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Water Resources Data for California

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-80-4

WATER YEAR 1980

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

CALENDAR FOR WATER YEAR 1980

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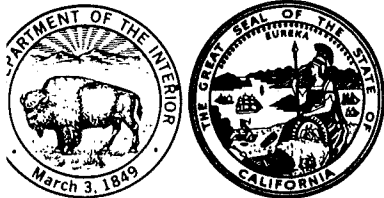
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WATER YEAR 1980

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

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

DOYLE G. FREDERICK, Acting Director

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1981

PREFACE

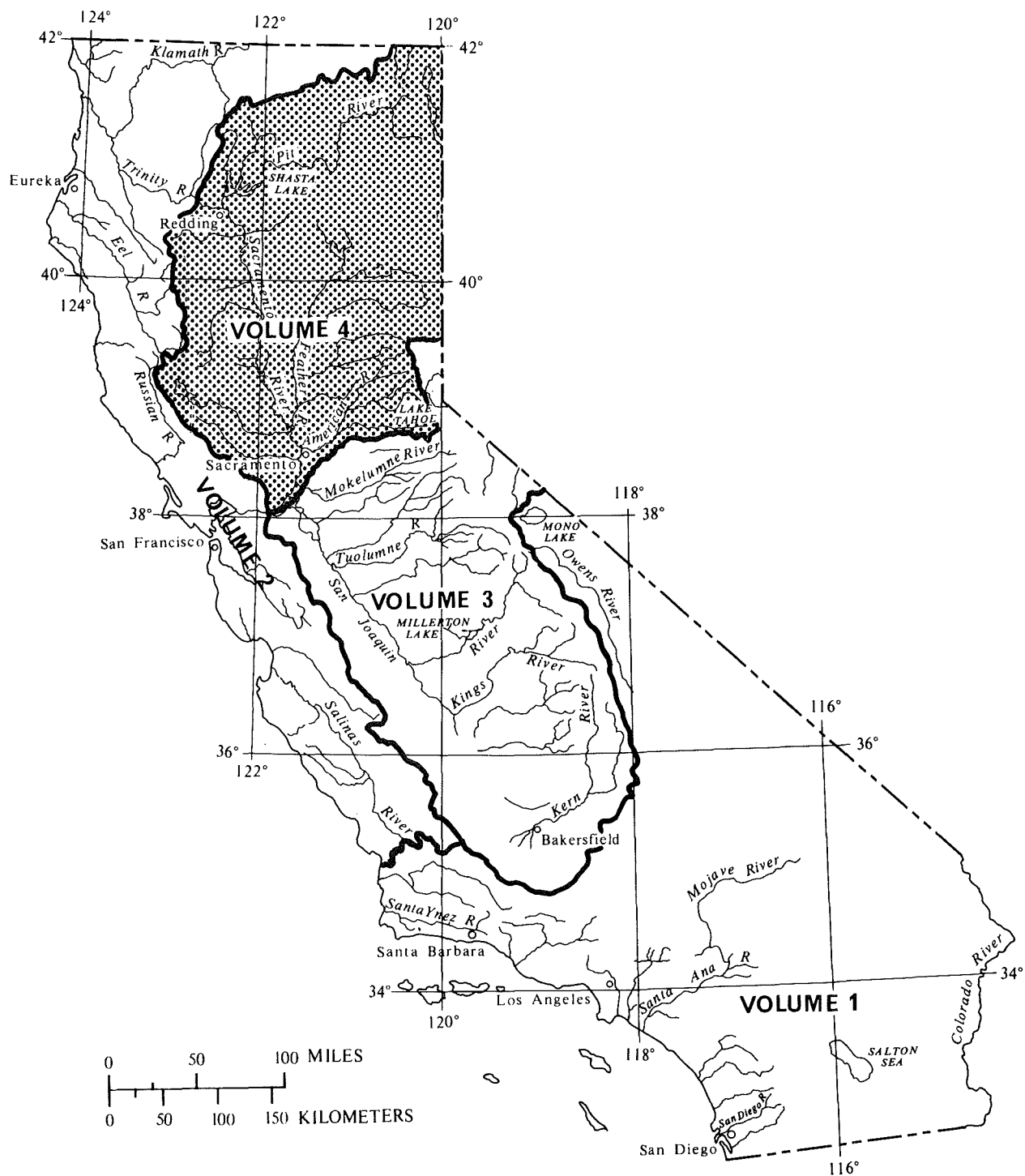
This report was prepared by personnel of the California District of the Water Resources Division, U.S. Geological Survey, under the supervision of Richard M. Bloyd, District Chief, and J. D. Bredehoeft, Regional Hydrologist, Western Region. It was done in cooperation with the California Department of 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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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, 1980

Volume 4

INTRODUCTION

Water-resources data for the 1980 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-80-4." 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 (415) 323-8111, extension 2328.

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, Acting 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,
W. L. McAnlis, Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army; Water and Power Resources Service, 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.

HYDROLOGIC CONDITIONS

Precipitation for the first quarter of the 1980 water year, remained below normal. A series of tropical storms in January through March caused heavy flooding in some areas and raised the normal runoff to excessive. The January 13 storm was warm with heavy rain up to 9,000 feet elevation. This melted snow on the lower slopes and increased the magnitude of some flood peaks. During this storm, a band of intense precipitation occurred which crossed the lower end of the South Fork American River drainage and continued on a northeast direction. Precipitation was heavy on the Middle Fork American River Drainage and on some of the Upper Yuba River drainage. The magnitude of the resulting flood peaks exceeded the December 1964 flood on Pilot Creek above Stumpy Meadows Reservoir and Long Canyon Creek near French Meadows.

The February and March storms were colder which brought the snowpack to above normal. A cold spring delayed the snowmelt so that streamflow remained above normal for the remainder of the year.

In the area covered by this volume, runoff during the water year ranged from 116 percent of the 1941-70 median for the index station Sacramento River at Keswick to 159 percent at the index station North Fork American River at North Fork Dam.

The quality of the surface water did not change appreciably, but the ground-water levels rose in all areas.

