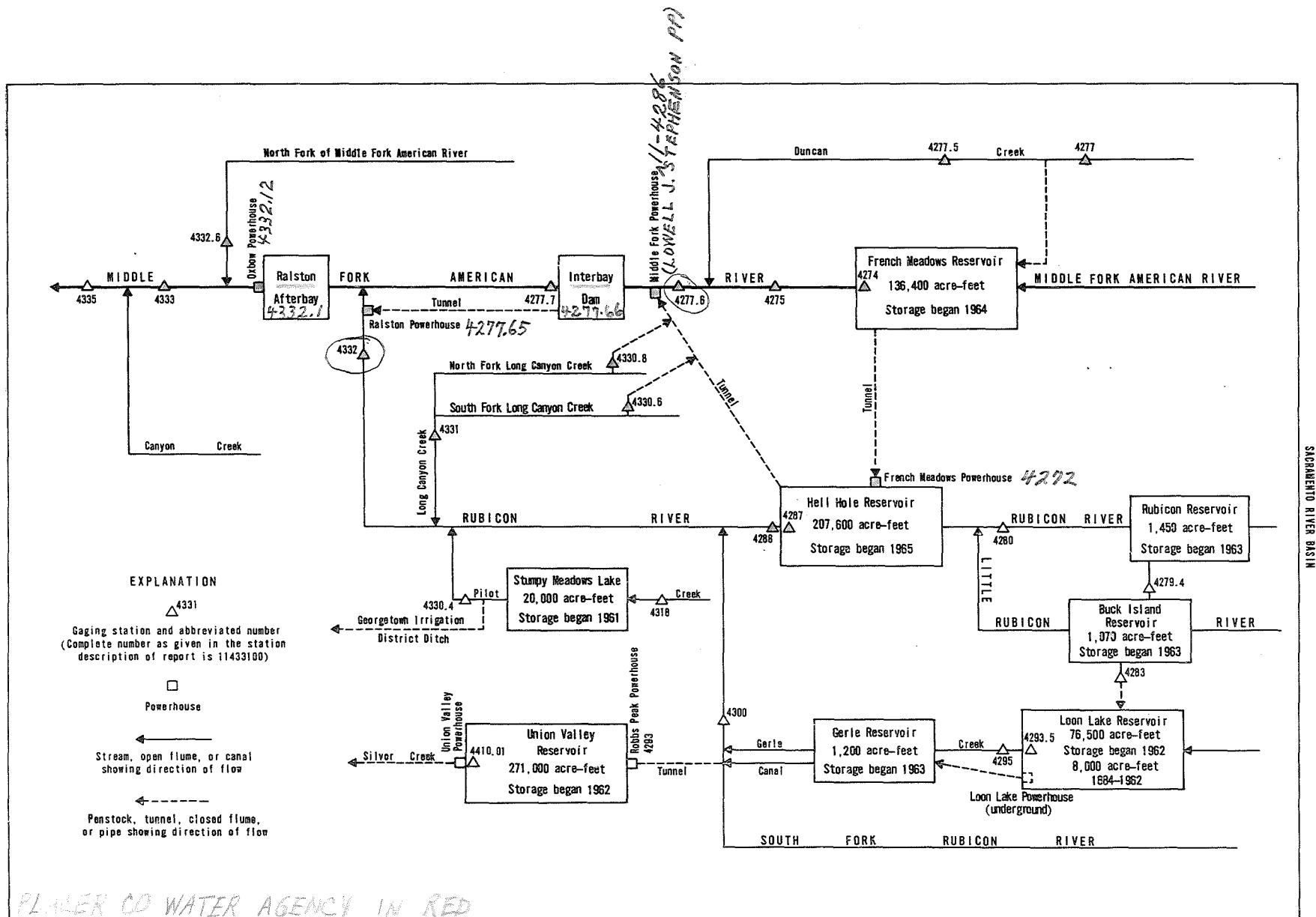


FIGURE 10. — Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020128, 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 mi² (121.7 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 hm³). Reservoir is used to store water for hydroelectric power. Up to 400 ft³/s (11.3 m³/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 Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 137,700 acre-ft (170 hm³) May 19, 1966, elevation, 5,263.9 ft (1,604.44 m); minimum since reservoir first filled, 37,722 acre-ft (46.5 hm³) Nov. 20, 1977, elevation, 5,170.86 ft (1,576.078 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 98,407 acre-ft (121 hm³) June 4, elevation, 5,233.70 ft (1,595.232 m); minimum, 45,845 acre-ft (56.5 hm³) Dec. 18, elevation 5,181.26 ft (1,579.248 m).

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

5,125	10,804	5,200	62,447
5,130	13,075	5,230	94,074
5,150	23,743	5,270	146,502
5,170	37,085		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92345	69601	46042	46388	47967	53707	61538	84399	98052	94457	91144	89116
2	91818	68792	45960	46396	47992	53902	62011	85379	98170	94592	91121	89093
3	91167	67968	46124	46446	48017	53991	62286	86088	98313	94480	91064	89048
4	90598	67167	46371	46479	48059	54168	62599	86742	98407	94468	91030	89014
5	90235	66364	46371	46512	48084	54310	63008	87299	98052	94475	90996	88992
6	89635	65612	46371	46512	48118	54453	63555	87769	97651	94387	90963	88935
7	89150	64845	46371	46561	48152	54596	64092	88093	97651	94109	90666	88890
8	88283	64073	46371	46561	48168	54756	64613	88408	97651	93554	90575	88845
9	87512	63305	46371	46561	48219	54935	65233	88823	97651	92966	90541	88733
10	86698	62542	46289	46569	48252	55133	65748	89367	97651	92506	90518	88598
11	85921	61783	46099	46569	48311	55375	66266	89748	97710	92483	90473	88453
12	85456	60991	46009	46578	48328	55600	66696	90133	97781	92437	90451	88317
13	84597	60185	45952	46586	48454	55825	67276	90552	97828	92345	90416	88149
14	83861	59412	45927	46594	48792	55987	67919	90984	97863	92230	90382	87858
15	83107	58598	45878	46602	49428	56195	68593	91361	97639	92116	90348	87366
16	82301	57835	45862	46660	49470	56385	69271	91624	97344	92047	90314	86921
17	81435	57022	45862	46669	50840	56548	70072	91899	96957	92024	90341	86532
18	80788	56168	45845	46685	51186	56776	70878	92759	96627	92001	90314	86387
19	79929	55420	45894	46710	51741	57113	71688	93334	96170	91967	90246	86032
20	79129	54579	45911	46719	52212	57368	72299	93739	96088	91887	90223	85943
21	78363	53902	45993	46735	52517	57625	73117	94074	95983	91749	90167	85478
22	77591	53159	46108	46784	52807	57871	75255	94422	95633	91647	90144	84762
23	76749	52290	46157	46884	53106	57295	76613	94654	95307	91532	90110	84322
24	76018	51428	46173	46925	53529	57597	78013	95003	95190	91441	90054	84300
25	75224	50539	46215	46933	53698	58625	79246	95469	95073	91406	90008	84322
26	74508	50067	46240	47008	53486	59338	80144	95936	94701	91372	89906	84311
27	73631	49045	46264	47474	53415	59747	80918	96405	94631	91338	89635	84269
28	72707	48261	46297	47724	53574	60148	81694	96710	94619	91304	89341	83916
29	71963	47482	46322	47775	---	60607	82323	97062	94573	91258	89229	83237
30	71211	46809	46338	47891	---	60973	83194	97403	94530	91235	89206	82519
31	70394	---	46379	47916	---	61287	---	97757	---	91190	89172	---
MAX	92345	69601	46379	47916	53698	61287	83194	97757	98407	94592	91144	89116
MIN	70394	46809	45845	46388	47967	53707	61538	84399	94530	91190	89172	82519
†	5208.12	5182.43	5181.91	5183.76	5190.33	5148.78	5220.32	5233.15	5230.39	5227.49	5225.71	5219.70
‡	-22806	-23585	-430	+1537	+5658	+7713	+21907	+14565	-3227	-3340	-2018	-6653

CAL YR 1980 † +419

WTR YR 1981 ‡ -10681

† Elevation, in feet NGVD, 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, Hydrologic Unit 18020128, 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 mi² (124.1 km²).

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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--13 years (water years 1952-64, prior to regulation by French Meadows Reservoir), 149 ft³/s (4.22 m³/s), 107,900 acre-ft/yr (133.0 hm³/yr); 17 years (water years 1965-81), 18.5 ft³/s (0.524 m³/s), 13,400 acre-ft/yr (16.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) Jan. 31, 1963, gage height, 14.20 ft (4.328 m), from rating curve extended above 1,100 ft³/s (31.2 m³/s) on basis of maximum flow at former site; minimum, 0.3 ft³/s (0.008 m³/s) Oct. 4, 5, 21-25, 1960, Oct. 5, 6, 1961. Maximum discharge since construction of French Meadows Dam in 1964, 1,310 ft³/s (37.1 m³/s) Apr. 30, 1965, gage height, 7.68 ft (2.341 m); minimum daily, 0.8 ft³/s (0.023 m³/s) Oct. 22-25, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 30 ft³/s (0.85 m³/s) Mar. 25, gage height, 4.63 ft (1.411 m); minimum daily, 7.0 ft³/s (0.20 m³/s) on several days during June and July.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	7.9	7.4	8.7	8.7	7.9	8.3	7.7	8.0	7.0	7.9	7.7
2	8.5	7.9	7.4	9.0	8.5	7.9	8.1	7.7	8.0	7.0	7.9	7.7
3	8.5	7.9	9.1	9.3	8.5	7.9	7.8	7.7	8.0	7.0	7.9	7.7
4	8.5	7.9	11	8.7	8.6	8.0	7.7	7.9	8.1	7.0	7.9	7.7
5	8.5	7.8	8.7	8.7	8.7	8.1	7.7	7.9	8.2	7.0	7.9	7.7
6	8.5	7.7	7.4	8.7	8.9	7.9	7.9	8.2	8.5	7.0	7.9	7.7
7	8.5	8.0	7.2	8.7	9.0	7.9	7.9	8.1	7.5	7.0	7.9	7.7
8	8.5	8.0	7.2	8.2	8.5	7.9	7.8	7.9	7.4	7.0	7.9	7.7
9	8.3	7.8	7.2	8.2	8.5	7.9	7.7	8.2	7.6	7.0	7.9	7.7
10	8.2	7.7	7.2	8.2	8.5	7.9	7.7	8.7	7.6	7.0	7.9	7.7
11	8.2	7.9	7.2	8.2	8.9	7.9	7.7	9.0	7.4	7.2	7.9	7.7
12	8.3	7.7	7.2	8.2	9.0	7.9	7.7	8.2	7.4	7.2	7.9	7.7
13	8.3	7.7	7.2	8.2	11	7.9	7.7	8.2	7.4	7.2	7.9	7.7
14	8.5	7.7	7.2	8.2	14	7.9	7.8	8.2	7.4	7.2	7.9	7.7
15	8.2	7.7	9.0	8.2	10	8.0	7.9	8.2	7.4	7.2	7.9	7.7
16	8.2	7.7	10	8.3	10	8.1	8.0	8.2	7.4	7.2	7.9	7.7
17	8.2	7.7	10	8.2	12	8.0	8.3	8.2	7.4	7.2	7.8	7.7
18	8.2	7.7	10	8.2	11	7.9	8.0	9.1	7.2	7.2	7.7	7.7
19	8.2	7.6	10	8.2	11	9.1	7.7	8.8	7.0	7.2	7.7	7.7
20	8.2	7.4	10	8.2	12	9.1	7.4	8.3	7.0	7.2	7.7	7.7
21	8.1	7.4	9.8	8.2	10	9.5	7.1	8.2	7.0	7.5	7.7	7.7
22	7.9	7.4	8.4	8.3	10	11	7.4	8.2	7.0	7.9	7.7	7.7
23	7.9	7.4	8.2	8.7	9.2	8.7	7.7	8.5	7.0	7.9	7.7	7.7
24	7.9	7.4	8.2	8.7	8.5	8.3	7.4	8.5	7.0	7.9	7.7	7.7
25	8.1	7.4	8.2	8.7	8.1	19	7.8	8.7	7.2	7.9	7.7	7.7
26	8.0	7.4	8.4	8.8	7.9	13	8.3	9.2	7.2	7.9	7.7	7.7
27	7.9	7.4	8.7	13	7.8	9.8	7.8	9.0	7.2	7.9	7.6	7.7
28	7.9	7.3	9.0	9.7	7.8	9.0	7.9	8.7	7.2	7.9	7.5	7.7
29	7.9	7.2	9.3	9.1	---	8.9	7.8	7.9	7.1	7.9	7.7	7.7
30	7.9	7.8	8.7	9.0	---	8.5	7.7	7.9	7.0	7.9	7.7	7.6
31	7.9	---	8.7	8.8	---	8.1	---	8.0	---	7.9	7.7	---
TOTAL	254.4	229.5	263.2	264.5	264.6	274.9	233.7	257.2	222.8	228.5	241.7	230.9
MEAN	8.21	7.65	8.49	8.69	9.45	8.87	7.79	8.30	7.43	7.37	7.80	7.70
MAX	8.5	8.0	11	13	14	19	8.3	9.2	8.5	7.9	7.9	7.7
MIN	7.9	7.2	7.2	8.2	7.8	7.9	7.1	7.7	7.0	7.0	7.5	7.6
AC-FT	505	455	522	535	525	545	464	510	442	453	479	458
†	22000	22410	1080	0	613	6	1010	121	4720	2140	799	5310

CAL YR 1980 TOTAL 3327.2 MEAN 9.09 MAX 108 MIN 4.9 AC-FT 6600
WTH YR 1981 TOTAL 2970.9 MEAN 8.14 MAX 19 MIN 7.0 AC-FT 5890

† Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant, furnished by Placer County Water Agency.

LOCATION.--Lat 39°07'59", long 120°28'58", in NE¼SE¼ sec.23, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, 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.

REMARKS.--Flow is diverted above station through Duncan Creek diversion tunnel to French Meadows Reservoir (station 11427400). Maximum design flow of tunnel is 400 ft³/s (11.3 m³/s). See schematic diagram of Middle Fork American and Rubicon River basins.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,640 ft³/s (103 m³/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 ft³/s (11.3 m³/s) on basis of computation of peak flow over diversion dam; no flow at times in 1965-66.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 21 ft³/s (0.595 m³/s) Feb. 14, gage height, 1.73 ft (0.527 m), maximum gage height, 1.90 ft (0.579 m) Jan. 29 (backwater from ice); minimum daily discharge, 0.28 ft³/s (0.008 m³/s) Sept. 8, 12.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.67	.88	3.5	3.5	6.0	11	9.3	5.6	8.3	1.7	.53	.31
2	.66	.86	5.1	3.2	8.8	11	8.7	5.4	8.3	1.6	.53	.31
3	.62	.86	5.6	3.6	8.5	10	8.5	5.2	8.1	1.5	.52	.31
4	.62	.86	8.9	6.1	8.3	11	8.5	5.1	8.1	1.5	.52	.31
5	.62	.81	7.5	4.6	8.3	10	9.6	5.2	8.1	1.4	.51	.31
6	.62	.80	4.9	3.9	8.2	11	10	5.0	8.1	1.4	.48	.31
7	.62	3.7	3.2	3.5	7.9	11	10	4.9	8.1	1.3	.46	.29
8	.62	6.0	2.9	3.2	7.7	11	9.4	4.9	8.1	1.3	.42	.28
9	.62	1.8	2.7	3.0	7.6	11	9.0	5.0	8.1	1.2	.40	.31
10	.62	1.4	2.5	2.8	7.6	11	8.7	4.9	7.9	1.2	.38	.31
11	.62	2.8	2.6	2.7	7.8	11	7.9	6.7	7.2	1.1	.38	.29
12	1.5	2.4	2.7	2.7	8.1	12	7.4	8.6	6.9	1.1	.38	.28
13	1.2	1.5	2.7	2.7	9.4	11	7.1	8.6	6.5	1.0	.38	.34
14	1.7	1.3	2.7	2.5	18	11	7.0	8.6	6.1	1.0	.38	.41
15	1.5	1.2	5.1	2.4	12	11	7.0	8.6	5.5	.97	.38	.40
16	1.2	1.1	7.3	3.1	13	11	6.8	8.6	5.0	.91	.37	.39
17	1.2	1.1	6.7	3.1	15	11	6.4	8.4	4.6	.88	.34	.38
18	1.1	1.1	6.0	3.1	14	9.4	6.4	8.9	4.2	.88	.34	.35
19	1.0	1.0	5.2	3.1	15	7.5	6.6	8.7	3.8	.82	.34	.34
20	1.0	.93	4.3	3.2	15	7.2	6.4	8.5	3.5	.79	.34	.34
21	.94	.93	5.1	3.2	13	7.5	6.4	8.3	3.3	.76	.34	.34
22	.93	.93	7.6	3.8	12	7.7	6.2	8.3	3.1	.73	.35	.34
23	.92	1.4	7.5	7.0	12	7.6	6.4	8.3	2.8	.70	.34	.34
24	.86	1.6	6.7	5.6	12	7.9	6.4	8.3	2.6	.68	.34	.41
25	1.4	1.1	5.7	4.5	11	15	6.3	8.3	2.6	.67	.34	2.0
26	3.0	1.1	6.2	4.8	11	13	6.3	8.4	2.4	.65	.33	.84
27	1.3	1.0	6.2	4.5	11	11	6.5	8.3	2.2	.62	.32	.65
28	1.1	.89	5.5	4.5	11	10	6.1	8.3	2.1	.60	.31	.65
29	1.0	.90	4.8	4.0	---	10	5.8	8.3	1.9	.57	.31	.63
30	.99	3.2	4.3	4.5	---	9.6	5.6	8.3	1.8	.57	.31	.60
31	.93	---	3.9	5.0	---	9.3	---	8.3	---	.54	.31	---
TOTAL	31.68	45.45	155.6	117.4	299.2	318.7	222.7	226.8	159.3	30.64	11.98	13.37
MEAN	1.02	1.52	5.02	3.79	10.7	10.3	7.42	7.32	5.31	.99	.39	.45
MAX	3.0	6.0	8.9	7.0	18	15	10	8.9	8.3	1.7	.53	2.0
MIN	.62	.80	2.5	2.4	6.0	7.2	5.6	4.9	1.8	.54	.31	.28
AC-FT	63	90	309	233	593	632	442	450	316	61	24	27
CAL YR 1980	TOTAL	7409.47	MEAN	20.2	MAX	1640	MIN	.62	AC-FT	14700		
WTR YR 1981	TOTAL	1632.82	MEAN	4.47	MAX	.18	MIN	.28	AC-FT	3240		

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, Hydrologic Unit 18020128, 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 mi² (230.8 km²).

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 m³) 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 43.8 ft³/s (1.240 m³/s), 31,730 acre-ft/yr (39.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s (280 m³/s) Jan. 13, 1980, gage height, 7.95 ft (2.423 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Oct. 25-30, 1966, Jan. 19, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 796 ft³/s (22.5 m³/s) Dec. 3, gage height, 4.62 ft (1.408 m); minimum daily, 5.0 ft³/s (0.14 m³/s) Oct. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	9.5	16	20	19	19	23	23	21	24	19	16
2	14	9.5	16	19	19	19	23	23	21	24	19	15
3	14	9.5	20	19	18	20	23	23	21	24	19	15
4	14	14	51	19	18	17	23	23	21	24	17	15
5	7.0	18	23	19	18	18	23	23	22	24	14	15
6	8.0	18	22	19	18	17	23	23	21	24	15	15
7	24	20	22	19	18	17	23	23	21	24	14	15
8	14	20	22	19	18	17	23	23	21	24	14	16
9	14	18	21	19	18	18	23	23	22	24	15	16
10	15	18	22	19	19	20	23	23	21	23	15	16
11	15	18	22	19	18	20	23	23	22	24	15	17
12	25	18	22	19	18	20	23	23	22	24	15	17
13	22	18	22	19	18	20	23	23	22	24	14	16
14	38	18	21	19	18	20	23	23	22	24	14	16
15	13	18	20	19	18	20	23	22	23	24	14	16
16	5.0	17	20	19	18	20	23	21	23	24	14	17
17	8.0	17	20	18	18	19	23	21	23	24	14	17
18	10	17	20	18	19	19	23	21	23	24	15	17
19	11	18	19	18	20	19	23	21	23	23	15	17
20	11	18	19	18	20	20	23	21	23	22	15	17
21	11	18	19	18	19	20	23	21	23	23	15	17
22	11	18	19	18	19	19	23	21	23	21	15	17
23	11	17	19	18	19	19	23	21	23	19	15	17
24	10	17	23	18	20	14	23	21	23	19	15	16
25	9.9	17	20	18	19	16	23	21	24	19	15	17
26	9.6	17	20	18	19	21	23	20	24	19	15	17
27	9.5	17	20	19	19	23	23	21	23	19	15	17
28	9.2	16	20	19	19	23	23	21	23	19	15	17
29	9.2	16	20	19	---	23	23	21	24	19	16	17
30	9.5	17	20	19	---	23	23	21	24	19	16	17
31	9.1	---	20	19	---	23	---	20	---	19	16	---
TOTAL	404.0	501.5	660	580	521	603	690	678	672	691	474	490
MEAN	13.0	16.7	21.3	18.7	18.6	19.5	23.0	21.9	22.4	22.3	15.3	16.3
MAX	38	20	51	20	20	23	23	23	24	24	19	17
MIN	5.0	9.5	16	18	18	14	23	20	21	19	14	15
AC-FT	801	995	1310	1150	1030	1200	1370	1340	1330	1370	940	972
†	19210	40240	51220	19140	11490	12640	12590	4570	9230	8810	5790	16120
CAL YR 1980 TOTAL	38241.5											
MEAN 104												
MAX 5140												
MIN 5.0												
AC-FT 75850												
WTR YR 1981 TOTAL	6964.5											
MEAN 19.1												
MAX 51												
MIN 5.0												
AC-FT 13810												

† Diversion, in acre-feet, to Ralston powerplant.

SACRAMENTO RIVER BASIN

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'26", long 120°13'29", in NE4SE4 sec.8, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, 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 6.4 mi (10.3 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) National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District). Auxiliary water-stage recorder since Aug. 26, 1966, 220 ft (67 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.--18 years, 99.8 ft³/s (2.826 m³/s), 72,310 acre-ft/yr (89.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,120 ft³/s (31.7 m³/s) Dec. 23, 1964; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.06	12	17	24	35	556	248	13	.07	0
2		0	.74	9.2	14	22	31	475	247	11	.07	0
3		0	6.5	8.6	13	21	28	298	211	8.3	.07	0
4		0	20	14	12	23	31	226	194	6.7	.07	0
5		0	18	15	12	22	52	195	219	5.6	.07	0
6		0	15	11	11	20	92	166	220	4.5	.06	0
7		0	10	8.2	10	22	114	155	194	3.6	.05	0
8		0	6.2	5.8	10	22	109	166	180	2.4	.04	0
9		0	4.4	4.4	10	27	119	209	172	1.1	.03	0
10		0	3.3	3.4	9.4	33	134	264	144	.26	.03	0
11		.27	2.7	2.6	9.4	40	112	267	101	.10	.05	0
12		9.9	2.5	2.1	11	36	97	254	82	.10	.04	0
13		10	2.6	1.9	39	35	111	277	64	.09	.03	0
14		7.5	2.4	1.6	415	29	152	303	46	.09	.01	0
15		5.9	3.2	1.5	259	28	201	233	37	.09	0	0
16		3.6	8.4	1.9	125	27	224	159	39	.09	0	0
17		2.9	12	2.6	183	26	215	129	32	.09	0	0
18		2.1	12	3.2	129	24	207	352	.28	.09	0	0
19		1.5	11	4.0	113	26	164	343	.19	.09	0	0
20		1.1	9.6	4.2	126	28	117	181	7.5	.09	0	0
21		.81	14	4.8	76	27	152	131	39	.08	0	0
22		.59	64	12	57	30	282	138	44	.08	0	0
23		.56	42	20	56	35	405	167	39	.08	0	15
24		.61	22	20	51	33	586	230	32	.08	0	16
25		.44	21	16	44	59	499	428	28	.09	0	11
26		.33	29	13	37	73	317	420	25	.09	0	6.4
27		.22	39	22	29	47	177	334	22	.08	0	3.6
28		.13	34	26	26	36	197	317	20	.09	0	2.0
29		.09	24	23	---	53	358	304	18	.09	0	1.3
30		.07	18	24	---	43	495	299	16	.09	0	.72
31		---	15	21	---	35	---	279	---	.08	0	---
TOTAL	0	48.62	472.60	319.0	1903.8	1006	5813	8255	2720.97	58.31	.69	56.02
MEAN	0	1.62	15.2	10.3	68.0	32.5	194	266	90.7	1.88	.022	1.87
MAX	0	10	64	26	415	73	586	556	248	13	.07	16
MIN	0	0	.06	1.5	9.4	20	28	129	.19	.08	0	0
AC-FT	0	96	937	633	3780	2000	11530	16370	5400	116	1.4	111
CAL YR 1980	TOTAL	46841.81	MEAN	128	MAX	1050	MIN	0	AC-FT	92910		
WTH YR 1981	TOTAL	20654.01	MEAN	56.6	MAX	586	MIN	0	AC-FT	40970		

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, Hydrologic Unit 18020128, 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 mi² (81.3 km²).

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) National Geodetic Vertical Datum of 1929. 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 Clyde, Lois, Middle Velma, and Schmidell, total controlled capacity, 555 acre-ft (684,000 m³). Flow below 1,200 ft³/s (34.0 m³/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).--28 years (water years 1911-13, 1957-81), 118 ft³/s (3.342 m³/s), 85,490 acre-ft/yr (105 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Feb. 1, 1963, gage height, 14.28 ft (4.353 m), from rating curve extended above 1,200 ft³/s (34.0 m³/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 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 ft³/s (263 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 219 ft³/s (6.20 m³/s) Feb. 14, gage height, 3.67 ft (1.119 m); minimum discharge, 0.17 ft³/s (0.005 m³/s) Sept. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.3	3.4	4.6	7.4	11	12	24	35	9.8	8.1	.50	.19
2	3.1	3.4	6.8	7.2	10	12	20	25	9.5	8.1	.44	.21
3	3.1	3.5	16	7.5	10	12	20	20	9.5	7.9	.40	.21
4	3.1	3.5	30	11	10	13	24	17	8.9	8.0	.38	.19
5	3.2	3.5	8.4	9.2	10	13	34	15	8.9	8.0	.35	.17
6	3.4	3.6	6.1	8.1	9.9	12	44	14	8.6	8.0	.33	.20
7	3.4	3.8	5.1	7.8	9.7	14	40	13	8.3	8.0	.28	.22
8	3.4	4.6	4.5	7.6	9.9	14	37	13	8.0	7.8	.30	.22
9	3.3	4.3	4.6	7.5	9.9	16	42	13	8.0	7.8	.29	.24
10	3.2	4.2	4.4	7.4	10	19	41	13	7.9	7.7	.31	.24
11	3.2	7.4	4.4	7.2	10	19	33	12	7.6	7.7	.34	.26
12	4.5	5.9	4.4	7.2	12	17	30	12	7.6	7.5	.31	.26
13	3.3	4.7	4.5	7.2	38	18	34	12	7.5	7.5	.31	.27
14	3.5	4.5	4.5	7.2	123	15	41	12	7.3	7.5	.33	.31
15	3.5	4.3	5.0	7.2	36	15	45	12	7.2	7.4	.31	.31
16	3.5	4.2	6.7	7.4	34	16	42	12	7.2	7.4	.30	.31
17	3.5	4.2	7.0	7.6	49	15	39	11	7.1	7.3	.33	.35
18	3.2	4.2	8.3	7.5	31	14	38	54	7.7	7.3	.45	.55
19	3.2	4.2	8.3	7.4	43	21	36	44	8.0	7.2	.28	.47
20	3.2	4.2	8.0	7.2	37	19	29	22	8.3	7.2	.19	.48
21	3.2	4.2	9.6	7.3	20	21	38	15	8.5	7.2	.18	.54
22	3.2	4.2	12	7.5	17	27	51	13	8.5	6.7	.20	.53
23	3.2	4.3	8.9	9.4	18	25	53	12	8.4	3.7	.35	.58
24	3.0	4.4	8.0	9.7	19	24	55	11	8.4	2.0	.28	.64
25	3.8	4.2	8.0	8.6	17	55	38	16	8.2	2.1	.19	4.0
26	4.5	4.2	8.3	8.1	15	42	45	20	8.1	2.0	.17	.77
27	3.4	4.2	8.3	21	13	26	27	15	8.0	1.9	.21	.44
28	3.4	4.2	8.0	15	13	28	28	12	8.4	1.9	.23	.37
29	3.4	4.1	7.8	12	---	33	34	11	8.1	1.8	.22	.38
30	3.4	4.3	7.6	12	---	24	35	11	8.4	1.3	.20	.35
31	3.4	---	7.5	11	---	22	---	10	---	.62	.18	---
TOTAL	105.0	127.9	245.6	275.4	645.4	633	1097	527	245.9	184.62	9.14	14.26
MEAN	3.39	4.26	7.92	8.88	23.1	20.4	36.6	17.0	8.20	5.96	.29	.48
MAX	4.5	7.4	30	21	123	55	55	54	9.8	8.1	.50	4.0
MIN	3.0	3.4	4.4	7.2	9.7	12	20	10	7.1	.62	.17	.17
AC-FT	208	254	487	546	1280	1260	2180	1050	488	366	18	28
MEAN ‡	3.39	5.88	23.1	19.2	91.1	53.0	230	283	99.0	7.84	.31	2.34
AC-FT ‡	208	350	1420	1180	5060	3260	13710	17420	5890	482	19	139

CAL YR 1980 TOTAL 13359.50 MEAN 36.5 MAX 3800 MIN 3.0 AC-FT 26500 MEAN ‡ 164 AC-FT ‡ 119400
WTR YR 1981 TOTAL 4110.22 MEAN 11.3 MAX 123 MIN .17 AC-FT 8150 MEAN ‡ 67.8 AC-FT ‡ 49120

‡ Adjusted for diversion to Rubicon-Rockbound tunnel.

SACRAMENTO RIVER BASIN

11428300 BUCK-LOON TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 39°00'17", long 120°15'21", in SE¼NW¼ sec.6, T.13 N., R.16 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, on right bank at tunnel intake near left abutment of diversion dam, 7.4 mi (11.9 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) National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District).

REMARKS.--Records good. Tunnel diverts water from Buck Island Lake and discharges into Loon Lake. Gates are closed at 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.--18 years, 128 ft³/s (3.625 m³/s), 92,740 acre-ft/yr (114 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,240 ft³/s (35.1 m³/s) Dec. 23, 1964; no flow many days in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	.85	21	28	33	54	740	310	13	.05	.04
2		0	1.1	17	24	30	50	700	300	11	.05	.04
3		0	3.4	14	21	28	42	464	270	9.3	.05	.04
4		0	25	19	19	27	39	330	236	7.2	.05	.04
5		0	30	22	18	28	52	276	250	5.7	.05	.04
6		0	25	21	17	27	101	238	260	4.7	.05	.04
7		0	19	17	16	26	148	212	245	3.4	.05	.04
8		0	13	13	15	27	154	217	219	2.4	.05	.04
9		0	8.6	10	15	30	160	258	208	1.9	.05	.04
10		0	6.2	7.8	15	38	186	332	192	1.1	.05	.04
11		2.5	4.7	6.1	15	47	172	356	140	.30	.05	.04
12		4.8	3.7	4.8	15	50	144	339	106	.06	.05	.04
13		7.6	3.0	4.2	25	50	146	352	82	.06	.05	.04
14		9.7	2.6	3.5	406	44	186	394	60	.06	.05	.04
15		9.4	2.6	2.9	464	39	256	349	43	.06	.05	.04
16		7.1	3.1	3.0	221	39	307	240	37	.06	.05	.04
17		5.4	6.0	3.3	237	36	305	186	18	.06	.05	.04
18		4.4	11	3.7	206	33	298	354	.04	.06	.05	.04
19		3.5	13	4.4	157	38	257	566	.04	.06	.05	.04
20		2.8	14	5.4	177	44	186	315	.04	.06	.05	.04
21		2.3	13	6.3	130	42	193	200	.04	.06	.05	.03
22		1.9	54	11	88	43	337	183	7.4	.06	.05	.03
23		1.7	81	25	74	46	510	204	34	.06	.05	15
24		1.7	51	34	78	47	736	260	37	.06	.05	10
25		1.4	34	28	69	73	775	441	33	.06	.05	4.7
26		1.2	41	22	55	125	512	547	28	.06	.05	1.7
27		1.0	57	37	44	88	293	434	25	.06	.05	.54
28		.91	61	58	37	59	252	404	22	.06	.04	.09
29		.78	48	51	---	66	419	369	18	.06	.04	0
30		.82	35	41	---	69	617	361	16	.05	.04	0
31		---	26	34	---	55	---	354	---	.05	.04	---
TOTAL	0	70.91	696.85	550.4	2686	1427	7887	10975	3196.56	61.18	1.51	32.89
MEAN	0	2.36	22.5	17.8	95.9	46.0	263	354	107	1.97	.049	1.10
MAX	0	9.7	81	58	464	125	775	740	310	13	.05	15
MIN	0	0	.85	2.9	15	26	39	183	.04	.05	.04	0
AC-FT	0	141	1380	1090	5330	2830	15640	21770	6340	121	3.0	65
CAL YR 1980	TOTAL	59856.68	MEAN 164	MAX 1190	MIN 0	AC-FT 118700						
WTR YR 1981	TOTAL	27585.30	MEAN 75.6	MAX 775	MIN 0	AC-FT 54720						

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, Hydrologic Unit 18020128, 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 mi² (295 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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. Dead storage 248 acre-ft (306,000 m³). 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 Energy Regulatory Commission Project.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 209,500 acre-ft (258 hm³) June 17, 1967, elevation, 4,631.5 ft (1,411.68 m); minimum since reservoir first filled, 37,499 acre-ft (46.2 hm³) Mar. 23, 1973, elevation, 4,428.28 ft (1,349.740 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 162,063 acre-ft (200 hm³) Oct. 7, elevation, 4,591.10 ft (1,399.367 m); minimum, 80,770 acre-ft (99.6 hm³) Feb. 12, elevation, 4,496.92 ft (1,370.661 m).

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

4,340	5,220	4,500	83,025
4,360	9,835	4,550	122,720
4,380	16,250	4,600	171,865
4,400	24,160	4,650	233,420
4,450	49,610		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155292	159511	143639	96556	83393	87722	94732	121087	142962	142962	135728	129142
2	154794	158874	142577	94779	83172	87632	94796	122626	143252	142452	135682	128877
3	154338	158270	142193	92964	82951	87258	94794	123780	143409	141857	135618	128331
4	153822	157689	142962	91260	82380	86883	95041	124666	143213	141522	135380	127848
5	154111	157079	141809	90774	81924	86734	95551	125574	143359	141217	135279	127682
6	154607	156534	141045	89364	81558	86704	95768	126321	144114	140532	134903	127647
7	155136	156324	139623	88949	81595	86936	96265	127122	144445	139926	134583	127534
8	155844	155864	138214	88534	81251	87206	96506	127910	144581	139708	134555	127227
9	156565	155282	136818	87858	81098	87302	97112	128639	144883	139435	134483	126733
10	157268	154928	135068	87610	80959	87430	97588	129460	145050	139992	134364	126164
11	158006	154431	133401	87602	80777	87460	97939	130177	145079	139954	134328	125272
12	158609	153935	131754	87288	80770	87280	98049	130826	145176	139916	134292	124228
13	159384	153482	129973	87175	80959	87213	98361	131513	145274	139935	134228	123215
14	160172	152907	128138	87168	82878	87460	99027	132184	145372	139435	134191	123010
15	160987	152324	126477	86614	83725	87707	99852	132382	145265	139435	134075	122891
16	161664	152058	124701	86256	84058	87580	100719	132958	145196	139435	133928	122976
17	162063	151621	122917	86241	84798	87332	101668	133446	145137	139388	133746	122507
18	161417	151123	121146	86166	85318	87258	102859	134428	144952	139341	133610	122106
19	161310	150617	119413	85735	85906	87392	103895	135710	144903	139321	133510	121783
20	161353	150152	117569	85562	86256	87460	104695	136263	144669	138870	133347	121180
21	161245	149759	115856	85154	86667	87933	105601	137747	144805	138195	133265	121028
22	161138	149097	114177	84879	87056	88384	107068	137654	144688	137841	133003	121341
23	160987	148857	112459	84598	86913	88941	108875	138214	144572	137570	132904	121324
24	160741	148049	110743	84554	87033	88971	111095	138870	144338	137143	132859	120968
25	160590	147323	108964	84435	87033	90720	112896	139341	143794	136734	132787	120535
26	160312	146670	107197	83977	87295	91847	114310	140570	143697	136412	132256	120172
27	160173	146128	105440	84206	87475	92543	115349	141045	143746	136355	131530	119310
28	159917	145480	103664	84317	87475	93140	116048	141131	143658	136217	130853	119074
29	159981	144776	101874	84391	---	93776	117553	141475	143155	135876	130443	119049
30	159790	144435	100081	84428	---	94078	119370	142011	143002	135830	130231	119116
31	159683	---	98283	83497	---	94201	---	142500	---	135793	129752	---
MAX	162063	159511	143639	96556	87475	94201	119370	142500	145372	142962	135728	129142
MIN	153822	144435	98283	83497	80770	86704	94732	121087	142962	135793	129752	119049
†	4588.88	4573.92	4520.10	4500.64	4505.99	4514.94	4546.05	4571.92	4572.44	4564.79	4558.09	4545.75
‡	+3891	-15248	-46152	-14786	+3978	+6726	+25169	+23130	+502	-7209	-6041	-10636

CAL YR 1980 ‡ -6572

WTR YR 1981 ‡ -36676

† Elevation, in feet NGVD, 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 NE4NE4 sec.21, T.14 N., R.14 E., Placer County, Hydrologic Unit 18020128, 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 mi² (295 km²).

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) National Geodetic Vertical Datum of 1929 (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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 21.9 ft³/s (0.620 m³/s), 15,870 acre-ft/yr (19.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,290 ft³/s (64.8 m³/s) June 18, 1967, including flow over spillway; no flow Aug. 25 to Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 718 ft³/s (20.3 m³/s) May 6, gage height, 7.60 ft (2.316 m); minimum daily, 8.6 ft³/s (0.24 m³/s) Aug. 20.

† Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	14	14	15	21	22	22	23	22	15	11
2	11	14	14	15	17	21	21	21	23	21	15	11
3	11	14	15	15	21	21	21	20	23	21	15	10
4	11	14	16	15	22	20	21	20	24	21	14	11
5	11	14	14	14	22	20	21	19	24	21	12	11
6	11	15	14	15	22	20	21	22	24	21	9.5	11
7	11	15	13	15	22	20	21	22	24	21	9.7	11
8	12	15	13	15	22	20	21	22	24	21	9.7	11
9	12	14	13	15	22	20	21	21	24	21	10	11
10	12	14	13	15	22	20	21	21	22	21	11	11
11	12	14	13	15	23	20	21	20	22	21	13	11
12	12	14	13	15	23	20	21	20	22	21	14	11
13	12	14	14	15	24	20	21	21	22	21	12	11
14	12	14	14	15	28	20	21	22	22	22	9.1	10
15	12	14	14	15	24	20	22	22	22	21	8.9	10
16	12	14	14	15	23	20	22	22	22	21	8.9	10
17	12	14	13	14	24	20	22	22	22	21	8.9	10
18	12	14	13	14	24	20	23	24	21	20	8.9	10
19	12	14	13	14	24	21	23	24	21	20	8.9	10
20	12	14	13	14	24	22	22	23	21	20	8.6	10
21	12	14	13	14	23	23	22	23	21	20	8.9	9.7
22	12	14	13	14	23	23	23	23	21	20	8.9	9.7
23	12	14	13	15	23	22	24	23	21	20	8.9	9.7
24	12	14	14	15	22	22	25	23	21	18	8.9	9.7
25	12	14	14	14	20	32	24	23	21	15	8.9	9.7
26	12	14	14	14	20	27	24	24	21	15	8.9	9.7
27	11	14	14	20	21	24	22	23	21	15	9.6	9.3
28	11	14	14	17	21	23	22	23	21	15	11	9.3
29	11	14	14	15	---	23	24	23	21	15	11	9.3
30	13	14	14	15	---	22	22	24	21	15	11	9.3
31	14	---	14	15	---	21	---	24	---	15	11	---
TOTAL	365	423	424	462	621	668	661	686	662	602	329.1	307.4
MEAN	11.8	14.1	13.7	14.9	22.2	21.5	22.0	22.1	22.1	19.4	10.6	10.2
MAX	14	15	16	20	28	32	25	24	24	22	15	11
MIN	11	14	13	14	15	20	21	19	21	15	8.6	9.3
AC-FT	724	839	841	916	1230	1320	1310	1360	1310	1190	653	610
+	18960	40100	50060	17630	8430	7300	8320	3390	8730	8870	5720	16070
CAL YR 1980 TOTAL	6364.7											
WTR YR 1981 TOTAL	6210.5											
MEAN	17.4											
MAX	116											
MIN	8.9											
AC-FT	12620											
WTR YR 1981	12320											

* 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°53'50", long 120°22'38", in SE¼SW¼ sec.11, T.12 N., R.14 E., El Dorado County, Hydrologic Unit 18020128, 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.--19 years, 231 ft³/s (6.542 m³/s) 167,400 acre-ft/yr (206 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,440 ft³/s (40.8 m³/s) Dec. 22-24, 1964; no flow many days each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	144	0	52	78	513	349	40	167	269	34
2	0	0	248	27	172	224	539	258	89	213	7.0	185
3	0	6.0	118	2.0	189	243	560	189	31	183	187	187
4	8.0	30	168	50	201	236	226	148	279	152	207	228
5	252	87	120	65	197	241	201	172	214	74	195	182
6	282	102	101	39	198	235	594	152	55	204	216	20
7	299	139	18	231	0	130	686	88	0	194	630	0
8	292	125	288	17	51	96	602	74	118	206	318	163
9	258	0	162	12	177	142	698	169	45	237	46	0
10	260	139	261	0	192	207	648	67	0	157	168	0
11	344	0	136	24	202	368	303	171	0	217	194	0
12	279	111	94	119	201	476	210	132	0	28	210	0
13	295	161	94	119	202	505	467	148	0	162	208	0
14	247	135	0	180	285	121	632	38	0	208	214	0
15	239	114	103	162	263	79	657	157	56	189	193	0
16	271	11	102	166	128	291	669	95	57	207	7.0	0
17	328	114	91	70	340	483	568	43	64	233	206	0
18	260	130	134	0	258	255	383	253	139	263	194	0
19	238	129	95	138	250	167	343	343	362	7.0	225	0
20	253	121	100	81	298	487	328	221	92	226	193	0
21	219	121	0	116	139	159	312	122	0	217	182	0
22	207	142	39	0	146	142	398	114	57	174	248	0
23	233	0	36	62	164	514	451	115	156	286	10	0
24	242	128	79	0	231	517	488	62	58	195	188	0
25	0	138	0	0	186	634	351	127	22	212	208	0
26	0	131	132	47	186	578	373	140	0	0	205	0
27	0	0	28	75	147	393	285	166	54	189	282	0
28	0	0	43	106	77	246	325	99	0	214	257	0
29	0	0	17	22	---	255	357	164	0	218	211	0
30	106	0	0	36	---	219	379	64	28	185	0	0
31	0	---	8.0	31	---	192	---	65	---	217	200	---
TOTAL	5412.0	2314.0	2959.0	1997.0	5132	8913	13546	4505	2016	5634.0	6078.0	999
MEAN	175	77.1	95.5	64.4	183	288	452	145	67.2	182	196	33.3
MAX	344	161	288	231	340	634	698	349	362	286	630	228
MIN	0	0	0	0	0	78	201	38	0	0	0	0
AC-FT	10730	4590	5870	3960	10180	17680	26870	8940	4000	11180	12060	1980
CAL YR 1980 TOTAL	112893.00			MEAN 308	MAX 935	MIN 0	AC-FT 223900					
WTR YR 1981 TOTAL	59505.00			MEAN 163	MAX 698	MIN 0	AC-FT 118000					

SACRAMENTO RIVER BASIN

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE¼SW¼ sec.8, T.13 N., R.15 E., El Dorado County, Hydrologic Unit 18020128, Eldorado National Forest, in powerhouse intake structure, 1.6 mi (2.6 km) southwest of right bank end of Loon Lake Dam on Gerle Creek, and 10 mi (16 km) southwest of town of Meeks Bay.

DRAINAGE AREA.--7.96 mi² (20.62 km²).

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

REVISED RECORDS.--WDR CA-76-4: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District). Prior to Sept. 23, 1975, at site 1.6 mi (2.6 km) northeast on right bank end of Loon Lake Dam at same datum.

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 hm³). Usable capacity, 73,900 acre-ft (91.1 hm³), 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. Dead storage, 2,300 acre-ft (2.84 hm³). 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 hm³) June 6, 1969, elevation, 6,411.1 ft (1,954.10 m); minimum since reservoir first filled, 3,690 acre-ft (4.55 hm³) Nov. 3, 1970, elevation, 6,330.3 ft (1,929.48 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,700 acre-ft (78.5 hm³) June 16, 17, elevation, 6,400.8 ft (1,950.96 m); minimum, 23,200 acre-ft (28.6 hm³) Apr. 10, elevation, 6,364.3 ft (1,939.84 m).

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

6,330	3,600
6,340	3,200
6,350	12,500
6,360	19,600
6,370	28,500
6,390	50,000
6,412	79,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53800	41300	35500	31900	30700	32500	26600	37600	59600	61700	48800	36200
2	53700	41300	35000	31900	30600	32300	25900	39100	60100	61200	48800	35700
3	53400	41200	35000	32000	30200	32100	25000	40100	60700	60800	48300	35200
4	53400	41200	35000	32100	29900	31900	25000	40800	60700	60500	47800	34800
5	52800	40900	34800	32100	29600	31500	25100	41300	60800	60400	47400	34300
6	52100	40700	34500	32100	29300	31200	24700	41800	61200	60000	46800	34300
7	51500	40300	34500	31600	29300	31200	24300	42200	61700	59500	46200	34300
8	50800	40000	33800	31600	29300	31300	23800	42600	62100	59000	45700	34100
9	50300	40000	33700	31600	29100	31300	23500	43100	62400	58500	45700	34100
10	49500	39700	33100	31600	28700	31100	23200	43800	63000	58100	45200	34000
11	48800	39700	32900	31600	28400	30600	23600	44500	63100	57600	44700	34000
12	48200	39500	32700	31400	28100	29900	24000	45200	63400	57600	44200	34000
13	47600	39100	32500	31100	27900	29300	23700	45900	63500	57100	43800	33900
14	47100	38800	32500	30800	29100	29300	23500	46800	63600	56700	43400	33900
15	46500	38700	32300	30500	30000	29400	23500	47600	63600	56200	42900	33900
16	45900	38600	32100	30200	30600	28800	23400	48100	63700	55800	42900	33900
17	45200	38200	32000	30100	31100	28100	23600	48400	63700	55300	42400	33800
18	44600	37900	31700	30100	31400	27800	24500	49500	63500	54800	41800	33800
19	44000	37600	31600	29800	31700	27900	25200	50800	62600	54700	41400	33800
20	43500	37300	31500	29700	32100	27400	25600	51400	62400	54200	41000	33700
21	43000	37100	31500	29500	32200	27400	26100	51800	62400	53700	40500	33700
22	42500	36800	31600	29500	32400	27500	26900	52100	62300	53300	40000	33600
23	41900	36800	31700	29600	32500	26900	28200	52500	62100	52600	40000	33600
24	41500	36600	31700	29700	32600	26300	29800	53200	62100	52100	39600	33600
25	41500	36200	31700	29700	32600	26400	31500	54000	62100	51800	39000	33600
26	41500	35800	31600	29700	32600	26600	32700	55300	62100	51600	38500	33600
27	41500	35800	31600	30100	32500	26500	33300	56000	62100	51100	38000	33600
28	41400	35700	31700	30400	32500	26600	33700	56800	62100	50600	37300	33600
29	41400	35700	31800	30500	---	26900	34800	57600	62100	50300	36800	33600
30	41300	35700	31900	30700	---	27000	36200	58300	62100	49800	36800	33500
31	41300	---	31900	30700	---	27100	---	59000	---	49300	36300	---
MAX	53800	41300	35500	32100	32600	32500	36200	59000	63700	61700	48800	36200
MIN	41300	35700	31500	29500	27900	26300	23200	37600	59600	49300	36300	33500
†	6382.5	6377.3	6373.5	6372.3	6374.2	6368.5	6377.7	6397.1	6399.5	6389.4	6377.8	6375.2
‡	-12500	-5600	-3800	-1200	+1800	-5400	+9100	+22800	+3100	-12800	-13000	-2800

CAL YR ‡ 1980 -7200

WTR YR ‡ 1981 -20300

† Elevation, in feet NGVD, 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, Hydrologic Unit 18020128, 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 mi² (20.7 km²).

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.--10 years (water years, 1911, 1963-71, prior to diversion to Loon Lake powerplant), 131 ft³/s (3.710 m³/s), 94,910 acre-ft/yr (117 hm³/yr); 10 years (water years 1972-81), 8.15 ft³/s (0.231 m³/s), 5,900 acre-ft/yr (7.27 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s), unregulated, Feb. 1, 1963, gage height, 12.65 ft (3.856 m), from rating curve extended above 600 ft³/s (17.0 m³/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 ft³/s (29.7 m³/s) June 5, 1969, gage height, 9.03 ft (2.752 m); minimum daily, 3.6 ft³/s (0.10 m³/s) Sept. 27, 28, Nov. 3, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18 ft³/s (0.51 m³/s) Oct. 22, gage height, 2.23 ft (0.680 m); minimum daily, 7.5 ft³/s (0.21 m³/s) on several days during November and December.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	8.0	7.7	8.0	8.0	7.7	8.0	8.4	8.4	8.0	8.2	8.0
2	8.0	8.0	7.7	8.0	8.0	7.7	8.0	8.4	8.4	8.0	8.2	8.0
3	8.0	8.0	7.9	8.1	8.0	7.7	7.9	8.4	8.4	8.2	8.2	8.0
4	8.0	8.0	8.3	8.2	8.0	7.7	8.0	8.2	8.3	8.2	8.2	8.0
5	8.0	8.0	7.6	8.0	8.0	8.0	8.3	8.0	8.2	8.3	8.2	7.8
6	8.0	8.0	7.5	8.0	8.0	8.2	8.4	7.9	8.2	8.3	8.2	7.8
7	8.0	8.0	7.5	8.0	8.0	8.2	8.2	7.9	8.2	8.2	8.0	8.0
8	8.0	8.0	7.5	8.0	8.0	8.2	8.3	7.9	8.1	8.0	8.0	8.0
9	8.0	8.0	7.5	8.0	8.0	8.2	8.4	8.0	8.0	8.0	8.0	8.0
10	8.0	8.0	7.5	8.0	8.0	8.2	8.3	8.0	8.0	8.0	8.0	7.9
11	8.0	8.3	7.7	8.0	8.0	8.2	8.2	8.0	8.0	8.0	8.0	7.9
12	8.0	8.0	8.0	8.0	8.0	8.1	8.2	8.0	8.0	8.0	8.0	7.9
13	8.0	8.0	8.0	8.0	8.5	8.0	8.4	8.0	8.0	8.0	8.0	7.8
14	7.7	8.0	8.0	8.0	9.4	8.0	8.4	8.0	8.0	8.0	8.0	7.8
15	7.7	8.0	8.0	8.0	8.2	8.0	8.6	8.0	8.0	8.0	8.0	8.0
16	7.7	8.0	7.9	8.0	8.6	8.0	8.5	8.0	8.0	8.0	8.0	8.0
17	7.7	8.0	7.7	8.0	8.3	8.0	8.5	8.0	8.0	8.0	8.1	8.0
18	7.7	8.0	7.7	8.0	8.0	8.0	8.4	9.5	8.0	8.0	8.2	8.0
19	7.7	8.0	7.7	8.0	8.3	8.0	8.4	8.5	8.1	8.0	8.2	8.0
20	7.7	8.0	7.7	8.0	8.1	8.0	8.3	8.2	8.2	8.0	8.2	8.0
21	8.0	7.7	8.0	8.0	8.0	8.0	8.6	8.2	8.2	8.0	8.1	8.0
22	8.0	7.7	7.9	8.0	8.0	8.0	9.1	8.2	8.2	8.0	8.0	8.0
23	8.0	7.8	7.7	8.0	8.0	8.0	9.1	8.2	8.2	8.0	8.0	8.0
24	8.0	7.7	7.7	8.0	8.0	8.0	9.1	8.2	8.2	8.0	8.0	8.0
25	8.2	7.7	7.7	8.0	7.9	8.8	9.0	8.3	8.2	8.2	8.0	8.0
26	8.2	7.7	7.7	8.0	7.7	8.2	9.0	8.5	8.2	8.2	8.0	8.0
27	8.0	7.7	7.7	8.5	7.7	8.0	8.6	8.4	8.2	8.2	8.0	8.0
28	8.0	7.6	7.7	8.2	7.7	8.1	8.5	8.2	8.2	8.2	8.0	8.0
29	8.0	7.5	7.8	8.0	---	8.0	8.6	8.3	8.1	8.2	8.0	8.0
30	8.0	7.6	8.0	8.0	---	8.0	8.6	8.3	8.0	8.2	8.0	8.0
31	8.0	---	8.0	8.0	---	8.1	---	8.4	---	8.2	8.0	---
TOTAL	246.3	237.0	241.0	249.0	226.4	249.3	253.9	254.5	244.2	250.6	250.0	238.9
MEAN	7.95	7.90	7.77	8.03	8.09	8.04	8.46	8.21	8.14	8.08	8.06	7.96
MAX	8.2	8.3	8.3	8.5	9.4	8.8	9.1	9.5	8.4	8.3	8.2	8.0
MIN	7.7	7.5	7.5	8.0	7.7	7.7	7.9	7.9	8.0	8.0	8.0	7.8
AC-FT	489	470	478	494	449	494	504	505	484	497	496	474
†	11678	5127	5367	2925	4988	9491	11128	621	2979	11761	11702	1862
CAL YR 1980 TOTAL	3056.0					25						
WTR YR 1981 TOTAL	2941.1					9.5						
MEAN 8.35												
MAX												
MIN 7.2												
AC-FT 6060												
MIN 7.5												
AC-FT 5830												

† 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, Hydrologic Unit 18020128, 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 mi² (123 km²).

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 ft³/s (37.4 m³/s) to Silver Creek basin October 1962. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE (unadjusted).--19 years (water years 1962-81), 19.9 ft³/s (0.564 m³/s), 14,420 acre-ft/yr (17.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) Jan. 31, 1963, gage height, 12.32 ft (3.755 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of slope-area measurement of maximum flow; minimum, 0.8 ft³/s (0.023 m³/s) Sept. 21, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 195 ft³/s (5.52 m³/s) Mar. 11, gage height, 3.76 ft (1.146 m); minimum daily, 4.7 ft³/s (0.13 m³/s) on several days during May and July.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	5.6	5.7	5.2	5.9	5.5	7.5	4.9	5.4	5.2	5.1	5.4
2	13	5.5	5.7	5.2	5.9	5.5	7.0	4.8	5.3	5.2	5.1	5.3
3	10	5.3	8.8	5.6	5.6	5.5	6.6	4.7	5.2	5.3	5.0	5.5
4	11	4.9	10	5.8	5.3	5.6	6.4	4.7	5.2	5.5	5.0	5.5
5	11	4.9	6.6	5.3	5.2	5.5	6.3	4.8	5.2	5.5	5.0	5.5
6	11	6.5	6.5	5.2	5.2	5.6	6.4	4.7	5.1	5.6	5.0	5.5
7	11	11	5.9	5.2	5.1	5.7	6.2	4.9	5.2	5.5	5.0	5.4
8	11	6.3	6.0	5.2	5.2	5.6	6.0	5.3	5.4	5.4	5.0	5.3
9	11	5.3	5.7	5.2	5.3	5.7	5.9	5.3	5.1	5.3	5.0	5.1
10	11	5.5	5.6	5.2	5.2	5.7	5.7	5.1	5.0	5.1	4.9	9.1
11	13	6.0	6.6	5.2	5.5	18	5.5	5.2	5.1	5.5	5.0	19
12	12	6.3	5.5	5.2	6.2	5.4	5.2	5.1	5.2	5.4	5.1	8.4
13	12	5.9	5.5	5.2	7.4	5.3	5.1	5.1	5.6	5.3	5.2	8.2
14	12	6.0	5.5	5.1	11	5.1	5.2	5.1	5.6	5.7	5.1	8.0
15	13	6.0	5.5	5.1	8.2	5.1	5.1	5.5	6.0	5.7	5.1	7.9
16	12	6.0	5.2	5.3	7.9	5.5	5.0	5.5	5.7	5.6	5.1	7.9
17	12	6.4	5.2	5.1	8.4	5.2	5.2	5.3	5.4	5.6	5.1	7.8
18	12	5.7	5.3	5.2	7.5	5.1	5.4	7.7	5.3	5.6	5.2	7.8
19	11	5.1	5.3	5.2	8.1	8.0	6.5	6.6	5.5	5.2	5.4	7.8
20	11	5.1	5.3	5.0	8.3	7.3	5.7	5.9	5.3	5.0	5.3	7.8
21	11	5.5	5.6	4.8	7.2	7.7	5.4	5.6	5.0	5.0	5.4	7.8
22	11	7.2	5.5	4.8	6.9	8.3	5.1	5.7	5.0	4.8	5.2	7.8
23	11	5.4	5.3	5.7	6.6	7.8	5.0	5.6	4.9	5.0	5.1	7.8
24	12	5.6	5.3	5.2	7.1	7.2	5.0	5.6	5.0	4.9	5.0	8.1
25	12	5.3	5.3	5.0	6.3	19	5.0	5.8	4.9	4.8	4.9	8.6
26	12	5.3	5.3	5.1	5.8	13	5.7	6.0	5.1	4.7	4.8	5.9
27	11	5.2	5.3	14	5.6	9.6	5.0	5.7	5.3	4.7	5.0	5.8
28	11	5.2	5.3	8.7	5.6	8.7	4.9	5.5	5.1	5.2	5.2	5.8
29	11	5.2	5.3	7.0	---	8.4	4.8	5.6	5.1	5.2	5.3	5.8
30	9.6	5.6	5.2	6.4	---	7.7	4.8	5.5	5.1	5.1	5.5	5.6
31	5.7	---	5.2	5.9	---	7.1	---	5.5	---	5.2	5.4	---
TOTAL	350.3	174.8	180.0	177.3	183.5	230.4	168.6	168.3	157.3	162.8	158.5	217.2
MEAN	11.3	5.83	5.81	5.72	6.55	7.43	5.62	5.43	5.24	5.25	5.11	7.24
MAX	13	11	10	14	11	19	7.5	7.7	6.0	5.7	5.5	19
MIN	5.7	4.9	5.2	4.8	5.1	5.1	4.8	4.7	4.9	4.7	4.8	5.1
AC-FT	695	347	357	352	364	457	334	334	312	323	314	431
CAL YR 1980	TOTAL	19595.9	MEAN	53.5	MAX	5990	MIN	4.9	AC-FT	38870		
WTR YR 1981	TOTAL	2329.0	MEAN	6.38	MAX	19	MIN	4.7	AC-FT	4620		

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, Hydrologic Unit 18020128, 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 mi² (30.3 km²).

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 except those for periods of no gage-height record, which are poor. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--21 years, 23.2 ft³/s (0.657 m³/s), 16,810 acre-ft/yr (20.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,490 ft³/s (70.5 m³/s) Jan. 13, 1980, gage height, 6.31 ft (1.923 m) in gage well, 6.84 ft (2.085 m) from floodmarks, from rating curve extended above 170 ft³/s (4.81 m³/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 ft³/s (0.004 m³/s) Aug. 16, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 195 ft³/s (5.52 m³/s) Mar. 26 (time unknown), gage height, 3.10 ft (0.945 m), no other peak above base of 100 ft³/s (2.83 m³/s); minimum daily, 1.3 ft³/s (0.037 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.1	5.8	9.9	5.8	15	15	44	36	6.5	3.7	2.0	1.4
2	4.1	5.7	9.5	5.7	13	16	39	32	6.5	3.6	2.0	1.4
3	4.1	5.3	19	6.4	12	16	33	17	6.2	3.6	2.0	1.5
4	4.0	5.3	25	7.3	12	21	29	12	6.0	3.5	2.0	1.5
5	4.1	5.4	10	7.0	11	23	27	11	6.1	3.5	1.9	1.5
6	4.0	6.0	9.4	6.7	11	19	28	10	6.1	3.5	1.8	1.5
7	4.0	8.1	9.3	6.2	10	16	31	9.5	5.8	3.5	1.7	1.4
8	3.9	9.9	9.0	6.1	10	15	28	9.4	5.6	3.3	1.6	1.4
9	3.9	7.7	8.7	6.0	10	14	28	9.6	5.6	3.2	1.6	1.4
10	3.9	7.0	8.5	5.9	10	14	29	9.6	5.5	3.1	1.6	1.4
11	3.9	6.8	8.3	5.6	11	15	26	9.6	5.3	3.1	1.5	1.3
12	6.7	6.6	8.1	5.6	11	15	22	8.7	5.4	3.0	1.6	1.3
13	5.7	6.5	7.8	5.4	15	15	22	8.5	5.4	3.0	1.6	1.5
14	6.6	6.4	7.6	5.4	32	14	23	8.5	5.3	2.9	1.7	1.5
15	6.6	6.3	7.6	5.2	25	17	26	8.2	5.1	2.8	1.6	1.4
16	6.2	6.2	7.6	6.0	21	25	26	8.5	5.0	2.8	1.6	1.4
17	6.0	6.2	8.4	5.5	24	16	27	8.0	4.9	2.7	1.5	1.5
18	5.8	6.2	8.8	5.4	21	15	28	14	4.7	2.6	1.4	1.5
19	5.7	6.1	8.3	5.2	22	36	30	16	4.7	2.6	1.5	1.5
20	5.7	6.2	9.2	5.0	25	60	27	12	4.7	2.6	1.6	1.5
21	5.4	6.3	12	5.6	20	46	25	11	4.6	2.5	1.6	1.6
22	5.4	6.5	8.8	8.2	17	38	25	9.9	4.5	2.5	1.5	1.6
23	5.3	6.6	7.0	15	15	32	27	9.0	4.3	2.4	1.5	1.6
24	5.1	6.6	6.8	11	18	30	35	8.6	4.3	2.3	1.5	1.7
25	6.7	6.6	6.5	9.1	19	118	51	9.2	4.3	2.3	1.5	3.8
26	9.0	6.3	6.2	8.8	15	145	48	11	4.1	2.3	1.5	2.7
27	7.1	6.6	6.0	56	14	121	32	9.4	4.0	2.3	1.4	2.5
28	6.4	6.7	6.1	40	15	75	21	8.2	4.0	2.2	1.4	2.6
29	6.1	6.7	6.2	25	---	62	18	7.5	3.9	2.2	1.4	2.8
30	6.0	12	6.2	18	---	56	32	7.1	3.8	2.1	1.4	2.6
31	5.9	---	6.0	16	---	51	---	6.8	---	2.1	1.4	---
TOTAL	167.4	200.6	277.8	330.1	454	1171	887	355.8	152.2	87.8	49.9	52.3
MEAN	5.40	6.69	8.96	10.6	16.2	37.8	29.6	11.5	5.07	2.83	1.61	1.74
MAX	9.0	12	25	56	32	145	51	36	6.5	3.7	2.0	3.8
MIN	3.9	5.3	6.0	5.0	10	14	18	6.8	3.8	2.1	1.4	1.3
AC-FT	332	398	551	655	901	2320	1760	706	302	174	99	104

CAL YR 1980 TOTAL 13705.2 MEAN 37.4 MAX 1410 MIN 3.9 AC-FT 27180
WTR YR 1981 TOTAL 4185.9 MEAN 11.5 MAX 145 MIN 1.3 AC-FT 8300

NOTE: No gage-height record Nov. 6 to Jan. 23, Feb. 21 to May 14.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020128, 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 mi² (54.6 km²).

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 hm³) completed in November 1961. Georgetown Irrigation District ditch, capacity, about 20 ft³/s (0.57 m³/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.--20 years, 27.0 ft³/s (0.765 m³/s), 19,560 acre-ft/yr (24.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,430 ft³/s (154 m³/s) Dec. 22, 1964, gage height, 9.60 ft (2.926 m), from rating curve extended above 300 ft³/s (8.50 m³/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 ft³/s (0.006 m³/s) Sept. 24, Nov. 1-5, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 61 ft³/s (1.73 m³/s) Mar. 29, gage height, 4.47 ft (1.362 m); minimum daily, 1.1 ft³/s (0.031 m³/s) July 16-20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.3	1.8	1.4	2.7	2.7	52	2.4	1.8	1.4	2.1	1.9
2	1.3	1.3	1.6	1.4	2.6	2.6	47	2.3	1.8	1.3	2.1	1.9
3	1.2	1.3	2.7	1.5	2.4	2.7	41	4.0	1.8	1.4	2.1	1.8
4	1.3	1.3	5.7	1.8	2.3	3.4	36	3.9	1.7	1.3	2.1	1.8
5	1.2	1.2	2.3	1.5	2.2	3.8	32	2.3	2.0	1.3	2.1	1.8
6	1.2	1.2	1.8	1.4	2.2	3.2	31	2.2	1.7	1.3	2.1	1.8
7	1.2	1.5	1.7	1.4	2.1	2.9	29	2.2	1.7	1.3	2.1	1.8
8	1.2	2.2	1.6	1.4	2.1	2.8	27	2.1	1.6	1.3	2.0	1.8
9	1.2	1.5	1.6	1.4	2.2	2.6	25	2.1	1.6	1.2	2.0	1.8
10	1.2	1.4	1.5	1.4	2.1	2.5	22	2.1	1.6	1.2	2.0	1.8
11	1.2	1.4	1.5	1.4	2.4	2.5	19	2.1	1.6	1.2	2.0	1.8
12	1.8	1.4	1.5	1.4	2.4	2.5	17	2.0	1.6	1.2	2.0	1.8
13	1.5	1.4	1.5	1.4	3.2	2.5	17	2.0	1.6	1.2	2.0	1.8
14	1.5	1.4	1.5	1.4	7.2	2.4	16	2.0	1.6	1.2	2.0	1.8
15	1.5	1.3	1.5	1.4	4.3	2.6	16	2.1	1.5	1.2	2.0	1.8
16	1.5	1.3	1.5	1.8	3.6	4.1	15	2.0	1.5	1.1	2.0	1.8
17	1.5	1.3	1.5	1.5	3.7	2.8	15	2.0	1.5	1.1	2.0	1.8
18	1.4	1.3	1.5	1.4	3.2	2.5	14	3.6	1.5	1.1	2.0	1.8
19	1.4	1.3	1.4	1.4	3.7	7.0	20	2.9	1.7	1.1	1.9	1.8
20	1.4	1.3	1.4	1.4	4.0	5.8	20	2.4	2.3	1.1	2.0	1.8
21	1.4	1.3	1.6	1.4	3.0	8.5	17	2.2	2.3	1.3	1.9	1.8
22	1.4	1.3	1.8	1.5	2.7	7.2	16	2.1	2.2	3.3	1.9	1.8
23	1.3	1.4	1.5	3.6	2.6	5.3	14	2.0	2.1	3.4	1.9	1.8
24	1.3	1.4	1.5	3.5	3.3	4.4	12	2.0	2.1	2.4	1.9	1.8
25	1.7	1.4	1.5	2.2	2.8	24	11	2.1	2.0	2.4	1.9	2.0
26	1.6	1.3	1.4	2.0	2.6	18	22	2.2	2.0	2.3	1.9	1.9
27	1.4	1.4	1.4	11	2.6	11	22	2.1	1.9	2.1	1.9	1.8
28	1.3	1.4	1.4	13	2.7	25	11	1.9	1.9	2.1	1.9	1.8
29	1.3	1.4	1.4	5.2	---	55	3.6	1.9	1.8	2.1	1.9	1.3
30	1.3	2.9	1.4	3.5	---	57	2.4	1.9	1.4	2.1	1.9	1.3
31	1.3	---	1.4	2.9	---	50	---	1.8	---	2.1	1.9	---
TOTAL	42.3	42.8	53.4	78.9	82.9	329.3	642.0	70.9	53.4	50.1	61.5	53.5
MEAN	1.36	1.43	1.72	2.55	2.96	10.6	21.4	2.29	1.78	1.62	1.98	1.78
MAX	1.8	2.9	5.7	13	7.2	57	52	4.0	2.3	3.4	2.1	2.0
MIN	1.2	1.2	1.4	1.4	2.1	2.4	2.4	1.8	1.4	1.1	1.9	1.3
AC-FT	84	85	106	156	164	653	1270	141	106	99	122	103

CAL YR 1980	TOTAL	21311.50	MEAN	58.2	MAX	2070	MIN	.50	AC-FT	42270
WTR YR 1981	TOTAL	1561.00	MEAN	4.28	MAX	57	MIN	1.1	AC-FT	3100

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, Hydrologic Unit 18020128, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 9.81 ft³/s (0.278 m³/s), 7,110 acre-ft/yr (8.77 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 251 ft³/s (7.11 m³/s) Nov. 12, 1973; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	104	0	3.3	9.0	29	22	1.2			
2		0	1.0	0	3.0	8.7	28	17	.84			
3		0	30	0	2.8	8.0	27	19	.43			
4		0	20	0	2.6	8.0	25	17	.07			
5		0	2.2	0	2.2	7.7	24	16	0			
6		0	0	0	2.0	7.4	24	14	0			
7		.11	0	0	1.8	7.4	23	13	0			
8		.73	0	0	1.8	7.4	23	11	0			
9		0	0	0	1.8	7.4	22	10	0			
10		0	0	0	1.8	7.4	23	9.6	0			
11		8.5	0	0	1.8	7.7	19	9.0	0			
12		12	0	0	1.8	8.0	18	7.7	0			
13		10	0	0	3.8	8.0	18	6.2	0			
14		18	0	0	2.4	7.4	18	5.6	0			
15		27	0	0	2.2	7.1	18	5.3	0			
16		31	0	0	14	7.1	18	5.3	0			
17		33	0	0	18	7.1	18	4.5	0			
18		34	0	0	16	7.1	19	8.7	0			
19		34	0	0	16	9.3	22	12	0			
20		36	0	0	21	11	22	7.7	0			
21		37	0	0	16	11	21	5.9	0			
22		39	0	0	14	15	21	5.0	0			
23		50	0	0	13	16	22	4.5	0			
24		64	0	0	12	17	21	3.8	0			
25		59	0	0	12	83	22	3.8	0			
26		58	0	0	11	74	29	5.3	0			
27		59	0	11	9.6	44	25	4.5	0			
28		62	0	8.0	9.3	36	22	3.3	0			
29		70	0	5.6	---	34	22	2.6	0			
30		158	0	4.5	---	32	22	2.2	0			
31		---	0	3.8	---	30	---	1.8	---			---
TOTAL	0	900.34	157.2	32.9	217.0	550.2	665	263.3	2.54	0	0	0
MEAN	0	30.0	5.07	1.06	7.75	17.7	22.2	8.49	.085	0	0	0
MAX	0	158	104	11	21	83	29	22	1.2	0	0	0
MIN	0	0	0	0	1.8	7.1	18	1.8	0	0	0	0
AC-FT	0	1790	312	65	430	1090	1320	522	5.0	0	0	0
CAL YR 1980	TOTAL	6631.94	MEAN	18.1	MAX	202	MIN	0	AC-FT	13150		
WTR YR 1981	TOTAL	2788.48	MEAN	7.64	MAX	158	MIN	0	AC-FT	5530		

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020128, 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 3.75 ft³/s (0.106 m³/s), 2,720 acre-ft/yr (3.35 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 56 ft³/s (1.59 m³/s) Mar. 31, 1978; no flow for part of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			0	0	1.3	3.4	14	6.3	.01			
2			0	0	1.3	3.3	13	5.4	.01			
3			0	0	1.2	4.1	12	4.5	0			
4			1.8	0	1.2	4.5	13	4.0	0			
5			.89	0	1.3	4.0	14	3.3	0			
6			.02	0	1.2	4.8	12	3.0	0			
7			.01	0	1.2	5.4	14	2.6	0			
8			0	0	1.1	5.0	13	2.4	0			
9			0	0	1.1	5.6	13	2.0	0			
10			0	0	1.2	5.9	13	1.8	0			
11			0	0	2.0	5.9	11	1.6	0			
12			0	0	3.2	5.0	10	1.7	0			
13			0	0	11	4.5	10	1.2	0			
14			0	0	32	3.6	12	1.0	0			
15			0	0	13	3.3	12	1.0	0			
16			0	0	14	3.5	12	1.1	0			
17			0	0	18	3.8	12	.89	0			
18			0	0	15	3.4	12	2.6	0			
19			0	0	19	4.7	13	3.6	0			
20			0	0	17	5.2	13	2.1	0			
21			.05	0	9.8	4.7	13	1.5	0			
22			.68	0	8.3	11	14	1.2	0			
23			.02	0	8.0	11	14	.96	0			
24			0	0	7.8	12	14	.89	0			
25			0	0	5.9	30	13	1.1	0			
26			0	0	4.5	28	14	1.6	0			
27			0	14	3.8	21	10	.96	0			
28			0	4.6	3.6	20	9.2	.60	0			
29			0	2.1	---	18	8.0	.32	0			
30			0	1.6	---	15	7.4	.16	0			
31		---	0	1.3	---	14	---	.02	---			---
TOTAL	0	0	3.47	23.6	208.0	273.6	364.6	61.40	.02	0	0	0
MEAN	0	0	.11	.76	7.43	8.83	12.2	1.98	.0007	0	0	0
MAX	0	0	1.8	14	32	30	14	6.3	.01	0	0	0
MIN	0	0	0	0	1.1	3.3	7.4	.02	0	0	0	0
AC-FT	0	0	6.9	47	413	543	723	122	.04	0	0	0
CAL YR 1980	TOTAL	2344.77	MEAN 6.41	MAX 38	MIN 0	AC-FT 4650						
WTR YR 1981	TOTAL	934.69	MEAN 2.56	MAX 32	MIN 0	AC-FT 1850						

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, Hydrologic Unit 18020128, 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 mi² (46.6 km²).

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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE (since diversion to Middle Fork American River powerplant).--15 years (water years 1967-81), 27.1 ft³/s (0.768 m³/s) 19,630 acre-ft/yr (24.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,700 ft³/s (133 m³/s) Jan. 13, 1980, gage height, 10.05 ft (3.063 m), from rating curve extended above 900 ft³/s (25.5 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 11.20 ft (3.414 m) Dec. 23, 1964; minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Sept. 27, 28, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 376 ft³/s (10.6 m³/s) Mar. 25, gage height, 5.37 ft (1.637 m); minimum daily, 0.21 ft³/s (0.006 m³/s) Aug. 29, 31, Sept. 1, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	1.4	4.0	3.7	11	16	40	17	14	3.5	.76	.21
2	1.0	1.4	3.3	3.5	10	16	37	17	13	3.3	.68	.23
3	.94	1.3	8.0	3.9	13	16	34	17	13	3.2	.68	.21
4	1.0	1.3	30	4.7	10	17	31	16	12	3.2	.66	.24
5	.96	1.3	9.4	4.3	9.7	17	29	16	12	3.0	.71	.27
6	.96	1.3	7.3	3.9	9.7	17	28	16	11	2.8	.70	.27
7	.96	1.5	6.0	3.5	9.7	17	27	16	10	2.5	.68	.29
8	.96	2.5	5.0	3.4	9.4	17	25	15	9.7	2.5	.68	.29
9	.93	1.8	4.7	3.3	9.7	17	24	15	9.4	2.2	.68	.29
10	.90	1.6	4.6	3.3	10	17	24	15	8.9	2.2	.62	.29
11	.90	2.4	4.4	3.3	10	16	24	15	8.6	2.0	.62	.29
12	1.5	2.4	4.3	3.2	13	16	23	15	8.5	2.0	.62	.29
13	1.3	1.8	4.3	3.3	18	16	22	17	8.0	2.0	.66	.32
14	1.4	1.7	4.1	3.3	45	15	21	17	7.5	1.9	.64	.29
15	1.5	1.7	4.1	3.3	27	15	20	16	7.3	1.8	.54	.32
16	1.4	1.7	4.4	3.7	24	16	20	16	7.1	1.8	.52	.29
17	1.3	1.7	4.3	3.5	27	15	20	16	6.4	1.7	.50	.29
18	1.3	1.7	4.1	3.5	23	15	20	20	6.0	1.8	.45	.27
19	1.2	1.7	3.9	3.3	24	23	24	19	5.7	1.8	.40	.29
20	1.2	1.6	3.7	3.3	27	24	21	17	5.5	1.7	.36	.32
21	1.2	1.6	4.1	3.5	22	31	20	16	5.2	1.5	.36	.38
22	1.2	1.5	4.9	3.7	20	39	20	16	5.0	1.4	.45	.68
23	1.2	1.7	4.9	6.2	18	37	20	16	4.9	1.4	.36	.32
24	1.1	1.8	4.7	6.1	20	35	19	15	4.7	1.3	.35	.38
25	1.6	1.6	4.4	5.9	18	152	19	16	4.4	1.2	.35	1.3
26	2.1	1.9	4.3	5.5	17	109	21	16	4.3	1.1	.29	.68
27	1.5	2.1	4.3	29	16	64	19	15	4.1	1.0	.27	.56
28	1.4	2.1	4.1	27	16	53	18	14	4.1	1.0	.25	.50
29	1.4	2.1	3.9	16	---	47	18	14	3.7	.91	.21	.50
30	1.3	6.0	3.9	13	---	43	17	14	3.5	.91	.23	.45
31	1.4	---	3.7	11	---	39	---	14	---	.83	.21	---
TOTAL	38.01	56.2	171.1	198.1	487.2	987	705	494	227.5	59.45	15.49	11.31
MEAN	1.23	1.87	5.52	6.39	17.4	31.8	23.5	15.9	7.58	1.92	.50	.38
MAX	2.1	6.0	30	29	45	152	40	20	14	3.5	.76	1.3
MIN	.90	1.3	3.3	3.2	9.4	15	17	14	3.5	.83	.21	.21
AC-FT	75	111	339	393	966	1960	1400	980	451	118	31	22
CAL YR 1980 TOTAL	16163.51			MEAN 44.2	MAX 2200	MIN .90	AC-FT 32060					
WTR YR 1981 TOTAL	3450.36			MEAN 9.45	MAX 152	MIN .21	AC-FT 6840					

11433200 RUBICON RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 38°59'33", long 120°43'14", in SE&NNW sec.11, T.13 N., R.11 E., Placer County, Hydrologic Unit 18020128, 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 mi² (816 km²).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Hell Hole Reservoir (station 11428700), Loon Lake (station 11429350), and Stumpy Meadows Lake, capacity, 20,000 acre-ft (24.7 hm³). 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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE (prior to construction of Hell Hole Dam).--7 years (water years 1959-65), 609 ft³/s (17.2 m³/s), 440,900 acre-ft/yr (544 hm³/yr); 16 years (water years 1966-81), 266 ft³/s (7.533 m³/s), 192,700 acre-ft/yr (238 hm³/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 ft³/s (2,350 m³/s) Feb. 1, 1963, gage height, 35.0 ft (10.67 m) former site and datum; minimum daily, 10 ft³/s (0.28 m³/s) Sept. 20-27, 1962. Maximum discharge since construction of Hell Hole Dam in 1965, 37,000 ft³/s (1,050 m³/s) Jan. 13, 1980, gage height, 19.65 ft (5.989 m) from floodmarks; minimum daily, 7.4 ft³/s (0.21 m³/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 ft³/s (1,250 m³/s), 56,000 ft³/s (1,590 m³/s), and 73,000 ft³/s (2,070 m³/s), respectively, on basis of 1958-64 stage-discharge relation and U.S. Forest Service floodmarks.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s (34.0 m³/s) Mar. 25, gage height, 9.92 ft (3.024 m); minimum daily, 21 ft³/s (0.59 m³/s) Aug. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	40	38	62	50	117	138	340	124	82	47	31	22
2	40	38	59	47	115	138	336	141	82	45	31	22
3	41	38	70	48	109	138	308	133	81	45	31	22
4	41	38	118	53	107	140	288	126	82	45	30	22
5	40	37	100	54	106	147	270	123	75	45	30	22
6	40	37	90	52	102	146	265	121	66	45	30	22
7	40	36	70	49	81	131	260	118	69	45	30	22
8	39	51	55	45	78	105	250	116	73	43	30	22
9	38	56	47	45	93	130	242	110	72	43	28	22
10	38	54	47	45	93	127	234	100	70	41	26	22
11	38	52	50	45	92	126	228	103	69	41	26	22
12	42	50	48	45	98	135	217	102	67	41	26	27
13	45	48	45	44	113	126	212	100	67	42	26	30
14	45	45	45	41	256	124	205	100	66	43	26	26
15	45	43	47	41	235	118	198	100	64	41	26	26
16	41	41	47	42	175	150	197	100	63	41	25	25
17	39	41	45	43	181	128	192	100	59	39	24	25
18	39	41	45	43	174	130	158	116	59	39	23	25
19	39	41	43	43	162	214	206	167	59	38	23	25
20	39	41	45	43	173	311	218	129	57	38	23	25
21	39	41	45	43	159	310	203	122	57	38	23	25
22	39	39	45	41	142	349	194	105	56	36	23	25
23	39	39	45	80	103	307	185	106	51	36	22	25
24	39	40	47	88	158	267	160	103	49	36	22	25
25	40	42	47	65	176	578	179	100	50	36	22	28
26	50	41	47	59	160	837	188	104	50	36	22	30
27	48	41	47	297	145	536	189	109	50	34	22	29
28	43	39	50	449	138	443	173	101	47	34	22	26
29	41	39	50	338	---	421	159	93	47	32	21	26
30	41	54	50	202	---	393	141	91	47	32	21	26
31	39	---	50	149	---	356	---	85	---	31	22	---
TOTAL	1267	1281	1701	2729	3841	7699	6595	3448	1886	1228	787	741
MEAN	40.9	42.7	54.9	88.0	137	248	220	111	62.9	39.6	25.4	24.7
MAX	50	56	118	449	256	837	340	167	82	47	31	30
MIN	38	36	43	41	78	105	141	85	47	31	21	22
AC-FT	2510	2540	3370	5410	7620	15270	13080	6840	3740	2440	1560	1470
CAL YR 1980 TOTAL	186328		MEAN 509	MAX 19000	MIN 36	AC-FT 369600						
WTR YR 1981 TOTAL	33203		MEAN 91.6	MAX 837	MIN 21	AC-FT 65860						

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, Hydrologic Unit 18020128, 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 mi² (230.3 km²).

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 Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--16 years, 244 ft³/s (6.910 m³/s), 176,800 acre-ft/yr (218 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,100 ft³/s (852 m³/s) Jan. 13, 1980, gage height, 17.00 ft (5.182 m) from floodmarks; minimum daily, 7.1 ft³/s (0.20 m³/s) Sept. 9, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,850 ft³/s (80.7 m³/s) Mar. 25, gage height, 7.62 ft (2.323 m); minimum daily, 19 ft³/s (0.54 m³/s) on several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22	29	52	27	160	138	485	213	68	38	22	20
2	22	28	38	27	140	138	437	196	66	37	22	20
3	22	28	45	27	120	138	400	172	63	37	22	21
4	22	28	414	33	110	156	366	156	62	36	22	21
5	22	28	91	30	94	171	354	145	61	36	22	20
6	22	28	48	28	86	162	363	133	60	36	22	20
7	22	29	39	27	82	157	362	120	58	35	21	19
8	22	52	35	27	79	151	342	115	57	34	21	19
9	22	37	33	27	77	145	329	107	55	34	21	20
10	22	31	32	27	76	142	324	106	54	34	20	20
11	22	31	31	26	82	142	304	98	53	34	20	20
12	26	31	30	26	88	142	284	95	51	34	20	19
13	28	30	30	26	160	143	273	93	50	33	21	20
14	32	30	29	26	780	128	275	92	50	32	21	20
15	31	30	29	26	560	121	278	91	49	31	21	20
16	29	29	29	28	370	158	275	91	48	30	20	19
17	29	29	29	32	470	135	269	91	47	29	20	19
18	28	29	29	31	300	125	277	110	46	28	21	19
19	28	28	29	30	301	273	310	205	45	28	21	19
20	29	28	28	29	352	367	272	158	44	27	21	19
21	29	27	29	31	254	431	255	113	44	26	21	19
22	29	27	41	34	208	579	263	93	43	25	21	19
23	29	28	35	62	184	490	288	85	42	26	20	19
24	28	30	31	78	226	429	299	82	42	25	20	20
25	29	29	30	64	198	1410	279	91	41	24	20	33
26	35	28	29	48	167	1520	266	110	41	23	21	30
27	32	28	29	130	149	952	226	118	40	24	20	23
28	30	28	28	820	145	749	212	82	39	23	20	21
29	30	27	28	680	---	672	219	74	38	22	20	23
30	29	45	28	450	---	581	223	72	38	21	20	22
31	29	---	27	230	---	501	---	70	---	21	20	---
TOTAL	831	910	1455	3187	6018	11546	9109	3577	1495	923	644	623
MEAN	26.8	30.3	46.9	103	215	372	304	115	49.8	29.8	20.8	20.8
MAX	35	52	414	820	780	1520	485	213	68	38	22	33
MIN	22	27	27	26	76	121	212	70	38	21	20	19
AC-FT	1650	1800	2890	6320	11940	22900	18070	7090	2970	1830	1280	1240
CAL YR 1980 TOTAL	151578											
WTR YR 1981 TOTAL	40318											
MEAN 414												
MAX 18000												
MIN 22												
AC-FT 300700												
MEAN 110												
MAX 1520												
MIN 19												
AC-FT 79970												

NOTE.--No gage-height record Jan. 15 to Feb. 20, May 13 to July 11.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020128, 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 mi² (1,357 km²).

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, Hell Hole Reservoir, Loon Lake (stations 11427400, 11428700, 11429350), Stumpy Meadows Lake, usable capacity, 20,000 acre-ft (24.7 hm³), and Ralston and Oxbow powerplants. Robbs Peak tunnel (station 11429800) and Georgetown Divide ditch, capacity, about 25 ft³/s (0.71 m³/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 Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--23 years, 1,055 ft³/s (29.88 m³/s), 764,300 acre-ft/yr (942 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 310,000 ft³/s (8,780 m³/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 ft³/s (793 m³/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 ft³/s (3,200 m³/s) Feb. 1, 1963, gage height, 38.00 ft (11.582 m) site and datum then in use; minimum, 35 ft³/s (0.99 m³/s) Oct. 10, 20, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,420 ft³/s (153 m³/s) Mar. 25, gage height, 10.36 ft (3.158 m); minimum daily, 67 ft³/s (1.90 m³/s) Aug. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	829	648	1010	1220	504	426	1150	617	272	95	68	387
2	734	908	850	1220	526	646	1240	403	193	410	67	195
3	556	936	525	1220	563	777	1160	360	254	436	67	339
4	714	916	895	1250	543	854	964	421	565	306	184	332
5	329	910	883	927	628	698	838	331	619	274	99	120
6	69	927	617	578	541	603	1150	318	181	433	269	74
7	78	669	871	364	323	436	977	304	163	742	361	75
8	81	980	973	393	501	404	977	292	287	449	104	240
9	79	936	1160	531	419	518	945	282	175	480	70	348
10	79	846	1210	281	635	517	945	271	173	87	113	465
11	80	912	1050	107	506	580	933	265	213	87	69	584
12	87	903	1170	340	499	717	983	296	165	87	68	723
13	94	851	1230	205	542	625	930	296	155	124	69	749
14	99	905	1230	189	1360	387	764	289	124	353	68	389
15	98	917	1220	384	934	370	685	541	461	158	68	347
16	93	730	1190	371	759	733	793	239	473	72	127	337
17	300	837	1230	154	1010	704	680	246	414	201	138	469
18	919	860	1220	189	784	551	582	385	521	135	110	306
19	623	859	1220	389	794	962	676	803	441	69	68	408
20	596	883	1220	259	1020	1200	684	390	388	187	104	420
21	614	855	1220	358	623	1030	666	284	119	426	112	359
22	619	823	1260	328	509	1230	686	261	452	316	181	250
23	618	833	1240	512	781	1180	649	277	378	265	69	253
24	643	894	1190	337	807	1220	643	246	338	312	77	304
25	739	995	1230	293	876	2430	557	247	537	290	76	330
26	782	909	1230	493	793	3070	579	261	469	282	393	276
27	651	873	1220	1430	604	1920	530	464	264	79	600	580
28	635	770	1220	1790	579	1510	920	517	90	138	600	373
29	636	941	1220	1300	---	1410	927	369	289	240	290	396
30	628	978	1220	945	---	1390	759	226	231	68	177	305
31	624	---	1220	555	---	1270	---	199	---	68	301	---
TOTAL	13726	26204	34444	18912	18963	30368	24972	10700	9404	7669	5167	10733
MEAN	443	873	1111	610	677	980	832	345	313	247	167	358
MAX	919	995	1260	1790	1360	3070	1240	803	619	742	600	749
MIN	69	648	525	107	323	370	530	199	90	68	67	74
AC-FT	27230	51980	68320	37510	37610	60230	49530	21220	18650	15210	10250	21290
CAL YR 1980 TOTAL	645209			MEAN 1763	MAX 30000	MIN 69	AC-FT 1280000					
WTR YR 1981 TOTAL	211262			MEAN 579	MAX 3070	MIN 67	AC-FT 419000					

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, Hydrologic Unit 18020128, 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 mi² (1.97 km²).

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 fair. No diversion or regulation above station.

AVERAGE DISCHARGE.--9 years, 0.86 ft³/s (0.024 m³/s), 623 acre-ft/yr (768,200 m³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 263 ft³/s (7.45 m³/s) Jan. 13, 1980, gage height, 2.35 ft (0.716 m); no flow for many days most years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20 ft³/s (0.57 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Jan. 29	0200	30	0.85	1.15	0.351
Mar. 19	1145	24	0.68	1.08	0.329
Mar. 25	1100	*32	0.91	1.18	0.360

Minimum daily, 0.01 ft³/s (<0.001 m³/s) Aug. 28-30, Sept. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.09	.19	.06	.80	.47	1.0	.15	.06	.03	.02	.02
2	.02	.09	.19	.06	.59	.40	.88	.14	.05	.03	.03	.01
3	.02	.10	.97	.07	.46	.36	.76	.14	.05	.04	.03	.02
4	.02	.11	1.8	.07	.37	2.0	.67	.14	.05	.03	.03	.03
5	.02	.11	.32	.06	.32	1.9	.60	.13	.04	.03	.03	.03
6	.02	.11	.18	.06	.28	1.1	.56	.13	.04	.04	.02	.02
7	.02	.26	.16	.06	.26	.83	.52	.12	.04	.04	.02	.03
8	.02	.18	.11	.06	.26	.67	.48	.12	.04	.04	.02	.03
9	.02	.12	.11	.06	.25	.56	.44	.11	.04	.04	.02	.03
10	.02	.09	.11	.06	.21	.48	.42	.11	.03	.04	.02	.03
11	.03	.09	.08	.06	.22	.43	.35	.10	.03	.05	.02	.03
12	.06	.09	.07	.06	.21	.38	.30	.10	.03	.05	.02	.03
13	.05	.08	.07	.06	.28	.38	.29	.07	.04	.05	.02	.03
14	.05	.10	.06	.06	.58	.32	.28	.08	.04	.04	.02	.03
15	.04	.09	.06	.06	.36	.72	.26	.08	.03	.03	.02	.03
16	.04	.09	.05	.07	.36	1.1	.21	.08	.03	.03	.02	.02
17	.04	.09	.05	.06	.34	.62	.21	.08	.03	.04	.02	.03
18	.04	.09	.05	.06	.29	.57	.23	.22	.03	.04	.02	.02
19	.04	.10	.05	.06	.26	11	.90	.13	.02	.04	.03	.03
20	.04	.10	.05	.06	.25	6.0	.54	.11	.02	.03	.03	.03
21	.04	.10	.08	.06	.24	4.8	.35	.10	.02	.03	.02	.03
22	.04	.11	.07	.33	.21	3.1	.29	.09	.03	.02	.02	.03
23	.04	.13	.06	1.3	.21	2.1	.24	.08	.03	.02	.02	.03
24	.04	.13	.06	.36	1.4	1.6	.20	.08	.03	.02	.03	.06
25	.06	.14	.06	.14	.95	11	.20	.09	.02	.02	.02	.05
26	.06	.14	.06	.14	.73	5.0	.20	.13	.02	.02	.02	.02
27	.04	.13	.06	7.3	.59	2.8	.19	.09	.02	.03	.02	.03
28	.03	.13	.06	7.6	.52	2.0	.18	.07	.02	.02	.01	.03
29	.05	.14	.06	7.3	---	1.6	.20	.07	.03	.02	.01	.03
30	.07	.48	.06	2.0	---	1.3	.16	.06	.03	.02	.01	.02
31	.07	---	.06	1.2	---	1.1	---	.06	---	.02	.02	---
TOTAL	1.17	3.81	5.42	28.96	11.80	66.69	12.11	3.26	.99	1.00	.66	.86
MEAN	.038	.13	.17	.93	.42	2.15	.40	.11	.033	.032	.021	.029
MAX	.07	.48	1.8	7.6	1.4	11	1.0	.22	.06	.05	.03	.06
MIN	.02	.08	.05	.06	.21	.32	.16	.06	.02	.02	.01	.01
AC-FT	2.3	7.6	11	57	23	132	24	6.5	2.0	2.0	1.3	1.7
CAL YR 1980	TOTAL	485.70	MEAN	1.33	MAX	44	MIN	.02	AC-FT	963		
WTR YR 1981	TOTAL	136.73	MEAN	.37	MAX	11	MIN	.01	AC-FT	271		

SACRAMENTO RIVER BASIN

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA

LOCATION.--Lat 38°55'05", long 121°00'51", in NE4SW4 sec.6, T.12 N., R.9 E., Placer County, Hydrologic Unit 18020128, on right bank at quarry, 1.4 mi (2.2 km) upstream from mouth, and 3.3 mi (5.3 km) northeast of Auburn.

DRAINAGE AREA.--614 mi² (1,590 km²).

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) National Geodetic Vertical Datum of 1929 (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 hm³), 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 basins.