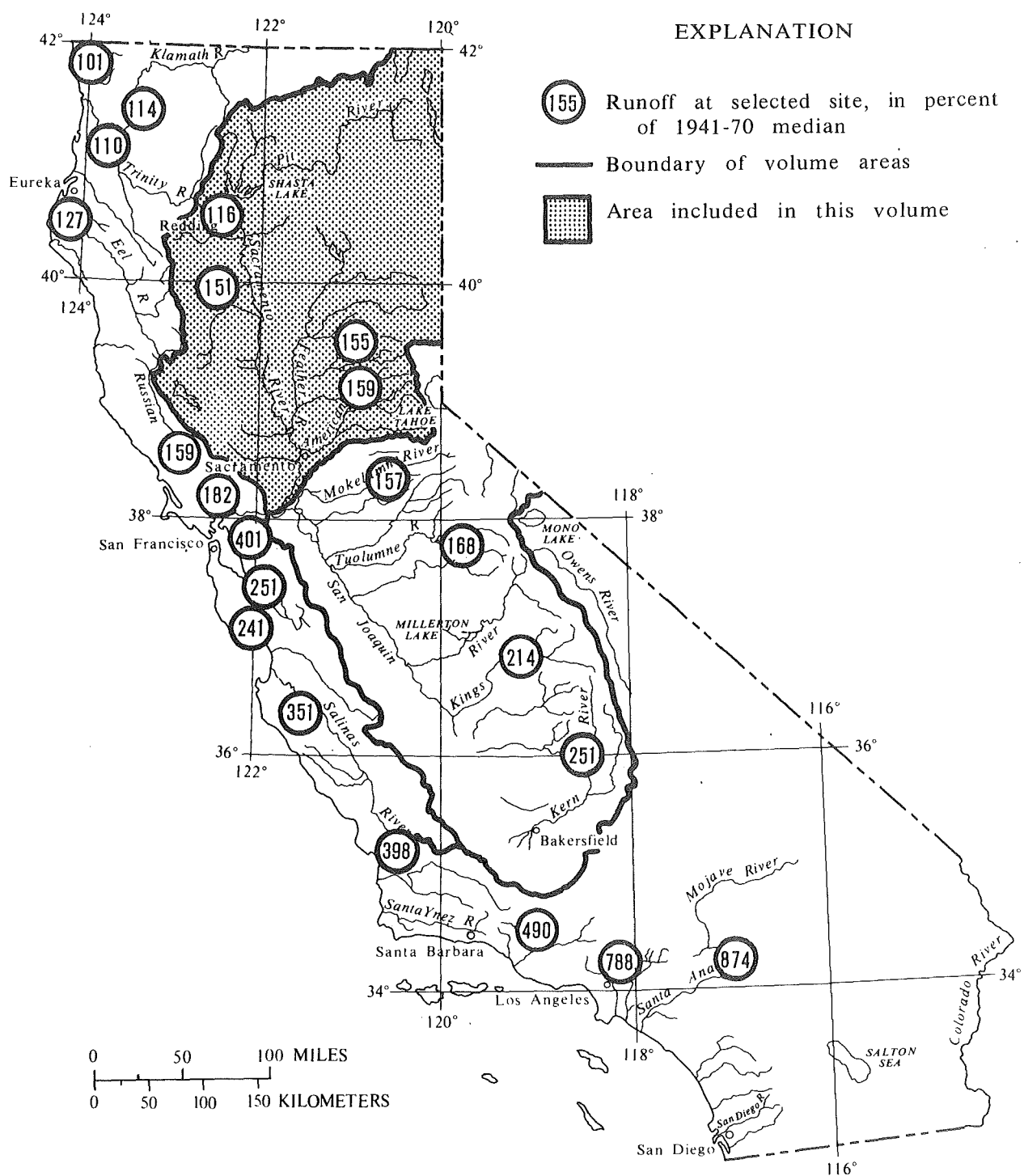


FIGURE 1.--Runoff for the current water year.

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:

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

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 "stream-flow" 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 indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention shows which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

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

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

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

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

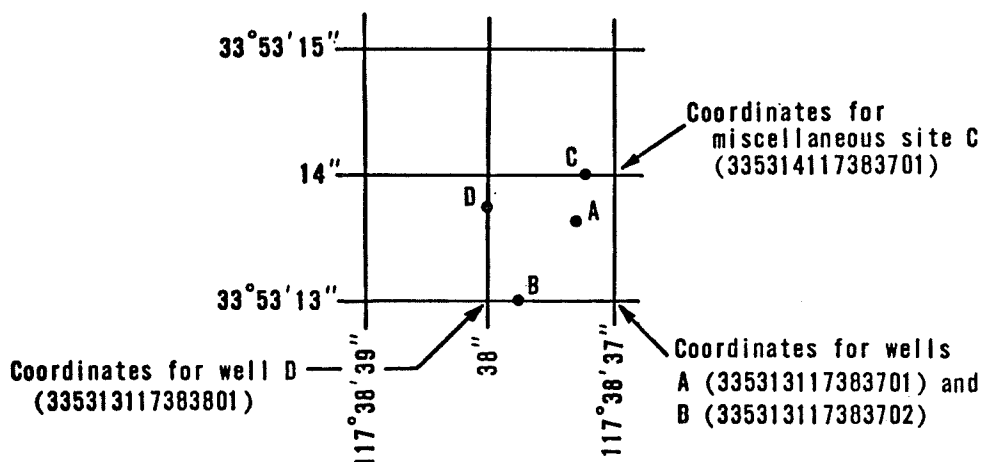


FIGURE 2.--System for numbering wells and miscellaneous sites (latitude and longitude).

Local well numbers

Wells and springs in California are assigned numbers according to their location on the rectangular system for the subdivision of public land. For example, in the number 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.

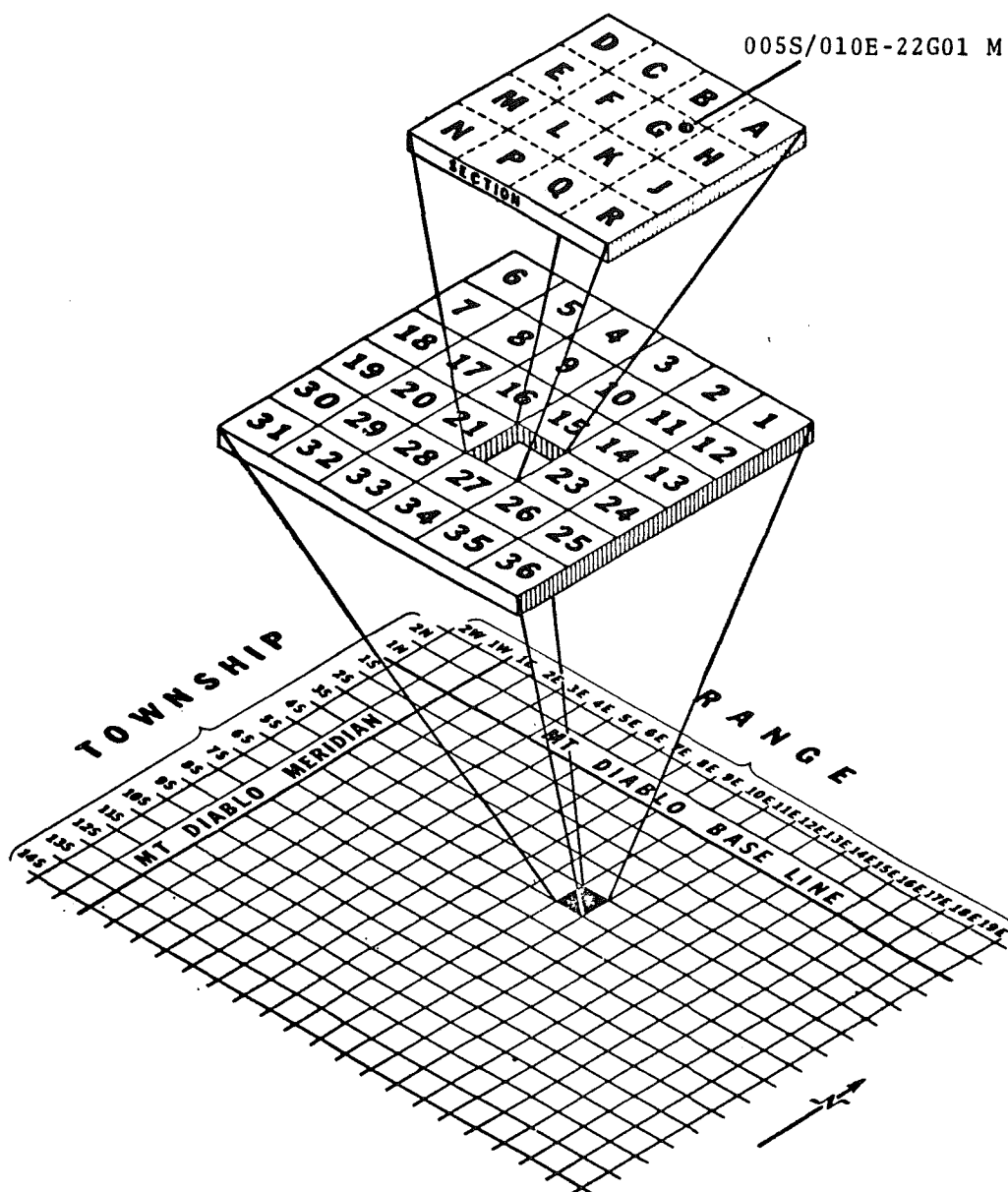


FIGURE 3.--California well-numbering system.