AVERAGE DISCHARGE.--70 years, 1,299 ft³/s (36.79 m³/s), 941,100 acre-ft/yr (1.16 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 253,000 ft³/s (7,160 m³/s) Dec. 23, 1964, gage height, 60.4 ft (18.41 m) from floodmarks, from rating curve extended above 69,000 ft³/s (1,950 m³/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 ft³/s (3,430 m³/s) Feb. 1, 1963, gage height, 43.1 ft (13.14 m) from floodmarks, site and datum then in use; maximum gage height, 102.65 ft (31.28 m) Jan. 14, 1980, backwater from Auburn Dam (under construction); minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 6, 1931, Sept. 19, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,160 ft³/s (146 m³/s) Mar. 26, gage height, 11.19 ft (3.41 m); minimum daily, 61 ft³/s (1.73 m³/s) Aug. 4, 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	782	542	888	1040	531	497	1090	554	247	188	62	251
2	601	670	780	1040	531	511	1110	508	236	93	62	254
3	595	801	702	1040	549	629	1120	370	208	350	62	204
4	552	789	1060	1070	510	828	939	402	398	370	61	308
5	597	776	907	981	584	810	790	349	692	223	150	168
6	130	810	760	446	556	644	988	320	365	215	108	98
7	104	583	600	473	459	534	925	316	175	710	194	65
8	108	802	800	353	365	438	875	309	206	299	312	62
9	106	807	920	437	471	427	829	296	236	402	73	184
10	105	756	1020	357	419	504	841	282	181	265	65	350
11	105	747	980	90	481	543	828	285	172	83	97	397
12	111	774	960	130	427	595	899	268	216	79	65	607
13	117	741	1060	230	514	643	840	304	160	78	63	571
14	117	761	1070	120	1050	523	745	303	166	172	62	414
15	122	774	1060	110	983	388	686	471	165	259	63	276
16	124	703	1050	170	696	590	694	309	410	129	65	259
17	115	683	1040	120	869	653	652	262	392	79	105	369
18	622	712	1070	120	783	571	569	308	425	203	116	313
19	638	746	1070	200	718	1030	621	661	472	80	96	283
20	511	750	1070	300	854	1580	648	526	343	66	67	344
21	527	737	1070	290	703	1180	637	309	332	213	87	331
22	535	727	1080	275	515	1300	616	282	189	276	96	256
23	540	705	1070	360	594	1180	596	296	330	256	145	205
24	534	755	1020	300	790	1140	601	264	329	216	65	225
25	650	845	1050	250	795	2120	580	266	316	274	61	260
26	660	789	1050	450	762	3470	523	272	489	239	61	304
27	582	768	1050	1320	670	1980	522	353	483	201	393	259
28	549	810	1050	1990	568	1480	657	485	115	71	504	443
29	544	836	1050	1810	---	1310	826	387	81	146	326	334
30	548	833	1050	1040	---	1310	766	333	264	163	234	332
31	546	---	1040	743	---	1190	---	220	---	65	170	---
TOTAL	12477	22532	30447	17655	17747	30598	23013	10870	8793	6463	4090	8726
MEAN	402	751	982	570	634	987	767	351	293	208	132	291
MAX	782	845	1080	1990	1050	3470	1120	661	692	710	504	607
MIN	104	542	600	90	365	388	522	220	81	65	61	62
AC-FT	24750	44690	60390	35020	35200	60690	45650	21560	17440	12820	8110	17310
CAL YR 1980 TOTAL	650228			1777		34200		1290000				
WTR YR 1981 TOTAL	193411			530		3470		383600				

LOCATION.--Lat 38°52'20", long 121°03'18", in SE4SW4 sec.23, T.12 N., R.8 E., Placer County, Hydrologic Unit 18020128, on right bank 1,080 ft (329 m) upstream from Knickerbocker Creek, 4,000 ft (1220 m) downstream from Auburn damsite, and 2.0 mi (3.2 km) southeast of Auburn.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,080 ft³/s (257 m³/s) Mar. 26, gage height, 68.79 ft (20.967 m); minimum daily, 82 ft³/s (2.32 m³/s) Sept. 8.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	876	602	1020	1140	939	974	2060	1890	544	258	92	294
2	660	703	917	1140	877	929	2010	1760	549	160	91	347
3	662	877	828	1150	859	1040	1950	1310	480	415	91	199
4	617	860	1910	1180	795	1320	1700	1180	589	458	90	345
5	750	849	1450	1100	851	1430	1520	1060	806	326	185	268
6	197	883	962	558	811	1160	1790	942	679	293	121	122
7	130	667	915	580	694	995	1850	866	388	770	261	88
8	133	872	922	429	581	873	1710	823	398	383	365	82
9	132	928	1030	519	681	841	1660	812	444	480	110	216
10	129	864	1120	490	629	930	1690	833	361	419	93	344
11	129	823	1080	335	692	960	1640	827	342	137	123	451
12	144	859	1050	208	685	1030	1610	781	361	126	90	711
13	152	821	1150	386	799	1060	1520	803	305	124	86	628
14	164	835	1160	263	2710	921	1520	801	300	165	85	500
15	170	851	1150	264	2330	768	1560	960	299	396	85	332
16	166	799	1140	443	1460	1080	1540	792	538	186	85	317
17	153	744	1140	424	1860	1070	1570	646	514	120	133	389
18	645	777	1170	234	1610	956	1510	710	542	251	142	376
19	737	819	1170	283	1460	1830	1690	1760	586	141	120	326
20	581	822	1170	421	1730	3140	1590	1270	452	107	85	382
21	598	809	1180	343	1350	2370	1440	843	436	212	113	375
22	605	804	1220	414	1040	2610	1610	726	292	396	121	311
23	606	776	1270	678	1070	2300	1870	700	426	318	177	234
24	602	832	1170	796	1360	2030	2120	664	422	273	90	266
25	732	927	1180	574	1370	3790	2100	677	406	336	85	307
26	724	862	1170	568	1260	6740	1720	826	576	299	85	369
27	667	836	1160	1940	1060	3890	1460	928	566	257	390	294
28	626	886	1170	3860	990	2940	1460	965	194	112	582	539
29	619	914	1170	3460	---	2610	1900	828	159	156	453	386
30	615	924	1160	1820	---	2520	2060	751	338	239	286	391
31	609	---	1150	1290	---	2240	---	575	---	99	171	---
TOTAL	14330	24825	35454	27290	32553	57407	51470	29309	13292	8412	5086	10189
MEAN	462	828	1144	880	1163	1852	1716	945	443	271	164	340
MAX	876	928	1910	3860	2710	6740	2120	1890	806	770	582	711
MIN	129	602	828	208	581	768	1440	575	159	99	85	82
AC-FT	28420	49240	70320	54130	64570	113900	102100	58130	26360	16690	10090	20210
CAL YR 1980	TOTAL	1056421	MEAN	2886	MAX	58500	MIN	129	AC-FT	2095000		
WTR YR 1981	TOTAL	309617	MEAN	848	MAX	6740	MIN	82	AC-FT	614100		

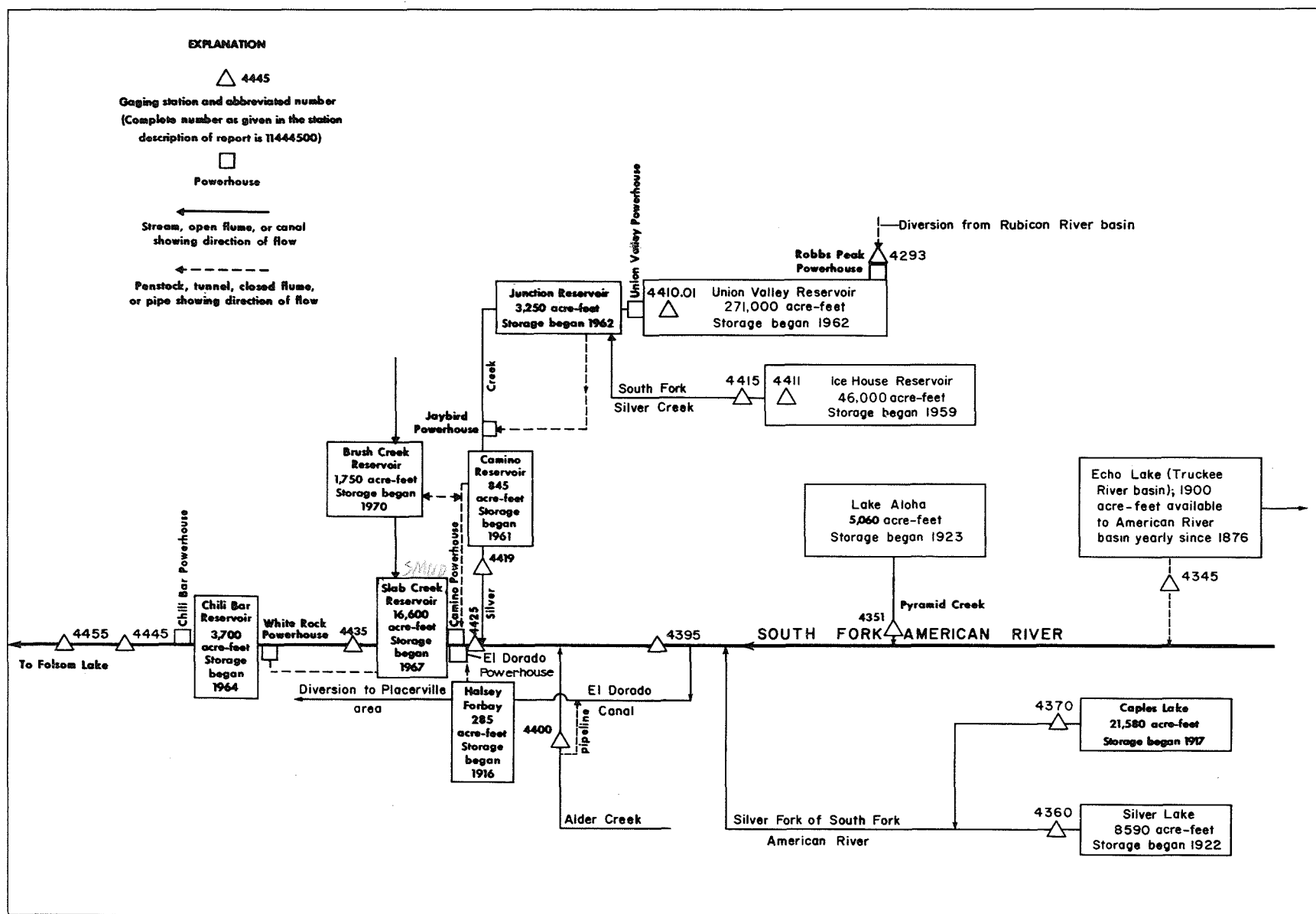


FIGURE 11.—Schematic diagram showing diversions and storage in South Fork American River basin.

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, Hydrologic Unit 18020129, 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 hm³) 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, 33 ft³/s (0.93 m³/s) Sept. 10, 11, 1980; no flow for most of each year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.16	9.3	2.1									0
2	.16	8.1	1.8									0
3	.16	8.1	1.5									0
4	.16	7.8	1.3									.12
5	8.6	7.1	1.1									.36
6	25	6.4	.85									.36
7	27	6.1	.67									.36
8	.52	6.5	.52									.36
9	11	5.8	.39									.39
10	29	5.5	.27									.39
11	29	5.9	.18									.36
12	28	5.7	.11									.36
13	27	5.3	.05									.39
14	25	4.9	.01									.39
15	27	4.7	0									.33
16	27	4.3	0									.33
17	26	4.0	0									.33
18	25	3.8	0									.36
19	24	3.6	0									.36
20	24	3.4	0									.36
21	24	3.3	0									.33
22	23	3.2	0									.33
23	22	3.1	0									.33
24	20	3.0	0									.36
25	18	2.9	0									18
26	16	2.7	0									30
27	14	2.6	0									29
28	13	2.5	0									29
29	13	2.6	0									29
30	12	2.4	0									29
31	10	---	0									---
TOTAL	548.76	144.6	10.85	0	0	0	0	0	0	0	0	171.26
MEAN	17.7	4.82	.35	0	0	0	0	0	0	0	0	5.71
MAX	29	9.3	2.1	0	0	0	0	0	0	0	0	30
MIN	.16	2.4	0	0	0	0	0	0	0	0	0	0
AC-FT	1090	287	22	0	0	0	0	0	0	0	0	340
CAL YR 1980	TOTAL 909.19	MEAN 2.48	MAX 33	MIN 0	AC-FT 1800							
WTR YR 1981	TOTAL 875.47	MEAN 2.40	MAX 30	MIN 0	AC-FT 1740							

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (22.69 km²).

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 hm³); no contents Sept. 30, 1980, and Sept. 30, 1981. 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.--11 years, 37.3 ft³/s (1.056 m³/s), 27,020 acre-ft/yr (33.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 858 ft³/s (24.3 m³/s) June 26, 1971, gage height, 4.62 ft (1.408 m), from rating curve extended above 160 ft³/s (4.53 m³/s); minimum daily, 0.07 ft³/s (0.002 m³/s) Sept. 20-24, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s (5.07 m³/s) Apr. 24, gage height, 2.60 ft (0.792 m); minimum daily, 0.07 ft³/s (0.002 m³/s) Sept. 20-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	4.1	5.8	8.6	17	12	15	109	58	58	11	.55
2	6.5	3.8	6.5	7.7	12	12	15	85	57	56	7.9	.45
3	6.6	3.6	7.5	7.5	10	12	14	63	48	56	6.6	.37
4	6.6	3.5	14	9.8	10	12	16	56	49	61	5.7	.30
5	6.6	3.4	11	9.8	10	11	23	50	51	64	4.3	.27
6	6.6	3.4	11	8.2	9.3	11	30	43	50	75	3.8	.24
7	7.3	4.9	8.6	7.5	6.8	12	28	43	44	74	3.5	.21
8	32	35	9.3	7.0	8.7	12	27	48	43	73	2.9	.19
9	37	14	7.2	6.6	8.8	14	31	58	42	72	2.2	.16
10	36	8.2	6.9	6.1	6.7	15	29	67	33	71	2.1	.16
11	36	10	7.0	5.9	9.1	15	24	67	26	72	2.0	.14
12	38	12	6.7	5.7	9.4	14	24	65	24	77	2.0	.13
13	36	11	6.8	5.8	19	13	28	70	21	76	2.0	.13
14	35	8.8	6.7	5.4	56	12	37	71	18	76	1.9	.11
15	33	7.5	7.7	5.4	29	12	50	53	17	74	1.8	.11
16	32	6.3	9.4	6.2	26	12	52	42	17	73	1.8	.10
17	30	5.7	9.9	6.4	40	12	48	36	18	74	1.7	.09
18	28	5.3	9.5	6.3	27	11	45	68	17	78	1.6	.08
19	26	5.2	8.9	6.7	31	13	38	54	17	77	1.5	.08
20	25	5.1	8.5	6.2	24	13	28	38	17	75	1.4	.07
21	23	4.9	11	6.0	18	15	40	37	17	73	1.3	.07
22	20	4.8	33	7.2	17	14	68	44	16	72	1.3	.07
23	15	5.1	17	9.3	17	13	84	48	30	70	1.2	.07
24	10	5.2	11	9.8	17	14	129	68	35	64	1.1	.07
25	8.0	4.9	10	11	16	18	89	104	39	67	.98	.34
26	8.3	4.7	13	9.0	14	18	60	80	40	66	.89	.41
27	7.9	4.7	16	11	13	15	43	71	48	60	.85	.90
28	6.8	4.7	14	19	12	16	56	68	48	52	.82	.95
29	5.9	4.7	12	33	---	17	84	67	50	41	.75	.86
30	5.3	5.1	10	27	---	16	106	68	57	32	.68	.71
31	4.7	---	9.5	24	---	15	---	60	---	17	.62	---
TOTAL	585.6	209.6	325.4	305.1	497.8	421	1361	1901	1047	2026	78.19	8.39
MEAN	18.9	6.99	10.5	9.84	17.8	13.6	45.4	61.3	34.9	65.4	2.52	.28
MAX	38	35	33	33	56	18	129	109	58	78	11	.95
MIN	4.7	3.4	5.8	5.4	8.7	11	14	36	16	17	.62	.07
AC-FT	1160	416	645	605	987	835	2700	3770	2080	4020	155	17
CAL YR 1980	TOTAL	17352.90	MEAN	47.4	MAX	551	MIN	3.4	AC-FT	34420		
WTR YR 1981	TOTAL	8766.08	MEAN	24.0	MAX	129	MIN	.07	AC-FT	17390		

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, Hydrologic Unit 18020129, 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 mi² (39.4 km²).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Flow regulated by Silver Lake 1,000 ft (305 m) upstream, capacity, 3,840 acre-ft (4.73 hm³) at spillway level and 8,590 acre-ft (10.6 hm³) with 11 ft (3.4 m) of flashboards; contents in Silver Lake were 5,030 acre-ft (6.20 hm³) Sept. 30, 1980, and 3,840 acre-ft (4.73 hm³) Sept. 30, 1981. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation and is measured at staff gage 0.25 mi (0.40 km) east of station. For leakage from Silver Lake, refer to listed annual figures below. 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.--59 years, 34.0 ft³/s (0.963 m³/s), 24,630 acre-ft/yr (30.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,100 ft³/s (31.2 m³/s) Nov. 21, 1950, gage height, 6.03 ft (1.838 m), from rating curve extended above 430 ft³/s (12.2 m³/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, 174 ft³/s (4.93 m³/s) May 2, gage height, 2.79 ft (0.850 m); minimum daily, 0.94 ft³/s (0.027 m³/s) Dec. 21, 22.

Leakage from Silver Lake, in acre-feet

1930	3,790	1939	2,690	1948	no report	1957	3,310	1966	3,260	1975	3,490
1931	2,950	1940	2,230	1949	5,180	1958	4,220	1967	3,090	1976	2,490
1932	1,580	1941	no report	1950	2,910	1959	3,300	1968	3,460	1977	1,490
1933	2,770	1942	2,560	1951	3,170	1960	2,950	1969	no report	1978	3,980
1934	3,360	1943	3,390	1952	3,260	1961	3,350	1970	2,840	1979	3,950
1935	2,930	1944	3,120	1953	2,920	1962	3,390	1971	1,570	1980	3,580
1936	2,440	1945	3,010	1954	4,040	1963	3,540	1972	2,640		
1937	2,280	1946	3,930	1955	3,540	1964	3,340	1973	2,970		
1938	2,450	1947	no report	1956	3,330	1965	4,070	1974	3,670		

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	44	3.9	1.4	3.2	4.1	2.2	146	75	1.7	2.5	2.5
2	1.4	43	3.9	1.4	3.2	4.1	2.2	170	76	1.6	2.4	2.4
3	1.6	42	4.2	1.4	3.2	4.1	2.3	163	74	1.5	2.4	2.4
4	1.9	40	7.5	1.6	3.2	4.1	2.4	150	64	1.5	2.4	2.4
5	1.8	39	6.7	1.5	3.2	4.1	2.4	135	62	1.5	2.3	2.4
6	1.8	37	5.8	1.5	3.2	4.1	2.4	121	46	2.5	2.3	2.4
7	20	36	4.2	1.5	3.2	4.1	2.6	110	8.7	3.4	2.4	2.4
8	1.2	35	2.3	1.4	3.2	4.1	2.6	70	2.1	3.1	2.2	7.6
9	27	34	3.6	1.4	3.2	4.1	2.6	47	2.0	2.9	2.2	14
10	69	33	2.9	1.3	3.2	4.2	2.7	65	2.0	2.6	2.2	10
11	81	32	2.6	1.2	3.2	4.4	2.8	69	2.0	2.7	2.2	4.0
12	79	30	2.4	1.2	3.3	4.4	2.8	65	2.0	2.7	2.2	3.7
13	69	29	2.2	1.1	3.4	4.4	2.8	78	2.0	2.7	2.2	3.5
14	75	29	2.0	1.1	3.6	4.4	3.0	89	2.0	2.2	2.2	3.1
15	74	28	2.1	1.1	3.6	4.4	3.1	92	1.7	1.6	2.1	2.9
16	63	26	1.8	1.1	3.7	4.4	3.2	84	1.9	1.3	2.0	2.8
17	60	24	1.7	1.1	3.9	3.3	8.5	74	2.0	3.4	2.0	2.6
18	59	22	1.7	1.1	3.9	2.0	29	74	2.0	4.3	2.0	22
19	58	19	1.5	1.1	4.0	2.0	46	84	2.0	2.4	2.0	33
20	57	17	1.3	1.1	3.6	2.2	48	80	2.0	2.2	1.7	20
21	56	14	.94	1.1	3.9	2.0	52	70	2.0	2.2	1.7	2.9
22	55	12	.94	1.2	3.9	2.0	78	52	2.0	2.3	1.7	2.9
23	54	10	1.1	2.1	3.9	2.0	125	38	2.0	2.2	1.6	2.8
24	53	8.7	1.1	2.6	4.3	2.1	92	47	2.0	2.2	2.0	9.2
25	52	7.2	1.1	2.6	4.1	2.1	8.3	64	2.0	2.4	2.7	70
26	50	6.3	1.2	2.6	4.1	2.5	9.2	55	2.0	2.4	2.6	56
27	49	5.7	1.3	4.4	4.1	2.2	9.2	38	2.0	2.6	2.6	55
28	49	5.1	1.4	8.5	4.1	2.2	10	45	1.9	2.7	2.6	61
29	47	4.7	1.4	23	---	2.2	39	58	1.9	2.6	2.6	62
30	46	4.2	1.4	11	---	2.2	100	67	1.8	2.6	2.6	53
31	45	---	1.4	3.3	---	2.2	---	73	---	2.6	2.6	---
TOTAL	1358.2	716.9	77.58	88.0	100.6	100.7	696.3	2573	451.0	74.6	69.2	520.9
MEAN	43.8	23.9	2.50	2.84	3.59	3.25	23.2	83.0	15.0	2.41	2.23	17.4
MAX	81	44	7.5	23	4.3	4.4	125	170	76	4.3	2.7	70
MIN	1.2	4.2	.94	1.1	3.2	2.0	2.2	38	1.7	1.3	1.6	2.4
AC-FT	2690	1420	154	175	200	200	1380	5100	895	148	137	1030
AC-FT ‡	36	0	0	0	0	0	92	878	1120	709	403	148
CAL YR 1980 TOTAL	19061.72			MEAN 52.1	MAX 333	MIN .14	AC-FT 37810		AC-FT ‡ 3620			
WTR YR 1981 TOTAL	6826.98			MEAN 18.7	MAX 170	MIN .94	AC-FT 13540		AC-FT ‡ 3380			

‡ Leakage from Silver Lake.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (35.0 km²).

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.

REVISÉD 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 hm³) at spillway level and 21,580 acre-ft (26.6 hm³) with 3 ft (0.9 m) of flashboards; contents in Caples Lake were 19,400 acre-ft (23.9 hm³) Sept. 30, 1980, and 8,560 acre-ft (10.6 hm³) Sept. 30, 1981. 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).--59 years, 36.6 ft³/s (1.037 m³/s), 26,520 acre-ft/yr (32.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum combined daily discharge for outlet and spillway, 669 ft³/s (18.9 m³/s) June 3, 1969; minimum daily, 0.1 ft³/s (0.003 m³/s) Mar. 25-31, 1944, Nov. 27, 28, 1956.

EXTREMES FOR CURRENT YEAR.--Maximum combined daily discharge for outlet and spillway, 132 ft³/s (3.74 m³/s) Nov. 26; minimum daily, 1.8 ft³/s (0.051 m³/s) Mar. 27 to Apr. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	97	116	60	12	3.6	1.8	2.9	4.9	5.7	87	103
2	2.2	96	124	61	10	3.6	1.8	2.9	4.9	5.7	96	102
3	2.6	97	122	63	8.6	3.6	1.8	2.8	4.9	5.7	95	104
4	2.9	96	122	62	8.6	3.6	1.8	2.8	5.0	5.7	95	107
5	2.8	99	120	62	8.6	3.6	1.8	2.7	4.9	5.7	94	79
6	2.8	101	118	47	8.6	3.6	1.9	2.7	4.9	5.7	93	10
7	2.7	101	116	35	8.6	3.6	1.9	2.7	5.1	5.5	95	10
8	2.6	100	115	35	8.6	3.5	1.9	2.8	5.1	5.5	97	8.4
9	2.5	90	113	39	8.6	3.5	1.9	2.8	5.1	5.5	100	5.7
10	9.3	92	115	43	8.6	3.5	1.9	2.7	5.1	5.5	103	5.6
11	18	100	124	42	8.6	3.5	1.9	2.7	5.1	5.5	99	5.5
12	12	92	124	38	8.7	3.5	1.9	2.7	5.1	5.4	98	5.4
13	3.1	92	116	34	8.8	3.5	1.9	2.7	5.1	5.4	100	5.4
14	3.9	100	114	37	8.8	3.5	2.0	2.8	5.1	5.4	102	5.4
15	4.7	103	114	41	8.8	3.5	2.0	2.8	5.1	5.4	101	5.4
16	11	105	117	43	8.9	3.5	2.0	2.8	5.1	5.4	101	5.4
17	23	109	115	43	8.8	2.7	2.0	2.8	5.2	5.4	100	5.5
18	30	110	113	43	8.8	1.9	2.2	2.8	5.2	5.4	104	5.4
19	29	114	116	40	8.8	1.9	2.3	3.7	5.3	9.0	108	5.4
20	35	113	118	40	8.8	1.9	2.3	5.1	5.4	15	107	5.4
21	42	117	115	40	8.8	1.9	2.5	5.1	5.4	15	106	5.3
22	46	124	86	40	8.8	1.9	3.0	5.1	5.5	15	105	5.2
23	53	123	49	24	8.8	1.9	4.7	5.1	5.5	15	104	4.8
24	61	122	42	11	8.8	1.9	8.2	5.1	5.5	19	103	4.5
25	66	127	43	21	8.8	1.9	10	5.2	5.5	24	103	4.5
26	65	132	48	32	6.6	1.9	11	5.2	5.5	24	100	4.4
27	74	131	52	21	3.6	1.8	12	5.2	5.5	27	103	4.4
28	86	129	52	12	3.6	1.8	12	5.1	5.6	35	105	4.5
29	92	128	52	12	---	1.8	7.5	4.9	5.7	49	101	4.8
30	98	115	57	12	---	1.8	2.9	4.9	5.7	63	100	5.0
31	97	---	61	12	---	1.8	---	4.9	---	74	102	---
TOTAL	982.3	3255	3009	1145	236.4	85.5	112.8	114.5	157.0	483.5	3107	636.3
MEAN	31.7	109	97.1	36.9	8.44	2.76	3.76	3.69	5.23	15.6	100	21.2
MAX	98	132	124	63	12	3.6	12	5.2	5.7	74	108	107
MIN	2.2	90	42	11	3.6	1.8	1.8	2.7	4.9	5.4	87	4.4
AC-FT	1950	6460	5970	2270	469	170	224	227	311	959	6160	1260
CAL YR 1980	TOTAL	18372.0	MEAN	50.2	MAX	482	MIN	1.9	AC-FT	36440		
YR 1981	TOTAL	13324.3	MEAN	36.5	MAX	132	MIN	1.8	AC-FT	26430		

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, Hydrologic Unit 18020129, 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 mi² (500 km²).

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 hm³). 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: 59 years (water years 1923-81), 285 ft³/s (8.071 m³/s), 206,500 acre-ft/yr (255 hm³/yr).
Combined river and diversion: 59 years (water years 1923-81), 401 ft³/s (11.36 m³/s), 290,500 acre-ft/yr (358 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge, 17,400 ft³/s (493 m³/s) Dec. 23, 1964, gage height, 10.92 ft (3.328 m), from rating curve extended above 6,300 ft³/s (178 m³/s) on basis of contracted-opening measurement at gage height 10.40 ft (3.170 m); minimum daily, 0.13 ft³/s (0.004 m³/s) Nov. 26, 1977. Combined flow, maximum discharge, 17,500 ft³/s (496 m³/s) Dec. 23, 1964; minimum daily, 10 ft³/s (0.28 m³/s) Oct. 17, 19, 1929.

EXTREMES FOR CURRENT YEAR.--River only, maximum discharge, 1,690 ft³/s (47.9 m³/s) Apr. 30, gage height, 5.47 ft (1.667 m), no peak above base of 2,000 ft³/s (57 m³/s); minimum daily, 3.2 ft³/s (0.091 m³/s) Jan. 25. Combined flow, maximum discharge, 1,840 ft³/s (52.1 m³/s) Apr. 30; minimum daily, 19 ft³/s (0.54 m³/s) Sept. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	6.4	5.8	5.1	5.5	5.3	91	1260	397	5.3	5.1	5.6
2	35	5.9	5.9	5.1	5.4	5.3	71	1120	383	5.3	5.1	5.5
3	22	5.7	28	5.2	5.3	5.2	58	860	326	5.3	5.0	5.5
4	9.5	5.7	101	5.4	5.3	5.2	59	738	298	5.4	5.1	5.3
5	5.5	5.7	36	5.1	5.3	5.1	99	657	296	5.4	5.1	5.2
6	5.2	6.0	15	4.9	5.7	5.1	187	564	275	5.4	5.1	9.6
7	4.7	5.8	9.3	4.3	5.2	5.1	216	521	192	5.3	5.2	6.8
8	4.9	30	16	4.6	5.3	5.1	188	501	155	5.4	5.2	5.4
9	7.0	22	14	4.5	5.5	5.1	221	530	136	5.4	5.3	7.6
10	18	5.4	5.1	4.6	5.2	5.0	262	610	103	5.4	5.4	5.9
11	9.2	23	4.9	4.9	5.4	11	213	611	66	5.3	5.4	20
12	41	19	23	5.6	5.3	5.8	191	570	51	5.3	5.3	24
13	10	5.4	5.7	5.7	5.8	5.7	211	597	33	5.3	5.3	24
14	5.2	5.2	4.8	5.7	189	5.6	294	620	20	5.3	5.3	24
15	5.7	5.6	4.8	6.1	125	5.5	389	519	8.2	5.3	5.3	24
16	5.4	4.6	17	5.9	46	5.8	429	416	5.3	5.3	5.5	23
17	5.1	5.4	9.9	5.7	177	5.6	419	346	5.3	5.3	5.4	23
18	5.2	6.2	5.7	5.6	88	5.6	474	593	5.3	5.4	5.4	15
19	5.1	6.1	5.3	5.3	89	16	429	685	5.3	5.3	5.5	6.6
20	4.9	6.1	5.3	5.3	118	23	318	455	5.2	5.4	5.5	6.4
21	5.0	6.1	5.3	5.4	45	18	373	358	5.2	5.4	5.4	18
22	4.8	7.5	50	5.6	33	37	685	353	5.3	5.4	5.3	20
23	4.5	6.8	6.7	6.5	37	42	1020	338	5.2	5.4	5.4	19
24	4.4	6.3	4.7	5.8	35	35	1230	395	5.2	5.4	5.5	16
25	6.5	5.8	4.5	3.2	21	119	932	643	5.2	6.7	5.4	9.4
26	8.6	12	5.2	5.7	9.5	215	832	643	5.3	6.0	5.4	5.3
27	5.5	8.2	5.2	17	7.2	108	510	539	5.2	5.6	5.5	4.7
28	6.5	6.3	5.1	9.9	5.7	89	630	494	5.2	5.0	5.4	4.7
29	6.3	5.8	5.1	6.3	---	143	1010	473	5.3	4.9	5.4	6.0
30	11	6.3	5.1	5.8	---	101	1220	471	5.3	4.9	5.5	5.7
31	7.9	---	5.1	5.3	---	77	---	434	---	5.1	5.5	---
TOTAL	318.6	256.3	424.5	181.1	1095.6	1125.1	13261	17914	2818.0	166.6	165.2	361.2
MEAN	10.3	8.54	13.7	5.84	39.1	36.3	442	578	93.9	5.37	5.33	12.0
MAX	41	30	101	17	189	215	1230	1260	397	6.7	5.5	24
MIN	4.4	4.6	4.5	3.2	5.2	5.0	58	338	5.2	4.9	5.0	4.7
AC-FT	632	508	842	359	2170	2230	26300	35530	5590	330	328	716
CAL YR 1980	TOTAL	170976.9	MEAN 467	MAX 7860	MIN 2.8	AC-FT 339100						
WTR YR 1981	TOTAL	38087.2	MEAN 104	MAX 1260	MIN 3.2	AC-FT 75550						

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SOUTH FORK AMERICAN RIVER
AND EL DORADO CANAL NEAR KYBURZ, CA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	170	149	100	82	118	229	1410	554	130	125	128
2	38	167	171	99	79	115	210	1270	541	125	135	127
3	43	164	191	103	72	114	199	1010	485	122	132	125
4	42	172	246	113	70	117	202	890	457	126	131	131
5	41	170	191	109	71	112	242	810	455	125	128	130
6	40	173	171	102	69	109	330	715	434	143	125	66
7	56	172	166	75	66	114	359	672	353	142	123	36
8	81	198	161	72	67	112	331	652	318	138	126	34
9	66	190	166	71	74	122	364	681	300	134	124	40
10	136	158	158	75	70	140	405	761	267	131	133	41
11	168	191	161	75	72	158	356	762	230	128	126	31
12	207	187	182	78	78	143	334	721	215	133	125	25
13	173	162	163	69	94	142	354	740	196	132	124	24
14	162	169	158	67	326	129	437	775	185	131	129	24
15	169	173	158	71	265	127	536	674	172	128	128	24
16	157	167	176	81	188	127	578	571	161	124	127	23
17	157	171	171	83	319	125	568	500	156	122	125	23
18	168	167	166	81	234	122	621	745	148	130	126	27
19	166	171	162	81	238	145	571	835	140	128	135	55
20	162	167	168	77	267	161	461	608	135	128	133	54
21	170	163	165	77	193	156	519	513	129	132	130	29
22	168	175	214	82	179	176	834	508	122	129	129	20
23	168	174	140	108	183	180	1170	493	124	127	127	19
24	162	171	95	78	181	173	1380	550	130	123	127	21
25	172	165	92	54	167	253	1080	797	129	124	125	68
26	175	180	99	80	150	343	981	797	127	132	124	94
27	166	175	113	151	128	236	659	694	130	126	123	101
28	170	173	109	120	125	217	779	648	129	121	134	99
29	170	170	103	86	---	271	1160	627	125	120	126	109
30	179	169	97	86	---	232	1370	626	131	125	125	99
31	175	---	103	80	---	213	---	591	---	125	124	---
TOTAL	4148	5174	4765	2684	4107	5002	17619	22655	7178	3984	3954	1827
MEAN	134	172	154	86.6	147	161	587	731	239	129	128	60.9
MAX	207	198	246	151	326	343	1380	1410	554	143	135	131
MIN	38	158	92	54	66	109	199	493	122	120	123	19
AC-FT	8230	10260	9450	5320	8150	9920	34950	44940	14240	7900	7840	3620
CAL YR 1980	TOTAL	222886	MEAN	609	7950	MIN	38	AC-FT	442100			
WTR YR 1981	TOTAL	83097	MEAN	228	1410	MIN	19	AC-FT	164800			

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to current year.

CHEMICAL ANALYSES: Water years 1979 to current year.

BIOLOGICAL DATA: Water years 1979 to September 1980.

WATER TEMPERATURES: Water years 1966-79.

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

WATER-QUALITY RECORDS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA,DISS (MG/L)	MAGNESIUM MG,DISS (MG/L)
80/11/26	14 30	12	52	7.0	7.0	12.1			16	5	1
81/04/29	07 40	853	22	7.3	6.5	11.2	7.0	1.1	5	2	0
81/06/24	08 35	5.2	67	7.1	16.0	7.8			19	6	1

DATE	TIME	SODIUM NA,DISS (MG/L)	POTASSIUM K,DISS (MG/L)	ALKALI- LINALITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)
80/11/26	14 30	3	0.6	12	0	6	20		0.01	0.00	0.00
81/04/29	07 40	2	0.5	7	0	1	20	6	0.04	0.00	0.10
81/06/24	08 35	5	0.9	15	0	8	53		0.01	0.00	0.10

DATE	TIME	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/11/26	14 30	0.01	0.00	
81/04/29	07 40	0.02	0.00	3.4
81/06/24	08 35	0.01	0.00	

DATE	TIME	ARSENIC AS,DISS (UG/L)	BARIUM BA,DISS (UG/L)	BORON B,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CR,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGANESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)
80/11/26	14 30	0	0	0	0	0	0	30	0	10	0.0
81/04/29	07 40	0	0	0	0	0	0	20	0	0	0.0
81/06/24	08 35	0	0	0	0	0	10	30	0	10	0.0

DATE	TIME	SELENIUM SE,DISS (UG/L)
80/11/26	14 30	10
81/04/29	07 40	0
81/06/24	08 35	0

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (57.2 km²).

PERIOD OF RECORD.--October 1922 to September 1981 (discontinued) (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. 8 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).--59 years, 37.3 ft³/s (1.056 m³/s), 27,020 acre-ft/yr (33.3 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Creek only, maximum discharge, 5,500 ft³/s (156 m³/s) Dec. 23, 1955, gage height, 8.40 ft (2.560 m), from floodmarks, from rating curve extended above 600 ft³/s (17.0 m³/s); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Creek only, maximum discharge, 205 ft³/s (5.81 m³/s) Mar. 25, gage height, 3.33 ft (1.015 m), no other peak above base of 170 ft³/s (4.81 m³/s); minimum discharge, 0.05 ft³/s (0.001 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.6	2.4	1.8	15	22	70	60	12	1.7	.85	.43
2	1.8	1.6	2.4	3.2	15	21	64	56	11	1.5	.84	.42
3	1.7	1.6	13	3.2	15	21	60	48	9.9	1.5	.82	.42
4	2.1	1.6	27	3.2	12	22	57	41	9.8	1.5	.81	.43
5	1.1	1.6	15	2.1	11	22	57	36	8.8	1.4	.78	.42
6	1.1	1.6	5.9	2.1	11	21	60	31	7.8	1.4	.76	.42
7	1.2	1.6	3.9	2.1	10	21	61	28	7.4	1.3	.72	.41
8	1.2	1.6	3.4	2.1	10	21	60	25	7.6	1.3	.68	.42
9	1.2	1.6	3.4	2.1	9.4	22	61	24	6.8	1.3	.65	.42
10	1.2	1.6	4.6	2.1	9.3	23	61	23	6.5	1.3	.64	.43
11	1.4	2.3	4.6	2.1	9.4	24	58	21	6.3	1.3	.63	.42
12	1.6	2.6	4.6	2.7	11	23	55	20	6.2	1.3	.64	.41
13	1.7	2.2	4.6	2.7	18	23	54	19	5.8	1.3	.64	.44
14	1.7	1.9	3.8	2.6	65	21	56	18	5.8	1.3	.63	.45
15	1.7	1.8	3.8	2.6	50	21	58	17	3.7	1.2	.60	.44
16	1.8	1.8	3.4	3.2	40	22	59	18	3.5	1.2	.59	.43
17	1.8	1.8	2.7	3.2	56	21	60	16	3.2	1.2	.56	.44
18	1.7	1.8	2.7	3.1	46	21	65	26	3.1	1.2	.56	.45
19	1.7	1.8	2.7	3.1	48	32	71	35	2.8	1.2	.55	.45
20	1.7	1.8	2.7	3.1	53	39	65	25	2.8	1.2	.56	.43
21	1.6	1.8	2.7	3.0	41	42	62	22	2.5	1.2	.56	.42
22	1.6	1.8	3.3	3.0	36	54	65	20	2.5	1.1	.54	.42
23	1.6	1.8	3.3	6.6	34	56	71	18	2.3	1.1	.54	.41
24	1.6	1.8	3.3	5.1	35	52	75	17	2.1	1.1	.53	.42
25	1.6	1.8	3.2	5.1	31	108	74	17	2.1	1.1	.52	.45
26	1.6	1.8	3.0	5.1	26	140	80	19	2.1	1.1	.52	.64
27	1.6	1.8	3.0	40	24	106	67	18	2.0	1.0	.50	.52
28	1.6	1.8	3.0	29	23	94	61	16	1.8	.94	.47	.51
29	1.6	1.8	2.3	16	---	90	61	16	1.8	.95	.45	.52
30	1.6	1.8	2.3	15	---	80	62	15	1.8	.91	.43	.49
31	1.6	---	2.3	15	---	72	---	15	---	.88	.43	---
TOTAL	48.8	53.8	148.3	195.3	764.1	1357	1890	780	151.8	37.81	19.01	13.42
MEAN	1.57	1.79	4.78	6.30	27.3	43.8	63.0	25.2	5.06	1.22	.61	.46
MAX	2.1	2.6	27	40	65	140	80	60	12	1.7	.86	.45
MIN	1.1	1.6	2.3	1.8	9.3	21	54	15	1.8	.88	.43	.41
AC-FT	97	107	294	387	1520	2690	3750	1550	301	75	38	28
CAL YR 1980	TOTAL	21575.70	MEAN	59.0	MAX	2150	MIN	1.1	AC-FT	42800		
WTR YR 1981	TOTAL	5459.84	MEAN	15.0	MAX	140	MIN	.41	AC-FT	10830		

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, Hydrologic Unit 18020129, 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.--83.7 mi² (216.8 km²).

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Sacramento Municipal Utility District).

REMARKS.--Reservoir is formed by earthfill dam completed in December 1962. Storage began in May 1962. Usable capacity, 270,300 acre-ft (333 hm³) 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. Dead storage, 7,000 acre-ft (8.63 hm³). 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. Records, including extremes, represent total contents at 2400 hours. See schematic diagram of Middle Fork American and Rubicon River basins and South Fork American River basin.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 279,100 acre-ft (344 hm³) July 9, 1974, elevation, 4,870.6 ft (1,484.56 m); minimum since reservoir first filled, 18,300 acre-ft (22.6 hm³) Jan. 13, 1977, elevation, 4,683.3 ft (1,427.47 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 182,600 acre-ft (225 hm³) June 4, 7, elevation, 4,833.5 ft (1,473.25 m); minimum, 71,000 acre-ft (87.5 hm³) Sept. 27-30, elevation, 4,764.0 ft (1,452.07 m).

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

4,680	17,000	4,780	90,000
4,700	25,000	4,800	118,900
4,720	35,300	4,820	154,400
4,740	48,800	4,840	197,400
4,760	66,800	4,870	277,300

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	166900	169000	148800	121400	102700	103600	116400	160600	182300	170500	137900	104700
2	164400	168100	148500	120700	102300	103000	117800	162200	182300	169200	137800	103600
3	161800	167300	147500	120100	101800	102600	119100	163200	182300	167900	136700	102600
4	159400	167300	146900	120200	101300	102600	119900	164000	182600	167700	135500	101300
5	159800	166300	146000	119100	100800	102400	120700	164400	182300	166900	134400	100300
6	160400	165200	144900	118000	100300	102000	122500	164600	182300	165700	133200	100300
7	161000	164400	144500	118300	99700	101800	124500	164600	182600	164400	132100	100300
8	161400	163600	143800	117500	99700	102000	126300	165000	182300	163200	130900	98900
9	162000	163600	142500	116200	99000	101400	128400	165900	181900	162200	130700	97100
10	162400	162800	141600	115600	98300	101400	130200	166700	181200	160800	129400	95200
11	163000	162600	139900	115300	97900	101700	131400	166900	180600	159800	128200	93200
12	163800	161800	138300	114200	97200	101700	132500	167300	179900	159800	127200	91000
13	164200	161000	137100	113400	96900	102300	133500	167700	179900	158400	125800	91000
14	164800	160200	136900	112700	96600	102400	134700	167900	180100	157200	124500	89200
15	165200	159200	135600	111700	99700	102800	136300	168400	179700	156000	123300	87400
16	165900	159000	134400	111100	100400	103000	137800	169000	179300	155000	123000	86200
17	166500	158000	133200	110500	100400	103000	139000	169400	178800	153800	121900	84500
18	166900	157200	132000	110500	101000	103000	140700	171300	178000	152900	120600	82700
19	167300	156200	130700	109800	101400	102700	142300	173000	177500	152700	119400	80900
20	167900	155200	129400	108600	102000	103300	143200	174100	176900	151700	118000	80500
21	168400	154400	129200	107700	102300	104100	144000	174700	176900	150400	116700	78800
22	168800	153400	127500	106600	102800	104900	145400	175400	176200	149000	115500	77100
23	169200	153300	126200	105700	102700	105700	147500	176200	175800	148100	115500	75700
24	169600	152100	124800	104900	102700	106500	150000	176900	174900	146800	114100	74200
25	169800	151100	124800	104700	102800	108900	151900	178000	174300	145600	112800	72800
26	169800	150400	124500	103900	103000	110500	153600	179000	173400	145300	111400	71300
27	169800	150200	124000	104100	102800	111600	154400	179900	173400	144000	110200	71000
28	169800	150000	123800	104300	103300	112700	155400	180800	172800	142900	109000	71000
29	169800	149800	123000	103700	---	113700	156800	181200	172400	141600	107800	71000
30	170000	149800	122300	103000	---	114400	158800	181900	171700	140300	107800	71000
31	169800	---	121500	102800	---	115100	---	182300	---	139000	106300	---
MAX	170000	169000	148800	121400	103300	115100	158800	182300	182600	170500	137900	104700
MIN	159400	149800	121500	102800	96900	101400	116400	160600	171700	139000	106300	71000
†	4827.6	4817.6	4801.6	4789.4	4789.7	4797.6	4822.2	4833.4	4828.5	4811.8	4791.8	4764.0
‡	+400	-20000	-28300	-18700	+500	+11800	+43700	+23500	-10600	-32700	-32700	-35300
CAL YR 1980	†	-55600										
WTR YR 1981	†	-98400										

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

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (70.4 km²).

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

REVISED RECORDS.--WSP 1931: 1960.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (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 hm³) 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 m³). 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 hm³) June 27, 1971, elevation, 5,450.6 ft (1,661.34 m); minimum since reservoir first filled, 1,740 acre-ft (2.15 hm³) Oct. 5-9, 1962, elevation, 5,349.85 ft (1,630.634 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 38,500 acre-ft (47.5 hm³) Oct. 1, elevation, 5,438.8 ft (1,657.75 m); minimum, 16,500 acre-ft (20.3 hm³) Mar. 6-11, elevation, 5,397.5 ft (1,645.16 m).

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

5,349	1,600	5,400	17,600
5,350	1,760	5,420	27,400
5,360	3,840	5,440	39,200
5,380	9,600	5,451	46,700

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38500	20600	20700	21300	20400	17100	18100	27600	36200	38100	37600	36900
2	38300	20600	20700	21300	20200	17000	18200	28100	36400	38100	37600	36900
3	38100	20600	20800	21300	20000	16900	18300	28500	36500	38100	37600	36900
4	37600	20600	20800	21400	19600	16700	18400	28700	36800	38100	37600	36800
5	36600	20600	20800	21400	19300	16600	18500	29000	36900	38100	37600	36800
6	35600	20600	20800	21000	19100	16500	18600	29300	37100	38100	37500	36800
7	34600	20600	20900	20000	19100	16500	18800	29500	37200	38100	37500	36800
8	33600	20600	20900	19800	19100	16600	18900	29800	37400	38100	37500	36800
9	32600	20600	20900	19800	19000	16500	19000	30000	37500	38100	37400	36800
10	31600	20600	21000	19800	18700	16500	19200	30300	37600	38100	37400	36700
11	30700	20600	21000	19800	18400	16500	19400	30600	37700	38100	37400	36700
12	29800	20600	21000	19800	18100	16600	19600	30900	37700	38000	37400	36700
13	28800	20700	21000	19800	18000	16600	19800	31200	37700	38000	37400	36700
14	27800	20700	21000	19800	18100	16700	20000	31300	37800	38000	37400	36600
15	27000	20800	21000	19800	18300	16700	20300	31500	37800	38000	37300	36600
16	26000	20700	21000	19800	18400	16800	20600	31800	37800	38000	37300	36600
17	25200	20800	21000	19800	18300	16800	21000	31900	37900	38000	37300	36600
18	24200	20800	21000	19800	18100	16800	21300	32400	38000	38000	37200	36600
19	23300	20700	21000	19800	17900	16900	21600	32800	38000	37900	37200	36600
20	22400	20700	21000	19800	17900	17000	21800	33100	38100	37900	37200	36500
21	21200	20700	21000	19800	18000	17100	22100	33300	38100	37900	37200	36500
22	20600	20700	21000	19800	18000	17200	22500	33600	38100	37800	37200	36500
23	20600	20600	21100	19800	17900	17200	23100	33800	38100	37800	37200	36500
24	20600	20700	21200	19900	17600	17300	23900	34000	38100	37800	37100	36500
25	20600	20600	21200	19900	17500	17500	24400	34300	38200	37800	37100	36500
26	20600	20700	21200	20000	17200	17600	24800	34600	38200	37800	37100	36500
27	20600	20700	21200	20100	17000	17700	25200	35000	38200	37800	37000	36300
28	20600	20700	21200	20200	17100	17800	25600	35400	38200	37800	37000	35500
29	20600	20700	21200	20300	---	17900	26300	35500	38100	37700	37000	34700
30	20600	20700	21200	20400	---	18000	27000	35800	38100	37700	37000	34000
31	20600	---	21200	20400	---	18000	---	36000	---	37700	37000	---
MAX	38500	20800	21200	21400	20400	18000	27000	36000	38200	38100	37600	36900
MIN	20600	20600	20700	19800	17000	16500	18100	27600	36200	37700	37000	34000
†	5406.4	5406.6	5407.7	5406.0	5398.8	5401.0	5419.1	5435.0	5438.3	5437.6	5436.5	5431.8
‡	-18100	+100	+500	-800	-3300	+900	+9000	+9000	+2100	-400	-700	-3000

CAL YR 1980 † -5300

WTR YR 1981 ‡ -4700

† Elevation, in feet NGVD, 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, Hydrologic Unit 18020129, 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 mi² (71.2 km²).