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

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

PUBLICATIONS OF TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, 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.
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HONEY LAKE BASIN

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

LOCATION.--Lat 40°25'03", long 120°40'15", in SW¼NE¼ 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.--36 years (water years 1901, 1904-5, 1918-20, 1951-80), 93.7 ft³/s (2.654 m³/s), 67,890 acre-ft/yr (83.7 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, 3,770 ft³/s (107 m³/s) Jan. 13, gage height, 7.02 ft (2.140 m); minimum daily, 2.3 ft³/s (0.065 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	9.7	12	12	48	202	81	189	70	56	97	70
2	2.9	8.8	12	11	48	209	78	181	67	68	96	17
3	2.7	10	11	11	61	233	77	183	87	82	95	9.4
4	2.3	15	10	11	63	221	77	187	94	57	95	8.0
5	2.6	12	10	11	59	216	95	179	90	50	94	6.5
6	2.4	12	9.4	12	62	195	102	168	69	45	94	6.8
7	2.5	10	9.0	13	55	172	89	157	61	40	92	6.2
8	4.2	9.9	8.7	16	51	154	86	148	55	36	91	6.9
9	3.0	9.7	8.4	25	48	144	93	160	51	33	91	7.1
10	3.2	9.2	8.3	45	48	139	100	150	49	28	90	5.9
11	4.0	9.2	8.1	71	46	137	101	129	47	26	89	5.8
12	4.7	9.2	7.9	1140	45	123	105	116	47	22	88	6.3
13	3.7	9.2	7.8	2410	42	115	125	113	45	17	88	9.8
14	4.7	9.2	7.8	1120	47	117	151	112	44	15	87	14
15	4.7	9.0	7.7	629	65	114	160	107	42	13	88	12
16	5.0	9.4	7.6	429	115	102	167	103	79	12	87	8.7
17	3.8	12	7.6	370	428	102	185	98	90	11	86	9.8
18	4.4	11	7.6	260	1370	102	207	96	87	10	85	9.5
19	6.7	9.9	7.4	186	938	94	214	97	91	9.9	85	7.5
20	12	9.0	7.5	146	542	96	237	97	88	9.4	83	7.5
21	9.0	8.8	7.6	123	388	90	247	99	86	48	82	7.8
22	7.1	10	7.7	106	307	85	250	97	83	100	81	7.8
23	6.9	11	8.0	93	254	87	259	99	84	101	81	7.4
24	7.1	15	8.5	83	226	84	245	91	78	102	80	7.0
25	72	23	9.0	77	207	82	229	81	73	102	78	7.9
26	26	36	9.7	70	207	79	222	76	70	102	84	7.7
27	14	18	9.2	65	230	79	220	71	66	101	98	7.4
28	11	16	8.9	59	273	76	222	67	64	100	98	7.4
29	10	14	8.9	51	227	79	224	65	60	100	96	6.9
30	10	13	8.9	49	---	87	209	67	59	98	96	6.9
31	11	---	9.5	48	---	83	---	91	---	97	93	---
TOTAL	266.3	368.2	271.7	7752	6500	3898	4857	3674	2076	1691.3	2768	308.9
MEAN	8.59	12.3	8.76	250	224	126	162	119	69.2	54.6	89.3	10.3
MAX	72	36	12	2410	1370	233	259	189	94	102	98	70
MIN	2.3	8.8	7.4	11	42	76	77	65	42	9.4	78	5.8
AC-FT	528	730	539	15380	12890	7730	9630	7290	4120	3350	5490	613
CAL YR 1979	TOTAL	11215.64	MEAN	30.7	MAX	153	MIN	.44	AC-FT	22250		
WTR YR 1980	TOTAL	34431.40	MEAN	94.1	MAX	2410	MIN	2.3	AC-FT	68290		

HONEY LAKE BASIN

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10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (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)
OCT , 1979										
24...	1005	7.1	187	8.0	8.0	1.8	10.0	26	85	70
NOV										
20...	0945	8.6	192	8.2	.5	2.2	12.4	<1	K11	74
DEC										
19...	0810	7.2	207	7.7	.5	2.8	11.7	K3	K5	73
JAN , 1980										
17...	1200	344	78	--	3.5	22	10.3	K10	K55	31
MAR										
11...	1110	137	91	7.1	4.5	3.5	10.8	<1	K4	44
APR										
18...	0735	206	83	7.3	5.5	9.7	11.0	K5	K24	38
MAY										
14...	0830	113	81	7.6	7.0	16	10.3	45	68	40
JUN										
18...	1320	90	72	7.7	20.0	23	7.8	170	220	33
JUL										
16...	0815	11	132	7.4	16.5	4.1	7.7	96	130	58
AUG										
13...	0930	90	60	7.2	16.0	5.9	8.4	42	120	28
SEP										
17...	0910	8.8	142	7.8	13.0	5.6	8.8	26	38	72

DATE	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT , 1979										
24...	0	15	7.8	5.9	24	.3	2.9	84	4.3	1.2
NOV										
20...	0	16	8.2	7.0	17	.4	1.8	86	2.8	1.1
DEC										
19...	0	16	8.1	6.4	25	.3	2.1	84	.3	1.1
JAN , 1980										
17...	0	7.7	2.8	3.2	25	.3	.9	34	1.6	1.0
MAR										
11...	0	11	4.1	3.9	16	.3	1.0	50	2.1	1.2
APR										
18...	0	9.3	3.5	3.5	16	.2	.8	42	1.2	.6
MAY										
14...	0	9.8	3.7	3.7	16	.3	1.0	43	3.1	.4
JUN										
18...	0	7.9	3.3	3.1	16	.2	1.2	41	.4	1.0
JUL										
16...	0	13	6.2	4.6	14	.3	1.7	66	.7	.4
AUG										
13...	1	6.0	3.2	2.0	13	.2	.6	27	.7	.3
SEP										
17...	0	16	7.9	5.3	13	.3	2.3	81	8.4	.8

See footnotes at end of table.

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	FLUORIDE, 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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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)
OCT , 1979									
24...	.0	31	114	119	.16	.85	.06	.04	.01
NOV									
20...	.1	32	--	126	--	--	1.2	.03	.00
DEC									
19...	.1	32	122	121	.17	2.2	1.1	.02	.02
JAN , 1980									
17...	.1	21	--	65	--	--	1.5	.00	.00
MAR									
11...	.1	25	78	79	.11	.71	.05	.03	.03
APR									
18...	.0	23	--	66	--	--	.24	.00	.00
MAY									
14...	.1	24	76	70	.10	.36	.05	.01	.01
JUN									
18...	.2	18	--	61	--	.41	.28	--	.06
JUL									
16...	.2	29	99	95	.13	.00	.00	.02	.00
AUG									
13...	.1	13	43	43	.06	.13	.07	.00	.00
SEP									
17...	.0	30	114	120	.16	.59	.12	.00	.00

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,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT , 1979								
24...	.30	.16	.34	.17	1.2	.23	.04	.03
NOV								
20...	--	.58	--	.58	--	1.8	.04	.03
DEC								
19...	.51	.41	.53	.43	2.7	1.5	.04	.02
JAN , 1980								
17...	.89	.12	.89	.12	--	2.5	.07	.05
MAR								
11...	.39	.14	.42	.17	1.1	.22	.03	.01
APR								
18...	.51	.53	.51	.53	--	.77	.05	.02
MAY								
14...	.56	.27	.57	.28	.93	.64	.02	.01
JUN								
18...	--	1.0	1.1	1.1	--	1.4	.08	.05
JUL								
16...	.51	.49	.53	.49	.53	.49	.04	.04
AUG								
13...	.82	.82	.82	.82	.95	.89	.04	.03
SEP								
17...	.41	.40	.41	.40	1.0	.52	.03	.02

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...	0945	1	1	300	30	0	2	0	0	2	<3
MAR											
11...	1110	2	2	100	30	0	<1	0	0	0	<3
MAY											
14...	0830	2	1	100	20	1	<1	0	0	2	<3
AUG											
13...	0930	2	1	0	20	1	<1	0	10	2	<3

See footnotes at end of table.

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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...	1	0	400	240	11	1	40	40	.1	.0
MAR 11...	3	2	570	130	13	2	30	20	.1	.0
MAY 14...	6	2	490	70	9	1	20	9	8.0	.1
AUG 13...	5	2	770	180	44	14	60	10	.1	.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)	SELE- NIUM, SUS- PENDE TOTAL (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)
NOV 20...	7	1	0	0	0	0	0	10	5	10
MAR 11...	1	0	0	0	0	0	0	20	7	7.1
MAY 14...	8	4	0	0	0	0	0	30	7	6.7
AUG 13...	3	3	0	0	0	0	0	60	20	6.4

< 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).

HONEY LAKE BASIN

10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE
ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
PHYTOPLANKTON

DATE TIME	OCT 24,79 1005	DEC 19,79 0000	JUN 18,80 1320	SEP 17,80 0910
TOTAL CELLS/ML	100	330	860	530
DIVERSITY: DIVISION	0.8	0.0	1.6	0.8
..CLASS	0.8	0.0	1.6	0.8
..ORDER	1.3	0.0	1.7	0.9
...FAMILY	1.8	1.1	2.3	1.5
....GENUS	1.8	1.2	2.5	1.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
....ANKISTRODESMUS	26#	25	--	-	13	1	--	-
....OOCYSTIS	--	-	--	-	--	-	13	2
....SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	100	12	--	-
....SCENEDESMUS	--	-	--	-	150#	18	51	10
..VOLVOCELES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	13	2
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCEAE								
....CYCLOTELLA	13	13	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	5	2	--	-	--	-
....RHOICOSPHEA	--	-	5	2	--	-	--	-
....CYMBELLACEAE								
....CYMBELLA	--	-	--	-	13	1	--	-
....FRAGILARIACEAE								
....ASTERIONELLA	--	-	--	-	--	-	51	10
....FRAGILARIA	--	-	10	3	--	-	330#	63
....SYNEDRA	13	13	30	9	26	3	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	5	2	13	1	--	-
...NAVICULACEAE								
....NAVICULA	--	-	15	5	130	15	39	7
...NITZSCHACEAE								
....NITZSCHIA	52#	50	260#	78	64	7	13	2
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	13	1	13	2
...HORMOGONALES								
....OSCILLATORIACEAE								
....LYNGBYA	--	-	--	-	330#	39	--	-

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

PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	SAMPLING METHOD
MAY 14...	65	32.8	30.3	.680	.150	293	Polyethylene strip

HONEY LAKE BASIN

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10356500 SUSAN RIVER AT SUSANVILLE, CA--Continued

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM
OCT 24...	1005	7.1	8.0	4	.08	--	--	--
NOV 20...	0945	8.6	.5	2	.05	--	--	--
DEC 19...	0810	7.3	.5	2	.04	--	--	--
JAN 17...	1200	344	3.5	100	93	57	--	--
MAR 11...	1110	137	4.5	12	4.4	66	--	--
APR 18...	0735	206	5.5	22	12	81	91	100
MAY 14...	0830	113	7.0	8	2.4	70	--	--
JUN 18...	1310	90	20.0	31	7.5	71	--	--
JUL 16...	0815	11	16.5	8	.24	68	--	--
AUG 13...	0930	90	16.0	13	3.2	72	--	--
SEP 17...	0910	8.8	13.0	7	.17	63	--	--

HONEY LAKE BASIN

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 good. 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.--30 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, 816 ft³/s (23.1 m³/s) Feb. 1, 1963, gage height, 5.59 ft (1.704 m); minimum, 8.1 ft³/s (0.23 m³/s) Nov. 16, 1951.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.66 m³/s) and maximum (*):

Date	Time	Discharge		Gage height	
		(ft ³ /s)	(m ³ /s)	(ft)	(m)
Jan. 13	1700	*648	18.4	5.22	1.591
Feb. 19	1100	*648	18.4	5.22	1.591

Minimum daily, 9.3 ft³/s (0.26 m³/s) on several days during October and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	33	26	27	36	78	22	18	14	10	11	10
2	9.3	33	26	27	41	83	21	18	13	12	11	10
3	9.3	33	27	27	47	88	20	19	15	12	10	10
4	9.3	36	26	28	49	79	20	22	16	12	10	10
5	9.3	36	26	28	48	76	21	23	17	12	10	10
6	9.6	34	26	29	45	77	21	22	16	12	9.9	10
7	10	32	26	29	41	71	22	21	15	11	9.9	10
8	9.9	30	26	32	39	64	22	20	14	11	9.9	9.8
9	11	28	26	39	38	59	22	19	14	11	9.9	9.7
10	11	26	27	35	38	55	21	19	14	11	9.9	9.8
11	11	26	25	39	37	53	21	18	13	11	9.9	10
12	11	25	25	222	36	49	20	17	13	12	9.9	11
13	11	25	25	531	36	48	21	17	13	12	9.9	12
14	11	25	25	523	37	45	21	17	14	12	9.8	13
15	11	25	25	341	42	45	21	17	13	12	9.8	14
16	11	25	25	208	56	42	14	17	13	12	9.5	15
17	12	26	25	159	125	42	14	16	13	12	9.5	14
18	12	26	26	101	375	44	14	16	13	12	9.5	13
19	13	25	26	87	591	41	16	16	12	12	9.3	13
20	15	25	26	88	475	42	17	16	12	12	9.3	12
21	19	25	26	78	301	43	16	14	11	12	9.3	12
22	28	25	25	71	232	41	19	13	11	11	9.3	12
23	27	26	25	63	198	39	24	13	11	11	9.3	12
24	25	27	25	59	151	37	23	13	11	11	9.3	13
25	26	28	29	55	129	36	21	13	11	11	9.4	15
26	29	29	27	51	114	35	20	13	10	11	9.5	17
27	33	28	24	45	96	35	20	14	10	11	9.5	17
28	31	27	25	39	98	33	20	14	10	15	9.5	16
29	30	26	24	40	85	34	19	14	10	12	9.6	15
30	32	26	24	37	---	33	18	14	10	11	10	14
31	33	---	28	37	---	24	---	14	---	11	10	---
TOTAL	529.0	841	797	3175	3636	1571	591	517	382	360	302.6	369.3
MEAN	17.1	28.0	25.7	102	125	50.7	19.7	16.7	12.7	11.6	9.76	12.3
MAX	33	36	29	531	591	88	24	23	17	15	11	17
MIN	9.3	25	24	27	36	24	14	13	10	10	9.3	9.7
AC-FT	1050	1670	1580	6300	7210	3120	1170	1030	758	714	600	733
CAL YR 1979	TOTAL	7379.2	MEAN 20.2	MAX 62	MIN 8.9	AC-FT 14640						
WTR YR 1980	TOTAL	13070.9	MEAN 35.7	MAX 591	MIN 9.3	AC-FT 25930						

10359300 PINE CREEK NEAR SUSANVILLE, CA

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

DRAINAGE AREA.--226 mi² (585 km²).

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

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

REMARKS.--No storage or diversion above station except for minor stock ponds.