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 excellent. 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).--57 years, 74.3 ft³/s (2.104 m³/s), 53,830 acre-ft/yr (66.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,940 ft³/s (112 m³/s) Dec. 23, 1955, gage height, 6.71 ft (2.045 m) site and datum then in use, from rating curve extended above 540 ft³/s (15.3 m³/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 ft³/s (51.0 m³/s) Jan. 22, 1970, gage height, 5.66 ft (1.725 m), from rating curve extended above 620 ft³/s (17.6 m³/s) on basis of computation of flow over dam of peak flow; minimum daily, 1.2 ft³/s (0.03 m³/s) Mar. 17-19, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 519 ft³/s (14.7 m³/s) Oct. 14, gage height, 4.51 ft (1.375 m); minimum daily, 3.4 ft³/s (0.096 m³/s) Nov. 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	94	5.4	6.9	7.1	7.2	6.9	7.3	6.7	6.7	6.7	6.4	6.4		
2	95	5.4	7.0	6.9	103	67	7.3	6.7	6.7	6.7	6.4	6.4		
3	96	5.4	7.5	6.7	174	103	7.0	6.7	6.7	6.7	6.4	6.4		
4	252	5.4	7.6	6.9	173	103	6.9	6.7	6.7	6.7	6.4	6.4		
5	471	5.4	6.9	6.8	172	103	6.9	6.7	6.7	6.7	6.4	6.4		
6	475	4.5	6.7	153	114	69	6.9	6.7	6.7	6.7	6.4	6.4		
7	490	3.6	6.7	492	7.0	7.2	6.9	6.7	6.7	6.7	6.4	6.4		
8	493	3.5	6.3	191	7.0	7.2	6.9	6.7	6.7	6.7	6.4	6.4		
9	493	3.4	5.7	7.2	107	69	6.8	6.7	6.7	6.6	6.4	6.4		
10	495	3.7	5.8	7.2	172	47	6.7	6.7	6.7	6.6	6.4	6.4		
11	491	4.3	6.2	7.2	171	7.0	6.7	6.7	6.7	6.5	6.4	6.4		
12	488	4.1	6.7	7.2	170	6.8	6.7	6.7	6.7	6.5	6.4	6.4		
13	496	5.3	6.7	7.2	88	6.8	6.7	6.7	6.7	6.4	6.4	6.4		
14	511	6.5	6.7	7.2	8.8	6.7	6.7	6.7	6.7	6.4	6.4	6.4		
15	510	6.2	6.7	7.2	7.8	6.7	6.7	6.9	6.7	6.4	6.4	6.4		
16	506	6.1	6.8	7.2	7.9	6.8	6.7	6.9	6.7	6.6	6.4	6.4		
17	500	6.3	6.8	7.2	112	6.7	6.7	6.9	6.7	6.9	6.4	6.4		
18	496	6.9	6.9	7.2	175	6.7	6.9	7.8	6.7	6.9	6.4	6.4		
19	491	6.9	6.7	7.2	175	7.1	7.3	7.1	6.7	6.9	6.4	6.4		
20	488	6.8	6.7	7.2	115	6.9	7.0	6.9	6.7	6.9	6.4	6.4		
21	485	6.8	6.9	7.2	7.2	7.3	6.9	6.7	6.7	6.5	6.4	6.4		
22	295	6.9	6.9	7.2	7.2	7.4	6.9	6.7	6.7	6.4	6.4	6.4		
23	11	6.7	6.8	7.3	109	7.2	6.9	6.7	6.7	6.4	6.4	6.4		
24	12	6.7	6.8	7.2	175	7.1	6.9	6.8	6.7	6.4	6.4	6.4		
25	12	6.7	6.9	7.2	172	8.8	7.0	7.1	6.7	6.4	6.4	6.4		
26	12	6.9	6.9	7.3	172	7.9	7.0	7.2	6.7	6.4	6.4	6.4		
27	12	6.9	7.0	9.3	114	7.6	6.8	6.7	6.7	6.4	6.4	82		
28	12	6.7	7.0	7.7	6.9	7.4	6.7	6.7	6.7	6.4	6.4	365		
29	12	6.7	6.9	7.5	---	7.3	6.7	6.7	6.7	6.4	6.4	364		
30	8.2	6.8	7.0	7.4	---	7.3	6.7	6.7	6.7	6.4	6.4	363		
31	5.4	---	7.0	7.2	---	7.2	---	6.7	---	6.4	6.4	---		
TOTAL	9307.6	172.9	210.1	1039.3	2830.0	733.0	206.2	211.0	201.0	203.7	198.4	1340.4		
MEAN	300	5.76	6.78	33.5	101	23.6	6.87	6.81	6.70	6.57	6.40	44.7		
MAX	511	6.9	7.6	492	175	103	7.3	7.8	6.7	6.9	6.4	365		
MIN	5.4	3.4	5.7	6.7	6.9	6.7	6.7	6.7	6.7	6.4	6.4	6.4		
AC-FT	18460	343	417	2060	5610	1450	409	419	399	404	394	2660		
CAL YR 1980	TOTAL	43470.7	MEAN	119	MAX	531	MIN	3.4	AC-FT	86220	MEAN	† 111	AC-FT	† 80420
WTR YR 1981	TOTAL	16653.6	MEAN	45.6	MAX	511	MIN	3.4	AC-FT	33030	MEAN	† 39.1	AC-FT	† 28330

† Adjusted for change in contents in Ice House Reservoir.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (443 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 2,754.06 ft (839.438 m) National Geodetic Vertical Datum of 1929 (Sacramento Municipal Utility District bench mark).

REMARKS.--Records excellent except those for flows below 5 ft³/s (0.14 m³/s), which are fair. Flow is regulated by Ice House Reservoir (station 11441100) since 1959, Union Valley Reservoir (station 11441001) since 1962, Junction and Camino reservoirs, and diversions to Camino powerplant since 1961. See schematic diagram of South Fork American River basin.

AVERAGE DISCHARGE (unadjusted).--21 years, 77.0 ft³/s (2.181 m³/s), 55,790 acre-feet/yr (68.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s (547 m³/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 ft³/s (42.5 m³/s) on basis of slope-area measurement of peak flow; minimum daily, 1.0 ft³/s (0.028 m³/s) Nov. 1, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 127 ft³/s (3.60 m³/s) Mar. 25, gage height, 3.50 ft (1.067 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	1.0	9.6	9.6	13	12	17	9.3	10	10	10	11
2	22	12	9.5	9.6	13	13	16	9.5	9.7	10	10	10
3	22	13	11	9.6	13	13	15	9.9	8.9	10	10	10
4	22	8.0	12	9.9	13	13	14	10	9.0	10	10	10
5	21	11	10	9.6	13	14	13	10	8.9	10	10	10
6	21	11	9.7	9.6	13	14	13	10	8.8	10	10	10
7	22	13	9.8	9.6	13	14	12	10	8.6	10	10	10
8	22	12	9.8	9.6	13	13	12	10	9.0	10	10	10
9	22	12	9.6	9.6	13	13	12	10	9.5	9.8	10	9.9
10	22	11	9.4	9.6	13	13	11	10	9.2	10	10	9.8
11	22	11	9.4	9.6	14	13	11	10	9.0	10	10	9.9
12	21	10	9.6	9.6	15	12	10	10	8.7	10	9.8	10
13	21	9.9	9.6	9.6	15	12	10	10	8.7	10	9.8	9.9
14	21	9.4	9.6	9.6	25	12	9.9	10	9.0	10	10	9.8
15	21	9.6	9.6	9.6	25	12	10	10	11	10	11	9.9
16	22	9.5	9.6	9.7	21	12	11	10	12	9.9	11	9.9
17	21	9.8	9.6	9.6	21	13	11	10	11	9.9	11	9.8
18	21	9.9	9.6	9.5	20	12	11	11	9.6	9.9	11	9.8
19	21	9.9	9.6	9.5	19	19	10	11	9.9	9.9	10	9.7
20	21	9.9	9.6	9.5	20	21	9.7	10	9.4	10	9.2	9.8
21	21	9.9	9.8	9.5	18	30	9.7	11	9.9	10	9.9	9.6
22	21	9.6	9.8	9.7	16	34	9.9	11	10	10	10	9.4
23	21	9.9	9.7	12	15	30	11	10	9.9	10	11	9.5
24	21	9.7	9.9	12	13	25	10	10	10	10	11	9.6
25	21	9.6	9.9	11	14	61	10	10	9.9	10	10	10
26	20	9.6	9.9	11	13	66	9.6	10	9.4	10	11	9.8
27	9.4	9.6	9.7	24	12	38	9.7	10	9.4	10	11	9.7
28	6.9	9.6	9.7	26	12	23	9.5	9.8	9.6	10	10	9.8
29	14	9.6	9.6	18	---	22	9.2	9.6	10	11	10	9.7
30	10	10	9.6	15	---	20	9.6	9.3	10	11	11	9.6
31	3.4	---	9.6	14	---	18	---	9.3	---	11	11	---
TOTAL	597.7	300.0	303.4	354.3	438	637	336.8	310.7	288.0	312.4	318.7	295.9
MEAN	19.3	10.0	9.79	11.4	15.6	20.5	11.2	10.0	9.60	10.1	10.3	9.86
MAX	22	13	12	26	25	66	17	11	12	11	11	11
MIN	3.4	1.0	9.4	9.5	12	12	9.2	9.3	8.6	9.8	9.2	9.4
AC-FT	1190	595	602	703	869	1260	668	616	571	620	632	587
CAL YR 1980	TOTAL	26386.1	MEAN	72.1	MAX	5280	MIN	1.0	AC-FT	52340		
WTR YR 1981	TOTAL	4492.9	MEAN	12.3	MAX	66	MIN	1.0	AC-FT	8910		

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, Hydrologic Unit 18020129, 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 mi² (1,163 km²).

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) National Geodetic Vertical Datum of 1929. 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).--11 years, 385 ft³/s (10.90 m³/s), 278,900 acre-ft/yr (344 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft³/s (835 m³/s) Jan. 13, 1980, gage height, 17.83 ft (5.435 m); minimum daily, 9.6 ft³/s (0.27 m³/s) Oct. 19, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,650 ft³/s (46.7 m³/s) May 1, gage height, 8.34 ft (2.542 m); minimum daily, 18 ft³/s (0.51 m³/s) Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	24	36	27	54	63	257	1240	413	24	20	20
2	61	23	30	27	51	62	237	1190	402	24	20	20
3	56	30	37	28	50	62	201	915	353	24	20	20
4	52	25	203	37	48	62	172	778	314	24	20	20
5	38	24	94	32	46	63	192	706	310	24	20	65
6	33	26	54	29	45	59	282	608	297	24	20	76
7	33	27	38	28	44	56	337	556	235	23	20	22
8	48	35	32	28	42	54	307	536	174	23	20	23
9	71	48	42	26	47	53	322	524	155	22	20	21
10	35	40	36	26	49	52	372	614	135	22	20	19
11	57	33	30	26	48	53	330	635	98	22	20	20
12	48	42	30	27	48	56	294	584	79	22	20	29
13	63	38	40	27	51	54	297	598	66	22	20	36
14	44	29	30	27	233	52	364	636	53	22	20	36
15	38	28	29	27	317	49	459	571	44	22	21	36
16	37	28	28	29	150	62	526	452	38	21	21	36
17	37	29	36	30	248	53	520	395	34	21	20	36
18	36	28	32	28	219	50	558	497	30	21	20	36
19	36	26	29	27	171	90	579	781	29	20	20	33
20	36	26	30	27	227	173	451	532	28	21	19	24
21	35	26	30	27	151	186	445	408	28	21	18	22
22	35	26	36	28	98	233	652	387	28	20	19	32
23	35	27	62	50	87	207	970	362	27	20	19	34
24	34	28	32	49	114	172	1220	386	27	20	19	33
25	34	28	29	37	100	456	1050	571	26	20	19	37
26	34	28	28	34	81	852	927	701	26	20	19	29
27	34	29	27	174	65	504	609	560	25	22	19	23
28	34	29	27	301	62	384	584	527	25	21	19	22
29	32	28	27	161	---	380	936	486	25	20	20	21
30	30	35	27	89	---	328	1180	479	25	20	20	20
31	26	---	27	64	---	265	---	465	---	20	20	---
TOTAL	1282	893	1268	1577	2946	5245	15630	18680	3549	672	612	901
MEAN	41.4	29.8	40.9	50.9	105	169	521	603	118	21.7	19.7	30.0
MAX	71	48	203	301	317	852	1220	1240	413	24	21	76
MIN	26	23	27	26	42	49	172	362	25	20	18	19
AC-FT	2540	1770	2520	3130	5840	10400	31000	37050	7040	1330	1210	1790
†	31100	24350	39670	30770	27370	27690	15610	7810	18350	42270	42300	38640
††	6530	9350	8270	4890	6470	8230	8350	8180	6950	5720	5210	1130
CAL YR 1980 TOTAL	247633			MEAN 677	MAX 15700	MIN 23	AC-FT 491200					
WTR YR 1981 TOTAL	53255			MEAN 146	MAX 1240	MIN 18	AC-FT 105600					

† Diversions, in acre-feet, to Camino powerplant, furnished by Sacramento Municipal Utility District.
 †† Diversions, in acre-feet, to El Dorado powerplant, furnished by Pacific Gas and Electric Company.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (1,277 km²).

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 fair. Flow regulated by six reservoirs, total usable capacity, 347,000 acre-ft (428 hm³). Since 1967 diversion from Slab Creek Dam to White Rock powerplant bypasses this station. Echo Lake conduit (station 11434500) imports up to 1,900 acre-ft (2.34 hm³) each year from Truckee River basin. Variable amounts of El Dorado Canal water, up to 40 ft³/s (1.13 m³/s) May to October, and about 7 ft³/s (0.20 m³/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 ft³/s (27.22 m³/s), 695,700 acre-ft/yr (858 hm³/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 ft³/s (30.08 m³/s), 769,400 acre-ft/yr (945 hm³/yr); 14 years (water years 1968-81), 116 ft³/s (3.285 m³/s) 84,050 acre-ft/yr (104 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 49,800 ft³/s (1,410 m³/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 ft³/s (680 m³/s) on basis of computation of maximum flow over dam; minimum daily, 1.3 ft³/s (0.037 m³/s) Aug. 24, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 184 ft³/s (5.211 m³/s) Oct. 27, gage height, 7.30 ft (2.225 m); minimum daily, 12 ft³/s (0.34 m³/s) Mar. 27-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	29	22	21	21	20	20	26	20	19	19	19
2	38	29	21	21	21	18	26	25	20	19	19	19
3	38	24	22	21	21	14	26	24	19	19	19	19
4	39	21	22	21	21	14	26	24	19	19	19	19
5	39	21	22	21	21	13	26	24	18	19	19	19
6	39	21	22	21	21	13	27	24	18	19	19	19
7	39	21	22	21	21	13	26	25	19	19	19	19
8	38	21	22	20	21	13	26	26	19	19	19	19
9	39	20	21	21	22	14	26	26	19	19	19	19
10	39	20	22	20	22	14	26	27	19	19	19	19
11	38	20	22	20	22	14	25	27	19	19	19	19
12	39	20	22	20	22	14	26	27	19	19	19	19
13	38	21	22	20	22	14	26	27	19	19	19	19
14	37	21	22	21	22	14	26	27	19	19	19	19
15	37	21	21	20	22	14	23	26	19	19	19	19
16	37	21	21	20	22	14	17	26	19	19	19	19
17	36	21	21	20	22	14	15	27	19	19	19	19
18	36	20	20	20	21	14	21	27	19	19	19	19
19	37	20	20	20	20	14	26	27	19	19	19	19
20	37	20	20	20	19	14	26	26	19	19	19	19
21	37	20	20	20	19	14	27	26	19	19	19	19
22	38	20	20	20	19	14	26	26	19	19	19	19
23	38	20	21	20	20	14	26	26	19	19	19	19
24	38	20	20	20	21	14	26	26	19	19	19	19
25	34	21	20	21	20	13	25	26	19	19	19	19
26	34	21	20	21	20	13	25	26	19	19	19	19
27	44	21	20	21	20	12	25	26	19	19	19	19
28	35	21	20	21	20	12	25	27	19	19	19	19
29	36	21	20	21	---	12	25	28	19	19	19	19
30	36	22	21	21	---	12	25	20	19	19	19	19
31	35	---	21	21	---	12	---	20	---	19	19	---
TOTAL	1162	639	652	636	585	428	741	795	570	589	589	570
MEAN	37.5	21.3	21.0	20.5	20.9	13.8	24.7	25.6	19.0	19.0	19.0	19.0
MAX	44	29	22	21	22	20	27	28	20	19	19	19
MIN	34	20	20	20	19	12	15	20	18	19	19	19
AC-FT	2300	1270	1290	1260	1160	849	1470	1580	1130	1170	1170	1130
CAL YR 1980	TOTAL	72604	MEAN 198	MAX	16800	MIN 11	AC-FT	144000				
WTR YR 1981	TOTAL	7956	MEAN 21.8	MAX	44	MIN 12	AC-FT	15760				

LOCATION.--Lat 38°46'16", long 120°48'55", in NE¼SW¼ sec.25, T.11 N., R.10 E., El Dorado County, Hydrologic Unit 18020129, 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.

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft (283.784 m) National Geodetic Vertical Datum of 1929 (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.

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

AVERAGE DISCHARGE (prior to extensive regulation and transbasin diversion).--9 years (water years 1912-20), 1,132 ft³/s (32.06 m³/s), 820,100 acre-ft/yr (1.01 km³/yr); 17 years (water years 1965-81), 1,389 ft³/s (39.34 m³/s), 1,006,000 acre-ft/yr (1.24 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,300 ft³/s (1,340 m³/s) Dec. 23, 1964, gage height, 17.4 ft (5.30 m) from floodmarks, from rating curve extended above 18,000 ft³/s (510 m³/s) on basis of computations of flow over dam of maximum flow; minimum daily, 0.2 ft³/s (0.006 m³/s) Nov. 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,460 ft³/s (126 m³/s) Mar. 25, gage height, 7.49 ft (2.283 m); minimum daily, 98 ft³/s (2.78 m³/s) Jan. 25.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1070	175	951	303	294	282	1000	2000	790	854	958	974
2	1050	127	1520	318	1000	607	790	1750	982	971	469	842
3	1050	108	1460	562	947	972	713	1600	1310	878	821	759
4	1070	147	1080	314	911	1140	354	1040	1680	628	891	1010
5	890	1040	1130	932	968	1410	325	1010	1150	451	1000	923
6	847	997	977	1030	1010	519	837	1310	368	857	1030	345
7	296	946	313	1140	307	292	984	878	306	917	1200	148
8	722	1040	1440	961	293	326	834	887	466	889	840	888
9	571	296	1260	785	605	881	1290	515	470	952	454	749
10	543	807	814	707	841	1330	1110	490	366	867	622	929
11	527	342	752	311	860	933	292	891	209	947	1080	988
12	712	763	1090	525	783	689	293	1090	226	503	980	813
13	706	1020	938	676	1090	780	981	849	350	934	934	471
14	706	905	312	1020	1110	412	902	1080	356	920	962	707
15	515	761	1090	877	290	299	976	1230	751	916	776	905
16	646	496	1260	648	749	699	953	659	591	928	445	993
17	836	685	1300	590	820	759	1130	463	469	903	500	1390
18	730	915	1300	303	1220	984	337	662	934	897	892	886
19	652	816	1020	591	1270	1070	376	1030	1360	542	874	966
20	879	933	1010	1080	1220	1430	960	1050	438	807	1050	485
21	663	1030	313	746	425	872	1050	1050	399	1120	885	520
22	676	941	841	954	609	787	1290	741	771	1010	961	1030
23	740	302	946	815	528	1210	1950	516	508	912	452	813
24	679	705	1110	504	905	1090	1840	698	292	942	703	974
25	303	859	307	98	1100	1900	1680	515	287	913	963	959
26	239	1060	799	906	1000	3630	1530	602	372	521	1010	857
27	400	303	622	1430	938	1710	822	863	313	727	1150	395
28	165	296	323	1710	586	840	1260	588	306	855	1160	293
29	556	176	325	1490	---	506	1370	970	306	929	977	372
30	710	166	301	937	---	1290	1400	563	366	891	516	372
31	234	---	530	303	---	1140	---	548	---	926	543	---
TOTAL	20383	19157	27434	23566	22679	30789	29629	28138	17492	26334	26098	22756
MEAN	658	639	885	760	810	993	988	908	583	849	842	759
MAX	1070	1060	1520	1710	1270	3630	1950	2000	1680	1120	1200	1390
MIN	165	108	301	98	290	282	292	463	209	451	445	148
AC-FT	40430	38000	54420	46740	44980	61070	58770	55810	34700	52230	51770	45140
CAL YR 1980	TOTAL	714478	MEAN									

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020129, 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 mi² (1,743 km²).

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 ft³/s (31.41 m³/s), 802,900 acre-ft/yr (990 hm³/yr); 19 years (water years 1963-81), 1,412 ft³/s (39.99 m³/s), 1,023,000 acre-ft/yr (1.26 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,800 ft³/s (2,030 m³/s) Dec. 23, 1955, gage height, 21.37 ft (6.514 m); minimum daily, 14 ft³/s (0.40 m³/s) on several days during July 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 ft³/s (1,830 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,340 ft³/s (151 m³/s) Mar. 25, gage height, 8.87 ft (2.704 m); minimum daily, 129 ft³/s (3.65 m³/s) Nov. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1150	205	681	334	379	345	1190	1970	667	748	997	917
2	1040	175	1530	330	841	655	658	1810	893	946	543	880
3	1040	129	1530	526	1230	1010	935	1680	1180	961	773	766
4	1050	135	1140	398	967	1050	461	1190	1630	665	868	879
5	1040	969	1320	738	965	1670	373	1120	1470	491	949	892
6	766	997	1040	983	1090	645	732	1160	477	806	1010	586
7	419	981	390	1160	413	370	959	919	351	910	1100	183
8	735	980	1220	959	343	350	909	1110	413	905	899	890
9	590	443	1360	955	565	687	1300	560	523	938	619	760
10	557	670	973	706	894	1470	1130	522	340	821	564	900
11	542	510	784	438	903	872	464	779	275	1010	1040	930
12	733	688	1090	368	784	880	270	1070	241	567	911	820
13	673	1030	960	783	1020	810	958	871	359	921	963	520
14	731	959	345	1040	1390	462	987	1120	381	944	928	695
15	565	803	965	946	353	352	991	1240	665	908	860	897
16	624	521	1190	681	563	672	980	856	673	918	554	967
17	883	659	1340	633	857	869	1050	491	474	907	452	1060
18	696	939	1370	346	1260	999	459	688	740	902	905	957
19	694	670	1100	579	1320	1620	880	1040	1350	557	882	783
20	878	1100	1030	1030	1260	2070	1040	1080	684	783	994	700
21	679	1020	395	902	689	1250	1180	1100	417	903	891	484
22	692	975	844	825	602	987	1110	947	694	937	919	983
23	758	368	728	941	588	1130	1850	561	574	894	566	818
24	699	718	1330	746	955	1350	1820	725	360	881	637	950
25	334	876	351	162	975	2230	1840	551	265	931	927	987
26	303	1030	581	704	1200	4280	1480	614	390	556	921	932
27	215	395	800	1840	1090	1920	1100	893	345	645	1070	490
28	422	324	409	2080	667	1200	1030	619	314	843	1200	311
29	491	240	348	2090	---	607	1360	852	320	857	1020	366
30	591	204	330	1250	---	1170	1370	711	368	912	640	429
31	426	---	544	434	---	1250	---	566	---	909	536	---
TOTAL	21016	19713	28018	25907	24163	35232	30866	29415	17833	25876	26138	22732
MEAN	678	657	904	836	863	1137	1029	949	594	835	843	758
MAX	1150	1100	1530	2090	1390	4280	1850	1970	1630	1010	1200	1060
MIN	215	129	330	162	343	345	270	491	241	491	452	183
AC-FT	41690	39100	55570	51390	47930	69880	61220	58340	35370	51330	51840	45090
CAL YR 1980 TOTAL	787652	MEAN	2152	MAX	25100	MIN	129	AC-FT	1562000			
WTR YR 1981 TOTAL	306909	MEAN	841	MAX	4280	MIN	129	AC-FT	608800			

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, 1978 to November 1980.
 BIOLOGICAL DATA: Water years 1979-80.
 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, 24.0°C June 25; minimum recorded, 5.0°C Mar. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (UMHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
NOV 05...	1015	34	7.5	12.0	10.8	.30	.00	.000	.010

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
NOV 05...	.29	.29	.29	.00	.30	.006	.010	.000

SAN JOAQUIN RIVER BASIN

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

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

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, Hydrologic Unit 18020128, 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 mi² (4,820 km²).

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 National Geodetic Vertical Datum of 1929 (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 km³) 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 km³). 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 km³) June 15, 1963, elevation, 467.23 ft (142.412 m); minimum since storage pool first filled, 140,600 acre-ft (173 hm³) Nov. 20, 21, 1977, elevation, 347.57 ft (105.939 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 957,400 acre-ft (1.18 km³) May 5, elevation, 461.32 ft (140.610 m); minimum, 600,000 acre-ft (740 hm³) Sept. 30, elevation, 425.91 ft (129.817 m).

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

345	133,100	400	393,300
350	148,000	420	548,300
360	181,900	440	732,900
370	222,300	460	942,600
380	270,700	480	1,176,000
390	327,800		

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	669200	626300	635300	628000	658900	709400	856000	946900	880300	719900	656600	616700
2	667600	624800	637600	627300	659700	710300	859400	951600	879800	714100	654000	616600
3	665900	623600	640900	627000	661600	711600	863000	954600	878500	709600	651400	616100
4	664000	621900	643600	626700	662800	714500	865300	956100	878900	705600	649500	615600
5	662700	622100	645000	626700	663900	719000	866500	957400	878500	701100	648300	615600
6	659500	622600	644700	626500	665300	720500	869000	953200	876600	698300	647100	615000
7	655900	623400	642700	626700	665600	721500	872400	948000	871800	697800	645700	612900
8	653500	624500	642000	625400	664900	721700	875400	943100	862900	696900	644900	611400
9	650800	625100	643100	624600	664700	721700	878400	936900	853500	695800	643100	611000
10	648000	624900	643100	623900	665500	724300	881300	930300	846600	694500	640600	610600
11	645400	625200	642300	623000	666600	725700	883400	924000	840300	692700	639200	610900
12	643200	625200	641400	621300	667400	727800	884200	918300	835000	690800	637600	613200
13	641100	626200	641200	620600	668900	729100	886400	912100	829500	688500	635600	614400
14	639200	627200	639300	620700	675000	729800	888800	906600	824000	687000	633600	615400
15	637900	627700	638600	620700	678700	730700	891400	901600	819100	685500	631700	616400
16	636700	628000	638800	620700	680500	731900	894200	895800	814900	683700	629500	617600
17	635500	627400	639200	619800	683600	733400	896800	888500	810000	682200	626700	618600
18	635400	628200	639900	618000	687200	735200	898300	882500	804700	680900	625200	620100
19	635900	628500	639900	616400	690300	745800	901300	881600	801400	679000	623400	619500
20	636300	630300	639600	616200	694000	758300	903800	880500	796800	677000	621700	618900
21	636400	631700	638600	615900	696100	765200	906700	880700	790700	675300	621100	617700
22	636100	632600	637700	616600	696900	771700	909600	881200	783600	673900	620600	617100
23	636400	632600	637200	617100	697800	776600	914200	881000	777000	672800	619800	616200
24	636300	633000	638100	617500	700400	781400	920000	880400	769800	671300	618300	616400
25	636100	634200	636300	615900	702800	794700	925500	880000	762600	670300	617600	616200
26	635300	635200	634800	615100	705600	818100	929000	879900	755700	668600	616500	614200
27	633800	635400	634100	623700	707800	829600	931800	880300	748600	666200	616700	610900
28	632500	635400	632900	637300	709000	836800	933600	880800	740500	663900	617600	607900
29	630900	635200	631300	651200	---	841300	937700	881300	733100	662100	618200	603700
30	629400	635100	629600	656600	---	846600	941900	881600	726100	660300	618000	600000
31	628200	---	628600	658300	---	851400	---	881100	---	658300	617100	---
MAX	669200	635400	645000	658300	709000	851400	941900	957400	880300	719900	656600	620100
MIN	628200	621900	628600	615100	658900	709400	856000	879900	726100	658300	616500	600000
†	429.02	429.76	429.06	432.26	437.56	451.59	459.93	454.37	439.31	432.26	427.80	425.91
‡	-41600	+6900	-6500	+29700	+50700	+142400	+90500	-60800	-155000	-67800	-41200	-17100
††	3150	1680	520	310	1080	1550	3780	5590	7570	6990	5750	4210

CAL YR 1980 ‡ +7200

WTR YR 1981 ‡ -69800

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11446400 AMERICAN RIVER AT NIMBUS DAM, AT FAIR OAKS, CA

LOCATION.--Lat 38°38'06", long 121°13'10", in Rio de Los Americanos Grant, Sacramento County, Hydrologic Unit 18020111, on left bank 200 ft (61 m) downstream from Nimbus Dam and 1.0 mi (1.6 km) south of Fair Oaks.

DRAINAGE AREA.--1,887 mi² (4,887 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

BIOLOGICAL DATA: Water year 1979.

REMARKS.--Site is located just upstream from Nimbus Fish Hatchery. Records of discharge given for American River at Fair Oaks (station 11446500).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/21	12 35	1550	46	6.9	15.5	8.1	4.0		0	0.02	0.01
80/11/13	14 30	1550	49	6.9	14.5	8.7	3.0		0	0.03	0.00
80/12/11	15 00	2460	47	6.8	11.5	9.9	3.0		8	0.03	0.00
81/01/08	14 15	2190	45	7.1	9.5	11.1	3.0		1	0.02	0.00
81/02/24	14 10	1540	58	7.5	11.0	11.6	6.0		1	0.06	0.01
81/03/19	14 20	1530	57	7.3	11.5	11.4	5.0		2	0.05	0.00
81/04/21	13 25	1550	62	7.3	13.0	10.8	4.0	0.8	2	0.03	
81/05/13	08 00	4370	60	7.5	13.5	10.2	4.0		1	0.05	
81/06/09	12 45	5080	59	7.8	14.0	9.5	4.0		2	0.04	

DATE	TIME	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/10/21	12 35	0.00	0.01	0.00	
80/11/13	14 30	0.10	0.01	0.00	
80/12/11	15 00	0.20	0.01	0.00	
81/01/08	14 15	0.10	0.02	0.02	
81/02/24	14 10	0.10	0.01	0.00	
81/03/19	14 20	0.20	0.01	0.00	
81/04/21	13 25	0.10	0.01		1.8
81/05/13	08 00	0.10	0.01		
81/06/09	12 45	0.10	0.01		

DATE	TIME	ARSENIC AS,DISS (UG/L)	BARIUM BA,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CR,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGNESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)	SELENIUM SE,DISS (UG/L)
80/11/13	14 30	0	0	0	0	0	0	0	0	0.0	10
81/04/21	13 25	0	0	0	0	0	20	0	10	0.0	0
81/06/09	12 45	0	0	0	0	10	40	0	10	0.0	0

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, Hydrologic Unit 18020111, 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 mi² (4,890 km²).

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) National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to July 15, 1970.

REMARKS.--Records good. 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 hm³) between normal operating elevations, 118.5 ft (36.12 m) and 125.0 ft (38.10 m) and by Nimbus powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, 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).--77 years, 3,739 ft³/s (105.9 m³/s), 2,709,000 acre-ft/yr (3.34 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 180,000 ft³/s (5,100 m³/s) Nov. 21, 1950, gage height, 31.85 ft (9.708 m) site and datum then in use; minimum, 3.6 ft³/s (0.10 m³/s) Aug. 16, 1924. Maximum discharge since construction of Folsom Dam in 1953, 115,000 ft³/s (3,260 m³/s) Dec. 23-25, 1964, gage height, 27.65 ft (8.428 m), present datum; minimum, 86 ft³/s (2.44 m³/s) Apr. 7, 1955.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,140 ft³/s (146 m³/s) June 9, gage height, 8.42 ft (2.566 m); minimum daily, 477 ft³/s (13.5 m³/s) Sept. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2470	1610	1470	2070	1490	1550	1520	1530	1510	3530	1520	1000
2	2550	1610	1470	2020	1500	1550	1520	1530	1530	3480	1530	1000
3	2610	1600	1550	2020	1500	1540	1520	1530	1990	3000	1510	1020
4	2580	1600	2340	2030	1510	1550	1510	1510	2010	2480	1490	1030
5	2560	1580	2390	2020	1530	1550	1510	1540	2020	2400	1500	1030
6	2580	1550	2390	2020	1550	1540	1510	3980	2090	1930	1490	1030
7	2500	1550	2400	2010	1540	1540	1530	4430	3050	1540	1500	1020
8	2050	1540	2400	2050	1520	1530	1550	4410	4910	1510	1510	1030
9	2040	1540	2410	2020	1530	1530	1550	4390	5040	1510	1500	1020
10	2030	1540	2500	1730	1530	1540	1550	4390	3640	1510	1500	1030
11	2030	1540	2490	1550	1460	1530	1550	4400	3510	1510	1490	935
12	2030	1540	2460	1550	1540	1540	1560	4400	2970	1500	1510	503
13	2030	1540	2450	1560	1520	1540	1570	4410	2940	1500	1540	477
14	2010	1540	2460	1540	1500	1540	1570	4410	2960	1500	1540	485
15	1570	1550	2470	1540	1500	1540	1580	4420	3010	1500	1540	499
16	1560	1530	2490	1530	1500	1540	1570	4400	3010	1510	1540	502
17	1570	1510	2510	1530	1470	1540	1570	4410	3020	1510	1540	515
18	1570	1480	2500	1530	1520	1550	1570	4360	3030	1500	1540	552
19	1570	1480	2510	1540	1560	1550	1570	3160	3080	1510	1540	1180
20	1570	1470	2490	1530	1540	1540	1580	2950	3460	1500	1470	1210
21	1560	1470	2500	1520	1510	1530	1540	1900	3450	1500	1010	1230
22	1560	1460	2510	1540	1530	1520	1540	1570	3720	1500	1000	1210
23	1550	1460	2510	1550	1550	1520	1540	1540	4030	1500	1000	1220
24	1600	1470	2490	1560	1550	1530	1550	1530	4020	1530	1000	1220
25	1630	1470	2490	1550	1550	1540	1550	1540	4020	1530	1000	1250
26	1620	1470	2500	1550	1560	1540	1540	1550	4010	1520	1000	2290
27	1620	1470	2500	1560	1560	1530	1550	1540	4000	1520	1010	2400
28	1620	1470	2500	1520	1560	1530	1540	1530	3950	1520	1010	2440
29	1620	1460	2440	1510	---	1510	1550	1520	3520	1520	1010	2470
30	1650	1460	2400	1490	---	1520	1540	1510	3540	1520	1010	2480
31	1650	---	2380	1490	---	1520	---	1510	---	1520	1010	---
TOTAL	59160	45560	73370	52230	42680	47620	46400	87800	97040	54610	41360	35278
MEAN	1908	1519	2367	1685	1524	1536	1547	2832	3235	1762	1334	1176
MAX	2610	1610	2510	2070	1560	1550	1580	4430	5040	3530	1540	2480
MIN	1550	1460	1470	1490	1460	1510	1510	1510	1510	1500	1000	477
AC-FT	117300	90370	145500	103600	84660	94450	92030	174200	192500	108300	82040	69970
MEAN ‡	1411	1765	2355	2246	2514	3932	3223	2111	1018	1083	1010	1147
AC-FT ‡	86750	105000	144800	138100	139600	241800	191800	129800	60550	66580	62080	68260
†	7899	6039	5268	4463	3187	3417	5515	10834	15224	19088	15536	11180

CAL YR 1980 TOTAL 1952142 MEAN 5334 MAX 80200 MIN 495 AC-FT 3872000 MEAN ‡ 5520 AC-FT ‡ 4007000
WTR YR 1981 TOTAL 683108 MEAN 1872 MAX 5040 MIN 477 AC-FT 1355000 MEAN ‡ 1982 AC-FT ‡ 1435000

‡ 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.

SACRAMENTO RIVER BASIN

11447000 AMERICAN RIVER AT SACRAMENTO, CA

LOCATION.--Lat 38°33'35", long 121°24'57", in Rio de Americanos Grant, Sacramento County, Hydrologic Unit 18020111, at filtration plant intake 2,000 ft (610 m) downstream from Howe Avenue bridge, and 4.3 mi (6.9 km) southeast of State Capitol at Sacramento.

DRAINAGE AREA.--1,936 mi² (5,014 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to current year.

BIOLOGICAL DATA: Water year 1979.

SEDIMENT RECORDS: Water year 1979.

REMARKS.--Streamflow data obtained from gaging station American River at Fair Oaks (station 11446500).

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+N03 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/21	13 45	1560	55	7.1	16.0	9.7	6.0		4	0.08	0.24
80/11/13	15 30	1540	60	7.2	14.0	10.5	3.0		0	0.09	0.26
80/12/11	14 20	2490	59	7.2	11.5	11.0	7.0		6	0.04	0.11
81/01/08	14 45	2050	54	7.2	9.5	10.8	4.0		2	0.07	0.22
81/02/24	13 15	1550	68	7.4	11.5	13.0	7.0		9	0.14	
81/03/19	13 45	1550	67	7.1	12.0	10.2	10		9	0.18	0.29
81/04/21	14 15	1540	70	7.9	14.5	12.1	5.0	1.3	3	0.07	
81/05/13	09 00	4410	67	7.4	14.0	10.0	6.0		6	0.05	
81/06/09	13 45	5040	63	8.1	18.0	10.3	7.0		4	0.04	

DATE	TIME	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/10/21	13 45	0.40	0.15	0.12	
80/11/13	15 30	0.50	0.14	0.11	
80/12/11	14 20	0.30	0.07	0.05	
81/01/08	14 45	0.40	0.07	0.04	
81/02/24	13 15	0.50	0.16		
81/03/19	13 45	0.70	0.20	0.16	
81/04/21	14 25	0.40	0.14		2.4
81/05/13	09 00	0.20	0.05		
81/06/09	13 45	0.30	0.05		

DATE	TIME	ARSENIC AS,DISS (UG/L)	BARIUM BA,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CR,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGNESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)	SELENIUM SE,DISS (UG/L)
80/11/13	15 30	0	0	0	0	10	10	0	10	0.0	0
81/04/21	14 15	0	0	10	0	10	20	0	10		0
81/06/09	13 45	0	0	0	0	10	10	0	10	0.0	0

11447650 SACRAMENTO RIVER AT FREEPORT, CA

LOCATION.--Lat 38°27'15", long 121°29'54", Sacramento County, Hydrologic Unit 18020109, on left bank 630 ft (192 m) downstream from drawbridge at Freeport, and 11 mi (18 km) south of Sacramento.

DRAINAGE AREA.--Indeterminate.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--January 1904 to July 1905 (gage heights only), June to November 1921, October 1948 to current year. Prior to October 1979, published as Sacramento River at Sacramento (station 11447500). Gage heights collected in the vicinity of "at Sacramento" gage 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 National Geodetic Vertical Datum of 1929. 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. All at datum of low-water mark of Oct. 23, 1856, 0.12 ft (0.037 m) NGVD. Nov. 17, 1956, to Sept. 30, 1979, at site 1,000 ft (300 m) upstream from I Street Bridge. Auxiliary water-stage recorder on right bank 2.6 mi (4.2 km) upstream.

REMARKS.--Records good. 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). Streamflow records are considered equivalent to those obtained at I Street Bridge.

AVERAGE DISCHARGE.--33 years (water years 1949-81), 23,440 ft³/s (664 m³/s), 16,982,000 acre-ft/yr (20.9 km³/yr).

EXTREMES FOR PERIOD OF RECORD (since 1949).--Maximum discharge, 104,000 ft³/s (2,950 m³/s) Nov. 21, 1950, elevation, 30.14 ft (9.187 m) site and datum then in use; minimum daily, 3,970 ft³/s (112 m³/s) Oct. 15, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known prior to Nov. 21, 1950, 103,000 ft³/s (2,920 m³/s) Jan. 17, 1909, elevation, 29.6 ft (9.02 m) site then in use at present datum, from reports of California Department of Water Resources.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 54,100 ft³/s (1,530 m³/s) Jan. 31, elevation, 11.63 ft (3.545 m); maximum elevation, 11.71 ft (3.569 m) Feb. 1; minimum daily discharge, 8,630 ft³/s (244 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14100	9960	11700	13900	52500	19200	35000	10100	11400	13100	16600	12900
2	14100	9650	11400	13500	45700	18300	33900	9800	10800	13700	16800	12900
3	14300	9750	11700	13400	37100	17400	32000	9400	10500	14000	17100	13100
4	14100	9990	15700	13100	31600	17000	29800	9200	9990	13500	17000	13200
5	13900	10300	27700	13000	28400	17500	27500	9000	9390	14000	16700	13500
6	14000	10600	29900	12900	25500	20500	24500	10800	9160	13700	16000	13200
7	13800	10600	26400	12500	23000	23800	22200	11900	9400	14100	15300	14100
8	13500	11000	23300	12600	20500	22400	20400	12500	11000	13300	15500	13700
9	13200	10700	21200	12700	18900	20200	18000	13300	12400	12800	15400	13500
10	13500	10900	19500	12400	17600	18500	16400	13500	12200	12600	15300	13900
11	12900	10800	18500	12100	16500	16900	15900	13900	11000	12200	15300	13800
12	12400	10900	17300	11900	15500	15900	15400	13800	11000	12400	14800	13900
13	11900	11100	16500	11900	15000	15300	14600	13800	10900	12900	14300	13900
14	11900	11200	16000	11600	15300	14600	13500	13900	10800	13100	14300	13700
15	11800	11000	15200	11000	18400	14900	12300	13800	10600	13900	14200	13300
16	11900	11200	14700	10800	29300	16300	11600	14600	9840	15100	13900	13300
17	11200	11600	14400	10700	31200	16400	10200	14700	9860	16600	13900	13300
18	10300	10900	14300	10600	28400	18700	9630	15300	9350	17900	13500	12500
19	9530	10600	14500	10500	25600	20900	10900	16600	8880	18000	14200	12600
20	9100	10200	14400	11300	24300	24700	13100	17000	8980	18200	14200	12300
21	8800	11200	14500	12000	22300	30000	14000	18100	9310	18000	14400	12400
22	8760	11000	14800	12700	21400	30800	14700	17400	9900	17700	14200	11900
23	8850	11200	14800	15200	19900	32800	14300	16500	11200	17700	13800	11300
24	8630	11500	15100	22900	18700	35000	14200	15900	11600	17600	14700	11000
25	8910	11400	15200	33100	18400	35100	13700	15700	11800	17700	14700	11200
26	9320	11300	15000	32700	18000	36000	12800	15100	12100	17200	15000	11600
27	9280	11400	14800	29700	19700	39000	12600	14600	11900	17100	14400	12200
28	9370	11400	14800	31500	20000	40300	11900	14900	11700	16800	14000	12300
29	9340	11300	15100	42300	---	38800	11500	14800	12500	16500	14100	12000
30	9400	11500	14600	47400	---	37400	10200	14400	12400	16500	13700	11600
31	9560	---	14300	51900	---	35200	---	12900	---	16500	13100	---
TOTAL	351650	326150	517300	573800	678700	759800	516730	427200	321860	474400	460400	384100
MEAN	11340	10870	16690	18510	24240	24510	17220	13780	10730	15300	14850	12800
MAX	14300	11600	29900	51900	52500	40300	35000	18100	12500	18200	17100	14100
MIN	8630	9650	11400	10500	15000	14600	9630	9000	8880	12200	13100	11000
AC-FT	697500	646900	1026000	1138000	1346000	1507000	1025000	847400	638400	941000	913200	761900
CAL YR 1980 TOTAL	9446200	MEAN	25810	MAX	94600	MIN	8630	AC-FT	18740000			
WTR YR 1981 TOTAL	5792090	MEAN	15870	MAX	52500	MIN	8630	AC-FT	11490000			

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA

WATER-QUALITY RECORDS

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.

SEDIMENT RECORDS: Water years 1957 to current year (prior to water year 1980 published as 11447500 Sacramento River at Sacramento).

TURBIDITY: Water years 1972 to current year (prior to water year 1980 published as 11447500 Sacramento River at Sacramento).

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.

SEDIMENT RECORDS: October 1956 to current year.

INSTRUMENTATION.--Temperature recorder since June 1960.

REMARKS.--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. Records of sediment discharge from 1957 to 1979 were obtained at Sacramento and are considered equivalent.

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.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,960 mg/L Dec. 24, 1964; minimum daily mean, 8 mg/L Dec. 29, 30, 1976, and several days during May and June 1981.

SEDIMENT DISCHARGE: Maximum daily, 525,000 tons (476,000 metric tons) Dec. 24, 1964; minimum daily, 151 tons (137 metric tons) Oct. 21, 22, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 24.5°C June 5, 6, and Aug. 8, 9; minimum recorded, 8.0°C Dec. 10-13.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 635 mg/L Jan. 31; minimum daily mean, 8 mg/L on several days during May and June.

SEDIMENT DISCHARGE: Maximum daily, 89,000 tons (80,700 metric tons) Jan. 31; minimum daily, 192 tons (174 metric tons) June 19.