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

AVERAGE DISCHARGE.--18 years (water years 1961-66, 1968, 1970-80), 22.3 ft³/s (0.632 m³/s), 16,160 acre-ft/yr (19.9 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,140 ft³/s (32.3 m³/s) May 15, 1975, gage height, 5.45 ft (1.661 m); maximum gage height, 5.60 ft (1.707 m) Jan. 24, 1970; no flow for several months in each year.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 18, 1967, reached a stage of 5.29 ft (1.612 m), discharge, 826 ft³/s (23.4 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 408 ft³/s (11.5 m³/s) Feb. 19, gage height, 4.58 ft (1.396 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	50	90	21	46	2.2			
2				0	36	81	20	44	2.3			
3				0	15	84	19	40	4.3			
4				0	12	90	17	39	4.9			
5				0	20	75	18	37	7.7			
6				0	34	74	30	36	8.9			
7				0	38	56	33	35	8.1			
8				0	33	43	29	34	5.8			
9				0	25	34	26	36	4.2			
10				0	24	28	32	43	3.1			
11				0	18	28	39	54	.90			
12				0	14	26	39	62	0			
13				0	11	25	44	58	0			
14				63	8.0	22	52	50	0			
15				61	6.1	26	66	40	0			
16				92	17	24	74	34	0			
17				135	76	21	72	27	0			
18				112	268	21	80	22	0			
19				110	359	21	78	18	0			
20				109	279	23	73	14	0			
21				105	209	22	80	11	0			
22				96	157	20	97	7.7	0			
23				84	102	21	99	6.2	0			
24				72	81	21	86	5.6	0			
25				64	67	19	71	5.6	0			
26				55	61	18	62	5.6	0			
27				52	71	17	56	5.5	0			
28				52	122	17	52	5.6	0			
29				52	113	18	51	5.2	0			
30				52	---	22	48	3.7	0			
31		---		52	---	22	---	2.6	---			---
TOTAL	0	0	0	1418	2326.1	1109	1564	833.3	52.40	0	0	0
MEAN	0	0	0	45.7	80.2	35.8	52.1	26.9	1.75	0	0	0
MAX	0	0	0	135	359	90	99	62	8.9	0	0	0
MIN	0	0	0	0	6.1	17	17	2.6	0	0	0	0
AC-FT	0	0	0	2810	4610	2200	3100	1650	104	0	0	0
CAL YR 1979	TOTAL	859.00	MEAN	2.35	MAX	39	MIN	0	AC-FT	1700		
WTR YR 1980	TOTAL	7302.80	MEAN	20.0	MAX	359	MIN	0	AC-FT	14490		

SURPRISE VALLEY BASIN

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

LOCATION.--Lat 41°52'57", long 120°10'26", in NE¼SE¼ sec.6, T.46 N., R.16 E., Modoc County, Hydrologic Unit 18080001, on right bank 0.9 mi (1.4 km) downstream from Mill Creek, and 2.0 mi (3.2 km) northwest of Fort Bidwell.

DRAINAGE AREA.--25.6 mi² (66.3 km²).

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

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

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

REMARKS.--Less than 2 ft³/s (0.057 m³/s) diverted upstream for irrigation. No storage above station.

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

AVERAGE DISCHARGE.--20 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, 682 ft³/s (19.3 m³/s) Dec. 24, 1964, gage height, 5.64 ft (1.719 m), from rating curve extended above 105 ft³/s (2.97 m³/s) on basis of slope-area measurement of maximum flow; minimum, 1.4 ft³/s (0.040 m³/s) Nov. 5, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 179 ft³/s (5.07 m³/s) May 4, gage height, 4.26 ft (1.298 m); minimum daily, 2.5 ft³/s (0.071 m³/s) Oct. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	6.3	6.6	6.6	9.5	25	12	121	61	32	9.1	5.5
2	2.9	6.1	12	6.2	8.7	24	11	105	63	35	8.6	5.4
3	2.7	7.7	13	6.1	11	24	10	116	63	34	8.3	5.2
4	2.7	8.6	11	5.9	10	22	9.7	141	58	31	7.9	5.2
5	2.5	8.8	11	7.7	10	20	9.9	160	53	29	7.8	5.2
6	2.7	8.2	9.8	8.6	11	19	9.8	154	49	28	7.5	5.0
7	2.8	7.7	9.2	7.6	10	17	9.2	135	45	26	7.3	4.9
8	3.1	7.4	9.2	7.1	10	16	8.9	123	43	24	6.9	4.9
9	3.1	7.2	9.4	6.7	10	15	9.3	115	47	23	6.7	4.9
10	3.0	7.0	9.3	6.3	10	15	9.3	103	53	21	6.6	5.0
11	3.0	6.6	13	7.3	10	16	10	92	60	20	6.3	4.9
12	3.0	6.4	26	38	11	15	12	80	62	19	6.2	4.9
13	3.2	6.2	11	89	11	14	18	74	59	19	6.1	5.4
14	4.1	6.0	7.8	94	11	15	30	70	54	18	6.2	5.9
15	7.1	6.0	6.7	57	11	14	38	70	47	17	6.4	5.5
16	4.0	6.3	6.4	37	13	13	48	71	44	16	6.1	5.1
17	3.7	8.5	6.3	32	17	12	66	71	46	15	6.0	4.9
18	7.6	6.8	6.4	24	26	12	83	77	52	15	5.8	4.9
19	16	7.0	6.4	18	31	12	96	86	59	14	6.1	4.9
20	9.0	10	6.3	16	30	12	109	97	60	13	5.9	4.9
21	6.3	10	6.4	14	26	11	94	101	59	13	5.7	4.9
22	5.9	8.3	5.8	12	22	12	77	109	56	12	5.5	4.9
23	7.3	6.9	5.6	11	19	12	85	105	53	12	5.5	4.9
24	7.6	7.6	5.5	11	18	11	96	93	48	11	5.4	4.6
25	15	7.0	5.4	11	17	11	94	82	43	11	5.3	4.3
26	11	7.5	5.3	11	18	11	102	71	42	10	5.2	4.3
27	8.8	7.0	5.2	11	23	11	124	62	38	10	5.2	4.0
28	7.7	6.5	5.0	10	28	11	125	56	35	10	5.2	4.0
29	6.6	7.0	5.4	10	26	11	131	53	33	10	5.4	4.0
30	6.7	7.5	6.0	10	---	12	126	54	33	9.5	5.5	4.0
31	6.9	---	6.2	10	---	12	---	56	---	9.4	5.5	---
TOTAL	178.9	220.1	258.6	602.1	468.2	457	1663.1	2903	1518	566.9	197.2	146.4
MEAN	5.77	7.34	8.34	19.4	16.1	14.7	55.4	93.6	50.6	18.3	6.36	4.88
MAX	16	10	26	94	31	25	131	160	63	35	9.1	5.9
MIN	2.5	6.0	5.0	5.9	8.7	11	8.9	53	33	9.4	5.2	4.0
AC-FT	355	437	513	1190	929	906	3300	5760	3010	1120	391	290

CAL YR 1979 TOTAL 6018.9 MEAN 16.5 MAX 112 MIN 2.1 AC-FT 11940
WTR YR 1980 TOTAL 9179.5 MEAN 25.1 MAX 160 MIN 2.5 AC-FT 18210