WATER QUALITY DATA. WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STEAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (UMHUS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCUCCI FECAL, KF AGAR (COLS. PEH 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT												
22...	1030	13100	153	7.7	15.5	1.1	9.1	35	K4	58	0	12
NOV												
25...	1030	9940	140	7.9	11.5	1.5	10.5	29	K11	54	0	11
DEC												
18...	1115	14000	144	7.4	9.0	6.4	11.2	K16	20	51	0	11
JAN												
14...	1045	6570	161	7.7	9.0	3.9	11.1	--	K7	56	0	12
FEB												
25...	1015	15400	188	7.9	11.5	24	10.5	K120	47	71	2	15
MAR												
27...	1045	41100	124	7.5	13.0	55	10.1	K820	250	48	0	11
APR												
28...	1015	13400	166	8.0	17.0	13	9.2	--	K13	61	0	13
MAY												
20...	1030	18800	164	7.8	17.5	8.3	8.8	--	27	53	0	11
JUN												
23...	1130	12100	131	7.8	23.5	5.5	8.0	K22	K4	47	0	10
JUL												
23...	1015	13800	153	7.9	22.0	10	8.3	K44	K21	54	1	11
AUG												
27...	0930	14400	196	7.9	22.0	15	7.9	40	42	72	0	14
SEP												
23...	1000	16100	237	7.8	21.0	17	7.7	26	>320	85	0	16

See footnotes at end of table.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	PERCENT SODIUM	SODIUM AD- SUMP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY FIELD (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT 22...	6.9	11	29	.6	1.3	61	9.0	8.5	.1	18	97	104
NOV 25...	6.5	9.3	27	.5	1.4	57	11	5.7	.1	17	94	97
DEC 18...	5.7	8.7	26	.5	1.3	56	7.7	5.1	.1	18	93	92
JAN 14...	6.4	9.9	27	.6	1.3	62	14	7.0	.1	20	99	109
FEB 25...	8.1	12	27	.6	1.1	69	15	9.6	.1	18	119	121
MAR 27...	5.1	6.8	23	.4	1.1	50	11	3.9	.1	19	86	89
APR 28...	7.0	11	28	.6	1.3	65	12	7.0	.1	19	117	110
MAY 20...	6.3	12	32	.7	1.1	62	9.0	6.6	.1	16	109	100
JUN 23...	5.3	7.0	24	.4	1.3	52	5.0	5.6	.0	18	89	84
JUL 23...	6.5	9.8	28	.6	1.2	53	1.0	5.5	.1	18	97	85
AUG 27...	9.0	15	31	.9	1.4	84	6.0	8.1	.1	21	122	125
SEP 23...	11	18	31	1.0	1.6	94	<5.0	15	.1	21	141	--

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 22...	.19	.16	.100	.100	.46	.46	.56	.56	.130	.130	2.5
NOV 25...	.19	.19	.180	.080	.33	.28	.51	.36	.100	.100	--
DEC 18...	.28	.24	.200	.200	.42	.26	.62	.46	.120	.100	3.4
JAN 14...	.25	.24	.320	.280	.98	.44	1.30	.72	.100	.100	3.0
FEB 25...	.24	.25	.130	.140	.62	.64	.75	.78	.150	.110	--
MAR 27...	.15	.14	.040	.040	.68	.62	.72	.66	.150	.050	4.7
APR 28...	.17	.18	.210	.230	.71	.49	.92	.72	.140	.090	4.4
MAY 20...	.13	.13	.220	.190	.40	.30	.62	.49	.120	.090	--
JUN 23...	.14	.13	.220	.240	.65	.67	.87	.91	.130	.100	3.2
JUL 23...	.11	.11	.090	.070	.64	.60	.73	.67	.090	.050	1.2
AUG 27...	.09	.08	.190	.200	.58	.46	.77	.66	.120	.090	--
SEP 23...	.11	.10	.270	.250	.59	.59	.86	.84	.140	.100	2.1

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)
NOV 25...	1030	2	1	0	20	5	<1	0	0	2	<3
FEB 25...	1015	2	1	100	40	0	<1	10	0	1	<3
MAY 20...	1030	2	2	100	40	1	<1	20	10	1	<3
AUG 27...	0930	4	4	0	70	0	<1	10	0	2	<3

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY RECORDS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 25...	4	3	400	20	8	0	20	8	.2	.0
FEB 25...	8	3	1600	30	1	0	50	5	.2	.1
MAY 20...	8	3	1200	50	2	2	40	10	.1	.1
AUG 27...	12	4	2300	42	4	0	60	10	.0	.0

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)
NOV 25...	2	1	0	0	0	0	10	4	4.6	.5
FEB 25...	4	4	0	0	0	0	10	8	3.4	.4
MAY 20...	3	1	0	0	0	0	10	9	3.6	.4
AUG 27...	4	4	0	0	0	0	20	23	2.5	.2

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

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES
OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	NOV 25,80 1030	MAR 27,81 1045	MAY 28,81 1100	JUN 23,81 1130
TOTAL CELLS/ML	490	700	1100	800
DIVERSITY: DIVISION	0.0	0.9	0.9	0.7
..CLASS	0.0	0.9	0.9	0.7
..ORDER	0.6	2.5	1.9	1.0
...FAMILY	0.6	2.8	2.0	1.2
....GENUS	1.8	3.1	2.7	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)								
..BACILLARIOPHYCEAE								
...ACHNANTHALES								
....ACHNANTHACEAE								
.....ACHNANTHES	--	-	56	8	13	1	--	-
.....COCCONEIS	--	-	14	2	--	-	--	-
.....RHOICOSPHENIA	--	-	--	-	--	-	--	-
..BACILLARIALES								
...NITZSCHIACEAE								
.....NITZSCHIA	--	-	140#	20	320#	30	13	2
...EPITHEMIALES								
....EPITHEMIA	--	-	14	2	--	-	--	-
...EUPODISCALES								
....COSCINODISCAEAE								
.....CYCLOTELLA	65	13	56	8	130	12	340#	42
.....MELOSIRA	120#	24	170#	24	190#	18	270#	34
.....STEPHANODISCUS	230#	47	--	-	150	14	--	-
..FRAGILARIALES								
...FRAGILARIAEAE								
.....ASTERIONELLA	77#	16	--	-	--	-	--	-
.....FRAGILARIA	--	-	--	-	13	1	--	-
.....SYNEDRA	--	-	--	-	--	-	--	-
...NAVICULALES								
....CYMBELLACEAE								
.....CYMBELLA	--	-	28	4	--	-	--	-
...NAVICULACEAE								
....NAVICULA	--	-	98	14	--	-	13	2
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...DICTYOSPHAERIAEAE								
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
.....ANKISTRODESMUS	--	-	42	6	26	2	65	8
.....CHODATELLA	--	-	--	-	--	-	--	-
.....KIRCHNERIELLA	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	13	1	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	56	8	180#	17	100	13
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	26	2	--	-
CHRYSTOPHYTA								
..CHRYSTOPHYCEAE								
...OCHROMONADALES								
...SYNURACEAE								
....MALLOMONAS	--	-	14	2	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
.....AGMENELLUM	--	-	--	-	--	-	--	-
.....ANACYSTIS	--	-	--	-	13	1	--	-
...NOSTOCALES								
....NOSTOCACEAE								
.....CYLINDROSPERMUM	--	-	--	-	--	-	--	-
...OSCILLATORIALES								
...OSCILLATORIAEAE								
.....LYNGBYA	--	-	--	-	--	-	--	-
....OSCILLATORIA	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...DINOKONTAE								
...GYMNODINIACEAE								
....GYMNODINIUM	--	-	14	2	--	-	--	-

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES
OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

PHYTOPLANKTON

DATE TIME	JUL 23,81 1015	AUG 27,81 1100	SEP 23,81 1000
TOTAL CELLS/ML	1500	19000	490
DIVERSITY: DIVISION	1.0	0.2	0.0
..CLASS	1.0	0.2	0.0
..ORDER	2.0	0.9	0.0
...FAMILY	2.1	0.9	0.0
....GENUS	2.2	0.9	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
BACILLARIOPHYTA (DIATOMS)						
..BACILLARIOPHYCEAE						
...ACHNANTHALES						
....ACHNANTHACEAE						
.....ACHNANTHES	14	1	* 0	--	--	--
.....COCCONEIS	--	--	--	--	--	--
.....RHOICOSPHEMIA	--	--	100	1	--	--
..BACILLARIALES						
...NITZSCHIAEAE						
.....NITZSCHIA	28	2	--	--	--	--
..EPITHEMIALES						
...EPITHEMIAEAE						
.....EPITHEMIA	--	--	--	--	--	--
...EUPODISCALES						
....COSCIDISCAEAE						
.....CYCLOTELLA	140	9	* 0	--	--	--
.....HELOSIRA	42	3	--	--	--	--
.....STEPHANODISCUS	--	--	--	--	--	--
..FRAGILARIALES						
...FRAGILARIAEAE						
.....ASTERIONELLA	--	--	--	--	--	--
.....FRAGILARIA	--	--	--	--	--	--
.....SYNEDRA	14	1	--	--	--	--
..NAVICULALES						
...CYMBELLACEAE						
.....CYMBELLA	--	--	* 0	--	--	--
...NAVICULACEAE						
....NAVICULA	28	2	170	1	--	--
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....DICTYOSPHAERIAEAE						
.....DICTYOSPHAERIUM	14	1	--	--	--	--
...OOCYSTACEAE						
.....ANKISTRODESOMUS	--	--	--	--	--	--
.....CHODATELLA	14	1	--	--	--	--
.....KIRCHNERIELLA	14	1	--	--	--	--
.....OOCYSTIS	--	--	--	--	--	--
...SCENEDESMACEAE						
.....SCENEDESMUS	84	5	--	--	--	--
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	--	--	--	--	--
CHRYSTOPHYTA						
..CHRYSTOPHYCEAE						
...OCHROMONADALES						
....SYNURACEAE						
.....MALLONAS	--	--	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
....CHROOCOCCACEAE						
.....AGMENELLUM	450#	29	--	--	--	--
.....ANACYSTIS	--	--	--	--	--	--
...NOSTOCALES						
....NOSTOCACEAE						
.....CYLINDROSPERMUM	--	--	3400#	19	--	--
...OSCILLATORIALES						
....OSCILLATORIAEAE						
.....LYNGBYA	--	--	15000#	79	--	--
....OSCILLATORIA	700#	45	--	--	490#	100
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...DINOKONTAE						
....GYMNODINIAEAE						
.....GYMNODINIUM	--	--	--	--	--	--

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

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

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

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	OCTOBER			NOVEMBER			DECEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	14100	22	838	9960	16	430	11700	21	663
2	14100	22	838	9650	13	339	11400	22	677
3	14300	18	695	9750	12	316	11700	25	790
4	14100	19	723	9990	12	324	15700	31	1310
5	13900	20	751	10300	12	334	27700	65	4860
6	14000	20	756	10600	12	343	29900	83	6700
7	13800	16	596	10600	13	372	26400	105	7480
8	13500	16	583	11000	14	416	23300	91	5720
9	13200	19	677	10700	13	376	21200	76	4350
10	13500	20	729	10900	14	412	19500	58	3050
11	12900	18	627	10800	14	408	18500	50	2500
12	12400	14	469	10900	14	412	17300	50	2340
13	11900	13	418	11100	14	420	16500	43	1920
14	11900	12	386	11200	14	423	16000	26	1120
15	11800	14	446	11000	14	416	15200	24	985
16	11900	15	482	11200	14	423	14700	19	754
17	11200	17	514	11600	11	345	14400	20	778
18	10300	18	501	10900	11	324	14300	22	849
19	9530	18	463	10600	10	286	14500	22	861
20	9100	19	467	10200	9	248	14400	21	816
21	8800	17	404	11200	12	363	14500	22	861
22	8760	15	355	11000	14	416	14800	23	919
23	8850	13	311	11200	14	423	14800	24	959
24	8630	13	303	11500	15	466	15100	24	978
25	8910	14	337	11400	16	492	15200	23	944
26	9320	14	352	11300	18	549	15000	23	931
27	9250	14	351	11400	16	492	14800	21	839
28	9370	15	379	11400	16	492	14800	21	839
29	9340	15	378	11300	14	427	15100	20	815
30	9400	18	457	11500	18	559	14600	20	788
31	9560	16	413	---	---	---	14300	19	734
TOTAL	351650	---	15999	326150	---	12046	517300	---	58130

DAY	JANUARY			FEBRUARY			MARCH		
	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13900	17	638	52500	608	86200	19200	10	518
2	13500	15	547	45700	365	45000	18300	10	494
3	13400	13	470	37100	200	20000	17400	30	1410
4	13100	11	389	31600	166	14200	17000	35	1610
5	13000	11	386	28400	180	13800	17500	44	2080
6	12900	11	383	25500	208	14300	20500	66	3650
7	12500	12	405	23000	164	10200	23800	58	3730
8	12600	12	408	20500	100	5530	22400	56	3390
9	12700	12	411	18900	106	5410	20200	55	3000
10	12400	13	435	17600	100	4750	18500	55	2750
11	12100	13	425	16500	68	3030	16900	50	2280
12	11900	15	482	15500	100	4180	15900	40	1720
13	11900	14	450	15000	50	2030	15300	50	2070
14	11600	14	438	15300	40	1650	14600	52	2050
15	11000	15	445	18400	90	4470	14900	44	1770
16	10800	19	554	29300	430	34000	16300	58	2550
17	10700	16	462	31200	546	46000	16400	55	2440
18	10600	14	401	28400	390	29900	18700	41	2070
19	10500	14	397	25600	324	22400	20900	53	2990
20	11300	12	366	24300	244	16000	24700	114	7600
21	12000	12	389	22300	180	10800	30000	157	12700
22	12700	13	446	21400	168	9710	30800	152	12600
23	15200	15	616	19900	144	7740	32800	211	18700
24	22900	15	927	18700	70	3530	35000	245	23200
25	33100	156	13900	18400	80	3970	35100	200	19000
26	32700	275	24300	18000	76	3690	36000	186	18100
27	29700	256	20500	19700	50	2660	39000	160	16800
28	31500	276	23500	20000	14	756	40300	158	17200
29	42300	370	42300	---	---	---	38800	150	15700
30	47400	564	72200	---	---	---	37400	185	18700
31	51900	635	89000	---	---	---	35200	153	14500
TOTAL	573800	---	296970	678700	---	425906	759800	---	237372

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DAY	APRIL			MAY			JUNE		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	35000	113	10700	10100	10	273	11400	29	893
2	33900	112	10300	9800	9	238	10800	11	321
3	32000	111	9590	9400	8	203	10500	10	283
4	29800	110	8850	9200	8	199	9990	10	270
5	27500	109	8090	9000	8	194	9390	8	203
6	24500	105	6950	10800	11	321	9160	8	198
7	22200	97	5810	11900	14	450	9400	8	203
8	20400	89	4630	12500	16	540	11000	12	356
9	18000	70	3400	13300	18	646	12400	15	502
10	16400	75	3320	13500	19	693	12200	15	494
11	15400	74	3180	13900	20	751	11000	12	356
12	15400	72	2990	13800	20	745	11000	12	356
13	14600	67	2640	13800	25	931	10900	11	324
14	13500	47	1710	13900	23	863	10800	11	321
15	12300	34	1130	13800	21	782	10600	11	315
16	11600	31	971	14600	24	946	9840	10	266
17	10200	27	744	14700	24	953	9860	9	240
18	9630	28	728	15300	26	1070	9350	8	202
19	10900	30	883	16600	25	1120	8880	8	192
20	13100	35	1240	17000	41	1880	8980	8	194
21	14000	46	1740	18100	82	4010	9310	8	201
22	14700	50	1980	17400	85	3990	9900	9	241
23	14300	52	2010	16500	84	3740	11200	12	363
24	14200	39	1500	15900	78	3350	11600	13	407
25	13700	28	1040	15700	62	2630	11800	14	446
26	12800	23	795	15100	63	2570	12100	14	457
27	12600	31	1050	14600	50	1970	11900	14	450
28	11900	14	450	14900	34	1370	11700	13	411
29	11500	13	404	14800	41	1640	12500	16	540
30	10200	10	275	14400	41	1590	12400	16	536
31	---	---	---	12900	39	1360	---	---	---
TOTAL	516730	---	99100	427200	---	42018	321860	---	10541
DAY	JULY			AUGUST			SEPTEMBER		
	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	13100	17	601	16600	33	1480	12900	37	1290
2	13700	19	703	16800	34	1540	12900	34	1180
3	14000	21	794	17100	36	1660	13100	31	1100
4	13500	19	693	17000	35	1610	13200	28	998
5	14000	21	794	16700	34	1530	13500	37	1350
6	13700	19	703	16000	31	1340	13200	33	1180
7	14100	21	799	15300	31	1280	14100	28	1070
8	13300	18	646	15500	26	1090	13700	28	1040
9	12800	16	553	15400	32	1330	13500	28	1020
10	12600	16	544	15300	36	1490	13900	27	1010
11	12200	15	494	15300	34	1400	13800	30	1120
12	12400	15	502	14800	34	1360	13900	29	1090
13	12900	17	592	14300	36	1390	13900	28	1050
14	13100	17	601	14300	35	1350	13700	28	1040
15	13900	21	788	14200	36	1380	13300	29	1040
16	15100	25	1020	13900	34	1280	13300	31	1110
17	16600	32	1430	13900	35	1310	13300	43	1540
18	17900	41	1980	13500	29	1060	12500	39	1320
19	18000	42	2040	14200	28	1070	12600	38	1290
20	18200	42	2060	14200	25	958	12300	39	1300
21	18000	42	2040	14400	20	778	12400	43	1440
22	17700	41	1960	14200	23	882	11900	42	1350
23	17700	37	1770	13800	26	969	11300	30	915
24	17600	43	2040	14700	36	1430	11000	33	980
25	17700	41	1960	14700	36	1430	11200	36	1090
26	17200	37	1720	15000	28	1130	11600	37	1160
27	17100	36	1660	14400	32	1240	12200	38	1250
28	16800	34	1540	14000	38	1440	12300	32	1060
29	16500	33	1470	14100	37	1410	12000	36	1170
30	16500	33	1470	13700	35	1290	11600	34	1060
31	16500	33	1470	13100	35	1240	---	---	---
TOTAL	474400	---	37437	460400	---	40147	384100	---	34613
YEAR	5792090		1310279						

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
OCT									
22...	1000	13200	15.5	14	499	99	100	--	--
NOV									
25...	1100	11400	10.5	10	308	89	--	--	--
DEC									
11...	0930	16000	8.0	46	1990	97	--	--	--
18...	1040	14900	9.0	22	885	76	82	88	100
JAN									
14...	1020	6410	9.0	8	138	82	--	--	--
FEB									
25...	0930	14300	11.5	42	1620	99	100	--	--
MAR									
27...	1000	37800	12.5	--	--	57	74	92	100
APR									
28...	1015	13400	--	29	1050	93	--	--	--
MAY									
20...	1000	18200	17.0	25	1230	100	--	--	--
JUN									
23...	1020	6030	24.0	9	147	89	--	--	--
JUL									
23...	0910	14800	18.5	24	959	92	--	--	--
AUG									
27...	0930	14400	22.0	37	1440	92	--	--	--
SEP									
23...	0930	16200	21.0	46	2010	85	--	--	--

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
OCT						
01...	1900	17300	19.0	20	934	9.0
02...	1900	16900	19.0	18	821	8.0
08...	2145	16100	--	17	739	4.0
10...	1630	12600	--	17	578	5.0
13...	1930	6170	16.0	11	183	4.0
14...	1400	13600	17.5	13	477	3.0
18...	1130	10100	15.5	16	436	5.0
19...	1130	11800	--	16	510	5.0
20...	1030	13200	16.0	22	784	7.0
22...	1015	13100	15.5	17	601	4.0
22...	1030	13200	15.5	17	606	4.0
24...	1900	989	16.5	11	29	4.0
26...	2345	13800	16.5	15	559	4.0
30...	1910	11800	16.5	21	669	4.0
31...	1245	2380	17.0	12	77	3.0
NOV						
03...	1630	6240	--	10	168	2.0
05...	1740	7710	14.5	10	208	1.0
15...	2345	9040	11.5	12	293	5.0
19...	1750	13200	10.5	10	356	4.0
21...	1830	9520	11.0	8	206	2.0
23...	1720	3240	11.5	9	79	2.0
25...	1030	9940	11.5	--	--	1.5
25...	1055	11100	10.5	12	360	2.0
25...	1100	11400	10.5	10	308	3.0
25...	1645	8900	11.0	19	457	3.0
DEC						
04...	1545	11300	11.0	--	--	7.0
05...	1715	24500	11.5	95	6280	25
07...	1720	22300	10.0	111	6680	40
10...	1600	18400	9.5	51	2530	20
11...	0930	16000	8.0	46	1990	18
12...	1740	17000	9.0	98	4500	17
16...	1610	15200	9.0	18	739	7.0
18...	1040	14900	9.0	22	885	5.0
18...	1105	13700	9.0	22	814	7.0
18...	1115	14000	9.0	--	--	6.4
19...	1715	13100	10.0	10	354	5.0
20...	1230	14100	10.0	19	723	6.0
23...	1430	16000	10.5	24	1040	6.0

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
DEC						
29...	1910	17400	10.0	21	987	7.0
JAN						
02...	1830	15500	9.5	15	628	5.0
05...	1710	7400	11.0	9	180	4.0
12...	1410	12900	10.0	17	592	4.0
14...	1015	6570	9.0	7	124	4.0
14...	1035	5920	9.0	8	128	4.0
14...	1045	6570	9.0	--	--	3.9
14...	1720	14700	10.5	20	794	5.0
16...	1700	13200	11.5	23	820	3.0
21...	1945	9730	12.0	9	236	4.0
24...	1940	25200	11.5	14	953	7.0
27...	1630	31300	10.0	258	21800	100
29...	1210	41200	10.0	370	41200	70
30...	1430	47200	10.0	616	78500	160
31...	1315	51600	10.0	635	88500	180
FEB						
02...	1820	43600	9.0	236	27800	70
04...	1630	28200	10.0	126	9590	45
09...	2010	15700	10.0	60	2540	25
11...	1450	18500	11.0	53	2650	20
14...	1330	8530	12.5	20	461	10
17...	1730	29200	12.5	574	45300	280
21...	1810	20300	12.0	140	7670	45
22...	1720	21600	12.0	114	6650	30
24...	1310	19900	12.0	69	3710	20
25...	0920	14100	11.5	44	1680	10
25...	1000	15000	11.5	41	1660	15
26...	1815	20300	11.5	60	3290	15
27...	1620	21000	12.0	50	2840	10
MAR						
03...	1810	16100	11.5	34	1480	10
06...	1630	15100	12.5	50	2040	10
11...	1845	16500	14.0	42	1870	10
12...	1620	15000	14.5	38	1540	10
13...	1710	15100	14.5	46	1880	6.0
17...	1630	13400	13.0	28	1010	8.0
19...	1810	18200	13.0	45	2210	10
20...	1420	26300	12.5	102	7240	25
22...	1830	29500	12.0	143	11400	15
24...	1645	35700	12.5	282	27200	65
26...	1620	38900	13.5	195	20500	25
27...	1000	37800	12.5	--	--	30
27...	1025	37800	13.0	158	16100	30
27...	1045	41100	13.0	--	--	55
29...	0915	38500	13.5	146	15200	20
30...	2010	37700	14.5	179	18200	20
31...	1730	34900	15.0	131	12300	20
APR						
01...	1605	33800	14.0	106	9670	15
04...	1515	29300	14.5	109	8620	15
07...	1745	21000	15.0	94	5330	20
09...	1730	20600	16.5	65	3620	15
12...	1930	18200	16.5	74	3640	15
16...	1940	13500	17.5	32	1170	5.0
17...	1715	4340	17.5	21	246	5.0
21...	1745	12700	17.0	47	1610	7.0
23...	1615	18600	18.0	60	3010	9.0
26...	1530	16600	18.5	31	1390	6.0
28...	1830	15500	--	31	1300	9.0
29...	1740	14500	--	23	900	6.0
MAY						
02...	1505	9550	--	83	2140	6.0
06...	0730	896	--	19	46	8.0
08...	1330	16300	--	22	968	8.0
09...	2015	16200	--	27	1180	7.0
14...	1630	10400	18.5	12	337	5.0
15...	1700	9750	18.5	15	395	6.0
18...	1910	12200	17.5	26	856	9.0
20...	0950	18000	17.5	25	1220	10
20...	1015	18500	17.5	39	1950	15
20...	1830	16900	17.5	53	2420	20
21...	1930	17100	18.5	82	3790	25
27...	1815	17500	21.5	48	2270	15
28...	1540	14500	22.5	29	1140	15
29...	1945	17400	23.0	41	1930	15
JUN						
04...	1800	13000	24.0	25	877	2.0
08...	1450	14300	23.0	18	695	4.0
11...	1645	10800	21.5	11	321	5.0

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
JUN						
12...	2030	13700	21.5	15	555	4.0
15...	1515	13100	21.0	32	1130	9.0
17...	1950	4810	21.5	8	104	4.0
23...	1015	5750	24.0	9	140	3.0
23...	1040	7140	24.0	6	116	3.0
23...	1900	15200	23.5	22	903	7.0
29...	1900	10700	23.5	12	347	5.0
30...	1615	12100	23.0	20	653	8.0
JUL						
06...	1930	14700	23.0	32	1270	10
09...	2035	14700	23.5	30	1190	10
12...	0905	16600	23.5	16	717	6.0
15...	2045	13100	--	14	495	6.0
17...	2015	13200	23.5	25	891	10
20...	1830	19600	24.0	47	2490	15
22...	1550	21200	24.5	45	2580	10
23...	0905	15000	--	24	972	7.0
23...	0950	13900	22.0	23	863	7.0
23...	1015	13800	22.0	--	--	10
23...	2030	17000	24.0	35	1610	10
26...	1115	21000	24.0	50	2840	15
30...	1940	12200	24.5	49	1610	10
AUG						
04...	2010	14000	23.5	38	1440	8.0
06...	1750	--	--	38	--	9.0
09...	2015	17400	25.0	29	1360	8.0
10...	1530	11700	24.0	28	885	9.0
17...	1820	11600	23.5	30	940	10
20...	1330	17100	23.0	28	1290	8.0
21...	1210	12500	22.5	18	607	6.0
24...	1900	15700	22.5	38	1610	15
25...	1530	11100	22.0	30	899	10
27...	0930	14400	22.0	37	1440	9.0
SEP						
05...	1640	16300	24.0	47	2070	15
07...	1720	14500	24.0	32	1250	10
09...	1830	13800	--	28	1040	9.0
13...	1945	12100	23.5	27	882	8.0
17...	1730	14200	22.5	45	1730	10
19...	1315	13100	24.0	45	1590	20
23...	0916	16200	21.0	49	2140	15
23...	0950	16200	21.0	39	1710	15
23...	1000	16100	21.0	--	--	17
23...	1930	13100	21.5	24	849	10
25...	1530	6830	19.5	21	387	10
30...	1500	15500	20.5	34	1420	15

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, Hydrologic Unit 18020109, on left bank 1.6 mi (2.6 km) northeast of Courtland and 2.2 mi (3.5 km) upstream from Sutter Slough.

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" 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 Water and Power Resources Service.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum recorded, 400 micromhos Aug. 31, 1977; minimum recorded, 50 micromhos Jan. 16, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum recorded, 210 micromhos Dec. 18, Sept 12; minimum recorded, 50 micromhos Jan. 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA,DISS (MG/L)	MAGNESIUM MG,DISS (MG/L)	SODIUM NA,DISS (MG/L)	POTASSIUM K,DISS (MG/L)
80/10/14	09 30	153	7.5	16.0	5.0	8.4					
80/10/15	09 00	146	7.3	16.0	6.0	8.3	50	10	6	9	1.1
80/10/27	08 45	160	7.3	15.0	5.0	9.0					
80/11/12	09 20	154	7.4	13.0	4.0	9.0					
80/11/19	09 30	148	7.3	11.0	6.0	10.2	52	11	6	9	1.2
80/12/10	07 55	154	7.2	8.0	22	10.3					
80/12/17	10 10	154	7.3	9.0	8.0	9.0	54	12	6	10	1.5
81/01/08	07 35	160	7.5	9.0	4.0	10.0					
81/01/21	09 00	190	7.3	11.5	5.0	9.6	62	13	7	13	1.5
81/02/18	13 30	135	7.4	13.5	180	9.3	46	10	5	7	1.2
81/02/24	09 05	182	7.4	11.0	21	9.9					
81/03/10	08 40	177	7.3	12.0	17	10.0					
81/03/18	08 00	186	7.4	13.0	13	9.6	62	13	7	12	1.3
81/03/24	07 35	129	7.3	12.0	28	9.9					
81/04/09	08 15	192	7.7	15.0	9.0	9.2					
81/04/15	10 30	188	7.7	16.5	11	8.2	68	14	8	12	1.3
81/04/27	10 45	207	7.5	17.0	7.0	9.1					
81/05/11	11 25	133	7.2	18.0	6.0	9.3					
81/05/20	07 45	172	7.7	16.5	9.0	8.6	54	12	6	13	1.3
81/05/26	10 10	217	7.5	21.0	10	7.4					
81/06/08	09 35	214	7.3	23.0	4.0	7.0					
81/06/17	07 10	170	7.5	20.0	8.0	8.0	56	11	7	13	1.2
81/06/23	08 35	143	7.1	23.0	3.0	7.6					
81/07/06	09 15		7.4	23.0	10	8.8					
81/07/15	07 00	174	7.5	21.5	7.0	7.7	59	12	7	12	1.2
81/07/21	07 40	165	7.3	22.0	6.0	7.7					
81/08/04	08 10	176	6.9	21.0	7.0	7.7					
81/08/18	06 45	199	7.5	21.0	6.0	7.0					
81/08/19	07 15	201	7.5	21.0	7.0	7.3	66	13	8	15	1.3
81/09/01	07 00	238	7.2	22.0	10	6.9					
81/09/15	06 10	245	7.5	20.0	7.0	7.4					
81/09/16	12 20	235	7.5	22.0	11	7.4	78	15	10	17	1.4

DATE	TIME	ALKALI- LITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	FLUORIDE F,DISS (MG/L)	SILICA DISSOLVED (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	RESIDUE VOL NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/14	09 30	50		6		17	94	11	1	0.12	0.24
80/10/15	09 00	51	8	6	0.00		95			0.18	0.15
80/10/27	08 45	55				18		8	4	0.15	0.30
80/11/12	09 20	46		7		17	89	11	1	0.15	0.26
80/11/19	09 30	54	8	6	0.10		93			0.16	0.11
80/12/10	07 55	50		7		17	103	35	3	0.31	0.14
80/12/17	10 10	55	9	6	0.00		98			0.23	0.16
81/01/08	07 35	48		6		20	113	4	0	0.21	0.21
81/01/21	09 00	63	13	8	0.10		119			0.26	0.15
81/02/18	13 30	48	6	5	0.10		93			0.21	0.05
81/02/24	09 05			7		18	117	30	3	0.23	0.17
81/03/10	08 40			8		17	125	23	2	0.19	0.12
81/03/18	08 00	63	14	8	0.10		115			0.21	0.05
81/03/24	07 35					19		89	7	0.15	0.07
81/04/09	08 15			7		22	128	12	1	0.18	0.12
81/04/15	10 30	70	13	8	0.00		126			0.19	0.16
81/04/27	10 45					20		12	2	0.17	0.20

SACRAMENTO RIVER BASIN

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	ALKA- LINITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	FLUORIDE F, DISS (MG/L)	SILICA DISSOLVED (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	RESIDUE VOL NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
81/05/11	11 25			5		15	90	10	2	0.11	0.19
81/05/20	07 45	56	16	8			103			0.13	0.15
81/05/26	10 10					18		13	2	0.18	0.20
81/06/08	09 35			10		20	128	7	2	0.20	0.20
81/06/17	07 10	58	11	10	0.00		112			0.14	0.21
81/06/23	08 35					18		7	0	0.13	0.22
81/07/06	09 15			7		17	95	8	2	0.13	0.15
81/07/15	07 00	63	10	7	0.10		114			0.14	0.14
81/07/21	07 40					17		15	0	0.09	0.13
81/08/04	08 10			6		17	106	12	2	0.08	0.14
81/08/18	06 45					19		5	0	0.10	0.19
81/08/19	07 15	76	13	9	0.10		122			0.09	0.16
81/09/01	07 00			10		18	141	10	1	0.12	0.23
81/09/15	06 10					17		11	2	0.12	0.20
81/09/16	12 20	91	13	10	0.10		141			0.11	0.13

DATE	TIME	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)
80/10/14	09 30	0.40	0.14	0.11
80/10/15	09 00	0.30	0.12	0.11
80/10/27	08 45	0.40		
80/11/12	09 20	0.60	0.18	0.14
80/11/19	09 30	0.20	0.14	0.09
80/12/10	07 55	0.60	0.13	0.08
80/12/17	10 10	0.30	0.12	0.09
81/01/08	07 35	0.40	0.12	0.08
81/01/21	09 00	0.40	0.23	0.11
81/02/18	13 30	0.70	0.32	0.04
81/02/24	09 05	0.40	0.12	0.07
81/03/10	08 40	0.40	0.11	0.06
81/03/18	08 00	0.30	0.12	0.07
81/03/24	07 35	0.40	0.14	0.05
81/04/09	08 15	0.40	0.11	0.07
81/04/15	10 30	0.40	0.14	0.10
81/04/27	10 45	0.40		
81/05/11	11 25	0.40	0.12	0.08
81/05/20	07 45	0.40	0.11	0.08
81/05/26	10 10	0.40		
81/06/08	09 35	0.50	0.14	0.11
81/06/17	07 10	0.40	0.14	0.11
81/06/23	08 35	0.40		
81/07/06	09 15	0.40	0.11	0.08
81/07/15	07 00	0.30	0.14	0.11
81/07/21	07 40	0.30		
81/08/04	08 10	0.30	0.11	0.08
81/08/18	06 45	0.40		
81/08/19	07 15	0.40	0.14	0.11
81/09/01	07 00	0.40	0.16	0.11
81/09/15	06 10	0.40		
81/09/16	12 20	0.40	0.13	0.10

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA

WATER-QUALITY RECORDS

DATE	TIME	ARSENIC AS,DISS (UG/L)	BORON B,DISS (UG/L)	CADMIUM CD,DISS (UG/L)	CHROMIUM CR,DISS (UG/L)	COPPER CU,DISS (UG/L)	IRON FE,DISS (UG/L)	LEAD PB,DISS (UG/L)	MANGNESE MN,DISS (UG/L)	MERCURY HG,TOTAL (UG/L)	SELENIUM SE,DISS (UG/L)
80/10/15	09 00	0	0		0	0	30	0	10		0
80/11/19	09 30	0	0		0	10	30	0	10		20
80/12/17	10 10	0	0			0	10	0	0		10
81/01/21	09 00	0	100			10	30	0	10		10
81/02/18	13 30	0	0		0	0	10	0	10		20
81/03/18	08 00	0	100			10	40	0	10		10
81/04/15	10 30	0	100			0	10	0	10		10
81/05/11	11 25	0		0	0	0	10	0	10	0.0	
81/05/20	07 45	0	100			10	20	10	0		10
81/06/17	07 10	0	0			10	40	0	10		0
81/07/15	07 00	0	100		0	20	30	0	10		0
81/08/19	07 15	0	100			20	40	0	10		20
81/09/01	07 00	0		0	0	0	20	0	10	0.0	
81/09/16	12 20	0	100		0	10	20	0	20		0

DATE	TIME	ZINC ZN,DISS (UG/L)
80/10/15	09 00	0
80/11/19	09 30	10
80/12/17	10 10	10
81/01/21	09 00	10
81/02/18	13 30	0
81/03/18	08 00	10
81/04/15	10 30	10
81/05/11	11 25	0
81/05/20	07 45	20
81/06/17	07 10	10
81/07/15	07 00	20
81/08/19	07 15	20
81/09/01	07 00	0
81/09/16	12 20	10

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C): WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	150	140	145	125	160	130	150	225	145	175	250
2	155	140	140	140	125	155	130	150	225	150	180	260
3	150	140	155	145	140	175	135	150	230	145	180	265
4	150	150	160	145	150	160	140	150	220	150	180	265
5	130	160	170	150	145	165	140	155	220	155	185	260
6	130	155	160	150	150	180	145	160	215	165	185	260
7	145	155	130	160	150	175	150	150	210	175	190	260
8	135	145	135	165	155	155	185	130	195	175	190	260
9	150	140	160	160	160	160	185	130	170	185	200	255
10	150	140	165	160	165	180	170	120	155	185	195	255
11	150	140	165	170	205	165	180	115	140	180	195	260
12	145	150	170	165	230	160	190	130	150	175	200	260
13	140	160	170	165	230	165	200	150	155	175	195	260
14	140	165	165	170	225	170	195	150	155	170	195	270
15	150	155	150	170	225	180	185	155	160	180	200	265
16	150	145	150	170	215	180	180	155	160	170	205	265
17	150	145	145	175	145	180	175	155	170	160	205	270
18	155	140	145	175	140	180	175	160	160	160	205	270
19	160	140	140	180	155	180	190	160	165	155	200	275
20	160	140	140	190	155	185	180	160	165	165	200	280
21	145	150	140	195	160	145	185	185	155	165	205	280
22	150	145	140	215	165	130	185	185	145	160	215	275
23	160	140	160	210	180	135	170	190	140	165	---	---
24	155	140	140	195	180	125	155	200	145	165	---	---
25	160	135	145	190	185	120	165	205	145	165	---	---
26	150	150	140	160	180	130	160	210	140	165	230	---
27	145	150	140	150	175	125	160	220	135	165	235	---
28	145	150	145	155	180	130	165	220	130	170	240	---
29	160	140	145	160	---	120	160	225	135	175	245	---
30	165	140	160	125	---	135	160	230	125	175	250	---
31	160	---	145	125	---	130	---	230	---	175	250	---
MONTH	150	147	150	165	171	155	168	169	168	167	205	---
YEAR	MAX	280	MIN	115	MEAN	171						

SACRAMENTO RIVER BASIN

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE&SE& sec.34, T.13 N., R.9 W., Lake County, Hydrologic Unit 18020116, 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 mi² (94.8 km²).

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) National Geodetic Vertical Datum of 1929. Prior to July 16, 1955, at site 600 ft (183 m) upstream at different datum.

REMARKS.--Records good, except those for period of no gage height record, July 3 to Sept. 16, which are fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--35 years, 71.4 ft³/s (2.022 m³/s), 51,730 acre-ft/yr (63.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,800 ft³/s (249 m³/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, 0.18 ft³/s (0.005 m³/s) Aug. 15-23, 25, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,400 ft³/s (68 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 3	1745	*4260 121	10.94 3.335
Jan. 27	1015	3330 94.3	10.24 3.121

Minimum daily discharge, 1.2 ft³/s (0.034 m³/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	5.2	8.1	12	135	68	59	15	8.2	2.6	1.7	1.4
2	3.2	5.4	69	12	98	57	53	15	7.9	2.6	1.7	1.4
3	3.0	5.7	1450	13	79	51	48	15	7.5	2.6	1.7	1.3
4	2.8	5.6	415	14	66	78	43	15	7.3	2.6	1.7	1.3
5	2.8	5.7	100	12	56	62	39	14	6.9	2.6	1.7	1.3
6	3.2	5.7	55	12	50	53	37	14	6.4	3.4	1.6	1.3
7	3.2	6.0	40	12	45	48	35	14	6.3	3.0	1.6	1.3
8	3.3	6.8	32	12	41	44	33	13	6.4	2.6	1.6	1.3
9	3.0	6.7	28	11	39	40	31	13	6.7	2.5	1.6	1.3
10	2.9	6.6	25	11	35	37	30	12	6.5	2.5	1.6	1.3
11	3.3	6.7	23	11	34	35	28	12	6.4	2.5	1.5	1.3
12	5.3	6.7	21	11	31	33	27	12	6.3	2.4	1.5	1.3
13	5.3	6.7	19	11	149	32	26	11	6.5	2.3	1.5	1.3
14	5.8	6.7	18	11	321	30	25	11	5.8	2.3	1.5	1.3
15	5.7	6.7	17	11	126	48	24	12	5.8	2.2	1.5	1.3
16	5.3	6.7	16	13	93	50	23	12	5.3	2.2	1.5	1.3
17	5.1	6.6	16	19	77	36	23	12	5.0	2.1	1.5	1.3
18	5.0	6.7	15	20	63	35	23	15	4.6	2.1	1.5	1.3
19	4.9	6.7	14	27	55	39	30	16	4.5	2.0	1.5	1.3
20	5.4	6.8	14	43	49	52	26	17	4.0	2.0	1.5	1.2
21	5.0	6.8	18	44	43	129	23	14	3.8	1.9	1.5	1.4
22	4.7	6.9	20	589	40	128	22	13	3.8	1.9	1.5	1.6
23	4.6	7.5	16	366	38	94	20	12	3.7	1.9	1.5	1.7
24	4.6	7.4	15	176	77	78	19	11	3.5	1.8	1.5	2.2
25	4.8	7.2	14	100	82	117	19	11	3.6	1.8	1.5	3.5
26	5.0	7.1	14	113	77	143	20	12	3.4	1.8	1.4	4.0
27	5.0	7.0	13	1530	70	104	18	11	2.9	1.7	1.4	3.8
28	4.8	7.0	13	1330	65	89	17	10	2.7	1.7	1.4	4.3
29	4.8	7.1	13	588	---	77	17	9.3	2.7	1.7	1.4	3.9
30	5.0	8.0	13	288	---	68	16	8.8	2.8	1.7	1.4	3.5
31	5.1	---	12	187	---	62	---	8.7	---	1.7	1.4	---
TOTAL	135.0	198.4	2556.1	5609	2134	2017	854	390.8	157.2	68.7	47.4	56.0
MEAN	4.35	6.61	82.5	181	76.2	65.1	28.5	12.6	5.24	2.22	1.53	1.87
MAX	5.8	8.0	1450	1530	321	143	59	17	8.2	3.4	1.7	4.3
MIN	2.8	5.2	8.1	11	31	30	16	8.7	2.7	1.7	1.4	1.2
AC-FT	268	394	5070	11130	4230	4000	1690	775	312	136	94	111
CAL YR 1980 TOTAL	33277.6			MEAN 90.9	MAX 2130	MIN 2.8	AC-FT 66010					
WTR YR 1981 TOTAL	14223.6			MEAN 39.0	MAX 1530	MIN 1.2	AC-FT 28210					

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, Hydrologic Unit 18020116, on private pier at 410 Esplanada Street in Lakeport.

DRAINAGE AREA.--528 mi² (1,368 km²).

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) National Geodetic Vertical Datum of 1929. 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 hm³). 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 daily mean gage height, 6.98 ft (2.128 m) Apr. 4-7; minimum daily mean gage height, 1.49 ft (0.454 m) Sept. 30.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.18	2.82	2.70	3.25	5.31	6.12	6.94	6.62	5.87	4.72	3.54	2.23
2	3.17	2.82	2.75	3.25	5.34	6.14	6.95	6.58	5.84	4.70	3.48	2.20
3	3.15	2.82	2.96	3.26	5.37	6.15	6.96	6.54	5.81	4.65	3.43	2.17
4	3.14	2.82	3.16	3.26	5.39	6.18	6.98	6.50	5.79	4.62	3.41	2.13
5	3.13	2.80	3.20	3.26	5.40	6.23	6.98	6.46	5.75	4.56	3.38	2.11
6	3.12	2.80	3.19	3.26	5.42	6.24	6.98	6.43	5.71	4.54	3.35	2.09
7	3.10	2.79	3.20	3.26	5.43	6.26	6.98	6.39	5.67	4.48	3.30	2.06
8	3.09	2.79	3.19	3.26	5.44	6.28	6.97	6.36	5.63	4.46	3.27	2.03
9	3.07	2.78	3.19	3.26	5.45	6.29	6.97	6.33	5.59	4.42	3.23	2.00
10	3.05	2.78	3.18	3.26	5.46	6.30	6.97	6.31	5.54	4.36	3.19	1.97
11	3.04	2.77	3.18	3.26	5.48	6.31	6.94	6.28	5.50	4.32	3.15	1.95
12	3.04	2.76	3.18	3.26	5.49	6.30	6.94	6.25	5.42	4.28	3.12	1.92
13	3.00	2.75	3.18	3.25	5.58	6.32	6.93	6.21	5.35	4.23	3.08	1.90
14	2.99	2.73	3.18	3.26	5.72	6.33	6.91	6.15	5.35	4.21	3.03	1.88
15	2.99	2.73	3.17	3.26	5.79	6.35	6.88	6.09	5.33	4.18	2.97	1.85
16	2.98	2.73	3.18	3.27	5.84	6.40	6.86	6.07	5.28	4.14	2.92	1.81
17	2.96	2.72	3.18	3.30	5.88	6.42	6.83	6.05	5.25	4.10	2.87	1.79
18	2.95	2.71	3.18	3.30	5.91	6.47	6.81	6.04	5.20	4.06	2.83	1.74
19	2.94	2.71	3.18	3.33	5.89	6.47	6.80	6.04	5.17	4.03	2.79	1.72
20	2.93	2.70	3.18	3.36	5.94	6.50	6.82	6.03	5.14	4.00	2.72	1.66
21	2.93	2.70	3.22	3.37	5.95	6.53	6.80	6.02	5.11	3.98	2.68	1.63
22	2.92	2.72	3.23	3.50	5.96	6.59	6.79	6.01	5.06	3.95	2.64	1.59
23	2.92	2.69	3.24	3.66	5.96	6.65	6.78	5.99	5.02	3.91	2.59	1.56
24	2.90	2.70	3.24	3.75	5.99	6.68	6.75	5.98	4.99	3.88	2.54	1.55
25	2.88	2.69	3.24	3.80	6.03	6.77	6.74	5.98	4.96	3.84	2.49	1.57
26	2.87	2.69	3.24	3.90	6.06	6.82	6.71	5.99	4.92	3.79	2.46	1.55
27	2.87	2.69	3.24	4.21	6.09	6.87	6.70	5.98	4.89	3.75	2.43	1.53
28	2.86	2.68	3.25	4.64	6.11	6.90	6.70	5.97	4.86	3.70	2.39	1.52
29	2.85	2.67	3.25	4.99	---	6.91	6.69	5.93	4.81	3.66	2.33	1.50
30	2.84	2.68	3.25	5.16	---	6.92	6.67	5.91	4.77	3.62	2.30	1.49
31	2.83	---	3.25	5.26	---	6.93	---	5.90	---	3.58	2.26	---
MEAN	2.99	2.74	3.17	3.60	5.70	6.47	6.86	6.17	5.32	4.15	2.91	1.82
MAX	3.18	2.82	3.25	5.26	6.11	6.93	6.98	6.62	5.87	4.72	3.54	2.23
MIN	2.83	2.67	2.70	3.25	5.31	6.12	6.67	5.90	4.77	3.58	2.26	1.49

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020116, 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 mi² (1,368 km²).

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) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow completely regulated by Clear Lake (station 11450000) 500 ft (152 m) upstream.

AVERAGE DISCHARGE (unadjusted).--37 years, 343 ft³/s (9.714 m³/s), 248,500 acre-ft/yr (306 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,000 ft³/s (227 m³/s) Feb. 24, 1958, gage height, 9.40 ft (2.865 m); no flow Nov. 8-20, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 740 ft³/s (21.0 m³/s) Aug. 26, gage height, 4.18 ft (1.274 m); minimum daily, 5.3 ft³/s (0.150 m³/s) Mar. 28 to Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT.	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	13	12	12	9.7	11	5.3	356	228	442	257	340
2	81	13	12	12	9.7	11	5.7	540	270	400	245	340
3	81	13	13	11	9.7	14	5.8	621	235	361	205	299
4	79	13	12	11	9.7	18	5.7	619	301	329	211	249
5	82	13	11	11	9.7	17	5.8	546	329	334	307	229
6	84	13	11	11	9.6	17	5.8	521	334	364	390	205
7	84	13	11	11	10	16	6.2	519	334	377	458	201
8	84	13	11	11	10	16	6.3	519	397	350	511	208
9	74	13	11	11	10	16	11	522	440	320	483	195
10	65	13	11	11	10	17	104	516	424	315	475	183
11	63	13	11	11	10	16	272	480	398	344	444	183
12	70	13	11	11	10	16	333	412	377	363	438	187
13	79	13	11	10	10	16	347	430	346	346	492	190
14	79	13	11	10	10	16	412	495	323	340	521	197
15	67	12	11	10	10	16	483	517	350	356	494	208
16	51	12	11	9.8	11	16	542	415	419	383	467	217
17	44	12	11	9.9	11	16	582	259	477	343	440	229
18	44	12	11	9.7	11	16	562	130	475	264	422	231
19	43	12	11	9.6	11	16	515	105	437	228	422	218
20	38	12	11	9.7	11	24	451	86	425	242	394	195
21	41	12	11	9.7	11	22	423	78	405	291	367	186
22	21	12	11	10	11	22	378	84	427	334	373	171
23	14	12	11	9.7	11	30	285	99	452	323	442	168
24	14	12	12	9.4	11	17	274	122	452	307	470	161
25	14	12	12	9.4	11	16	330	105	436	301	392	139
26	14	12	12	9.1	11	30	319	100	455	286	362	127
27	14	12	12	10	11	13	289	101	458	281	381	113
28	13	12	12	10	11	5.3	244	110	462	266	469	96
29	13	12	12	10	---	5.3	232	145	466	277	439	84
30	13	12	12	10	---	5.3	245	172	466	295	378	86
31	13	---	12	9.9	---	5.3	---	159	---	276	349	---
TOTAL	1557	374	354	319.9	291.1	492.2	7679.6	9883	11798	10038	12498	5835
MEAN	50.2	12.5	11.4	10.3	10.4	15.9	256	319	393	324	403	195
MAX	84	13	13	12	11	30	582	621	477	442	521	340
MIN	13	12	11	9.1	9.6	5.3	5.3	78	228	228	205	84
AC-FT	3090	742	702	635	577	976	15230	19600	23400	19910	24790	11570
(+)	0.27	0.18	7.24	8.51	2.35	2.44	0.55	0.61	0.00	0.00	0.00	0.50
CAL YR 1980 TOTAL	202810.3			MEAN 554	MAX 3970	MIN 2.9	AC-FT 402300					
WTR YR 1981 TOTAL	61119.8			MEAN 167	MAX 621	MIN 5.3	AC-FT 121200	(+) 22.65				

+ Precipitation, in inches.