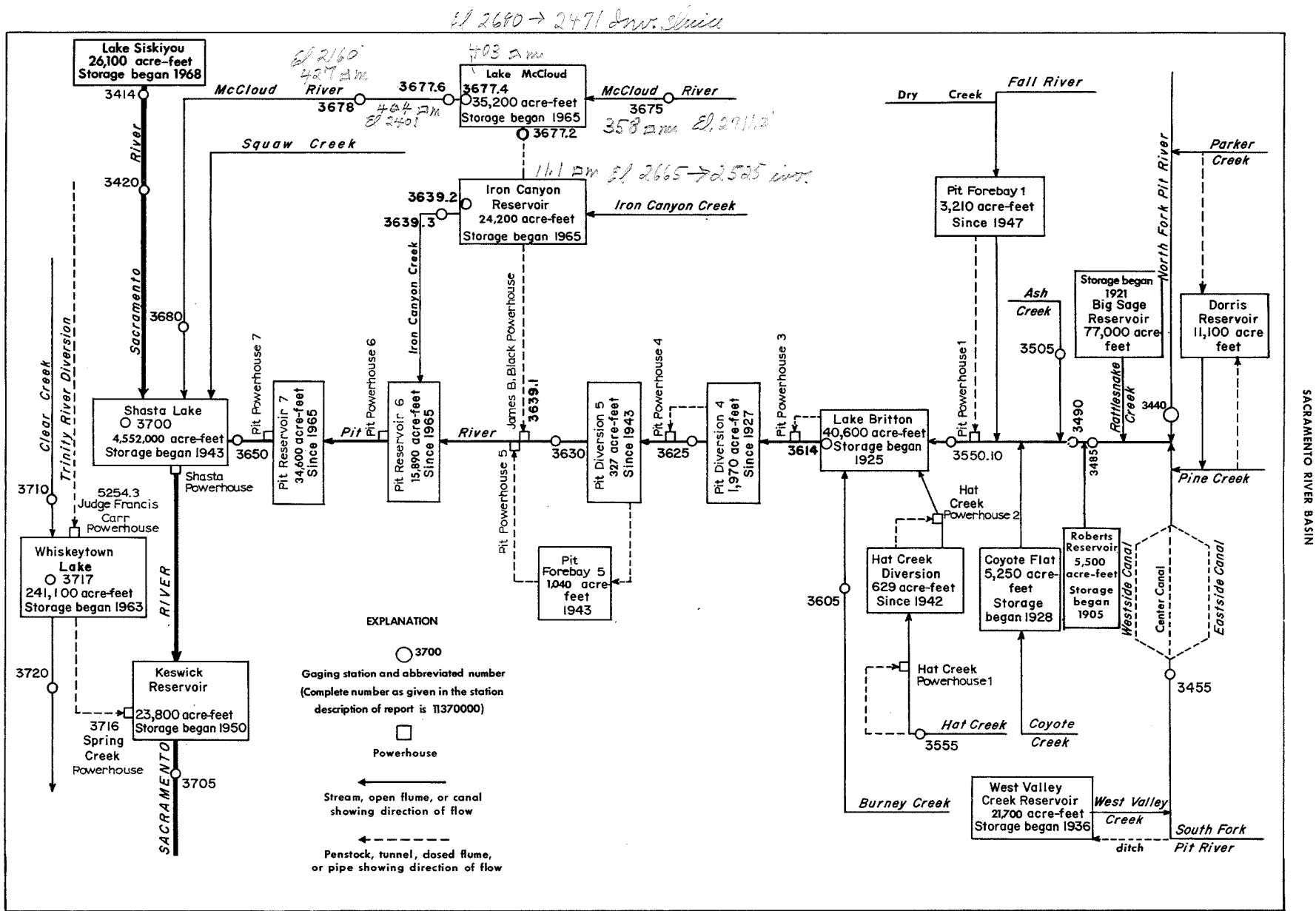


FIGURE 4.--Schematic diagram showing diversions and storage in Pit and McCloud river basins.

SACRAMENTO RIVER BASIN

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA

LOCATION.--Lat 41°15'56", long 122°18'32", in SE¼SE¼ sec.33, T.40 N., R.4 W., Siskiyou County, 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).--21 years, 248 ft³/s (7.023 m³/s), 179,700 acre-ft/yr (222 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, 2,310 ft³/s (65.4 m³/s) Feb. 18, gage height, 6.59 ft (2.009 m); minimum daily, 42 ft³/s (1.19 m³/s) Aug. 19-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	57	251	164	184	242	909	218	660	249	132	68	56
2	57	248	185	177	240	888	213	561	257	132	68	56
3	56	251	190	172	252	873	209	642	251	132	68	56
4	57	251	236	230	254	497	224	727	256	132	67	55
5	58	254	312	259	304	333	313	780	258	130	65	53
6	58	259	486	261	326	333	288	852	251	130	64	53
7	59	247	298	259	324	333	251	637	235	107	64	53
8	60	240	193	255	324	333	233	552	219	78	63	49
9	58	155	193	255	320	329	241	544	216	91	62	50
10	94	107	191	257	316	329	266	495	224	126	62	51
11	105	107	159	200	197	327	265	444	239	123	63	56
12	105	105	94	313	141	280	266	428	294	116	63	59
13	105	105	92	914	153	259	292	310	301	114	63	56
14	105	105	123	1600	212	279	346	289	313	116	63	52
15	105	104	185	1160	255	277	364	345	271	116	62	56
16	133	111	185	806	388	272	383	365	240	82	62	57
17	148	120	185	704	1230	269	462	371	224	64	60	57
18	148	118	185	547	2270	189	505	385	223	66	49	67
19	149	118	134	449	2020	109	564	397	223	70	42	68
20	150	116	109	393	1270	60	944	456	227	75	42	70
21	148	116	112	362	1000	58	1040	497	215	78	42	63
22	149	118	112	395	1090	63	744	477	202	79	43	62
23	150	118	112	412	899	126	681	408	195	79	44	62
24	154	121	113	498	392	217	697	355	189	78	47	60
25	196	122	114	473	472	235	695	313	163	75	50	59
26	154	122	114	366	647	217	682	284	149	74	52	59
27	152	121	141	364	743	208	693	264	148	73	54	57
28	150	150	155	228	957	202	784	247	146	72	53	57
29	184	164	155	167	976	207	863	242	140	70	53	56
30	256	164	161	218	---	214	748	240	137	70	55	54
31	254	---	194	243	---	217	---	238	---	69	57	---
TOTAL	3814	4688	5382	13121	18214	9438	14474	13805	6655	2943	1770	1719
MEAN	123	156	174	423	628	304	482	445	222	94.9	57.1	57.3
MAX	256	259	486	1600	2270	909	1040	852	313	132	68	70
MIN	56	104	92	167	141	58	209	238	137	64	42	49
AC-FT	7570	9300	10680	26030	36130	18720	28710	27380	13200	5840	3510	3410
MEAN ‡	108	151	164	422	663	304	485	444	220	94.3	57.7	57.3
AC-FT ‡	6670	8960	10060	25950	38160	18720	28840	27290	13070	5800	3550	3410
†	25260	24910	24290	24210	26240	26240	26370	26280	26150	26110	26150	26150
CAL YR 1979 TOTAL	71854				1020							
WTR YR 1980 TOTAL	96023				2270							
MEAN 197												
MEAN 262												
MIN 38												
MIN 42												
AC-FT 142500												
AC-FT 190500												
MEAN ‡ 197												
MEAN ‡ 262												
AC-FT ‡ 142700												
AC-FT ‡ 190500												

‡ 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, 17.0°C July 21-23; minimum recorded, 4.0°C on Jan 19-21, Feb. 12, 13.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

11341400 SACRAMENTO RIVER NEAR MT SHASTA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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, Water and Power Resources Service 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 Water and Power Resources Service).

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.--36 years, 1,162 ft³/s (32.91 m³/s), 841,900 acre-ft/yr (1,038 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, 20,400 ft³/s (578 m³/s) Feb. 17, gage height, 14.22 ft (4.334 m); minimum daily, 185 ft³/s (5.24 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	189	449	537	1780	859	3910	981	1760	658	400	255	220
2	186	478	755	1420	847	3470	949	1630	664	397	253	217
3	185	790	838	1210	1230	3160	927	1700	651	401	251	218
4	186	796	740	1110	1110	2670	1070	1830	684	401	250	215
5	187	1260	733	1310	1060	2580	2260	1860	684	391	250	212
6	188	1320	878	1370	1080	2740	1720	1930	664	384	250	210
7	191	916	846	1290	1030	2580	1410	1670	635	377	248	208
8	192	729	608	1200	989	2360	1280	1410	602	331	246	208
9	194	613	587	1260	958	2180	1290	1490	588	330	244	205
10	189	479	566	1290	931	2040	1270	1320	590	346	242	210
11	237	443	543	1420	865	1930	1220	1170	609	363	239	221
12	239	417	463	6220	730	1750	1200	1090	686	351	238	218
13	240	398	435	7100	714	1680	1240	1010	702	345	238	222
14	276	384	423	8060	734	3060	1310	912	713	342	238	219
15	358	372	480	6120	1230	2850	1290	957	645	340	238	226
16	279	599	484	4950	5430	2320	1310	990	595	332	237	222
17	299	818	475	4400	12900	2060	1470	982	570	285	235	220
18	313	631	467	3410	15700	1820	1600	1000	557	281	235	255
19	449	549	480	2630	14200	1540	1720	1050	549	283	216	247
20	399	501	523	2160	8620	1360	3010	1070	540	284	214	240
21	390	471	683	1850	6250	1260	3030	1150	530	285	213	237
22	369	491	592	1660	6050	1180	2200	1110	514	283	212	224
23	451	495	607	1550	5270	1150	2020	976	509	280	212	221
24	447	849	632	1510	3690	1190	2030	880	494	277	213	218
25	3030	839	672	1520	3420	1220	1930	807	483	273	217	216
26	696	803	661	1280	3490	1140	1910	750	444	267	221	214
27	504	670	639	1210	4100	1090	1930	712	437	266	219	212
28	438	596	643	1088	6040	1040	2100	686	427	265	221	211
29	400	579	628	900	4740	1030	2190	670	416	268	221	209
30	465	549	806	869	---	1020	1970	664	407	260	224	206
31	464	---	2080	888	---	994	---	656	---	258	226	---
TOTAL	12630	19284	20504	74027	114367	60374	49837	35892	17247	9943	7216	6581
MEAN	407	643	661	2388	3944	1948	1661	1158	575	321	233	219
MAX	3030	1320	2080	8060	15700	3910	3030	1930	713	401	255	255
MIN	185	372	423	869	714	994	927	656	407	258	212	205
AC-FT	25050	38250	40670	146800	226800	119800	98850	71190	34210	19720	14310	13050
CAL YR 1979 TOTAL	300022			822	6970	179	AC-FT	595100				
WTR YR 1980 TOTAL	427902			1169	15700	185	AC-FT	848700				