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

WATER-QUALITY 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 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW, INST-CFS	SPECIFIC COND MICROMHU	PH FIELD (UNITS)	TEMP WATER (DEG C)	TURB- IDITY (NTU)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA+DISS (MG/L)
80/10/15	08 25	77		7.6		4.0	8.9	18		130	25
80/11/13	10 05	13	297	8.0		5.0	10.2	20			
80/12/11	10 10	10	292	7.6	6.0	27	11.3	11			
81/01/14	14 50	10	305	7.9	8.0	9.0	11.7	23		120	23
81/02/04	14 00	9.7	208	7.8	9.0	71	11.6	20			
81/03/05	09 55	17		7.5	9.5	22	10.5	14	2.4	93	19
81/04/08	10 10	6.4	275	7.7	15.0	10	9.4	19			
81/05/14	08 20	474	305	8.1	21.0	20	8.4	22	2.7		
81/06/24	09 05	451	242	7.9	25.0	23	7.5	22			
81/07/16	11 30	368	289	8.3	27.0	10	7.2				
81/08/13	10 30	458	308	8.1	26.0	10	7.6				
81/09/18	08 55	231	346	7.7	24.5	5.0	7.6			140	27

DATE	TIME	MAGNESIUM MG+DISS (MG/L)	SODIUM NA+DISS (MG/L)	POTASSIUM K+DISS (MG/L)	ALKAL- LINEITY (MG/L)	SULFATE SO4+DISS (MG/L)	CHLORIDE TOTAL (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N+DISS (MG/L)
80/10/15	08 25	16	12	2.4	140		7		7	0.13
80/11/13	10 05								6	0.07
80/12/11	10 10								28	0.21
81/01/14	14 50	16	14	2.5	120		13		16	0.26
81/02/04	14 00								67	0.29
81/03/05	09 55	11	12	1.9	83	29	6	156	33	0.15
81/04/08	10 10								15	0.02
81/05/14	08 20								55	0.04
81/06/24	09 05								46	0.06
81/07/16	11 30									
81/08/13	10 30									
81/09/18	08 55	18	14	2.8	160		8			

DATE	TIME	AMMONIA N+DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)
80/10/15	08 25	0.55	1.50	0.06	0.00
80/11/13	10 05	0.14	1.00	0.04	0.01
80/12/11	10 10	0.32	1.20	0.06	0.00
81/01/14	14 50	0.36	1.10	0.05	0.00
81/02/04	14 00	0.14	1.00	0.12	0.01
81/03/05	09 55	0.06	0.60	0.06	0.00
81/04/08	10 10	0.02	0.20	0.02	0.00
81/05/14	08 20	0.33	1.30	0.11	0.01
81/06/24	09 05	0.30	1.40	0.11	0.01
81/07/16	11 30				
81/08/13	10 30				
81/09/18	08 55				

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, Hydrologic Unit 18020116, 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 mi² (155.9 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft (561 m), from topographic map. Datum of gage lowered 2.0 ft (0.610 m) on Jan. 13, 1980. Recording rain gage (relocation) 4.7 mi (7.6 km) northwest of gage. Altitude of gage is 2,050 ft (625 m), from topographic map.

REMARKS.--Records good, except those for periods of no gage height record, Jan. 27-28, which are fair. No regulation or diversion above station.

AVERAGE DISCHARGE.--10 years, 83.3 ft³/s (2.359 m³/s), 60,350 acre-ft/yr (74.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,980 ft³/s (226 m³/s) Jan. 16, 1974, gage height, 11.23 ft (3.423 m) present datum from floodmarks, from rating curve extended above 2,400 ft³/s (68.0 m³/s) on basis of slope-area measurement of maximum flow; no flow for many days in 1972, 1976-77.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 3	2000	1570	44.5	5.93	1.807
Jan. 27	Unknown	*2210	62.6	6.72	2.048

Minimum daily discharge, 0.16 ft³/s (0.005 m³/s) Aug. 20-22, Sept. 13-16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	1.1	4.1	9.4	189	105	121	29	12	1.2	.34	.20
2	.62	1.2	36	9.4	147	100	109	28	11	1.2	.34	.20
3	.58	1.1	625	9.9	123	94	99	27	11	1.0	.34	.20
4	.54	1.1	357	10	106	128	89	25	10	.88	.34	.20
5	.54	1.1	55	10	95	121	82	23	9.5	1.1	.34	.20
6	.54	1.1	26	10	86	104	75	22	8.8	1.5	.31	.20
7	.54	1.2	19	9.8	77	93	72	21	8.2	1.1	.30	.20
8	.54	1.2	16	9.7	72	83	68	21	8.4	1.1	.34	.20
9	.54	1.3	14	9.4	66	76	64	20	8.3	.89	.34	.20
10	.54	1.3	13	9.4	63	70	61	20	7.8	.88	.31	.20
11	.60	1.3	12	9.4	61	67	58	20	7.4	.81	.23	.20
12	1.3	1.4	11	9.4	58	63	55	19	6.6	.87	.20	.20
13	1.3	1.4	11	8.9	202	61	52	19	6.7	.76	.20	.16
14	1.3	1.4	11	8.8	483	58	50	20	6.6	.71	.19	.16
15	1.3	1.4	10	8.8	253	84	48	20	6.1	.66	.19	.16
16	1.3	1.4	9.9	9.5	184	96	46	20	5.6	.60	.18	.16
17	1.3	1.5	9.8	13	154	76	45	20	5.2	.58	.18	.34
18	1.3	1.5	9.8	20	131	73	45	24	4.6	.54	.19	.33
19	1.3	1.5	9.4	27	116	77	52	26	4.0	.51	.18	.32
20	1.3	1.5	9.3	37	101	95	48	24	3.6	.48	.16	.29
21	1.3	1.6	12	40	92	384	44	21	3.2	.46	.16	.26
22	1.3	2.4	17	369	84	313	42	20	2.8	.44	.16	.24
23	1.3	2.3	13	358	80	231	40	19	2.7	.42	.20	.22
24	1.3	2.3	12	213	94	179	39	18	2.7	.40	.20	.20
25	1.3	2.2	11	107	104	257	37	17	2.4	.39	.20	.48
26	1.3	2.1	11	98	97	284	36	17	2.2	.38	.20	.43
27	1.2	2.1	11	1400	103	219	34	17	1.9	.36	.20	.32
28	1.3	2.1	10	1280	104	176	32	15	1.6	.35	.20	.37
29	1.3	2.1	10	709	---	153	31	14	1.3	.34	.20	.34
30	1.1	3.8	9.8	407	---	137	30	13	1.2	.34	.20	.30
31	1.1	---	9.4	274	---	129	---	12	---	.34	.20	---
TOTAL	31.72	49.0	1394.5	5503.8	3527	4186	1704	631	173.4	21.59	7.32	7.48
MEAN	1.02	1.63	45.0	178	126	135	56.8	20.4	5.78	.70	.24	.25
MAX	1.3	3.8	625	1400	483	384	121	29	12	1.5	.34	.48
MIN	.54	1.1	4.1	8.8	58	58	30	12	1.2	.34	.16	.16
AC-FT	63	97	2770	10920	7000	8300	3380	1250	344	43	15	15
(+)	0.68	0.82	10.20	10.95	4.24	4.66	0.58	0.60	0.00	0.00	0.00	0.66

CAL YR 1980 TOTAL 45885.81 MEAN 125 MAX 3690 MIN .54 AC-FT 91010
WTR YR 1981 TOTAL 17236.81 MEAN 47.2 MAX 1400 MIN .16 AC-FT 34190 (+) 33.39

+ Precipitation, in inches.

LOCATION.--Lat 39°01'09", long 122°34'04", in NE¼ sec.31, T.14 N., R.6 W. (unsurveyed), Lake County, Hydrologic Unit 18020116, 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.

PERIOD OF RECORD.--July 1930 to September 1981 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,034.60 ft (315.346 m) National Geodetic Vertical Datum of 1929. 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. Beginning in June 1974, flow regulated by Indian Valley Reservoir, 8 mi (13 km) upstream, capacity, 296,000 acre-ft (365 hm³). Several small diversions for irrigation of about 150 acres (607,000 m²) above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,300 ft³/s (575 m³/s) Dec. 11, 1937, gage height, 14.98 ft (4.566 m) present datum, from floodmarks, from rating curve extended above 7,600 ft³/s (215 m³/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, 5,600 ft³/s (159 m³/s) Jan. 13, 1980, gage height, 8.90 ft (2.713 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,200 ft³/s (34 m³/s) Jan. 27, gage height, 5.68 ft (1.731 m); minimum daily, 5.4 ft³/s (0.153 m³/s) Oct. 21.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	14	15	22	94	226	264	233	315	350	338	11
2	11	13	19	22	78	170	242	108	245	350	338	14
3	12	13	212	22	67	74	169	78	244	350	338	92
4	12	13	136	22	59	82	66	77	242	349	286	96
5	12	14	35	22	54	85	65	76	241	349	190	97
6	12	14	26	22	49	99	62	75	241	348	128	97
7	12	14	23	22	45	100	60	75	242	347	107	82
8	9.6	14	21	22	42	102	79	75	242	347	80	60
9	6.6	14	20	22	40	100	173	74	242	345	79	60
10	6.0	14	20	22	38	102	140	74	242	345	78	45
11	5.8	14	19	22	38	107	43	104	242	344	79	13
12	5.7	14	19	16	36	107	40	146	242	344	79	12
13	5.5	14	13	11	171	105	38	117	242	344	56	12
14	5.5	14	18	10	307	104	37	78	242	344	14	12
15	5.7	14	19	9.7	148	209	36	145	242	343	12	11
16	5.7	14	19	14	106	368	35	300	242	343	12	11
17	5.6	15	19	19	88	351	34	349	243	343	11	11
18	5.5	15	19	20	190	340	35	385	277	343	11	11
19	5.6	15	19	22	132	341	40	414	314	343	11	11
20	5.5	16	19	23	135	345	70	400	314	341	12	11
21	5.4	15	22	22	142	483	112	387	314	341	11	11
22	5.5	15	23	112	138	466	152	395	332	341	11	11
23	7.5	15	23	113	136	419	255	404	353	340	11	11
24	11	15	23	69	152	378	314	417	354	339	11	12
25	12	15	23	41	165	398	326	446	365	339	11	13
26	12	15	23	49	183	392	327	432	356	339	11	12
27	12	15	22	614	229	374	329	413	352	338	11	12
28	13	15	22	520	230	362	329	400	352	338	11	12
29	13	15	22	398	---	351	329	416	351	338	11	12
30	13	15	22	189	---	341	329	411	351	338	11	12
31	14	---	22	121	---	309	---	396	---	338	11	---
TOTAL	279.7	432	957	2634.7	3292	7790	4530	7900	8576	10641	2380	887
MEAN	9.02	14.4	30.9	85.0	118	251	151	255	286	343	76.8	29.6
MAX	14	16	212	614	307	483	329	446	365	350	338	97
MIN	5.4	13	13	9.7	36	74	34	74	241	338	11	11
AC-FT	555	857	1900	5230	6530	15450	8990	15670	17010	21110	4720	1760
CAL WTR YR 1980	TOTAL	80021.7	MEAN	219	MAX	3960	MIN	5.4	AC-FT	158700		
WTR YR 1981	TOTAL	50299.4	MEAN	138	MAX	614	MIN	5.4	AC-FT	99770		

SACRAMENTO RIVER BASIN

11451760 CACHE CREEK AT RUMSEY, CA

LOCATION.--Lat 38°53'25", long 122°14'13", T.12 N., R.3 W., Yolo County, Hydrologic Unit 18020116, in Canada
De Capay Grant, on downstream side of bridge on Arbuckle Road, 800 ft (244 m) north of Rumsey.

DRAINAGE AREA.--964 mi² (2,497 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to September 1962, June 1965 to September 1973, December 1975 to current year.
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 hm³).

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

AVERAGE DISCHARGE.--15 years (water years 1961-62, 1966-73, 1977-81), 669 ft³/s (18.95 m³/s), 484,700 acre-ft/yr (598 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,400 ft³/s (1,230 m³/s), Jan. 24, 1970, gage height, 19.59 ft (5.971 m), site and datum then in use, from rating curve extended above 14,000 ft³/s (396 m³/s) on basis of slope-area measurement at gage height 21.42 ft (6.529 m); no flow 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 flood-marks, site and datum then in use, discharge, 59,000 ft³/s (1,670 m³/s) by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 2,990 ft³/s (84.7 m³/s) Jan. 28; minimum daily, 29 ft³/s (0.82 m³/s) on several days during November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	31	30	32	347	318	323	602	567	928	636	336
2	94	30	48	32	291	305	308	682	595	887	630	336
3	94	30	458	33	256	206	266	743	519	833	610	362
4	94	30	1090	33	234	181	187	780	569	795	546	332
5	96	30	151	33	215	190	146	670	598	773	506	312
6	97	30	92	32	202	185	144	628	630	795	564	298
7	99	29	64	32	188	185	144	623	625	841	553	271
8	99	29	48	32	181	185	140	623	654	811	636	264
9	98	29	41	31	177	185	168	625	742	765	590	252
10	93	29	38	31	169	185	246	623	739	727	577	237
11	86	29	37	31	164	186	290	615	701	735	577	213
12	83	29	37	31	159	185	397	596	680	795	534	198
13	78	29	36	31	212	185	406	565	649	777	564	195
14	84	29	36	30	1180	183	439	589	603	750	590	195
15	84	30	35	30	444	188	536	637	611	773	542	198
16	79	31	35	30	303	436	575	790	692	795	506	197
17	69	31	35	31	258	407	652	704	770	811	484	203
18	60	31	35	32	238	390	656	560	819	712	455	210
19	56	31	35	35	328	400	631	556	811	630	455	210
20	54	30	35	37	253	457	559	542	886	623	439	188
21	51	30	36	39	253	942	564	496	901	668	401	180
22	49	32	35	443	248	771	568	487	915	727	391	168
23	44	32	34	686	245	591	553	526	856	742	409	161
24	36	31	34	396	255	493	564	561	762	704	529	163
25	34	30	34	142	271	515	682	605	953	704	425	159
26	33	30	33	117	264	534	690	589	928	689	228	139
27	32	29	33	2630	309	477	659	566	919	676	362	132
28	32	29	33	2990	314	429	615	541	928	663	439	118
29	32	29	33	1860	---	406	574	589	936	649	468	103
30	31	30	32	769	---	392	598	637	945	669	391	96
31	31	---	32	457	---	379	---	630	---	669	362	---
TOTAL	2100	899	2785	11168	7958	11071	13280	18980	22503	23116	15399	6426
MEAN	67.7	30.0	89.8	360	284	357	443	612	750	746	497	214
MAX	99	32	1090	2990	1180	942	690	790	953	928	636	362
MIN	31	29	30	30	159	181	140	487	519	623	228	96
AC-FT	4170	1780	5520	22150	15780	21960	26340	37650	44630	45850	30540	12750
CAL YR 1980	TOTAL	346630	MEAN 947	MAX 11100	MIN 29	AC-FT 687500						
WTR YR 1981	TOTAL	135685	MEAN 372	MAX 2990	MIN 29	AC-FT 269100						

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 current year.

WATER TEMPERATURES: Water years 1960-70, 1976.

SEDIMENT RECORDS: Water years 1960-63, 1965-70, 1976.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAMFLOW DAILY MEAN CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CACO3)	CALCIUM CA, DISS (MG/L)	MANGANESE MG, DISS (MG/L)
80/10/14	09 10	84	469	8.4	14.5	9.8	16		160	27	22
80/11/11	15 40	29	740	8.4	13.0	11.4	12		200	30	31
80/12/10	09 50	38	827	8.3	3.5	12.8	15		250	34	39
81/01/14	09 30	30	860	8.4	5.0	12.1	11		230	32	36
81/02/17	15 10	258	671	8.4	14.0	10.0	24	0.8	220	29	36
81/03/11	11 15	186	601	8.5	15.0	11.1	12		200	28	32
81/04/08	11 45	140	714	8.5	16.5	10.7	5.0		240	30	40
81/05/06	10 00	628	338	8.4	16.5	10.2	20		130	24	18
81/06/10	09 05	739	302	8.4	20.5	9.2	24		130	23	17

DATE	TIME	SODIUM NA, DISS (MG/L)	POTASSIUM K, DISS (MG/L)	ALKALINITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/14	09 10	34	2.9	170	14	37	253	2	0.42	0.00
80/11/11	15 40	70	3.7	210	24	90	394	0	0.30	0.00
80/12/10	09 50	77	3.5	220	56	100	466	16	0.62	0.08
81/01/14	09 30	94	4.4	230	41	120	474	0	0.59	0.00
81/02/17	15 10	54	2.7	210	45	59	378	14	0.44	0.01
81/03/11	11 15	46	2.5	200	34	50	334	0	0.14	0.00
81/04/08	11 45	58	3.0	240	42	63	399	3	0.20	0.00
81/05/06	10 00	17	2.3	140	13	13	183	58	0.02	0.00
81/06/10	09 05	14	1.8	130	8	10	170	99	0.15	0.02

DATE	TIME	AMMONIA+ ORG TOT N (MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)	BORON B, DISS (UG/L)
80/10/14	09 10	0.50	0.02	0.00		1900
80/11/11	15 40	0.30	0.01	0.00		2900
80/12/10	09 50	0.50	0.02	0.00		3000
81/01/14	09 30	0.20	0.01	0.00		3400
81/02/17	15 10	0.20	0.03	0.01	3.4	1900
81/03/11	11 15	0.20	0.01	0.00		1600
81/04/08	11 45	0.20	0.01	0.00		2200
81/05/06	10 00	0.09	0.09	0.01		1400
81/06/10	09 05	0.90	0.08	0.02		1200

DATE	TIME	ARSENIC AS, DISS (UG/L)	BARIUM BA, DISS (UG/L)	CADMIUM CD, DISS (UG/L)	CHROMIUM CR, DISS (UG/L)	COPPER CU, DISS (UG/L)	IRON FE, DISS (UG/L)	LEAD PB, DISS (UG/L)	MANGANESE MN, DISS (UG/L)	MERCURY HG, TOTAL (UG/L)	SELENIUM SE, DISS (UG/L)
81/02/17	15 10	0	0	0	0	0	20	0	0	0.0	0
81/03/11	11 15	0	0	0	10	0	10	0	0	0.0	10

SACRAMENTO RIVER BASIN

11452500 CACHE CREEK AT YOLO, CA

LOCATION.--Lat 38°43'38", long 121°48'22", in Rio Jesus Maria Grant, Yolo County, Hydrologic Unit 18020129, 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 mi² (2,950 km²).

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 National Geodetic Vertical Datum of 1929. See WSP 2131 for history of changes prior to Apr. 25, 1969. Apr. 25, 1969, to July 1976, at site 765 ft (233 m) upstream at same datum.

REMARKS.--Records good. Some regulation by Clear Lake (station 11450000) beginning in 1915 and Indian Valley Reservoir beginning in 1974, capacity, 296,000 acre-feet (365 hm³). Diversions for irrigation of about 30,000 acres (121 hm²) between Capay and Yolo, from data furnished by Clear Lake Water Co.

AVERAGE DISCHARGE.--79 years, 512 ft³/s (14.50 m³/s), 370,900 acre-ft/yr (457 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,400 ft³/s (1,170 m³/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.--Maximum discharge, 5,950 ft³/s (169 m³/s) Jan. 28, gage height, 61.06 ft (18.611 m) from floodmarks; no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	11	6.6	17	380	291	387	22	14	9.7	0	.62
2	28	8.8	6.6	17	286	292	344	31	9.7	13	0	.04
3	23	7.7	12	18	252	258	321	23	9.2	9.3	1.2	0
4	21	7.2	870	18	192	176	251	24	10	6.1	5.2	.63
5	21	7.0	529	18	169	148	172	48	7.6	8.8	4.6	6.2
6	21	6.8	193	18	150	156	96	34	9.2	9.5	3.2	9.5
7	20	6.8	98	18	135	148	62	25	12	7.8	4.0	8.9
8	21	6.5	60	18	124	147	43	20	6.4	8.7	5.3	3.9
9	19	7.9	45	18	116	144	35	18	2.5	11	5.9	.51
10	15	7.8	34	18	107	139	25	18	5.1	14	3.3	0
11	13	7.3	33	19	101	136	18	16	12	15	3.6	0
12	12	5.9	29	19	94	139	17	16	10	11	2.7	.55
13	14	6.3	27	19	103	137	19	19	9.8	16	2.0	.60
14	14	6.5	23	19	551	136	21	15	6.6	15	2.0	.07
15	14	6.1	22	18	633	152	17	13	4.3	8.1	.34	0
16	13	6.3	20	17	330	198	20	14	3.8	2.3	0	0
17	13	6.4	17	15	239	417	25	27	3.8	.85	0	1.3
18	14	5.8	17	14	196	425	42	20	12	4.7	.79	1.8
19	14	5.7	16	12	216	428	50	21	10	7.0	1.5	2.3
20	13	6.1	16	14	222	440	71	16	3.3	4.9	.62	2.1
21	12	6.2	16	19	195	620	47	20	3.5	1.3	.02	.96
22	14	7.2	16	26	203	1060	30	21	7.4	.07	.17	.48
23	16	7.2	16	350	190	711	25	11	7.0	0	1.5	.13
24	15	6.5	16	500	193	592	21	7.5	8.2	0	1.8	0
25	15	5.8	16	160	213	548	16	10	10	0	1.9	0
26	15	6.2	17	90	224	607	31	11	13	0	.93	.46
27	14	6.7	18	5100	227	552	50	15	14	0	.15	1.1
28	13	6.8	18	4500	285	495	34	13	11	0	.39	.73
29	12	6.8	17	2630	---	452	18	7.4	13	0	.19	.27
30	11	6.5	15	1090	---	429	18	5.5	12	0	0	.03
31	11	---	17	565	---	424	---	11	---	0	.57	---
TOTAL	502	205.8	2256.2	15374	6326	10997	2326	572.4	260.4	184.12	53.87	43.18
MEAN	16.2	6.86	72.8	496	226	355	77.5	18.5	8.68	5.94	1.74	1.44
MAX	31	11	870	5100	633	1060	387	48	14	16	5.9	9.5
MIN	11	5.7	6.6	12	94	136	16	5.5	2.5	0	0	0
AC-FT	996	408	4480	30490	12550	21810	4610	1140	517	365	107	86

CAL YR 1980 TOTAL 301010.60 MEAN 822 MAX 15800 MIN 3.6 AC-FT 597100
WTR YR 1981 TOTAL 39100.97 MEAN 107 MAX 5100 MIN 0 AC-FT 77560

NOTE: No gage-height record Jan. 23-28.

11453000 YOLO BYPASS NEAR WOODLAND, CA

LOCATION.--Lat 38°40'40", long 121°38'35", unsurveyed, Yolo County, Hydrologic Unit 18020109, 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 September 1977, October 1977 to current year (high flows only). 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 National Geodetic Vertical Datum of 1929. Prior to Dec. 17, 1941, nonrecording gage, and Dec. 18-31, 1941, water-stage recorder, at datum 0.73 ft (0.222 m) higher. Prior to Sept. 30, 1977, a supplementary water-stage recorder 6 mi (10 km) downstream at different datum recorded low flow.

REMARKS.--Records good. Flow is from Cache Creek and Knights Landing Ridge Cut plus floodwater passing over Fremont weir. Beginning October 1977, only flows above 1,000 ft³/s (28.3 m³/s) are computed.

AVERAGE DISCHARGE.--38 years (water years 1939-77), 3,765 ft³/s (106.6 m³/s), 2,728,000 acre-ft/yr (3.36 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 272,000 ft³/s (7,700 m³/s) Feb. 8, 1942, gage height, 32.00 ft (9.754 m); no flow at times in several years.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,090 ft³/s (201 m³/s) Jan. 29, gage height, 21.67 ft (6.605 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				---	4410	---						
2				---	4180	---						
3				---	3820	---						
4				---	2800	---						
5				---	2030	---						
6				---	1410	---						
7				---	---	---						
8				---	---	---						
9				---	---	---						
10				---	---	---						
11				---	---	---						
12				---	---	---						
13				---	---	---						
14				---	---	---						
15				---	---	---						
16				---	---	---						
17				---	1110	---						
18				---	---	---						
19				---	---	---						
20				---	---	---						
21				---	---	---						
22				---	---	---						
23				---	---	1810						
24				---	---	1800						
25				1190	---	1450						
26				1940	---	1130						
27				2150	---	1060						
28				5160	---	---						
29				7050	---	---						
30				6340	---	---						
31				5040	---	---						
TOTAL				---	---	---						
MEAN				---	---	---						
MAX				---	---	---						
MIN				---	---	---						
AC-FT				---	---	---						

SACRAMENTO RIVER BASIN

11453500 PUTAH CREEK NEAR GUENOC, CA

LOCATION.--Lat 38°46'44", long 122°30'59", in Guenoc Grant, Lake County, Hydrologic Unit 18020117, just upstream from Coyote Valley damsite, 2.8 mi (4.5 km) upstream from Soda Creek, and 3.2 mi (5.1 km) downstream from highway bridge at Guenoc.

DRAINAGE AREA.--113 mi² (293 km²).

PERIOD OF RECORD.--Water years 1960-73, 1978, 1981.

CHEMICAL ANALYSES: Water years 1978, 1981.

WATER TEMPERATURES: Water years 1960-73.

SEDIMENT RECORDS: Water years 1962-73.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1960 to September 1973.

SEDIMENT RECORDS: December 1964 to March 1965.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOW LEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA, DISS (MG/L)	MAGNESIUM MG, DISS (MG/L)	SODIUM NA, DISS (MG/L)
80/10/14	11 15	642	7.8	16.0	7.6			300	23	58	20
81/01/14	11 15	339	7.8	9.0	10.8	4.0	0.8	160	15	30	9
81/04/08	09 45	313	8.1	11.5	10.3			150	15	27	7

DATE	TIME	PTSSSIUM (MG/L)	ALKA- LITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	NOE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)
80/10/14	11 15	1.9	300	13	27	348		0.05	0.04	0.30	0.04
81/01/14	11 15	0.9	150	17	8	186	1	0.30	0.01	0.10	0.01
81/04/08	09 45	0.9	140	14	4	182		0.28	0.00	0.10	0.01

DATE	TIME	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/10/14	11 15	0.01	
81/01/14	11 15	0.00	1.4
81/04/08	09 45	0.00	

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE4NW4 sec.29, T.8 N., R.2 W., Napa County, Hydrologic Unit 18020117, near center of Monticello Dam on Putah Creek, 7.4 mi (11.9 km) west of Winters.

DRAINAGE AREA.--566 mi² (1,466 km²).

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 National Geodetic Vertical Datum of 1929 (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. 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 233,200 acre-ft (288 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, 738,600 acre-ft (911 hm³) Nov. 20, 1977, elevation, 388.04 ft (118.275 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,431,600 acre-ft (1.77 km³) Mar. 31, elevation, 430.95 ft (131.354 m); minimum, 1,167,000 acre-ft (1.44 hm³) Sept. 30, elevation, 415.97 ft (126.788 m).

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

380	632,400
390	765,700
400	911,200
410	1,068,000
420	1,236,000
430	1,414,000
450	1,800,000

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1317900	1295400	1285200	1305100	1381700	1403400	1431400	1414200	1366700	1312200	1254900	1204100
2	1316900	1294500	1284700	1305000	1383400	1403800	1431400	1412500	1365100	1309900	1253300	1202600
3	1316000	1294400	1300700	1305000	1383900	1404100	1431400	1411600	1363600	1308200	1251600	1200700
4	1315100	1294200	1307800	1305000	1384600	1405600	1431400	1410100	1362000	1306200	1249800	1199200
5	1314200	1293800	1308700	1304800	1385000	1405900	1431300	1408300	1360400	1304100	1248100	1197800
6	1313500	1293300	1308700	1304800	1385400	1406500	1431100	1406900	1358700	1302100	1246700	1196600
7	1312600	1293000	1308700	1304600	1385900	1406700	1430700	1405400	1356900	1300200	1245200	1195100
8	1311700	1292600	1308500	1304600	1386600	1406900	1430500	1403800	1355500	1298400	1243400	1193700
9	1311000	1292100	1308300	1304400	1386600	1407200	1430300	1401900	1353200	1296700	1241900	1192300
10	1310100	1291500	1308300	1304300	1386800	1407600	1429800	1400300	1352100	1294500	1240000	1191100
11	1309000	1291400	1308300	1304100	1387000	1407800	1428700	1398500	1350300	1292200	1238400	1189800
12	1308500	1290800	1308000	1304100	1387400	1408000	1427800	1397000	1348300	1290300	1236800	1188200
13	1307600	1290300	1307100	1304100	1389700	1408100	1427200	1395000	1346200	1288500	1234700	1186900
14	1306700	1289900	1306600	1304100	1393700	1408100	1429800	1393300	1343500	1286600	1233400	1185700
15	1305700	1289200	1306400	1303900	1395000	1409800	1428700	1391200	1342200	1284700	1231500	1184200
16	1305100	1288500	1307100	1303900	1395700	1410000	1427400	1389200	1339900	1282700	1230100	1182600
17	1304400	1288400	1307400	1303900	1396600	1410500	1427000	1387500	1338800	1280800	1228400	1181100
18	1304100	1288200	1307100	1304100	1397200	1411400	1426100	1386100	1336800	1279000	1226600	1180300
19	1303600	1287800	1306700	1304600	1397500	1412300	1425700	1385000	1335100	1277500	1224700	1178400
20	1303000	1287500	1306600	1304800	1397500	1413300	1424300	1383700	1333400	1275900	1222800	1177000
21	1302300	1287100	1306400	1304800	1397500	1419300	1423500	1382300	1331700	1274300	1221100	1175900
22	1301600	1286800	1305800	1308700	1397700	1421500	1422600	1381200	1329700	1272500	1219600	1175000
23	1301300	1287300	1305800	1313500	1397900	1422800	1422100	1379500	1329700	1270800	1217800	1173300
24	1300700	1287100	1305700	1315800	1398600	1423400	1420600	1378300	1325900	1268900	1216500	1172500
25	1300200	1286600	1305700	1316500	1399500	1427000	1419700	1376800	1324000	1267300	1214900	1171600
26	1299500	1286400	1305700	1316700	1399500	1427600	1418400	1375700	1321500	1265500	1213600	1170600
27	1298300	1286200	1305800	1344400	1401600	1428900	1417100	1374300	1319500	1263600	1212200	1170100
28	1297900	1286100	1305800	1362000	1402500	1429800	1416400	1372800	1317800	1262100	1210500	1169100
29	1297400	1285700	1305500	1374100	---	1430200	1415800	1371200	1317800	1260300	1208700	1168200
30	1296700	1285500	1305300	1378100	---	1430700	1415100	1369900	1316200	1258200	1207200	1167000
31	1296100	---	1305300	1379900	---	1431600	---	1368700	---	1256500	1205500	---
MAX	1317900	1295400	1308700	1379900	1402500	1431600	1431400	1414200	1366700	1312200	1254900	1204100
MIN	1296100	1285500	1284700	1303900	1381700	1403400	1415100	1368700	1316200	1256500	1205500	1167000
†	423.44	422.84	423.96	428.12	429.36	430.95	430.05	427.50	424.57	421.18	418.25	415.97
‡	-22500	-10600	+19800	+74600	+22600	+29100	-16500	-46400	-52500	-59700	-51000	-38500
††	5274	2886	1615	1236	2009	3370	5982	9884	13579	12405	9929	7037

CAL YR 1980 † +225400

WTR YR 1981 † -151600

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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, Hydrologic Unit 18020109, 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 mi² (1,487 km²).

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) National Geodetic Vertical Datum of 1929 (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).--51 years, 512 ft³/s (14.50 m³/s), 370,900 acre-ft/yr (457 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 81,000 ft³/s (2,290 m³/s) Feb. 27, 1940, gage height, 30.5 ft (9.30 m) present datum, from rating curve extended above 30,000 ft³/s (850 m³/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 ft³/s (462 m³/s) Jan. 24, 1970, gage height, 18.85 ft (5.745 m); minimum daily, 6.1 ft³/s (0.17 m³/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, 1,010 ft³/s (28.6 m³/s) June 25, gage height, 8.80 ft (2.682m); minimum daily, 32 ft³/s (0.906 m³/s) Jan. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	365	195	64	60	56	66	98	553	651	760	679	670
2	372	164	64	63	57	66	105	566	661	769	624	660
3	372	158	55	63	58	66	95	552	655	787	589	661
4	372	170	46	63	58	62	105	574	667	800	660	656
5	363	170	54	63	63	59	105	657	709	778	692	602
6	358	175	54	63	68	59	134	751	723	767	673	538
7	345	179	56	63	66	63	172	764	719	818	715	597
8	317	163	63	64	67	67	193	779	724	815	729	602
9	322	153	69	64	67	67	215	775	738	781	719	586
10	333	144	83	64	66	42	258	769	710	796	691	572
11	311	132	79	64	66	59	305	789	702	825	679	568
12	270	126	94	64	66	88	330	814	747	802	685	549
13	229	121	144	44	67	105	382	858	757	764	690	518
14	215	105	173	32	67	111	468	868	727	825	709	557
15	202	89	115	45	69	90	548	841	734	829	698	580
16	201	83	64	61	70	77	598	795	758	813	670	583
17	205	94	64	65	70	77	616	753	787	775	681	598
18	205	107	64	65	81	72	626	726	794	734	700	569
19	194	117	64	54	90	72	494	645	804	650	728	540
20	187	93	64	46	78	77	419	611	797	646	753	492
21	193	83	99	96	70	75	454	611	782	649	752	487
22	198	95	122	121	68	34	495	622	841	689	720	476
23	203	91	106	61	66	66	524	666	852	718	683	463
24	207	84	70	63	66	109	552	682	892	718	619	435
25	231	81	52	63	66	100	544	669	923	734	587	392
26	235	81	52	57	66	75	520	677	918	751	670	372
27	224	81	64	60	66	68	471	682	894	749	652	292
28	220	71	76	77	66	68	449	673	881	734	666	281
29	220	64	61	223	---	67	497	680	847	718	646	255
30	220	64	57	153	---	76	513	698	803	742	623	282
31	214	---	57	61	---	93	---	659	---	735	654	---
TOTAL	8103	3533	2349	2205	1884	2266	11285	21759	23197	23491	21036	15433
MEAN	261	116	75.8	71.1	67.3	73.1	376	702	773	758	679	514
MAX	372	195	173	223	90	111	626	868	923	829	753	670
MIN	187	64	46	32	56	34	95	552	651	646	587	255
AC-FT	16070	7010	4660	4370	3740	4490	22380	43160	46010	46590	41720	30610

CAL YR 1980 TOTAL 123973 MEAN 339 MAX 842 MIN 22 AC-FT 245900 MEAN ‡ 751 AC-FT ‡ 545,500
WTR YR 1981 TOTAL 136541 MEAN 374 MAX 923 MIN 32 AC-FT 270800 MEAN ‡ 269 AC-FT ‡ 194,400

‡ 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 June 1981 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1965 to June 1981 (discontinued).

INSTRUMENTATION.--Temperature recorder from Nov. 19, 1965 to June 1981.

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 1967-68, 1973.

EXTREMES FOR PERIOD OCTOBER TO JUNE.--

WATER TEMPERATURES: Maximum recorded, 14.0°C several days during October and November; minimum recorded, 11.0°C Feb. 21, 26, Mar. 5, 21.

WATER QUALITY RECORDS, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	STREAM FLOW INST-CFS	SPECIFIC COND MICROMHO	PH FIELD (UNITS)	TEMP WATER (DEG C)	OXYGEN DISS (MG/L)	COD LOWLEVEL (MG/L)	BOD 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM CA+DISS (MG/L)	MAGNESIUM MG+DISS (MG/L)
80/10/14	13 25	215	318	8.4	13.5	11.5			150	17	26
81/01/14	13 10	32	343	8.3	11.5	11.2	11	0.8	160	18	27
81/04/07	09 30	178	331	8.2	11.5	11.0			150	18	26

DATE	TIME	SODIUM NA+DISS (MG/L)	POTASSIUM K+DISS (MG/L)	ALKA- LINITY (MG/L)	SULFATE SO4-DISS (MG/L)	CHLORIDE CL DISS (MG/L)	ROE DISS 180 C (MG/L)	RESIDUE TOT NFLT (MG/L)	NO2+NO3 N-DISS (MG/L)	AMMONIA N DISS (MG/L)
80/10/14	13 25	9	1.3	140	20	6	180		0.18	0.00
81/01/14	13 10	10	1.4	150	22	7	187	8	0.08	0.00
81/04/07	09 30	10	1.3	150	19	6	194		0.09	0.00

DATE	TIME	AMMONIA+ ORG TOT N(MG/L)	PHOS-TOT AS P (MG/L)	PHOS-DIS ORTHO P (MG/L)	ORGANIC CARBON T (MG/L)
80/10/14	13 25	0.20	0.04	0.02	
81/01/14	13 10	0.20	0.02	0.00	3.5
81/04/07	09 30	0.20	0.02	0.00	

DATE	TIME	ARSENIC AS+DISS (UG/L)	BARIUM BA+DISS (UG/L)	BORON B+DISS (UG/L)	CADMIUM CD+DISS (UG/L)	CHROMIUM CR+DISS (UG/L)	COPPER CU+DISS (UG/L)	IRON FE+DISS (UG/L)	LEAD PB+DISS (UG/L)	MANGANESE MN+DISS (UG/L)	MERCURY HG+TOTAL (UG/L)
80/10/14	13 25	0	0	100	0	0	0	10	0	0	0.0
81/01/14	13 10	0	0	200	0	0	0	0	0	20	0.0
81/04/07	09 30	0	0	200	0	0	0	10	0	10	0.0

DATE	TIME	SELENIUM SE+DISS (UG/L)
80/10/14	13 25	10
81/01/14	13 10	0
81/04/07	09 30	0

SACRAMENTO RIVER BASIN

11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1980 TO JUNE 1981

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	---	---	13.5	13.0	13.0	12.5	12.5	12.0	12.0	11.5	12.0	11.5
2	---	---	13.5	13.0	13.0	13.0	12.0	12.0	12.0	11.5	12.0	11.5
3	---	---	14.0	13.0	13.5	13.0	12.5	12.0	12.0	11.5	12.0	11.5
4	---	---	14.0	13.0	13.0	13.0	12.5	12.0	12.0	11.5	11.5	11.5
5	---	---	13.5	13.0	13.0	12.5	12.5	12.0	12.0	11.5	12.0	11.0
6	---	---	13.5	13.0	12.5	12.0	12.5	12.0	12.0	11.5	12.5	11.5
7	---	---	14.0	13.5	12.5	12.0	12.0	12.0	12.0	11.5	12.5	11.5
8	14.0	13.5	13.5	13.5	12.5	12.0	12.0	12.0	12.0	11.5	12.5	11.5
9	14.0	13.5	13.5	13.0	12.5	12.0	12.0	11.5	12.5	11.5	13.0	11.5
10	13.5	13.0	13.5	13.0	12.5	12.0	12.0	11.5	12.0	11.5	13.0	11.5
11	13.5	13.0	13.5	13.0	12.5	12.5	11.5	11.5	12.5	12.0	13.0	12.5
12	13.5	13.0	13.5	13.0	12.5	12.0	12.0	11.5	12.5	12.0	12.5	12.0
13	13.5	13.0	13.0	12.5	13.0	12.5	12.0	11.5	12.0	12.0	12.0	11.5
14	13.5	13.0	13.0	12.5	13.0	13.0	12.0	11.5	13.0	12.0	12.0	11.5
15	13.5	13.0	13.0	12.5	13.0	13.0	12.0	11.5	12.5	12.0	11.5	11.5
16	13.5	13.0	13.0	12.5	13.0	12.5	12.5	12.0	12.5	12.0	12.5	11.5
17	13.5	13.0	13.5	13.0	13.0	12.5	12.5	12.0	12.5	12.0	12.5	11.5
18	13.5	13.0	13.0	12.5	13.0	13.0	12.5	12.0	12.5	12.0	12.0	11.5
19	13.5	13.0	13.5	13.0	13.0	12.5	12.5	12.0	12.5	12.0	11.5	11.5
20	14.0	13.0	13.5	13.0	13.0	12.5	12.5	12.0	12.0	11.5	11.5	11.5
21	13.5	13.0	13.0	12.5	13.0	12.5	12.5	12.5	12.0	11.0	12.0	11.0
22	13.5	13.0	13.5	13.0	13.0	13.0	12.5	12.5	12.5	11.5	12.5	12.0
23	13.5	13.0	13.5	13.5	13.0	13.0	12.5	12.0	12.0	11.5	12.5	11.5
24	13.5	13.0	13.5	13.0	13.0	12.5	12.0	12.0	12.0	11.5	12.0	11.5
25	13.5	13.5	13.0	12.5	13.0	12.5	12.0	11.5	11.5	11.5	12.0	12.0
26	13.5	13.0	13.0	12.5	13.0	12.5	11.5	11.5	11.5	11.0	12.5	11.5
27	13.5	13.0	13.0	12.5	13.0	12.5	11.5	11.5	12.0	11.5	13.0	11.5
28	13.5	13.0	13.0	12.5	13.0	12.5	11.5	11.5	11.5	11.5	13.0	11.5
29	13.5	13.0	13.5	12.5	12.5	12.5	12.0	11.5	---	---	13.0	12.0
30	13.5	13.0	13.5	13.5	12.5	12.5	12.0	11.5	---	---	12.5	11.5
31	13.5	13.0	---	---	12.5	12.0	12.0	11.5	---	---	12.5	11.5
MONTH	---	---	14.0	12.5	13.5	12.0	12.5	11.5	13.0	11.0	13.0	11.0

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

11455420 SACRAMENTO RIVER AT RIO VISTA, CA

LOCATION.--Lat 38°09'35", long 121°41'05", in Los Ulpinos Land Grant, Solano County, Hydrologic Unit 18020109, at center of lift span on drawbridge at Rio Vista.

PERIOD OF RECORD.--

SEDIMENT RECORDS: Water years 1979 to current year.

TURBIDITY: Water years 1979 to current year.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
OCT									
08...	1030	20.0	21	99	100	--	--	--	--
FEB									
04...	0940	9.0	109	96	--	97	98	98	100
18...	0710	12.0	352	100	--	--	--	--	--
19...	0710	12.0	214	100	--	--	--	--	--
APR									
09...	1110	15.0	44	93	--	98	98	100	--
JUN									
24...	1310	24.0	43	77	--	81	87	94	100

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)	DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
OCT					NOV				
01...	0715	16.0	17	7.0	07...	0735	14.0	18	8.0
02...	0700	18.0	19	7.0	07...	1125	15.0	11	4.0
03...	0720	18.0	20	5.0	08...	0735	14.0	12	7.0
04...	0800	18.0	17	6.0	09...	0735	14.0	13	7.0
05...	0750	18.0	22	6.0	10...	0730	14.0	12	7.0
06...	0710	16.0	23	3.0	11...	0740	14.0	23	11
07...	0720	18.0	26	5.0	12...	0720	13.0	7	6.0
08...	0730	18.0	25	6.0	13...	0715	12.0	6	7.0
08...	1030	20.0	21	5.0	14...	0720	12.0	10	6.0
08...	1040	20.0	19	6.0	15...	0800	13.0	5	4.0
09...	0735	18.0	20	8.0	16...	0725	12.0	8	6.0
10...	0740	16.0	13	4.0	17...	0715	12.0	10	8.0
11...	0750	16.0	29	4.0	18...	0705	10.0	12	8.0
12...	0745	16.0	13	7.0	19...	0750	10.0	17	5.0
13...	0735	15.0	13	6.0	20...	0700	10.0	11	7.0
14...	0730	14.0	13	6.0	21...	0700	10.0	14	6.0
15...	0730	14.0	13	5.0	22...	0700	12.0	8	7.0
16...	0715	14.0	11	5.0	23...	0705	12.0	12	8.0
17...	0645	16.0	11	7.0	24...	0710	8.0	9	8.0
18...	0720	14.0	12	7.0	25...	0730	10.0	12	8.0
19...	0730	14.0	17	7.0	26...	0715	10.0	11	11
20...	0700	15.0	17	6.0	27...	0715	8.0	8	8.0
21...	0705	15.0	17	6.0	28...	0705	8.0	10	7.0
22...	0735	16.0	20	7.0	29...	0725	12.0	10	6.0
23...	0700	15.0	21	6.0	30...	0725	11.0	8	5.0
24...	0730	15.0	24	8.0	DEC				
25...	0740	--	16	8.0	01...	0710	9.0	6	6.0
26...	0710	14.0	15	8.0	02...	0720	11.0	7	6.0
27...	0700	14.0	23	12	03...	0715	11.0	9	8.0
28...	0705	13.0	23	11	04...	0720	11.0	11	6.0
29...	0710	13.0	18	6.0	05...	0730	8.0	11	7.0
30...	0655	13.0	19	7.0	06...	0735	10.0	13	8.0
31...	0740	12.0	13	7.0	07...	0735	8.0	41	20
NOV					08...	0735	8.0	79	37
01...	0730	14.0	27	5.0	09...	0730	--	71	60
02...	0740	--	10	5.0	10...	0705	8.0	43	34
03...	0725	14.0	24	8.0	17...	1400	9.0	28	13
04...	0710	14.0	17	7.0	18...	0710	10.0	26	9.0
05...	0715	14.0	20	7.0	19...	0705	8.0	23	9.0
06...	0730	14.0	16	6.0	20...	0700	8.0	49	13

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)	DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
DEC					MAR				
21...	0715	8.0	24	9.0	19...	0700	12.0	37	15
22...	0700	10.0	23	8.0	20...	0700	10.0	35	15
23...	0715	10.0	20	9.0	21...	0715	10.0	26	10
24...	0715	10.0	20	8.0	22...	0720	12.0	49	25
25...	0705	10.0	18	9.0	23...	0715	11.0	50	20
26...	0720	10.0	19	9.0	24...	0720	12.0	39	15
27...	0720	10.0	21	8.0	25...	0720	13.0	34	15
28...	0720	9.0	15	7.0	26...	0720	10.0	55	35
29...	0715	10.0	14	6.0	27...	0720	10.0	43	30
30...	0720	10.0	13	7.0	28...	0725	12.0	33	20
31...	0720	9.0	11	5.0	29...	0720	12.0	42	25
JAN					30...	0720	10.0	56	25
01...	0720	9.0	15	6.0	31...	0710	10.0	47	30
02...	0725	9.0	24	7.0	APR				
03...	0720	9.0	16	9.0	01...	0700	11.0	75	25
04...	0730	10.0	21	8.0	02...	0645	12.0	68	25
05...	0720	9.0	21	8.0	03...	0630	11.0	88	25
06...	0720	10.0	19	9.0	04...	0630	11.0	77	20
07...	0710	9.0	17	7.0	05...	0630	12.0	75	20
08...	0715	9.0	15	8.0	06...	0630	12.0	44	15
09...	0710	9.0	17	8.0	07...	0620	12.0	27	15
10...	0710	9.0	17	8.0	08...	0635	12.0	26	15
11...	0705	8.0	21	8.0	09...	0640	12.0	23	15
12...	0710	9.0	18	7.0	09...	1115	15.0	43	15
13...	0655	8.0	27	7.0	10...	0645	--	26	15
14...	0700	8.0	18	7.0	11...	0645	12.0	31	14
15...	0710	9.0	16	5.0	12...	0650	12.0	23	10
16...	0705	10.0	15	6.0	13...	0650	13.0	22	13
17...	0715	10.0	16	6.0	14...	0655	14.0	28	15
18...	0715	10.0	17	6.0	15...	0700	13.0	35	15
19...	0715	10.0	17	5.0	16...	0705	14.0	37	17
20...	0700	10.0	17	8.0	17...	0700	15.0	41	17
21...	0655	11.0	23	9.0	18...	0705	14.0	50	19
22...	0710	10.0	19	7.0	19...	0655	14.0	44	17
23...	0700	10.0	21	5.0	20...	0710	13.0	39	14
24...	0710	10.0	16	6.0	21...	0710	15.0	33	15
25...	0720	10.0	16	7.0	22...	0715	16.0	38	15
26...	0720	10.0	65	14	23...	0720	17.0	19	10
27...	0730	10.0	272	170	24...	0715	16.0	18	10
28...	0725	10.0	160	120	25...	0710	15.0	13	8.0
29...	0730	9.0	92	65	26...	0715	13.0	15	9.0
30...	0730	9.0	91	60	27...	0715	15.0	13	9.0
31...	0730	8.0	220	120	28...	0715	16.0	16	9.0
FEB					29...	0655	17.0	20	10
01...	0730	7.0	220	170	30...	0640	19.0	28	12
04...	0945	9.0	109	75	MAY				
11...	0655	11.0	47	30	01...	0635	16.0	33	14
12...	0650	10.0	37	20	02...	0635	15.0	47	17
13...	0655	11.0	32	15	03...	0635	15.0	46	17
14...	0715	12.0	47	25	04...	0635	15.0	29	12
15...	0725	12.0	40	25	05...	0625	15.0	21	9.0
16...	0725	12.0	37	20	06...	0635	14.0	26	13
20...	0705	10.0	149	110	07...	0640	16.0	25	13
21...	0715	10.0	99	80	08...	0650	15.0	25	13
22...	0720	10.0	86	50	09...	0655	17.0	25	12
23...	0710	10.0	59	40	10...	0645	17.0	20	10
24...	0725	11.0	53	30	11...	0650	17.0	25	11
25...	0720	10.0	38	25	12...	0650	18.0	19	10
26...	0720	10.0	29	20	13...	0750	15.0	25	11
27...	0725	9.0	19	15	14...	0645	16.0	27	12
28...	0725	9.0	17	15	15...	0655	15.0	30	13
MAR					16...	0655	15.0	46	14
01...	0725	10.0	18	15	17...	0700	16.0	42	15
02...	0725	10.0	26	15	18...	0705	17.0	33	12
03...	0715	9.0	32	20	19...	0650	16.0	29	12
04...	0655	10.0	43	20	20...	0705	16.0	32	13
05...	0645	10.0	36	15	21...	0700	15.0	22	11
06...	0645	10.0	33	10	23...	0700	16.0	22	13
07...	0645	10.0	24	10	23...	0710	17.0	19	12
08...	0645	11.0	22	15	24...	0700	17.0	25	10
09...	0645	10.0	29	10	25...	0715	16.0	22	10
10...	0645	10.0	37	20	26...	0715	17.0	21	11
11...	0645	10.0	42	20	27...	0700	18.0	22	10
12...	0650	10.0	41	15	28...	0645	17.0	27	14
13...	0700	10.0	28	15	29...	0645	16.0	34	15
14...	0700	10.0	20	10	30...	0645	16.0	41	16
15...	0710	11.0	20	8.0	31...	0645	17.0	43	16
16...	0705	10.0	29	15	JUN				
17...	0705	10.0	35	15	01...	0645	18.0	54	20
18...	0705	11.0	35	15	02...	0640	17.0	54	18

11455420 SACRAMENTO RIVER AT RIO VISTA, CA

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

DATE	TIME	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
JUN				
03...	0640	17.0	45	19
04...	0650	18.0	46	25
05...	0700	19.0	43	22
06...	0700	20.0	38	19
07...	0700	19.0	32	18
08...	0705	20.0	31	13
09...	0700	19.0	24	12
10...	0700	18.0	25	13
11...	0700	19.0	25	14
12...	0705	19.0	29	12
13...	0710	17.0	29	15
14...	0710	18.0	31	15
15...	0715	20.0	37	11
16...	0710	20.0	42	17
17...	0715	20.0	51	22
18...	0715	21.0	41	20
19...	0715	22.0	43	23
20...	0715	23.0	40	24
21...	0720	23.0	40	20
22...	0710	23.0	40	22
23...	0700	--	45	25
24...	0700	21.0	28	18
JUL				
04...	0715	19.5	17	9.0
05...	0725	20.0	13	6.0
06...	0725	20.0	11	6.0
07...	0725	19.5	15	8.0
08...	0725	19.0	17	8.0
09...	0715	19.0	19	9.0
10...	0715	19.5	27	9.0
11...	0720	20.0	27	9.0
12...	0720	19.5	29	9.0
13...	0720	19.5	38	15
14...	0715	19.5	47	15
15...	0720	19.0	39	15
16...	0710	18.0	32	14
17...	0700	18.0	33	13
18...	0705	19.0	32	13
19...	0700	19.0	24	12
20...	0700	19.5	19	11
21...	0700	20.0	19	12
22...	0700	19.5	23	12
23...	0700	19.0	29	15
24...	0700	18.5	23	13
25...	0705	18.0	27	15
26...	0710	18.0	41	17
27...	0710	19.0	37	16
28...	0715	18.0	40	17
29...	0715	17.5	26	11
30...	0715	18.0	27	13

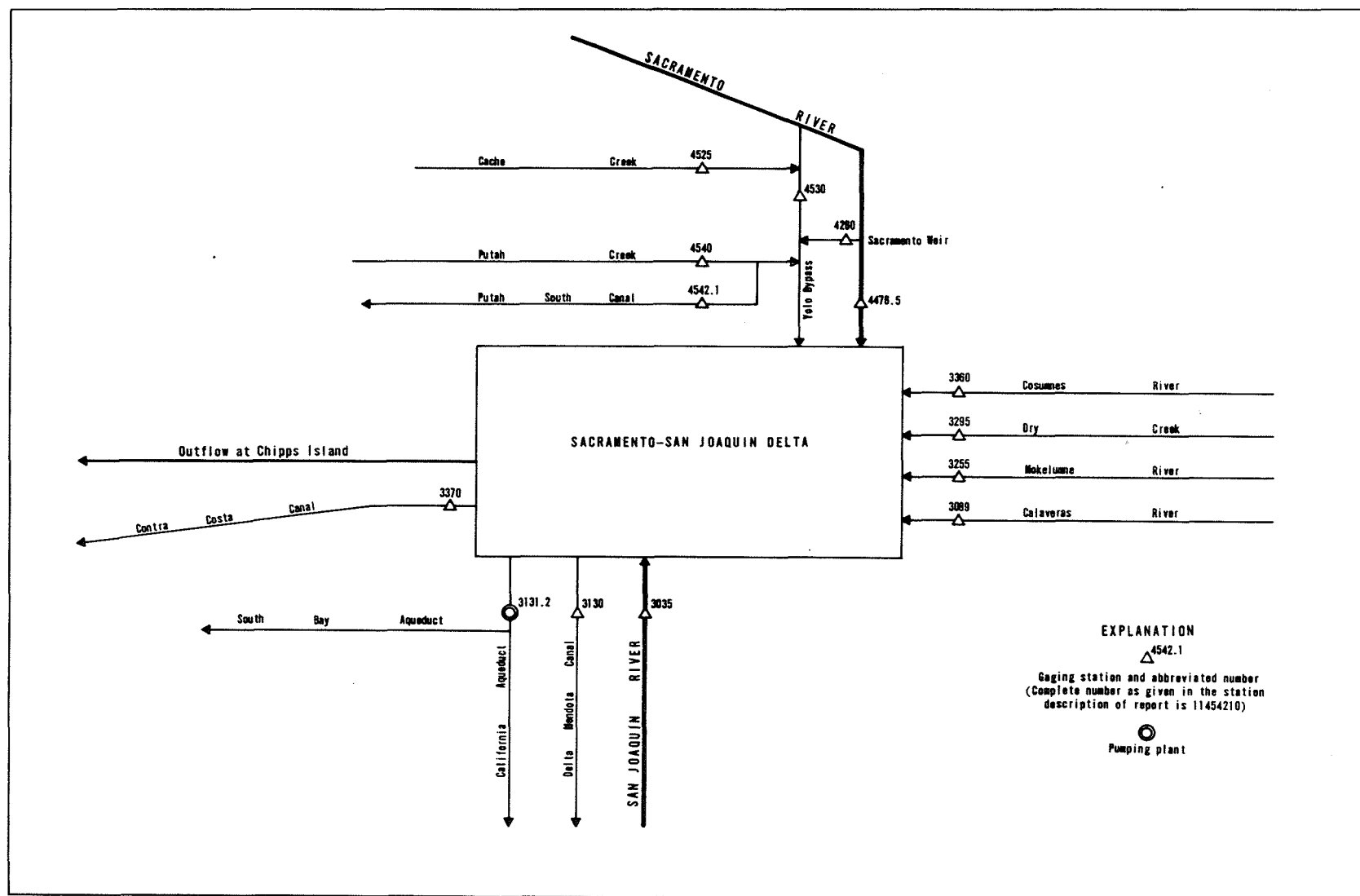


FIGURE 12. — Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin.

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 mi² (102,820 km²).

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 1980 TO SEPTEMBER 1981

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												
250.4	195.0	181.3	199.9	159.9	192.0	150.7	120.9	89.18	77.79	78.05	70.29	1765
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM												
5.71	3.36	2.88	2.58	1.99	2.10	4.88	12.67	16.15	16.86	15.87	11.19	96.25
11325500 MOKELUMNE RIVER AT WOODBRIDGE												
21.43	32.40	14.02	5.10	2.93	2.16	1.55	2.33	3.29	3.81	3.06	2.52	94.59
11329500 DRY CREEK NEAR GALT												
0	0	0	7.38	1.95	21.14	3.51	.20	.02	0	.02	.03	34.24
11336000 COSUMNES RIVER AT MCCONNELL												
0	.39	2.01	15.21	9.31	50.27	20.05	9.46	.43	0	0	0	107.1
11426000 SACRAMENTO WEIR SPILL												
0	0	0	0	0	0	0	0	0	0	0	0	0
11447650 SACRAMENTO RIVER AT FREEPORT												
697.5	646.9	1026	1138	1346	1507	1025	847.4	638.4	941.0	913.2	761.9	11490
114530000 YOLO BYPASS NEAR WOODLAND ^{1/}												
--	--	--	28.87	19.76	7.25	--	--	--	--	--	--	55.88
11454000 PUTAH CREEK NEAR WINTERS												
16.07	7.01	4.66	4.37	3.74	4.49	22.38	43.16	46.01	46.59	41.72	30.61	270.8
Total	991.1	885.1	1231	1401	1546	1786	1228	1036	793.5	1086	1052	13914

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													
219.1	229.1	232.9	251.1	203.1	119.1	220.1	192.8	211.4	267.5	252.7	197.2	2596	
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)													
184.0	147.1	181.1	252.5	196.0	174.7	250.2	56.94	15.77	14.18	302.2	188.8	1963	
11337000 CONTRA COSTA CANAL													
10.11	7.04	4.70	5.33	4.32	4.90	6.26	13.01	14.65	14.68	12.48	10.27	107.8	
11454210 PUTAH SOUTH CANAL													
14.45	5.27	2.94	2.07	2.52	2.56	19.40	38.94	40.54	40.65	36.34	27.52	233.2	
Total	427.7	388.5	421.6	511.0	405.9	301.3	496.0	301.7	282.4	337.0	603.7	423.8	4900

1. Flow not computed below 1000 ft³/s.

NOTE.--Minor inflow streams and diversions are not included.

DISCHARGE AT PARTIAL-RECORD STATIONS

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 1981

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurements	
					Date	Discharge (ft ³ /s)
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, Hydrologic Unit 18020005, 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	1975-81	1-28-81 6-2-81	466 16
11376030	Manzanita Creek above Reflection Lake, at Manzanita Lake, CA	Lat 40°32'08", long 121°33'28", in NE¼SE¼ sec.18, T.31 N., R.4 E., Shasta County, Hydrologic Unit 18020118, Lassen Volcanic National Park, 0.3 mi (0.4 km) east of town of Manzanita Lake, and 6.6 mi (10.6 km) east of Viola.	7.06	1979-81d	10-21-80 11-24-80 12-15-80 1-20-81 4-16-81 5-15-81 6-22-81 7-21-81 8-24-81 9-23-81	14.6 10.8 14.0 11.3 10.1 14.8 12.3 13.9 11.5 a9.6
11376035	Manzanita Creek at outlet of Manzanita Lake, at Manzanita Lake, CA	Lat 40°32'09", long 121°34'12", in NE¼SW¼ sec.18, T.31 N., R.4 E., Shasta County, Hydrologic Unit 18020118, Lassen Volcanic National Park, 0.5 mi (0.7 km) west of town of Manzanita Lake, and 5.9 mi (9.5 km) east of Viola.	11.5	1979-81d	10-21-80 11-24-80 12-15-80 1-20-81 4-16-81 5-15-81 6-22-81 7-21-81 8-24-81 9-23-81	a6.23 5.56 5.90 5.00 4.36 9.80 7.98 6.11 4.63 a3.06
*11433430	Buckeye Canyon Creek tributary near Greenwood, CA	Lat 38°55'20", long 120°57'30", in SW¼NE¼ sec.3, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northwest of Greenwood, and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-81	11-4-80 12-19-80 1-28-81	0 0 .08
*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, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northwest of Greenwood.	0.30	1972-81	11-4-80 12-19-80 1-28-81	0 0 0.19
*11433450	Browns Bar Canyon Creek near Cool, CA	(Revised) Lat 38°54'38", long 120°58'41", in NE¼NW¼ sec.9, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-81	11-4-80 12-19-80 1-28-81 4-7-81	0 0 1.61 .20
*11433900	Paymaster Creek near Cool, CA	Lat 38°53'43", long 120°59'50", in SW¼NE¼ sec.17, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, on left bank 400 ft (122 m) upstream from culvert on Paymaster Trail, 1.1 mi (1.8 km) northeast of Cool.	0.19	1972-81	11-4-80 1-28-81 4-7-81	0 1.96 .06

* Also a crest-stage partial-record station.

a Base flow.

d Discontinued.

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 1981

						Annual maximum	
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Discharge (ft ³ /s)
Sacramento River Basin							
*11433430	Buckeye Canyon Creek tributary near Greenwood, CA	Lat 38°55'20", long 120°57'30", in SW¼NE¼ sec.3, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northwest of Greenwood and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-73e, 1974-81	3-25-81	0.57	2.4
*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, Hydrologic Unit 18020128, 3.3 mi (5.3 km) northeast of Cool and 3.5 mi (5.6 km) northeast of Greenwood.	0.30	1972-73e, 1974-81	3-25-81	--	7.5b
*11433450	Browns Bar Canyon Creek near Cool, CA	(Revised) Lat 38°54'38", long 120°58'41", in NE¼NW¼ sec.9, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-73e, 1974-81	3-25-81	1.12	17
*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, Hydrologic Unit 18020128, 1.1 mi (1.8 km) northeast of Cool.	0.19	1972-73e, 1974-81	3-25-81	1.05	11

* Also a low-flow partial-record station.

b Estimated.

e Published as miscellaneous measurement.

BUTTE COUNTY

Sacramento Valley (5-21)

SITE NUMBER 392451121451101 LOCAL NUMBER 018N002E16F01M

2 MI WEST OF BIGGS. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 60 FT. PERFORATED 20-60 FT. ALTITUDE OF LSD 80 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1947 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.6 FEET BELOW LAND SURFACE DATUM APR 24, 1980.

LOWEST WATER LEVEL 9.1 FEET BELOW LAND SURFACE DATUM OCT 30, 1953.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1980	7.2	MAR 10, 1981	5.9

SITE NUMBER 393646121471601 LOCAL NUMBER 020N002E06Q01M

2 MI SOUTH OF DURHAM. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 383 FT. PERFORATED 10-44 FT. ALTITUDE OF LSD 135 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 5.7 FEET BELOW LAND SURFACE DATUM MAR 15, 1974.

LOWEST WATER LEVEL 31.4 FEET BELOW LAND SURFACE DATUM OCT 18, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1980	18.3	MAR 11, 1981	14.3

SITE NUMBER 395026122562001 LOCAL NUMBER 023N001W14R01M

4 MI NORTH OF NORD. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN. DEPTH 157 FT. ALTITUDE OF LSD 189 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1948 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.74 FEET BELOW LAND SURFACE DATUM APR 08, 1952.

LOWEST WATER LEVEL 42.8 FEET BELOW LAND SURFACE DATUM OCT 29, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1980	37.0	MAR 12, 1981	31.8

COLUSA COUNTY

Sacramento Valley (5-21)

SITE NUMBER 390327122054201 LOCAL NUMBER 014N002W16N02M

4 MI NORTHWEST OF ARBUCKLE. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 136 FT. PERFORATED 124-136 FT. ALTITUDE OF LSD 120 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 30.4 FEET BELOW LAND SURFACE DATUM JAN 13, 1959.

LOWEST WATER LEVEL 74. FEET BELOW LAND SURFACE DATUM JUN 19, 1973.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1980	63.8	MAR 18, 1981	61.7

GLENN COUNTY

Sacramento Valley (5-21)

SITE NUMBER 392730121593001 LOCAL NUMBER 019N001W32G01M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN; DEPTH 1333 FT. SCREENED 1328-1333 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 0.70 FEET BELOW LAND SURFACE DATUM Feb. 20, 1980.

LOWEST WATER LEVEL 5.31 FEET BELOW LAND SURFACE DATUM Nov. 26, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	4.43	NOV 10, 1980	4.18	DEC 20, 1980	4.03	FEB 12, 1981	3.34
02	4.41	11	4.18	21	4.00	13	3.30
03	4.43	12	4.22	22	4.01	14	3.10
04	4.42	13	4.24	23	4.01	15	2.71
05	4.43	14	4.28	24	4.05	16	2.84
06	4.45	15	4.25	25	4.05	17	3.10
07	4.43	16	4.24	26	4.01	18	3.10
08	4.41	17	4.25	27	4.00	19	3.00
09	4.37	18	4.25	28	4.00	20	3.23
10	4.39	19	4.25	29	4.01	21	3.20
11	4.43	20	4.23	30	3.98	22	3.17
12	4.43	21	4.22	31	3.94	23	3.05
13	4.42	22	4.18	JAN 15, 1981	3.81	24	3.00
14	4.40	23	4.18	16	3.83	25	3.04
15	4.36	24	4.27	17	3.88	26	2.88
16	4.39	25	4.27	18	3.87	27	3.08
17	4.45	26	4.26	19	3.83	28	3.00
18	4.49	27	4.25	20	3.80	MAR 01	2.96
19	4.45	28	4.22	21	3.76	02	2.98
20	4.44	29	4.12	22	3.69	03	2.98
21	4.40	30	4.10	23	3.11	04	2.93
22	4.38	DEC 01	4.14	24	3.20	05	2.64
23	4.40	02	4.07	25	3.45	06	2.86
24	4.40	03	3.87	26	3.48	07	2.98
25	4.33	04	3.51	27	3.25	08	3.02
26	4.36	05	3.80	28	3.54	09	3.01
27	4.40	06	3.89	29	3.22	10	2.98
28	4.44	07	3.97	30	2.90	11	2.92
29	4.44	08	4.04	31	3.25	12	2.88
30	4.38	09	4.07	FEB 01	3.33	13	2.90
31	4.35	10	4.10	02	3.32	14	2.89
NOV 01	4.35	11	4.04	03	3.30	15	2.85
02	4.35	12	4.00	04	3.33	16	2.90
03	4.33	13	4.07	05	3.31	17	2.72
04	4.30	14	4.11	06	3.32	18	2.68
05	4.26	15	4.07	07	3.33	19	2.42
06	4.25	16	4.01	08	3.28	20	2.39
07	4.23	17	3.97	09	3.25	21	2.58
08	4.24	18	3.98	10	3.33	22	2.37
09	4.22	19	4.03	11	3.35	23	2.50

GROUND WATER

GLENN COUNTY--Continued

Sacramento Valley (5-21)

Site Number 392730121593001 Local Number 019N001W32G01M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 24, 1981	2.46	MAY 11, 1981	2.08	JUN 28, 1981	2.77	AUG 15, 1981	3.86
25	2.36	12	2.09	29	2.84	16	3.81
26	2.10	13	2.10	30	2.86	17	3.80
27	2.24	14	2.06	JUL 01	2.80	18	3.86
28	2.30	15	2.06	02	2.86	19	3.94
29	2.28	16	2.11	03	2.94	20	3.90
30	2.39	17	2.11	04	2.94	21	3.90
31	2.32	18	2.07	05	2.93	22	3.92
APR 01	2.35	19	2.01	06	2.92	23	3.96
02	2.25	20	2.05	07	3.02	24	4.00
03	2.40	21	2.12	08	3.00	25	4.00
04	2.49	22	2.11	09	3.01	26	4.00
05	2.43	23	2.08	10	3.05	27	3.98
06	2.37	24	2.08	11	3.08	28	3.99
07	2.38	25	2.10	12	3.11	29	4.02
08	2.45	26	2.11	13	3.16	30	4.03
09	2.45	27	2.12	14	3.15	31	4.05
10	2.41	28	2.15	15	3.13	SEP 01	4.09
11	2.43	29	2.18	16	3.13	02	4.11
12	2.47	30	2.21	17	3.17	03	4.15
13	2.42	31	2.20	18	3.21	05	4.16
14	2.33	JUN 01	2.25	19	3.21	06	4.23
15	2.27	02	2.31	20	3.25	07	4.28
16	2.32	03	2.34	21	3.28	08	4.28
17	2.33	04	2.35	22	3.30	10	4.27
18	2.26	05	2.34	23	3.30	11	4.30
19	2.22	06	2.40	24	3.33	12	4.34
20	2.21	07	2.44	25	3.31	13	4.33
21	2.20	08	2.45	26	3.37	14	4.34
22	2.19	09	2.48	27	3.42	15	4.37
23	2.20	10	2.46	28	3.41	16	4.40
24	2.22	11	2.47	29	3.42	17	4.41
25	2.25	12	2.55	30	3.50	18	4.40
26	2.24	13	2.63	31	3.53	19	4.40
27	2.17	14	2.66	AUG 01	3.55	20	4.42
28	2.14	15	2.66	02	3.55	21	4.45
29	2.16	16	2.67	03	3.56	22	4.44
30	2.14	17	2.68	04	3.60	23	4.50
MAY 01	2.13	18	2.66	05	3.60	24	4.50
02	2.16	19	2.66	06	3.63	25	4.48
03	2.16	20	2.67	07	3.60	26	4.48
04	2.16	21	2.69	08	3.61	27	4.48
05	2.19	22	2.68	09	3.62	28	4.48
06	2.20	23	2.72	10	3.70	29	4.48
07	2.18	24	2.73	11	3.73	30	4.48
08	2.23	25	2.78	12	3.72		
09	2.16	26	2.78	13	3.79		
10	2.12	27	2.74	14	3.85		

GLENN COUNTY--Continued
Sacramento Valley (5-21)

SITE NUMBER 392730121593002 LOCAL NUMBER 019N001W32002M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN; DEPTH 968 FT. SCREENED 963-968 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 4.72 FEET BELOW LAND SURFACE DATUM FEB 20, 1980.

LOWEST WATER LEVEL 12.02 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	11.38	NOV 10, 1980	10.42	DEC 20, 1980	10.08	APR 09, 1981	7.99
02	11.33	11	10.41	21	10.03	MAY 05	7.86
03	11.31	12	10.43	22	10.03	06	7.89
04	11.27	13	10.45	23	10.01	07	7.90
05	11.24	14	10.47	24	10.03	08	7.99
06	11.23	15	10.45	25	10.04	09	7.96
07	11.21	16	10.44	26	10.00	10	7.98
08	11.13	17	10.45	27	9.97	11	7.96
09	11.07	18	10.45	28	9.97	12	8.00
10	11.07	19	10.45	29	9.97	13	8.06
11	11.07	20	10.43	30	9.95	14	8.09
12	11.06	21	10.41	31	9.92	15	8.16
13	11.02	22	10.39	JAN 01, 1981	9.89	16	8.22
14	10.96	23	10.39	02	9.89	17	8.25
15	10.90	24	10.47	03	9.88	18	8.26
16	10.88	25	10.47	04	9.90	19	8.28
17	10.92	26	10.46	05	9.89	20	8.38
18	10.92	27	10.44	06	9.86	21	8.52
19	10.88	28	10.40	07	9.85	22	8.56
20	10.82	29	10.32	08	9.83	23	8.59
21	10.77	30	10.31	09	9.80	24	8.64
22	10.73	DEC 01	10.35	10	9.82	25	8.73
23	10.73	02	10.26	11	9.81	JUN 02	9.32
24	10.72	03	10.12	12	9.80	03	9.42
25	10.66	04	9.31	13	9.79	04	9.42
26	10.65	05	9.78	14	9.80	05	9.42
27	10.68	06	10.03	15	9.69	06	9.48
28	10.69	07	10.11	FEB 12	9.05	07	9.50
29	10.69	08	10.17	13	9.01	08	9.55
30	10.63	09	10.19	14	8.69	09	9.58
NOV 31	10.59	10	10.21	15	7.88	10	9.54
01	10.58	11	10.16	16	8.58	11	9.60
02	10.56	12	10.15	MAR 12	8.38	12	9.70
03	10.53	13	10.21	13	8.38	13	9.73
04	10.48	14	10.18	14	8.35	14	9.76
05	10.45	15	10.15	15	8.33	15	9.76
06	10.44	16	10.11	16	8.35	16	9.79
07	10.43	17	10.06	17	8.09	17	9.84
08	10.50	18	10.07	18	8.15	18	9.88
09	10.45	19	10.09	28	6.50	19	9.90
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JUN 20, 1981	9.92	JUL 16, 1981	10.89	AUG 11, 1981	11.60	SEP 06, 1981	11.95
21	9.92	17	10.94	12	11.59	07	12.01
22	9.90	18	11.00	13	11.65	08	12.02
23	9.89	19	11.02	14	11.69	09	12.00
24	9.89	20	11.04	15	11.74	10	11.97
25	9.95	21	11.08	16	11.70	11	11.96
26	9.96	22	11.10	17	11.68	12	11.95
27	9.95	23	11.14	18	11.68	13	11.95
28	9.99	24	11.16	19	11.75	14	11.92
29	10.03	25	11.18	20	11.78	15	11.92
30	10.10	26	11.20	21	11.73	16	11.94
JUL 01	10.16	27	11.24	22	11.76	17	11.95
02	10.20	28	11.28	23	11.75	19	11.89
03	10.33	29	11.34	24	11.78	20	11.87
04	10.30	30	11.38	25	11.81	21	11.86
05	10.32	31	11.39	26	11.83	22	11.84
06	10.53	AUG 01	11.42	27	11.82	23	11.80
07	10.62	02	11.43	28	11.82	24	11.80
08	10.65	03	11.45	29	11.82	25	11.80
09	10.66	04	11.49	30	11.82	26	11.76
10	10.72	05	11.50	31	11.90	27	11.71
11	10.78	06	11.50	SEP 01	11.93	28	11.71
12	10.85	07	11.49	02	11.94	29	11.66
13	10.95	08	11.48	03	11.97	30	11.64
14	10.96	09	11.47	04	11.95		
15	10.93	10	11.52	05	11.93		

GLENN COUNTY--Continued
Sacramento Valley (5-21)

SITE NUMBER 392730121593003 LOCAL NUMBER 019N001W32G03M

0.5 MI SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN. DEPTH 595 FT. SCREENED 590-595 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 9.33 FEET BELOW LAND SURFACE DATUM MAR 06, 1980.

LOWEST WATER LEVEL 22.49 FEET BELOW LAND SURFACE DATUM AUG 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	18.30	NOV 10, 1980	17.38	DEC 20, 1980	16.36	JAN 29, 1981	14.28
02	18.22	11	17.37	21	16.33	30	15.02
03	18.15	12	17.41	22	16.32	31	15.20
04	18.07	13	17.46	23	16.32	FEB 01	15.17
05	18.02	14	17.47	24	16.32	02	15.03
06	17.98	15	17.45	25	16.32	03	14.89
07	17.92	16	17.44	26	16.27	04	14.79
08	17.83	17	17.43	27	16.25	05	14.69
09	17.74	18	17.42	28	16.23	06	14.59
10	17.69	19	17.39	29	16.22	07	14.54
11	17.65	20	17.37	30	16.17	08	14.44
12	17.61	21	17.34	31	16.13	09	14.36
13	17.56	22	17.31	JAN 01, 1981	16.11	10	14.36
14	17.51	23	17.30	02	16.11	11	14.35
15	17.46	24	17.34	03	16.11	12	14.34
16	17.45	25	17.32	04	16.12	13	14.26
17	17.45	26	17.30	05	16.10	14	13.99
18	17.44	27	17.28	06	16.10	15	13.73
19	17.42	28	17.24	07	16.08	16	14.01
20	17.45	29	17.19	08	16.07	17	14.05
21	17.43	30	17.16	09	16.09	18	14.03
22	17.42	DEC 01	17.18	10	16.08	19	13.99
23	17.44	02	17.08	11	16.08	20	14.04
24	17.46	03	16.92	12	16.08	21	13.98
25	17.43	04	16.56	13	16.08	22	13.95
26	17.43	05	16.75	14	16.08	23	13.82
27	17.49	06	16.83	15	16.01	24	13.76
28	17.54	07	16.83	16	16.01	25	13.77
29	17.56	08	16.84	17	16.04	26	13.70
30	17.53	09	16.82	18	16.05	27	13.78
31	17.52	10	16.78	19	16.03	28	13.73
NOV 01	17.53	11	16.69	20	16.01	MAR 01	13.72
02	17.55	12	16.62	21	15.98	02	13.74
03	17.56	13	16.61	22	15.93	03	13.76
04	17.57	14	16.62	23	15.50	04	13.70
05	17.53	15	16.57	24	15.44	05	13.51
06	17.52	16	16.46	25	15.68	06	13.70
07	17.50	17	16.41	26	15.69	07	13.81
08	17.49	18	16.37	27	15.48	08	13.85
09	17.42	19	16.37	28	14.70	09	13.85

GLENN COUNTY--Continued

Sacramento Valley (5-21)

Site Number 392730121593003 Local Number 019N001W32G03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 10, 1981	13.84	APR 29, 1981	15.65	JUN 19, 1981	20.50	AUG 13, 1981	22.26
11	13.83	30	15.88	20	20.59	14	22.35
12	13.82	MAY 01	16.06	21	20.60	15	22.42
13	13.83	02	16.26	22	20.60	16	22.43
14	13.84	03	16.57	23	20.63	17	22.37
15	13.85	04	16.76	26	20.71	18	22.25
16	13.83	05	16.96	27	20.74	19	22.20
17	13.77	06	17.06	28	20.96	20	22.14
18	13.78	07	17.16	29	21.09	21	22.14
19	13.72	08	17.34	30	21.20	22	22.12
20	13.62	09	17.48	JUL 01	21.40	23	22.12
21	13.71	10	17.60	02	21.59	24	22.06
22	13.55	11	17.63	06	21.86	25	22.05
23	13.66	12	17.67	07	21.88	26	22.08
24	13.64	13	17.79	08	21.77	27	22.14
25	13.54	14	17.96	09	21.73	28	22.16
26	13.31	15	18.30	10	21.71	29	22.16
27	13.37	16	18.56	11	21.69	30	22.08
28	13.42	17	18.74	12	21.69	SEP 01	21.81
29	13.39	18	18.76	13	21.70	02	21.70
30	13.40	19	18.82	14	21.65	03	21.66
31	13.34	20	19.02	15	21.66	04	21.57
APR 01	13.29	21	19.22	16	21.74	05	21.47
02	13.23	22	19.32	17	21.90	06	21.41
03	13.24	23	19.38	18	22.04	07	21.39
04	13.30	24	19.39	19	22.06	08	21.36
05	13.30	25	19.30	20	22.10	09	21.30
06	13.25	26	19.18	21	22.10	10	21.18
07	13.23	27	19.05	22	22.08	11	21.10
08	13.26	28	18.94	23	22.12	12	21.01
09	13.27	29	18.86	24	22.16	13	20.91
10	13.25	30	18.83	25	22.16	14	20.77
11	13.30	JUN 01	18.74	26	22.28	15	20.67
12	13.32	02	18.72	27	22.38	16	20.62
13	13.35	03	18.76	28	22.36	17	20.49
14	13.41	04	18.89	29	22.38	18	20.47
15	13.52	05	19.08	30	22.41	19	20.38
16	13.73	06	19.44	31	22.45	20	20.30
17	13.94	07	19.78	AUG 01	22.49	21	20.24
18	14.11	08	20.10	02	22.49	22	20.16
19	14.28	09	22.22	03	22.48	23	20.04
20	14.42	10	20.27	04	22.44	24	19.85
21	14.42	11	20.32	05	22.40	25	19.61
22	14.43	12	20.44	06	22.37	26	19.36
23	14.54	13	20.50	07	22.34	27	19.15
24	14.64	14	20.42	08	22.39	28	18.97
25	14.74	15	20.28	09	22.37	29	18.80
26	14.94	16	20.22	10	22.36	30	18.67
27	15.22	17	20.25	11	22.32		
28	15.46	18	20.37	12	22.26		

SITE NUMBER 393111122155901 LOCAL NUMBER 019N004W12E01M

3.6 MI WEST OF WILLOWS. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 162 FT, PERFORATED 150-162 FT. ALTITUDE OF LSD 174 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1964 TO CURRENT YEAR.

HIGHEST WATER LEVEL 38.0 FEET BELOW LAND SURFACE DATUM Mar. 17, 1981.

LOWEST WATER LEVEL 113. FEET BELOW LAND SURFACE DATUM AUG 11, 1975.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 14, 1980	41.9	DEC 17, 1980	40.3	JAN 20, 1981	39.0	MAR 17, 1981	38.0
NOV 18	41.2						

GROUND WATER

Lake County

Kelseyville Valley (5-15)

SITE NUMBER 385952122523301 LOCAL NUMBER 013N009W05R05M

NEAR FINLEY. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 8 IN, DEPTH 185 FT, PERFORATED 72-165 FT.
ALTITUDE OF LSD 1355 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.5 FEET BELOW LAND SURFACE DATUM MAR 17, 1978.

LOWEST WATER LEVEL 49.0 FEET BELOW LAND SURFACE DATUM NOV 03, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 19, 1981	14.8

SITE NUMBER 385935122520401 LOCAL NUMBER 013N009W09F02M

NEAR KELSEYVILLE. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 12 IN, DEPTH 48 FT, PERFORATED 40-48 FT.
ALTITUDE OF LSD 1358 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1979 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 41.9 FEET BELOW LAND SURFACE DATUM OCT 08, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08, 1980	41.9	MAR 19, 1981	13.9

SITE NUMBER 390355122565601 LOCAL NUMBER 014N010W15H01M

NEAR LAKEPORT. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 12 IN, DEPTH 108 FT, PERFORATED 96-108 FT.
ALTITUDE OF LSD 1445 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1963 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4. FEET BELOW LAND SURFACE DATUM JAN 27, 1969.

LOWEST WATER LEVEL 57.1 FEET BELOW LAND SURFACE DATUM NOV 02, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1980	44.9	MAR 19, 1981	10.7

LASSEN COUNTY

Honey Lake Valley (6-4)

SITE NUMBER 402106120231201 LOCAL NUMBER 029N014E22Q01M

0.7 MI EAST OF STANDISH. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DEPTH 91 FT. ALTITUDE OF LSD 4023 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 3.5 FEET BELOW LAND SURFACE DATUM APR 12, 1958.

LOWEST WATER LEVEL 51.1 FEET BELOW LAND SURFACE DATUM APR 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1980	23.7	APR 01, 1981	51.1

Madeline Plains Basin (6-2)

SITE NUMBER 405156120275201 LOCAL NUMBER 035N013E26J02M

1.8 MI NORTHWEST OF RAVENDALE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM UNKNOWN. DEPTH UNKNOWN. ALTITUDE OF LSD 5296 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 12.3 FEET BELOW LAND SURFACE DATUM OCT 09, 1980.

LOWEST WATER LEVEL 50.5 FEET BELOW LAND SURFACE DATUM APR 01, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09, 1980	12.3	APR 01, 1981	50.5

Big Valley (5-4)

SITE NUMBER 410754120043001 LOCAL NUMBER 038N008E17K01M

3.2 MI EAST OF BIEBER. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 180 FT. PERFORATED 150-180 FT. ALTITUDE OF LSD 4150 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 3.3 FEET BELOW LAND SURFACE DATUM MAR 17, 1970.

LOWEST WATER LEVEL 21.7 FEET BELOW LAND SURFACE DATUM OCT 24, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1980	19.1	APR 09, 1981	16.6

MODOC COUNTY

Surprise Valley (6-1)

SITE NUMBER 411722120061501 LOCAL NUMBER 040N016E36002M

2 MI SOUTH OF EAGLEVILLE. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 14 IN. DEPTH 400 FT. PERFORATED 63-400 FT. ALTITUDE OF LSD 4625 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.2 FEET BELOW LAND SURFACE DATUM MAR 27, 1973.

LOWEST WATER LEVEL 105.0 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1980	92.0	MAR 31, 1981	74.6

Alturas Basin (5-2)

SITE NUMBER 412516120434601 LOCAL NUMBER 041N011E05L03M

9.2 MI SOUTHWEST OF ALTURAS. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 47 FT. ALTITUDE OF LSD 4320 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1965 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.6 FEET BELOW LAND SURFACE DATUM MAR 28, 1979.

LOWEST WATER LEVEL 9.5 FEET BELOW LAND SURFACE DATUM Apr. 10, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 08, 1980	7.8	APR 10, 1981	9.5

SITE NUMBER 412318120342001 LOCAL NUMBER 041N012E15001M

6.8 MI SOUTH OF ALTURAS. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 16 IN. DEPTH 300 FT. ALTITUDE OF LSD 4400 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1978 TO CURRENT YEAR.

HIGHEST WATER LEVEL 37.20 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 41.2 FEET BELOW LAND SURFACE DATUM Oct. 9, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 09, 1980	41.2	APR 10, 1981	38.6

Surprise Valley (6-1)

SITE NUMBER 413714120110601 LOCAL NUMBER 043N016E06R02M

2 MI SOUTHEAST OF LAKE CITY. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 12 IN. DEPTH 300 FT. PERFORATED 50-300 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 44.8 FEET BELOW LAND SURFACE DATUM MAR 16, 1977.

LOWEST WATER LEVEL 73.7 FEET BELOW LAND SURFACE DATUM OCT 17, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1980	73.7	APR 02, 1981	50.2

MODOC COUNTY--Continued

Surprise Valley (6-1)

SITE NUMBER 413300120101401 LOCAL NUMBER 043N016E32K01M

1.6 MI NORTH OF CEDARVILLE. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL. DIAM 8 IN, DEPTH 290 FT, PERFORATED 140-160 FT. ALTITUDE OF LSD 4645 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 94.0 FEET BELOW LAND SURFACE DATUM MAR 16, 1977.

LOWEST WATER LEVEL 124.7 FEET BELOW LAND SURFACE DATUM Oct. 17, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1980	124.7	APR 03, 1981	118.0

Goose Lake Valley (5-1)

SITE NUMBER 414402120224501 LOCAL NUMBER 045N014E17P01M

6.4 MI WEST OF DAVIS CREEK. CABLE TOOL UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 18 IN, DEPTH 222 FT. ALTITUDE OF LSD 4798 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 45.1 FEET BELOW LAND SURFACE DATUM MAR 15, 1972.

LOWEST WATER LEVEL 68.6 FEET BELOW LAND SURFACE DATUM Oct. 15, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1980	68.6	APR 09, 1981	55.4

Surprise Valley (6-1)

SITE NUMBER 415254120082201 LOCAL NUMBER 046N016E04Q01M

2 MI NORTH OF FORT BIDEWELL. UNUSED WATER-TABLE WELL. DIAM 14 IN, DEPTH 200 FT. ALTITUDE OF LSD 4600 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 67.0 FEET BELOW LAND SURFACE DATUM APR 24, 1973.

LOWEST WATER LEVEL 89.5 FEET BELOW LAND SURFACE DATUM Oct. 16, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1980	89.5	MAR 02, 1981	81.0

NEVADA COUNTY

Martis Valley (6-67)

SITE NUMBER 391934120102401 LOCAL NUMBER 017N016E14F01M

0.3 MI EAST OF TRUCKEE. HYDRAULIC ROTARY PUBLIC SUPPLY WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN FROM 0-145 FT, 12 IN FROM 145-187 FT, 8 IN FROM 187-427 FT, DEPTH 427 FT, Cased to 427 FT, PERFORATED 207-427 FT. ALTITUDE OF LSD 5860 FT. CHEMICAL ANALYSES 1961 TO 1978 FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 50.8 FEET BELOW LAND SURFACE DATUM MAY 21, 1979.

LOWEST WATER LEVEL 53.5 FEET BELOW LAND SURFACE DATUM JUL 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
JUL 06, 1981	53.5

GROUND WATER

NEVADA COUNTY--Continued

Martis Valley (6-67)

SITE NUMBER 391914120122501 LOCAL NUMBER 017N016E16L01M

0.2 MI SOUTHWEST OF TRUCKEE. CABLE TOOL PUBLIC SUPPLY WATER-TABLE WELL IN ALLUVIUM.
 DIAM 10 IN, DEPTH 85 FT, CASED TO 85 FT, PERFORATED 30-85 FT. ALTITUDE OF LSD 5880 FT.
 RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.2 FEET BELOW LAND SURFACE DATUM MAY 21, 1979.

LOWEST WATER LEVEL 39.9 FEET BELOW LAND SURFACE DATUM JUL 06, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 17, 1980	32.8	JUL 06, 1981	39.9

PLACER COUNTY

Sacramento Valley (5-21)

SITE NUMBER 385054121232301 LOCAL NUMBER 012N005E35E02M

5.6 MI NORTHEAST OF PLEASANT GROVE. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH
 352 FT. ALTITUDE OF LSD 90 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER
 RESOURCES. RECORDS AVAILABLE 1949 TO CURRENT YEAR.

HIGHEST WATER LEVEL 28.7 FEET BELOW LAND SURFACE DATUM APR 06, 1950.

LOWEST WATER LEVEL 103.0 FEET BELOW LAND SURFACE DATUM Oct. 10, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1980	103.0	APR 01, 1981	89.9

SACRAMENTO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 382039121131901 LOCAL NUMBER 006N007E28E01M

3.2 MI WEST OF CLAY. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN. DEPTH 225 FT. ALTITUDE
 OF LSD 75 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS
 AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 34.4 FEET BELOW LAND SURFACE DATUM FEB 11, 1953.

LOWEST WATER LEVEL 124.8 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1980	117.4	FEB 26, 1981	108.3	MAY 27, 1981	116.3	SEP 29, 1981	123.0
NOV 24	115.4	MAR 12	105.8	JUN 29	121.4		
DEC 22	112.7	30	107.1	JUL 30	123.5		
JAN 28, 1981	109.3	APR 28	110.0	AUG 31	124.8		

SACRAMENTO COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 382627121172801 LOCAL NUMBER 007N006E23P01M

4.8 MI NORTHEAST OF ELK GROVE. CABLE TOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 12 TO 8 IN, DEPTH 144 FT, 12 IN CSG 0-42 FT, 8 IN CSG 42-144 FT. ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1968 TO CURRENT YEAR.

HIGHEST WATER LEVEL 77.3 FEET BELOW LAND SURFACE DATUM MAR 25, 1969.

LOWEST WATER LEVEL 105.9 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1980	99.0	JAN 28, 1981	95.3	APR 28, 1981	94.7	JUL 30, 1981	103.6
NOV 24	98.0	FEB 26	94.8	MAY 27	98.5	AUG 31	105.9
DEC 22	96.6	MAR 30	94.2	JUN 29	103.8	SEP 29	103.5

SITE NUMBER 383143121200001 LOCAL NUMBER 008N006E21N02M

4 MI NORTHEAST OF FLORIN. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 175 FT. ALTITUDE OF LSD 65 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1962 TO CURRENT YEAR.

HIGHEST WATER LEVEL 61.6 FEET BELOW LAND SURFACE DATUM MAR 15, 1963.

LOWEST WATER LEVEL 82.7 FEET BELOW LAND SURFACE DATUM Oct. 1, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	82.7	OCT 31, 1980	81.5	MAR 1981	77.6	MAR 30, 1981	77.3

SHASTA COUNTY

Redding Basin (5-6)

SITE NUMBER 402318122233001 LOCAL NUMBER 029N005W11A02M

4 MI SOUTH OF OLINDA. CABLE TOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 360 FT, PERFORATED 110-150 FT. ALTITUDE OF LSD 518 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 27.4 FEET BELOW LAND SURFACE DATUM MAR 09, 1981.

LOWEST WATER LEVEL 120.5 FEET BELOW LAND SURFACE DATUM AUG 04, 1970.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1980	79.2	MAR 09, 1981	27.4

Honey Lake Valley (6-4)

SITE NUMBER 402334120353401 LOCAL NUMBER 029N012E11B01M

1 MI SOUTHEAST OF SUSANVILLE. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 120 FT, PERFORATED 105-120 FT. ALTITUDE OF LSD 4125 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM FEB 16, 1973.

LOWEST WATER LEVEL 17.7 FEET BELOW LAND SURFACE DATUM JUN 28, 1972.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 15, 1980	9.6	APR 01, 1981	8.9

SHASTA COUNTY--Continued

Redding Basin (5-6)

SITE NUMBER 403242122185001 LOCAL NUMBER 031N004W16H01M

4 MI SOUTHEAST OF REDDING. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 5 IN. DEPTH 140 FT. PERFORATED 70-140 FT. ALTITUDE OF LSD 512 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1968 TO CURRENT YEAR.

HIGHEST WATER LEVEL 97.8 FEET BELOW LAND SURFACE DATUM APR 01, 1969.

LOWEST WATER LEVEL 135.1 FEET BELOW LAND SURFACE DATUM SEP 22, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1980	118.5	DEC 17, 1980	114.3	JAN 20, 1981	112.0	MAR 10, 1981	108.4
NOV 17	118.5						

Fall River Valley (5-5)

SITE NUMBER 410342121281001 LOCAL NUMBER 037N004E11A01M

4 MI WEST OF MCARTHUR. DOMESTIC WATER-TABLE WELL. DIAM 6 IN. DEPTH 185 FT. PERFORATED 74-94 FT. ALTITUDE OF LSD 3310 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 26.5 FEET BELOW LAND SURFACE DATUM MAY 09, 1978.

LOWEST WATER LEVEL 48.1 FEET BELOW LAND SURFACE DATUM Oct. 7, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1980	48.1	MAR 31, 1981	27.1

SIERRA COUNTY

Sierra Valley (5-12)

SITE NUMBER 393448120221001 LOCAL NUMBER 020N014E13Q02M

0.4 MI NORTHWEST OF SIERRAVILLE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN. DEPTH 31 FT. ALTITUDE OF LSD 4986 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.3 FEET ABOVE LAND SURFACE DATUM MAR 31, 1962.

LOWEST WATER LEVEL 6.3 FEET BELOW LAND SURFACE DATUM MAR 21, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1980	3.0	APR 23, 1981	3.0

SISKIYOU COUNTY

Shasta Valley (1-4)

SITE NUMBER 412818122261801 LOCAL NUMBER 042N005W20J01M

1.6 MI NORTHWEST OF EDGEWOOD. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN. DEPTH 40 FT.
 ALTITUDE OF LSD 2882 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1953 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.0 FEET BELOW LAND SURFACE DATUM OCT 03, 1972.

LOWEST WATER LEVEL 9.10 FEET BELOW LAND SURFACE DATUM MAR 27, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1980	7.8	MAR 28, 1981	7.6

Scott River Valley (1-5)

SITE NUMBER 413348122495001 LOCAL NUMBER 043N009W24F01M

4 MI EAST OF GREENVIEW. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN. DEPTH 204 FT.
 PERFORATED 18-200 FT. ALTITUDE OF LSD 2735 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT
 OF WATER RESOURCES. RECORDS AVAILABLE 1972 TO CURRENT YEAR.

HIGHEST WATER LEVEL 1.8 FEET BELOW LAND SURFACE DATUM APR 10, 1974.

LOWEST WATER LEVEL 11.8 FEET BELOW LAND SURFACE DATUM Mar. 26, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 26, 1981	11.8

Shasta Valley (1-4)

SITE NUMBER 413823122311401 LOCAL NUMBER 044N006W27B01M

0.8 MI SOUTH OF GRENADA. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL. DIAM 6 IN. DEPTH 110 FT.
 PERFORATED 50-110 FT. ALTITUDE OF LSD 2560 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT
 OF WATER RESOURCES. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 11.1 FEET BELOW LAND SURFACE DATUM OCT 01, 1980.

LOWEST WATER LEVEL 15.6 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	11.1	MAR 28, 1981	15.0

Butte Valley (1-5)

SITE NUMBER 414641122001201 LOCAL NUMBER 045N001W06A01M

1.2 MI SOUTH OF MT. HEBRON. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN. DEPTH 40 FT.
 ALTITUDE OF LSD 4257 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 24.7 FEET BELOW LAND SURFACE DATUM OCT 28, 1971.