SACRAMENTO RIVER BASIN

11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

WATER-QUALITY RECORDS

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

CHEMICAL ANALYSES: Water years 1951 to current year.

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

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV									
13... A	0940	--	7.5	8.0	1.0	12.1	--	--	--
28...	1430	122	7.3	7.0	--	12.3	--	--	--
JAN									
07... A	0900	--	7.5	6.0	1.0	12.7	--	--	--
23...	1600	93	7.8	8.5	--	11.8	--	--	--
MAR									
11... A	1010	--	7.5	9.0	--	11.3	--	--	--
19...	1430	82	7.7	10.0	--	11.2	--	--	--
MAY									
06... A	0825	84	7.3	12.0	1.0	10.8	37	5.0	6.0
14...	1440	94	7.9	14.0	--	10.1	--	--	--
JUL									
16... A	0825	--	8.2	19.5	1.0	9.3	--	--	--
SEP									
02... A	1125	150	8.1	19.0	.00	9.8	56	9.0	8.0

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	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									
13... A	--	--	--	--	--	--	.01	--	.00
28...	--	--	--	--	--	--	.09	.01	.03
JAN									
07... A	--	--	--	--	--	--	.07	--	.00
23...	--	--	--	--	44	--	.05	.01	.00
MAR									
11... A	--	--	--	--	--	--	.03	--	.02
19...	--	--	--	--	42	--	.02	.00	.01
MAY									
06... A	3.0	15	.2	.3	38	2.0	.00	--	.02
14...	--	--	--	--	47	--	.07	.04	.04
JUL									
16... A	--	--	--	--	--	--	.00	--	.03
SEP									
02... A	10	28	.6	1.2	62	8.0	.01	--	.03

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,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL- (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV									
13... A	--	--	.20	--	--	.02	--	.01	--
28...	.25	--	.26	--	--	.01	.04	.07	--
JAN									
07... A	--	--	.50	--	--	.02	--	.02	--
23...	.33	.35	.34	.35	.40	.00	--	.05	--
MAR									
11... A	--	--	1.5	--	--	.45	--	.01	1.6
19...	.28	.29	.28	.30	.32	.00	.02	.01	--
MAY									
06... A	--	--	.50	--	--	.01	--	.00	--
14...	.17	.22	.21	.26	.33	.00	--	.08	--
JUL									
16... A	--	--	.40	--	--	.02	--	.01	--
SEP									
02... A	--	.00	.40	--	--	.02	--	.01	--

SACRAMENTO RIVER BASIN

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11342000 SACRAMENTO RIVER AT DELTA, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
MAR 11...	A 1010	0	0	--	0	--	0
MAY 06...	A 0825	--	--	0	--	--	--
SEP 02...	A 1125	0	0	200	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
MAR 11...	A 20	0	10	.0	20	1.6	.00
MAY 06...	A --	--	--	--	--	--	--
SEP 02...	A 20	0	10	.0	10	--	--

SACRAMENTO RIVER BASIN

11344000 NORTH FORK PIT RIVER AT ALTURAS, CA

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

DRAINAGE AREA.--212 mi² (549 km²), excluding Goose Lake basin.

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

REVISED RECORDS.--WDR CA-78-4: 1975(M), 1976(M).

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.

REMARKS.--Records good. Flow is regulated by many small irrigation ponds and Dorris Reservoir, capacity 11,100 acre-ft (13.7 hm³). Diversions above station for irrigation of about 7,100 acres (28.7 km²). See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--9 years, 64.1 ft³/s (1.815 m³/s), 46,440 acre-ft/yr (57.3 hm³/yr).

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/s (<0.001 m³/s) July 20, Aug. 2, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,350 ft³/s (66.6 m³/s) Jan. 14, gage height, 13.45 ft (4.100 m); minimum daily, 0.21 ft³/s (0.006 m³/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	5.0	10	117	61	156	99	243	132	23	1.5	.30
2	.57	5.0	34	106	65	156	90	232	132	31	1.5	.38
3	.81	19	109	58	261	170	91	229	137	83	1.5	.38
4	1.0	23	48	43	320	285	91	226	169	47	1.4	.30
5	.59	29	23	64	201	241	89	213	214	43	1.4	.32
6	.38	14	14	217	191	203	91	202	175	39	1.3	.27
7	.82	8.4	11	105	130	162	91	217	119	19	1.2	.25
8	.37	7.0	12	61	105	137	86	189	95	8.9	1.0	.21
9	.26	6.5	10	49	88	128	85	381	102	11	.96	.25
10	.72	24	21	67	85	121	85	355	95	53	.96	.26
11	.47	6.7	9.5	48	74	127	84	498	92	31	.96	.30
12	.45	6.0	11	504	71	125	87	515	95	7.3	.98	.39
13	.45	6.0	11	1770	70	131	185	483	126	16	.86	.50
14	.41	5.6	8.6	1600	68	143	137	510	130	24	.85	.41
15	1.1	5.0	9.0	707	71	151	173	463	118	18	.81	.37
16	1.2	4.8	8.3	532	73	151	208	416	95	13	.76	.37
17	1.1	18	8.7	1000	77	171	279	367	58	17	.82	.41
18	1.0	64	7.4	447	368	195	330	323	55	11	.75	.45
19	2.0	62	7.0	216	468	165	368	285	58	8.2	.75	.45
20	1.6	33	7.2	167	564	159	403	226	65	7.3	.75	.47
21	2.7	9.5	7.7	144	542	170	378	187	40	6.1	.70	.52
22	3.2	8.7	7.3	126	447	205	307	135	48	4.5	.66	.78
23	3.1	7.9	5.3	122	348	218	339	221	42	2.8	.56	.97
24	2.8	42	6.9	116	248	143	367	224	44	1.8	.60	1.0
25	3.2	123	7.3	109	200	127	338	215	39	1.7	.51	1.1
26	15	52	6.6	95	182	118	380	199	31	1.7	.52	1.1
27	8.3	23	6.1	85	179	109	296	164	24	1.7	.54	13
28	5.3	24	8.9	68	193	99	319	139	29	1.6	.49	4.3
29	4.7	14	6.7	65	176	100	313	146	26	1.6	.49	.44
30	4.6	11	7.1	55	---	108	282	127	23	1.6	.50	.37
31	4.5	---	28	58	---	94	---	117	---	1.7	.38	---
TOTAL	73.22	667.1	477.6	8921	5926	4766	6307	8427	2608	537.5	26.96	30.62
MEAN	2.36	22.2	15.4	288	204	154	210	272	86.9	17.3	.87	1.02
MAX	15	123	109	1770	564	285	403	515	214	83	1.5	13
MIN	.26	4.8	5.3	43	61	94	84	117	23	1.6	.38	.21
AC-FT	145	1320	947	17690	11750	9450	12510	16710	5170	1070	53	61