LOWEST WATER LEVEL 71.1 FEET BELOW LAND SURFACE DATUM Oct. 2, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1980	71.1	MAR 27, 1981	38.0

SISKIYOU COUNTY--Continued

Butte Valley (1-3)

SITE NUMBER 415428121534001 LOCAL NUMBER 047N001E20D01M

4 MI SOUTH OF DORRIS. CABLE TOOL IRRIGATION WATER-TABLE WELL. DIAM 16 IN, DEPTH 240 FT. PERFORATED 60-240 FT. ALTITUDE OF LSD 4240 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1971 TO CURRENT YEAR.

HIGHEST WATER LEVEL 21.6 FEET BELOW LAND SURFACE DATUM MAR 30, 1972.

LOWEST WATER LEVEL 38.1 FEET BELOW LAND SURFACE DATUM Oct. 2, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1980	38.1	MAR 27, 1981	30.6

SITE NUMBER 415339121574901 LOCAL NUMBER 047N001W27B01M

4.8 MI NORTHEAST OF MACDOEL. CABLE TOOL UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 2 IN, DEPTH 40 FT. PERFORATED 30-40 FT. ALTITUDE OF LSD 4233 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1951 TO CURRENT YEAR.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM APR 17, 1975.

LOWEST WATER LEVEL 15.1 FEET BELOW LAND SURFACE DATUM NOV 26, 1951.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1980	9.6	MAR 27, 1981	9.7

SOLANO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 382103121470901 LOCAL NUMBER 006N002E19J01M

6 MI EAST OF ELMIRA. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 5 IN, DEPTH 182 FT. ALTITUDE OF LSD 23 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1974 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.5 FEET BELOW LAND SURFACE DATUM MAR 31, 1980.

LOWEST WATER LEVEL 30.4 FEET BELOW LAND SURFACE DATUM OCT 05, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1980	16.5	MAR 12, 1981	15.3

SITE NUMBER 382419121513301 LOCAL NUMBER 007N001E33R01M

4 MI SOUTHWEST OF DIXON. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 86 FT. ALTITUDE OF LSD 86 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES, U.S. GEOLOGICAL SURVEY, U.S. BUREAU OF RECLAMATION. RECORDS AVAILABLE 1941 TO CURRENT YEAR.

HIGHEST WATER LEVEL 0.8 FEET BELOW LAND SURFACE DATUM FEB 19, 1969.

LOWEST WATER LEVEL 29.4 FEET BELOW LAND SURFACE DATUM JUL 15, 1949.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29, 1980	8.5	JAN 29, 1981	8.1	APR 28, 1981	5.9	JUL 30, 1981	6.8
NOV 24	9.9	FEB 24	8.6	MAY 27	6.4	AUG 26	7.5
DEC 29	10.3	MAR 23	9.2	JUN 30	7.3	SEP 28	8.9

SUTTER COUNTY

Sacramento Valley (5-21)

SITE NUMBER 385501121361901 LOCAL NUMBER 012N003E02G01M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN. DEPTH 1081 FT. CASED TO 1081 FT. SCREENED 1066-1071 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 18.72 FEET BELOW LAND SURFACE DATUM Apr. 2, 1981.

LOWEST WATER LEVEL 33.88 FEET BELOW LAND SURFACE DATUM SEP 09, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1980	26.13	NOV 25, 1980	23.90	JAN 04, 1981	21.94	FEB 13, 1981	20.55
17	25.83	26	23.87	05	21.89	14	20.50
18	26.03	27	23.83	06	21.85	15	20.45
19	26.01	28	23.72	07	21.80	16	20.36
20	25.94	29	23.61	08	21.75	17	20.29
21	25.80	30	23.53	09	21.76	18	20.28
22	25.67	DEC 01	23.50	10	21.74	19	20.23
23	25.60	02	23.47	11	21.71	20	20.30
24	25.52	03	23.28	12	21.68	21	20.28
25	25.39	04	23.19	13	21.65	22	20.22
26	25.34	05	23.24	14	21.62	23	20.08
27	25.34	06	23.21	15	21.54	24	19.96
28	25.30	07	23.19	16	21.50	25	19.97
29	25.24	08	23.23	17	21.51	26	19.99
30	25.12	09	23.24	18	21.51	27	19.98
31	24.99	10	23.23	19	21.48	28	19.89
NOV 01	24.90	11	23.14	20	21.45	MAR 01	19.82
02	24.82	12	23.04	21	21.40	02	19.80
03	24.74	13	23.02	22	21.35	03	19.79
04	24.64	14	23.03	23	21.20	04	19.72
05	24.53	15	22.97	24	21.20	05	19.64
06	24.44	16	22.88	25	21.15	06	19.62
07	24.37	17	22.78	26	21.06	07	19.72
08	25.09 Z	18	22.72	27	20.90	08	19.77
09	24.91 Z	19	22.71	28	20.74	09	19.76
10	24.77 Z	20	22.69	29	20.69	10	19.72
11	24.67 Z	21	22.64	30	20.64	11	19.64
12	24.62 Z	22	22.47	31	20.50	12	19.60
13	24.61	23	22.46	FEB 01	20.40	13	19.57
14	24.52	24	22.44	02	20.48	14	19.57
15	24.40	25	22.41	03	21.17 R	15	19.56
16	24.33	26	22.34	04	20.75 R	16	19.52
17	24.29	27	22.27	05	20.77 R	17	19.44
18	24.26	28	22.23	06	20.75 R	18	19.34
19	24.18	29	22.21	07	20.71 R	19	19.17
20	24.11	30	22.14	08	20.63 R	20	19.10
21	24.03	31	22.06	09	20.56 R	21	19.07
22	23.96	JAN 01, 1981	22.01	10	20.61	22	19.18
23	23.91	02	21.98	11	20.62	23	19.16
24	23.92	03	21.96	12	20.61	24	19.10
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 25, 1981	19.00	JUL 07, 1981	29.10	AUG 05, 1981	32.56	SEP 03, 1981	33.58
26	18.91	08	29.28	06	32.66	04	33.57
27	18.87	09	29.46	07	32.74	05	33.70
28	18.86	10	29.62	08	32.78	06	33.68
29	18.79	11	29.78	09	32.82	07	33.69
30	18.84	12	29.92	10	32.90	08	33.82
31	18.83	13	30.08	11	33.02	09	33.88
APR 01	18.78	14	30.24	12	33.07	10	33.82
02	18.72	15	30.28	13	33.12	11	33.78
03	18.80	16	30.36	14	33.22	12	33.79
04	18.89	17	30.50	15	33.32	13	33.78
05	18.92	18	30.66	16	33.36	14	33.72
06	18.85	19	30.78	17	33.36	15	33.66
07	18.85	20	30.92	18	33.38	16	33.60
08	18.90	21	31.06	19	33.46	17	33.56
09	18.92	22	31.18	20	33.53	18	33.52
JUN 24	26.90	23	31.32	21	33.53	19	33.46
25	27.06	24	31.44	22	33.55	20	33.36
26	27.22	25	31.54	23	33.57	21	33.26
27	27.38	26	31.66	24	33.60	22	33.16
28	27.54	27	31.80	25	33.64	23	33.06
29	27.76	28	31.89	26	33.70	24	33.01
30	27.94	29	31.96	27	33.69	25	32.93
JUL 01	28.08	30	32.08	28	33.64	26	32.78
02	28.30	31	32.22	29	33.64	27	32.62
03	28.56	AUG 01	32.27	30	33.60	28	32.50
04	28.74	02	32.32	31	33.57	29	32.38
05	28.92	03	32.37	SEP 01	33.59	30	32.24
06	28.96	04	32.46	02	33.58		

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385501121361902 LOCAL NUMBER 012N003E02602M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 721 FT, CASSED TO 711 FT, SCHEENED 706-711 FT. ALTITUDE OF LSD 32.54 FT. RECORDS
 AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 14.67 FEET BELOW LAND SURFACE DATUM Mar. 28, 1980.

LOWEST WATER LEVEL 26.94 FEET BELOW LAND SURFACE DATUM SEP 08, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	22.55	NOV 10, 1980	20.49	DEC 20, 1980	19.47	FEB 23, 1981	17.36
02	22.48	11	20.46	21	19.42	24	17.27
03	22.42	12	20.46	22	19.39	25	17.26
04	22.36	13	20.51	23	19.38	26	17.26
05	22.32	14	20.50	24	19.37	27	17.25
06	22.26	15	20.45	25	19.36	28	17.18
07	22.20	16	20.43	26	19.31	MAR 01	17.11
08	22.09	17	20.42	27	19.28	02	17.08
09	22.00	18	20.40	28	19.26	03	17.07
10	21.95	19	20.37	29	19.24	04	17.00
11	21.91	20	20.32	30	19.20	05	16.94
12	21.88	21	20.27	31	19.14	06	16.94
13	21.82	22	20.22	JAN 01, 1981	19.12	07	16.98
14	21.75	23	20.18	02	19.08	08	17.00
15	21.67	24	20.21	03	19.06	09	17.00
16	21.62	25	20.20	04	19.04	10	16.99
17	21.62	26	20.17	05	19.00	11	16.95
18	21.59	27	20.16	06	18.99	12	16.93
19	21.53	28	20.10	07	18.95	13	16.94
20	21.46	29	20.01	08	18.92	14	16.95
21	21.40	30	19.96	09	18.92	15	16.89
22	21.32	DEC 01	19.96	10	18.90	16	16.89
23	21.29	02	19.88	11	18.87	17	16.83
24	21.25	03	19.75	12	18.86	18	16.78
25	21.16	04	19.61	13	18.84	19	16.58
26	21.10	05	19.68	14	18.79	20	16.59
27	21.09	06	19.67	15	18.75	21	16.61
28	21.08	07	19.65	FEB 03	17.82	22	16.63
29	21.05	08	19.69	11	16.94	23	16.61
30	20.97	09	19.72	12	17.81	24	16.60
31	20.91	10	19.73	13	17.80	25	16.49
NOV 01	20.87	11	19.71	14	17.76	26	16.46
02	20.84	12	19.63	15	17.70	27	16.44
03	20.79	13	19.63	16	17.64	28	16.42
04	20.72	14	19.65	17	17.58	29	16.36
05	20.65	15	19.56	18	17.56	30	16.38
06	20.59	16	19.59	19	17.50	31	16.35
07	20.54	17	19.52	20	17.51	APR 01	16.31
08	20.53	18	19.49	21	17.50	02	16.26
09	20.53	19	19.49	22	17.48	03	16.31

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

Site Number 38501121361902 Local Number 012N003E02G02M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 04, 1981	16.36	MAY 19, 1981	17.66	JUL 03, 1981	22.90	AUG 17, 1981	26.65
05	16.33	20	17.80	04	23.04	18	26.67
06	16.27	21	17.98	05	23.18	19	26.74
07	16.27	22	18.41	06	23.31	20	26.77
08	16.29	23	18.26	07	23.46	21	26.77
09	16.31	24	18.40	08	23.58	22	26.79
10	16.28	25	18.56	09	23.68	23	26.83
11	16.31	26	18.68	10	23.78	24	26.87
12	16.32	27	18.78	11	23.91	25	26.90
13	16.31	28	18.92	12	24.02	26	26.91
14	16.31	29	19.06	13	24.12	27	26.88
15	16.33	30	19.18	14	24.21	28	26.85
16	16.34	31	19.26	15	24.28	29	26.84
17	16.31	JUN 01	19.36	16	24.34	30	26.83
18	16.27	02	19.56	17	24.44	31	26.84
19	16.26	03	19.64	18	24.56	SEP 01	26.85
20	16.28	04	17.74	19	24.66	02	26.84
21	16.28	05	19.80	20	24.76	03	26.86
22	16.29	06	19.90	21	24.87	04	26.86
23	16.30	07	20.00	22	24.98	05	26.86
24	16.32	08	20.08	23	25.06	06	26.87
25	16.33	09	20.20	24	25.14	07	26.92
26	16.37	10	20.28	25	25.21	08	26.94
27	16.40	11	20.40	26	25.27	09	26.93
28	16.41	12	20.54	27	25.42	10	26.90
29	16.40	13	20.70	28	25.50	11	26.89
30	16.40	14	20.78	29	25.54	12	26.88
MAY 01	16.41	15	20.90	30	25.62	13	26.87
02	16.42	16	20.97	31	25.74	15	26.82
03	16.44	17	21.06	AUG 01	25.80	16	26.82
04	16.48	18	21.12	02	25.84	17	26.81
05	16.59	19	21.22	03	25.91	18	26.80
06	16.62	20	21.32	04	25.98	20	26.72
07	16.64	21	21.44	05	26.04	21	26.66
08	16.70	22	21.54	06	26.10	22	26.62
09	16.76	23	21.64	07	26.16	23	26.56
10	16.78	24	21.76	08	26.19	24	26.52
11	16.84	25	21.92	09	26.20	25	26.46
12	16.94	26	22.02	10	26.28	26	26.38
13	17.04	27	22.12	11	26.37	27	26.31
14	17.13	28	22.24	12	26.40	28	26.24
15	17.24	29	22.38	13	26.42	29	26.15
16	17.36	30	22.50	14	26.52	30	26.07
17	17.50	JUL 01	22.62	15	26.58		
18	17.56	02	22.74	16	26.62		

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385501121361903 LOCAL NUMBER 012N003E02G03M

1.7 MI NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 321 FT, CASED TO 311 FT, SCHEDULED 306-311 FT. ALTITUDE OF LSD 32.54 FT.
 RECORDS AVAILABLE 1980 TO CURRENT YEAR. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 6.00 FEET BELOW LAND SURFACE DATUM Mar. 28, 1980.

LOWEST WATER LEVEL 11.31 FEET BELOW LAND SURFACE DATUM Dec. 24, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	10.19	DEC 27, 1980	11.24	FEB 05, 1981	8.85	MAR 17, 1981	9.38
02	10.20	28	11.26	06	8.83	18	9.30
03	10.22	29	11.27	07	8.86	19	9.09
04	10.22	30	11.20	08	8.70	20	9.19
05	10.27	31	11.18	09	8.75	21	9.21
06	10.30	JAN 01, 1981	11.20	10	8.89	22	9.21
07	10.28	02	11.20	11	8.97	23	9.03
08	10.28	03	11.25	12	9.00	24	8.92
09	10.27	04	11.23	13	9.00	25	8.74
10	10.33	05	11.21	14	9.06	26	8.64
11	10.39	06	11.22	15	9.00	27	8.58
12	10.46	07	11.20	16	8.96	28	8.55
13	10.47	08	11.26	17	8.97	29	8.37
14	10.46	09	11.27	18	8.97	30	8.47
15	10.41	10	11.26	19	8.96	31	8.36
16	10.48	11	11.25	20	9.04	APR 01	8.36
17	10.60	12	11.27	21	9.03	02	8.22
18	10.66	13	11.27	22	9.03	03	8.41
NOV 13	11.21	14	11.23	23	8.84	04	8.52
14	11.22	15	11.13	24	8.85	05	8.48
15	11.16	16	11.16	25	8.95	06	8.30
16	11.19	17	11.24	26	9.04	07	8.38
17	11.23	18	11.26	27	9.08	08	8.48
18	11.25	19	11.25	28	9.04	09	8.50
19	11.24	20	11.22	MAR 01	9.00	10	8.54
20	11.23	21	11.20	02	9.08	11	8.71
21	11.22	22	11.15	03	9.12	12	8.73
22	11.22	23	11.14	04	9.08	13	8.78
23	11.24	24	11.15	05	9.06	14	8.83
DEC 16	11.21	25	10.94	06	9.22	15	8.94
17	11.13	26	10.74	07	9.38	16	9.05
18	11.18	27	10.32	08	9.43	17	8.93
19	11.25	28	10.20	09	9.40	18	9.00
20	11.23	29	10.10	10	9.37	19	9.23
21	11.20	30	10.03	11	9.10	20	9.34
22	11.26	31	9.77	12	9.27	21	9.24
23	11.23	FEB 01	9.46	13	9.39	22	9.22
24	11.31	02	9.19	14	9.44	23	9.22
25	11.30	03	8.92	15	9.42	24	9.27
26	11.22	04	8.92	16	9.55	25	9.29

SUTTER COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385501121361903 Local Number 012N003E02G03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 26, 1981	9.38	JUN 05, 1981	10.12	JUL 16, 1981	10.29	AUG 25, 1981	10.27
27	9.39	06	10.34	17	10.38	26	10.25
28	9.34	07	10.56	18	10.37	27	10.16
29	9.30	08	10.63	19	10.31	28	10.14
30	9.33	09	10.57	20	10.28	29	10.18
MAY 01	9.34	10	10.53	21	10.20	30	10.26
02	9.40	11	10.44	22	10.13	31	10.31
03	9.47	12	10.48	23	10.13	SEP 01	10.31
04	9.54	13	10.42	24	10.14	02	10.33
05	9.63	14	10.37	25	10.15	03	10.35
06	9.71	15	10.30	26	10.18	04	10.28
07	9.74	16	10.27	27	10.18	05	10.22
08	9.80	17	10.22	28	10.20	06	10.23
09	9.71	18	10.18	29	10.22	07	10.31
10	9.67	19	10.21	30	10.32	08	10.30
11	9.67	20	10.25	31	10.45	09	10.25
12	9.68	21	10.19	AUG 01	10.45	10	10.24
13	9.69	22	10.08	02	10.41	11	10.33
14	9.73	23	10.07	03	10.31	12	10.40
15	9.80	24	10.08	04	10.35	13	10.45
16	9.93	25	10.08	05	10.37	14	10.43
17	9.99	26	10.06	06	10.32	15	10.44
18	9.94	27	10.06	07	10.20	16	10.45
19	9.91	29	10.30	08	10.20	17	10.44
20	9.92	30	10.33	09	10.26	18	10.39
21	9.92	JUL 01	10.38	10	10.32	19	10.35
22	9.83	02	10.36	11	10.36	20	10.33
23	9.75	03	10.38	12	10.32	21	10.35
24	9.74	04	10.30	13	10.36	22	10.34
25	9.79	05	10.16	14	10.41	23	10.33
26	9.83	06	10.04	15	10.41	24	10.40
27	9.89	07	10.09	16	10.30	25	10.38
28	9.98	08	10.10	17	10.21	26	10.34
29	10.02	09	10.13	18	10.32	27	10.35
30	9.98	10	10.14	19	10.50	28	10.38
31	9.82	11	10.13	20	10.53	29	10.39
JUN 01	9.81	12	10.12	21	10.46	30	10.38
02	9.90	13	10.06	22	10.34		
03	9.97	14	10.07	23	10.29		
04	10.01	15	10.15	24	10.25		

SITE NUMBER 390830121443801 LOCAL NUMBER 015N002E22D01M

2.4 MI SOUTHEAST OF SUTTER. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 14-8 IN, DEPTH 280 FT, 14-IN CSG 0-68 FT, 8-IN CSG 68-280 FT, PERFORATED 140-280 FT. ALTITUDE OF LSD 46 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1966 TO CURRENT YEAR.

HIGHEST WATER LEVEL 2.5 FEET BELOW LAND SURFACE DATUM JAN 30, 1969.

LOWEST WATER LEVEL 10.9 FEET BELOW LAND SURFACE DATUM DEC 21, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1980	7.8	MAR 27, 1981	7.6

GROUND WATER

TEHAMA COUNTY

Sacramento Valley (5-21)

SITE NUMBER 395556122100201 LOCAL NUMBER 024N003W14K01M

0.4 MI NORTH OF CORNING. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 7 IN, DEPTH 124 FT, PERFORATED 118-124 FT. ALTITUDE OF LSD 297 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1955 TO CURRENT YEAR.

HIGHEST WATER LEVEL 51.3 FEET BELOW LAND SURFACE DATUM APR 12, 1975.

LOWEST WATER LEVEL 90.3 FEET BELOW LAND SURFACE DATUM OCT 08, 1964.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1980	65.3	MAR 12, 1981	51.8

SITE NUMBER 400225122134901 LOCAL NUMBER 025N003W08E01M

4.5 MI WEST OF TEHAMA. CABLE TOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 14-12 IN, DEPTH 420 FT, 14-IN CSG 0-144 FT, 12-IN CSG 144-420 FT, PERFORATED 55-134, 149-420 FT. ALTITUDE OF LSD 420 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 18.7 FEET BELOW LAND SURFACE DATUM MAR 17, 1980.

LOWEST WATER LEVEL 90.5 FEET BELOW LAND SURFACE DATUM JUN 19, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 20, 1980	56.3	MAR 11, 1981	48.1

SITE NUMBER 400757122122201 LOCAL NUMBER 026N003W04K01M

3.2 MI SOUTHEAST OF RED BLUFF. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 149 FT. ALTITUDE OF LSD 300 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1929 TO CURRENT YEAR.

HIGHEST WATER LEVEL 60.4 FEET BELOW LAND SURFACE DATUM MAR 19, 1958.

LOWEST WATER LEVEL 102.8 FEET BELOW LAND SURFACE DATUM OCT 18, 1963.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 21, 1980	69.2	MAR 11, 1981	65.4

YOLO COUNTY

Sacramento Valley (5-21)

SITE NUMBER 383248121505501 LOCAL NUMBER 006N001E15B01M

6.4 MI WEST OF DAVIS. STOCK WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 117 FT. ALTITUDE OF LSD 83 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1931 TO CURRENT YEAR.

HIGHEST WATER LEVEL 15.5 FEET BELOW LAND SURFACE DATUM MAY 16, 1941.

LOWEST WATER LEVEL 39.4 FEET BELOW LAND SURFACE DATUM NOV 14, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1980	23.5	JAN 29, 1981	25.7	MAY 29, 1981	24.0	SEP 30, 1981	25.8
30	23.9	FEB 27	25.8	JUN 30	23.7		
NOV 25	24.6	MAR 27	26.1	JUL 31	24.4		
DEC 23	25.1	APR 29	25.2	SEP 01	24.9		

YOLO COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 384129121455101 LOCAL NUMBER 010N002E29A01M

1.2 MI NORTHWEST OF WOODLAND. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 120 FT.
ALTITUDE OF LSD 55 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 30.0 FEET BELOW LAND SURFACE DATUM MAR 26, 1981.

LOWEST WATER LEVEL 45.9 FEET BELOW LAND SURFACE DATUM SEP 26, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 26, 1981	30.0	SEP 30, 1981	32.4

SITE NUMBER 383949121450201 LOCAL NUMBER 010N002E33R01M

0.8 MI SOUTHEAST OF WOODLAND. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 216 FT.
ALTITUDE OF LSD 52 FT. MEASUREMENTS FURNISHED BY COUNTY OF YOLO. RECORDS AVAILABLE 1951 TO
CURRENT YEAR.

HIGHEST WATER LEVEL 20.3 FEET BELOW LAND SURFACE DATUM APR 23, 1952.

LOWEST WATER LEVEL 67.1 FEET BELOW LAND SURFACE DATUM MAR 09, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1980	36.6	MAR 11, 1981	31.9

YOLO COUNTY--Continued
Sacramento Valley (5-21)

SITE NUMBER 385020121503601 LOCAL NUMBER 012N001E34001M

4 MI NORTHEAST OF ZAMORA, HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLOUVIUM.
DIAM 3 IN. DEPTH 2125 FT, CASSED TO 2125 FT, SCREENED 2120-2125 FT. ALTITUDE OF LSD
24.27 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.45 FEET ABOVE LAND SURFACE DATUM FEB 27, 1980.

LOWEST WATER LEVEL -0.34 FEET BELOW LAND SURFACE DATUM Jan. 24, 1981.

WATER LEVELS IN FEET ABOVE OR BELOW(-) LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	0.11	NOV 10, 1980	-0.20	DEC 20, 1980	-0.28	JAN 29, 1981	-0.29
02	0.11	11	-0.20	21	-0.28	30	-0.28
03	0.11	12	-0.20	22	-0.28	31	-0.28
04	0.11	13	-0.21	23	-0.28	FEB 01	-0.28
05	0.11	14	-0.21	24	-0.28	02	-0.27
06	0.11	15	-0.22	25	-0.29	03	-0.26
07	0.11	16	-0.23	26	-0.29	04	-0.26
08	0.11	17	-0.24	27	-0.29	05	-0.26
09	0.11	18	-0.25	28	-0.29	06	-0.25
10	0.11	19	-0.25	29	-0.30	07	-0.25
11	0.11	20	-0.26	30	-0.30	08	-0.26
12	0.10	21	-0.26	31	-0.30	09	-0.26
13	0.10	22	-0.26	JAN 01, 1981	-0.30	10	-0.26
14	0.10	23	-0.26	02	-0.30	11	-0.26
15	0.09	24	-0.26	03	-0.30	12	-0.24
16	0.03	25	-0.27	04	-0.30	13	-0.24
17	0.01	26	-0.28	05	-0.30	14	-0.25
18	0.00	27	-0.29	06	-0.30	15	-0.26
19	-0.01	28	-0.29	07	-0.30	16	-0.26
20	-0.02	29	-0.29	08	-0.30	17	-0.26
21	-0.02	30	-0.29	09	-0.30	18	-0.26
22	-0.02	DEC 01	-0.29	10	-0.30	19	-0.26
23	-0.02	02	-0.29	11	-0.31	20	-0.26
24	-0.02	03	-0.28	12	-0.31	21	-0.26
25	-0.03	04	-0.28	13	-0.31	22	-0.27
26	-0.03	05	-0.27	14	-0.31	23	-0.27
27	-0.04	06	-0.27	15	-0.33	24	-0.26
28	-0.06	07	-0.26	16	-0.33	25	-0.26
29	-0.08	08	-0.26	17	-0.33	26	-0.26
30	-0.09	09	-0.27	18	-0.33	27	-0.26
31	-0.09	10	-0.28	19	-0.33	28	-0.26
NOV 01	-0.10	11	-0.29	20	-0.33	MAR 01	-0.26
02	-0.10	12	-0.29	21	-0.33	02	-0.25
03	-0.11	13	-0.29	22	-0.33	03	-0.25
04	-0.12	14	-0.29	23	-0.33	04	-0.25
05	-0.12	15	-0.30	24	-0.34	05	-0.24
06	-0.12	16	-0.28	25	-0.33	06	-0.24
07	-0.12	17	-0.28	26	-0.33	07	-0.24
08	-0.16 Z	18	-0.28	27	-0.32	08	-0.24
09	-0.21	19	-0.28	28	-0.30	09	-0.25

YOLO COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385020121503601 Local Number 012N001E34Q01M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 10, 1981	-0.25	APR 29, 1981	-0.14	JUN 19, 1981	0.17	AUG 08, 1981	0.27
11	-0.25	30	-0.13	20	0.17	09	0.27
12	-0.28	MAY 01	-0.11	21	0.17	10	0.27
13	-0.28	02	-0.10	22	0.18	11	0.27
14	-0.28	03	-0.09	23	0.18	12	0.27
15	-0.28	04	-0.07	24	0.19	13	0.27
16	-0.29	05	-0.10	25	0.19	14	0.27
17	-0.29	06	-0.09	26	0.19	15	0.27
18	-0.29	07	-0.08	27	0.20	16	0.27
19	-0.29	08	-0.06	28	0.20	17	0.27
20	-0.28	09	-0.05	29	0.21	18	0.27
21	-0.27	11	-0.02	30	0.21	19	0.27
22	-0.27	12	0.00	JUL 01	0.22	20	0.26
23	-0.27	13	0.01	02	0.22	21	0.26
24	-0.27	14	0.02	03	0.22	22	0.26
25	-0.26	15	0.04	04	0.23	23	0.26
26	-0.26	16	0.04	05	0.23	24	0.25
27	-0.25	17	0.05	06	0.19	25	0.25
28	-0.25	18	0.06	07	0.19	26	0.25
29	-0.24	19	0.07	08	0.19	27	0.25
30	-0.24	20	0.08	09	0.19	28	0.25
31	-0.24	21	0.09	10	0.20	29	0.26
APR 01	-0.24	22	0.10	11	0.20	30	0.26
02	-0.23	23	0.11	12	0.20	31	0.25
03	-0.23	24	0.12	13	0.20	SEP 01	0.25
04	-0.23	25	0.12	14	0.20	02	0.25
05	-0.24	26	0.13	15	0.21	03	0.25
06	-0.24	27	0.13	16	0.21	04	0.24
07	-0.24	28	0.14	17	0.22	05	0.24
08	-0.24	29	0.14	18	0.22	06	0.24
09	-0.22	30	0.14	19	0.23	07	0.22
10	-0.22	31	0.14	20	0.23	08	0.20
11	-0.22	JUN 01	0.15	21	0.23	09	0.19
12	-0.23	02	0.15	22	0.24	10	0.18
13	-0.23	03	0.15	23	0.24	11	0.16
14	-0.23	04	0.16	24	0.24	12	0.15
15	-0.23	05	0.16	25	0.25	13	0.14
16	-0.23	06	0.16	26	0.26	14	0.13
17	-0.23	07	0.16	27	0.26	15	0.12
18	-0.23	08	0.16	28	0.26	16	0.11
19	-0.22	09	0.16	29	0.26	17	0.10
20	-0.21	10	0.16	30	0.26	18	0.09
21	-0.21	11	0.16	31	0.26	19	0.08
22	-0.20	12	0.16	AUG 01	0.26	20	0.06
23	-0.19	13	0.16	02	0.26	21	0.06
24	-0.18	14	0.16	03	0.26	22	0.05
25	-0.18	15	0.16	04	0.26	23	0.04
26	-0.17	16	0.16	05	0.26	24	0.02
27	-0.16	17	0.16	06	0.26	25	0.00
28	-0.15	18	0.16	07	0.26	26	0.00
DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 27, 1981	-0.01	SEP 28, 1981	-0.02	SEP 29, 1981	-0.03	SEP 30, 1981	-0.04

YOLO COUNTY--Continued
Sacramento Valley (5-21)

SITE NUMBER 385020121503602 LOCAL NUMBER 012N001E34002M

4 MI NORTHEAST OF ZAMORA, HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
DIAM 3 IN, DEPTH 1401 FT, CASED TO 1401 FT, SCREENED 1396-1401 FT. ALTITUDE OF LSD
24.27 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 1.57 FEET BELOW LAND SURFACE DATUM JUL 16, 1981.

LOWEST WATER LEVEL 6.31 FEET BELOW LAND SURFACE DATUM APR 18, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	3.58	NOV 10, 1980	4.00	DEC 20, 1980	4.13	FEB 27, 1981	3.53
02	3.58	11	4.02	21	4.12	28	3.48
03	3.58	12	4.07	22	4.16	MAR 01	3.42
04	3.58	13	4.14	23	4.17	02	3.44
05	3.60	14	4.19	24	4.20	03	3.44
06	3.63	15	4.17	25	4.21	04	3.38
07	3.62	16	4.18	26	4.17	05	3.33
08	3.61	17	4.21	27	4.17	06	3.40
09	3.60	18	4.22	28	4.17	07	3.50
10	3.64	19	4.22	29	4.18	08	3.52
11	3.68	20	4.21	30	4.14	09	3.52
12	3.72	21	4.19	31	4.12	10	3.46
13	3.73	22	4.19	JAN 01, 1981	4.13	11	3.42
14	3.73	23	4.21	02	4.12	12	3.45
15	3.71	24	4.30	03	4.13	13	3.44
16	3.78	25	4.30	04	4.13	14	3.45
17	3.86	26	4.30	05	4.11	15	3.41
18	3.88	27	4.31	06	4.12	16	3.45
19	3.86	28	4.24	07	4.10	17	3.37
20	3.84	29	4.17	08	4.11	18	3.27
21	3.84	30	4.17	09	4.13	19	3.10
22	3.84	DEC 01	4.22	10	4.12	20	3.16
23	3.89	02	4.17	11	4.11	21	3.20
24	3.90	03	3.92	12	4.11	22	3.26
25	3.89	04	4.05	13	4.10	23	3.24
26	3.92	05	4.10	14	4.08	24	3.21
27	3.97	06	4.09	15	3.98	25	3.10
28	4.04	07	4.12	16	4.02	26	3.09
29	4.04	08	4.25	17	4.08	27	3.10
30	4.00	09	4.28	18	4.08	28	3.11
31	3.99	10	4.30	19	4.06	29	3.07
NOV 01	4.01	11	4.25	20	4.03	30	3.15
02	4.02	12	4.20	FEB 12	3.80	31	3.09
03	4.03	13	4.24	20	3.75	APR 01	3.05
04	4.02	14	4.28	21	3.68	02	3.00
05	3.99	15	4.25	22	3.64	03	3.04
06	4.01	16	4.11	23	3.54	04	3.14
07	4.01	17	4.10	24	3.49	05	3.06
08	4.02	18	4.11	25	3.51	06	2.98
09	4.00	19	4.13	26	3.57	07	2.96

YOLO COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385020121503602 Local Number 012N001E34Q02M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
APR 08, 1981	2.99	MAY 22, 1981	2.00	JUL 05, 1981	1.60	AUG 18, 1981	1.79
09	3.01	23	1.98	06	1.58	19	1.88
10	2.96	24	1.96	07	1.62	20	1.92
11	3.00	25	1.97	08	1.62	21	1.91
12	3.02	26	1.96	09	1.62	22	1.91
13	2.99	27	1.93	10	1.62	23	1.93
14	2.97	28	1.92	11	1.62	24	1.96
15	2.96	29	1.91	12	1.63	25	1.98
16	2.95	30	1.93	13	1.65	26	1.98
17	2.84	31	1.88	14	1.60	27	1.95
18	2.76	JUN 01	1.85	15	1.58	28	1.92
19	2.75	02	1.93	16	1.57	29	1.92
20	2.75	03	1.91	17	1.59	30	1.93
21	2.69	04	1.88	18	1.60	31	2.03
22	2.68	05	1.85	19	1.60	SEP 01	2.05
23	2.64	06	1.85	20	1.61	02	2.08
24	2.62	07	1.85	21	1.60	03	2.12
25	2.57	08	1.85	22	1.60	04	2.15
26	2.56	09	1.84	23	1.59	05	2.15
27	2.57	10	1.81	24	1.59	06	2.20
28	2.50	11	1.77	25	1.59	07	2.30
29	2.40	12	1.83	26	1.59	08	2.35
30	2.34	13	1.87	27	1.62	09	2.35
MAY 01	2.30	14	1.86	28	1.66	10	2.36
02	2.27	15	1.82	29	1.64	11	2.40
03	2.26	16	1.80	30	1.65	12	2.43
04	2.24	17	1.76	31	1.72	13	2.44
05	2.30	18	1.74	AUG 01	1.71	14	2.45
06	2.30	19	1.73	02	1.70	15	2.47
07	2.27	20	1.72	03	1.70	16	2.50
08	2.27	21	1.72	04	1.71	17	2.53
09	2.20	22	1.70	05	1.73	18	2.55
10	2.14	23	1.69	06	1.74	19	2.57
11	2.13	24	1.68	07	1.70	20	2.57
12	2.13	25	1.68	08	1.69	21	2.61
13	2.13	26	1.66	09	1.69	22	2.64
14	2.10	27	1.62	10	1.74	23	2.67
15	2.08	28	1.63	11	1.80	24	2.73
16	2.12	29	1.67	12	1.78	25	2.76
17	2.11	30	1.64	13	1.78	26	2.74
18	2.04	JUL 01	1.62	14	1.84	27	2.74
19	1.98	02	1.62	15	1.87	28	2.77
20	2.00	03	1.63	16	1.82	29	2.79
21	2.04	04	1.62	17	1.79	30	2.80

YOLO COUNTY--Continued

Sacramento Valley (5-21)

SITE NUMBER 385020121503603 LOCAL NUMBER 012N001E34Q03M

4 MI NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
 DIAM 3 IN, DEPTH 947 FT, CASED TO 947 FT, SCREENED 942-947 FT. ALTITUDE OF LSD 24.27 FT.
 RECORDS AVAILABLE 1979 TO CURRENT YEAR. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 7.72 FEET BELOW LAND SURFACE DATUM May 10, 1981.

LOWEST WATER LEVEL 19.30 FEET BELOW LAND SURFACE DATUM NOV 09, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1980	17.28	NOV 10, 1980	16.80	DEC 20, 1980	14.92	JAN 29, 1981	12.29
02	17.30	11	16.77	21	14.84	30	12.32
03	17.31	12	16.77	22	14.82	31	12.31
04	17.31	13	16.73	23	14.78	FEB 01	12.26
05	17.33	14	16.71	24	14.76	02	12.17
06	17.35	15	16.67	25	14.71	03	12.09
07	17.34	16	16.62	26	14.63	04	12.07
08	17.32	17	16.60	27	14.57	05	12.06
09	17.31	18	16.55	28	14.53	06	12.06
10	17.34	19	16.51	29	14.49	07	12.05
11	17.35	20	16.46	30	14.42	08	11.99
12	17.37	21	16.40	31	14.37	09	11.93
13	17.36	22	16.34	JAN 01, 1981	14.30	10	11.92
14	17.35	23	16.32	02	14.25	11	11.89
15	17.33	24	16.32	03	14.21	12	11.82
16	17.38	25	16.29	04	14.15	13	11.75
17	17.43	26	16.25	05	14.08	14	11.69
18	17.42	27	16.20	06	14.02	15	11.56
19	17.39	28	16.10	07	13.96	16	11.46
20	17.38	29	16.02	08	13.92	17	11.43
21	17.34	30	15.94	09	13.88	18	11.41
22	17.32	DEC 01	15.92	10	13.83	19	11.37
23	17.32	02	15.84	11	13.78	20	11.36
24	17.31	03	15.65	12	13.73	21	11.34
25	17.25	04	15.56	13	13.66	22	11.27
26	17.27	05	15.57	14	13.59	23	11.10
27	17.28	06	15.49	15	13.42	24	10.99
28	17.31	07	15.47	16	13.41	25	10.98
29	17.29	08	15.55	17	13.39	26	10.97
30	17.23	09	15.54	18	13.36	27	10.93
31	17.18	10	15.50	19	13.29	28	10.82
NOV 01	17.17	11	15.40	20	13.21	MAR 01	10.76
02	17.15	12	15.32	21	13.14	02	10.72
03	17.12	13	15.30	22	13.05	03	10.66
04	17.07	14	15.29	23	12.96	04	10.54
05	17.02	15	15.22	24	12.88	05	10.46
06	17.00	16	15.07	25	12.76	06	10.45
07	16.96	17	15.03	26	12.65	07	10.46
08	16.91	18	14.98	27	12.45	08	10.46
09	16.86	19	14.97	28	12.37	09	10.42

YOLO COUNTY--Continued

Sacramento Valley (5-21)

Site Number 385020121503603 Local Number 012N001E34Q03M--Continued

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 10, 1981	10.35	APR 29, 1981	7.88	JUN 18, 1981	9.76	AUG 07, 1981	14.21
11	10.27	30	7.86	19	9.82	08	14.28
12	10.20	MAY 01	7.85	20	9.91	09	14.37
13	10.15	02	7.81	21	9.97	10	14.50
14	10.13	03	7.79	22	10.03	11	14.62
15	10.06	04	7.77	23	10.11	12	14.67
16	10.01	05	7.79	24	10.22	13	14.74
17	9.93	06	7.79	25	10.30	14	14.88
18	9.81	07	7.78	26	10.38	15	14.98
19	9.58	08	7.79	27	10.42	16	15.03
20	9.60	09	7.77	28	10.49	17	15.07
21	9.56	10	7.72	29	10.59	18	15.14
22	9.54	11	7.73	30	10.68	19	15.27
23	9.50	12	7.75	JUL 01	10.77	20	15.39
24	9.42	13	7.79	02	10.86	21	15.47
25	9.35	14	7.79	03	10.95	22	15.54
26	9.29	15	7.80	04	11.03	23	15.62
27	9.27	16	7.84	05	11.10	24	15.73
28	9.24	17	7.89	06	11.23	25	15.81
29	9.16	18	7.87	07	11.35	26	15.88
30	9.17	19	7.85	08	11.46	27	15.90
31	9.09	20	7.88	09	11.55	28	15.94
APR 01	9.03	21	7.96	10	11.62	29	16.00
02	8.96	22	7.99	11	11.72	30	16.10
03	8.98	23	8.02	12	11.84	31	16.26
04	9.01	24	8.08	13	11.94	SEP 01	16.33
05	8.90	25	8.16	14	12.01	02	16.41
06	8.81	26	8.20	15	12.08	03	16.49
07	8.78	27	8.24	16	12.17	04	16.57
08	8.77	28	8.30	17	12.26	05	16.62
09	8.75	29	8.36	18	12.38	06	16.71
10	8.66	30	8.46	19	12.46	07	16.82
11	8.66	31	8.49	20	12.56	08	16.91
12	8.62	JUN 01	8.52	21	12.63	09	16.98
13	8.58	02	8.67	22	12.72	10	17.03
14	8.54	03	8.73	23	12.82	11	17.10
15	8.49	04	8.80	24	12.92	12	17.16
16	8.48	05	8.84	25	13.00	13	17.22
17	8.36	06	8.92	26	13.10	14	17.27
18	8.27	07	9.00	27	13.22	15	17.34
19	8.23	08	9.05	28	13.34	16	17.39
20	8.20	09	9.13	29	13.41	17	17.45
21	8.12	10	9.17	30	13.52	18	17.51
22	8.09	11	9.22	31	13.65	19	17.56
23	8.07	12	9.33	AUG 01	13.72	20	17.59
24	8.04	13	9.42	02	13.80	21	17.64
25	8.01	14	9.50	03	13.89	22	17.70
26	7.98	15	9.56	04	13.98	23	17.76
27	8.00	16	9.62	05	14.06	24	17.82
28	7.96	17	9.68	06	14.15	25	17.89

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 26, 1981	17.89	SEP 28, 1981	17.96	29	17.99	SEP 30, 1981	18.01
27	17.91						

YUBA COUNTY

Sacramento Valley (5-21)

SITE NUMBER 390151121273501 LOCAL NUMBER 014N005E30Q01M

2.8 MI NORTHEAST OF WHEATLAND. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN. DEPTH 220 FT.
 ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES.
 RECORDS AVAILABLE 1947 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.2 FEET BELOW LAND SURFACE DATUM MAY 08, 1948.

LOWEST WATER LEVEL 132.9 FEET BELOW LAND SURFACE DATUM AUG 31, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1980	109.3	JAN 30, 1981	100.0	APR 30, 1981	105.1	JUL 31, 1981	131.0
NOV 30	104.0	FEB 27	98.0	MAY 31	117.6	AUG 31	132.9
DEC 30	101.8	MAR 31	96.3	JUN 30	125.2	SEP 30	116.6

QUALITY OF GROUND WATER

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

STATION NUMBER	LOCAL IDENTIFIER	DATE OF SAMPLE	TIME	SPECIFIC CONDUCTANCE (UMHOS)	PH (UNITS)	TEMPERATURE (DEG C)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)
BUTTE									
392448121424501	018N002E14K01M	81-06-30	--	315	7.4	20.0	--	--	--
393657121512701	020N001E04J01M	81-07-01	--	460	7.5	17.0	--	--	--
GLENN									
392545122073401	018N002W07F01M	81-08-07	--	600	8.0	21.0	--	--	--
LASSEN									
402238120322801	029N013E17C05M	81-07-29	--	480	7.2	17.0	--	--	--
405155120273601	035N013E25M01M	81-08-14	0845	860	7.3	13.0	380	66	51
410516121114001	037N007E02D01M	81-08-10	--	185	7.2	19.0	--	--	--
410754120043001	038N008E17K01M	81-08-10	--	225	7.7	18.5	--	--	--
MODOC									
412933120323201	042N012E11J01M	81-08-13	1200	380	7.5	18.5	150	42	11
414513120250801	045N013E12L01M	81-08-11	1135	395	7.5	20.0	68	19	5.0
NEVADA									
391934120102401	017N016E14F01M	80-11-17	1100	141	7.4	4.5	52	8.9	7.2
SHASTA									
402716122145601	030N003W18F02M	81-06-09	--	300	6.3	18.0	--	--	--
SISKIYOU									
412818122261801	042N005W20J01M	81-07-16	--	280	6.9	16.5	--	--	--
413628122503601	043N009W02G01M	81-07-15	--	500	7.0	20.0	--	--	--
414007122311601	044N006W15C01M	81-07-16	--	620	8.1	22.0	--	--	--
414942122000001	046N001W17G02M	81-07-15	--	425	8.1	12.0	--	--	--
SOLANO									
382103121470901	006N002E19J01M	81-07-01	1115	1580	7.7	18.5	580	38	120

STATION NUMBER	DATE OF SAMPLE	SODIUM DIS-SOLVED (MG/L AS Na)	POTASSIUM DIS-SOLVED (MG/L AS K)	ALKALINITY FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE DIS-SOLVED (MG/L AS CL)	FLUORIDE DIS-SOLVED (MG/L AS F)	SILICA DIS-SOLVED (MG/L AS SiO2)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
BUTTE									
392448121424501	81-06-30	--	--	--	--	--	--	--	--
393657121512701	81-07-01	--	--	--	--	--	--	--	--
GLENN									
392545122073401	81-08-07	--	--	--	--	--	--	--	--
LASSEN									
402238120322801	81-07-29	--	--	--	--	--	--	--	--
405155120273601	81-08-14	49	8.0	370	--	38	--	--	--
410516121114001	81-08-10	--	--	--	--	--	--	--	--
410754120043001	81-08-10	--	--	--	--	--	--	--	--
MODOC									
412933120323201	81-08-13	18	7.9	160	--	8.0	--	--	--
414513120250801	81-08-11	65	4.6	200	--	3.0	--	--	--
NEVADA									
391934120102401	80-11-17	2.7	2.0	65	1.3	1.7	.0	22	1.4
SHASTA									
402716122145601	81-06-09	--	--	--	--	--	--	--	--
SISKIYOU									
412818122261801	81-07-16	--	--	--	--	--	--	--	--
413628122503601	81-07-15	--	--	--	--	--	--	--	--
414007122311601	81-07-16	--	--	--	--	--	--	--	--
414942122000001	81-07-15	--	--	--	--	--	--	--	--
SOLANO									
382103121470901	81-07-01	130	--	370	--	230	--	--	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

STATION	NUMBER	DATE OF SAMPLE	BORON,	IRON,	MANGA-
			DIS- SOLVED (UG/L AS B)	DIS- SOLVED (UG/L AS FE)	NESE, DIS- SOLVED (UG/L AS MN)
BUTTE					
392448121424501		81-06-30	--	--	--
393657121512701		81-07-01	--	--	--
GLENN					
392545122073401		81-08-07	--	--	--
LASSEN					
402238120322801		81-07-29	--	--	--
405155120273601		81-08-14	--	--	--
410516121114001		81-08-10	--	--	--
410754120043001		81-08-10	--	--	--
MODOC					
412933120323201		81-08-13	--	--	--
414513120250801		81-08-11	--	--	--
NEVADA					
391934120102401		80-11-17	2	40	10
SHASTA					
402716122145601		81-06-09	--	--	--
SISKIYOU					
412818122261801		81-07-16	--	--	--
413628122503601		81-07-15	--	--	--
414007122311601		81-07-16	--	--	--
414942122000001		81-07-15	--	--	--
SOLANO					
382103121470901		81-07-01	--	--	--

STATION	NUMBER	LOCAL IDENT- I- FIER	DATE OF SAMPLE	TIME	SPE- CIFIC CON- DUCT- ANCE	PH	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
					(UMHOS)					
SUTTER										
390830121443801		015N002E22D01M	81-07-14	1300	280	7.3	19.5	110	22	13
TEHAMA										
400608122051601		026N002W15M01M	81-06-12	--	240	7.1	22.0	--	--	--

STATION	NUMBER	DATE OF SAMPLE	SODIUM,	POTAS-	ALKA-	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO-	FLUO-	SILICA,	NITRO-
			DIS- SOLVED (MG/L AS NA)	SIUM, DIS- SOLVED (MG/L AS K)	LINITY FIELD (MG/L AS CACO3)		RIDE, DIS- SOLVED (MG/L AS CL)	RIDE, DIS- SOLVED (MG/L AS F)	DIS- SOLVED (MG/L AS SiO2)	GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
SUTTER										
390830121443801		81-07-14	19	1.7	130	--	10	--	--	--
TEHAMA										
400608122051601		81-06-12	--	--	--	--	--	--	--	--

QUALITY OF GROUND WATER--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

STATION	NUMBER	DATE OF SAMPLE	BORON, DIS- SOLVED (UG/L AS B)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
SUTTER					
390830121443801		81-07-14	--	--	--
TEHAMA					
400608122051601		81-06-12	--	--	--

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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
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)
<i>Volume</i>		
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)
<i>Flow</i>		
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)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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