CAL YR 1979 TOTAL 21482.30 MEAN 58.9 MAX 645 MIN .08 AC-FT 42610
WTR YR 1980 TOTAL 38768.00 MEAN 106 MAX 1770 MIN .21 AC-FT 76900

LOCATION.--Lat 41°13'51", long 120°26'10", in NE4SE4 sec.11, T.39 N., R.13 E., Modoc County, Hydrologic Unit 18020002, on left bank 250 ft (76 m) downstream from highway bridge, 1.4 mi (2.3 km) downstream from West Valley Creek, and 3.5 mi (5.6 km) east of Likely.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	6.0	4.3	10	2.8	9.5	5.7	174	232	112	168	159
2	13	4.3	4.4	6.4	2.9	9.2	5.4	187	280	144	198	160
3	17	4.4	11	4.0	3.0	12	5.3	207	276	170	194	158
4	22	13	9.4	3.4	9.6	21	5.1	220	295	156	191	157
5	23	12	6.8	2.4	7.6	16	4.8	245	272	130	185	157
6	23	7.5	4.5	4.0	6.8	11	5.5	252	258	120	185	154
7	23	5.2	4.0	3.3	5.8	8.8	4.9	268	232	112	184	156
8	27	4.2	3.0	2.3	5.1	5.6	4.9	263	210	104	181	156
9	26	3.9	2.9	3.6	4.3	5.7	4.3	286	198	97	179	151
10	26	3.2	2.7	4.7	3.8	5.3	4.3	292	196	80	180	125
11	28	3.7	2.6	8.0	3.3	7.5	3.9	293	197	80	179	111
12	30	3.4	2.4	62	3.1	9.3	3.8	319	199	78	175	107
13	30	4.9	2.3	103	2.8	12	6.7	318	221	84	174	149
14	30	4.1	2.3	170	2.7	15	14	331	224	73	171	157
15	47	3.5	2.3	37	4.9	8.9	20	332	196	62	173	136
16	41	3.7	2.3	21	4.5	6.4	41	335	176	72	171	120
17	39	9.5	2.2	29	4.5	5.9	71	333	154	80	170	119
18	39	12	2.1	18	59	10	88	331	154	82	169	120
19	49	5.0	2.1	10	44	10	110	329	159	91	168	115
20	51	4.8	2.1	8.3	39	8.1	138	327	156	83	168	114
21	40	4.3	2.3	7.0	30	9.2	145	323	153	108	170	114
22	35	3.9	2.2	6.1	26	25	99	327	146	126	170	111
23	36	3.6	2.1	5.6	24	35	113	330	157	122	168	107
24	40	3.4	2.1	5.2	17	17	146	340	147	121	165	104
25	32	3.3	2.1	4.6	14	10	159	340	136	116	163	105
26	9.7	3.2	1.9	4.2	13	8.1	170	314	129	114	162	104
27	3.9	3.2	1.8	3.8	12	7.3	182	286	124	115	161	104
28	4.0	3.7	1.7	3.4	14	5.3	203	261	112	111	159	103
29	6.6	4.0	1.9	3.2	13	5.2	190	253	106	108	159	102
30	4.8	4.2	2.9	3.1	---	5.0	192	236	110	109	158	100
31	7.1	---	5.0	3.0	---	4.4	---	224	---	117	158	---
TOTAL	836.1	155.1	101.7	559.6	382.5	328.7	2145.4	8876	5605	3288	5356	3835
MEAN	27.0	5.17	3.28	18.1	13.2	10.6	71.5	286	187	106	173	128
MAX	51	13	11	170	59	35	203	340	295	170	198	160
MIN	3.9	3.2	1.7	2.3	2.7	4.4	3.6	174	106	62	158	100
AC-FT	1660	308	202	1110	759	652	4260	17610	11120	6520	10620	7610
CAL YR 1979	TOTAL	23232.4		MEAN	63.7	MAX	290	MIN	1.7	AC-FT	46080	
WTR YR 1980	TOTAL	31466.1		MEAN	86.0	MAX	340	MIN	1.7	AC-FT	62410	

SACRAMENTO RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1957 to current year.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
MAY 07...	1435	272	75	7.7	14.0	9.1	20	1.4	30	7.0	3.0
SEP 03...	1630	157	127	8.2	20.5	8.1	15	.9	44	11	4.0

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
MAY 07...	4.0	1.8	34	1.0	32	.10	.01	.50	.14	.06
SEP 03...	8.0	3.1	58	1.0	4	.01	.03	.40	.07	.04

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
MAY 07...	1435	0	0	0	0	0	0
SEP 03...	1630	0	0	0	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
MAY 07...	40	0	10	.0	0	3.7	.00
SEP 03...	20	0	20	.0	10	6.8	.00

11348500 PIT RIVER NEAR CANBY, CA

LOCATION.--Lat 41°24'22", long 120°55'36", in NW¼SW¼ sec.10, T.41 N., R.9 E., Modoc County, 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 excellent except those for the winter periods, which are good. 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.--50 years (water years 1905, 1932-80), 245 ft³/s (6.938 m³/s), 177,500 acre-ft/yr (219 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 discharge, 5,880 ft³/s (167 m³/s) Jan. 14, gage height, 10.53 ft (3.210 m); minimum daily, 15 ft³/s (0.42 m³/s) Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	58	109	272	202	537	251	582	228	128	35	53
2	50	72	117	271	207	484	278	528	262	97	41	54
3	34	63	137	264	411	461	286	470	254	119	51	59
4	29	72	196	222	805	468	269	444	416	147	36	55
5	30	88	206	211	910	571	236	435	432	113	37	43
6	30	104	143	232	672	561	241	448	502	150	39	48
7	29	99	114	373	562	507	248	439	538	215	45	46
8	33	86	105	323	430	427	253	352	513	188	60	63
9	31	78	98	255	351	368	230	427	385	149	82	92
10	30	72	94	241	302	340	221	595	282	116	88	98
11	31	69	91	249	271	334	211	772	252	112	87	98
12	27	73	76	674	246	348	203	834	246	124	76	85
13	32	67	68	3450	228	353	204	895	312	89	64	92
14	25	64	68	5630	219	373	231	950	283	75	54	118
15	30	63	70	4850	215	483	268	957	298	71	31	187
16	31	60	69	3700	216	511	312	931	301	71	17	260
17	28	63	68	3330	237	476	352	875	284	57	51	261
18	41	74	67	2960	512	481	396	789	230	38	45	207
19	61	114	73	2120	1150	473	452	720	194	40	43	187
20	105	119	74	1500	1710	448	514	631	196	41	30	171
21	122	119	69	885	1860	487	592	504	201	83	18	155
22	120	99	68	624	1940	576	645	428	178	26	20	150
23	113	88	69	499	1870	637	682	388	160	17	31	163
24	102	82	70	417	1320	667	659	443	179	25	36	152
25	137	102	73	366	950	558	688	504	181	18	31	139
26	127	192	73	319	735	454	673	542	183	40	27	124
27	110	206	73	276	618	390	651	528	178	67	25	116
28	131	162	66	204	595	345	628	488	147	58	17	128
29	126	137	59	173	588	312	647	396	176	48	15	132
30	98	120	70	180	---	298	639	309	155	39	23	128
31	82	---	124	198	---	267	---	267	---	33	40	---
TOTAL	2037	2865	2857	35268	20132	13987	12157	17871	8146	2594	1295	3664
MEAN	65.7	95.5	92.2	1138	694	451	405	576	272	83.7	41.8	122
MAX	137	206	206	5630	1940	667	688	957	538	215	88	261
MIN	25	58	59	173	202	267	203	267	147	17	15	43
AC-FT	4040	5680	5670	69950	39930	27740	24110	35450	16160	5150	2570	7270
CAL YR 1979 TOTAL	58682.3			MEAN 161	MAX 1360	MIN	4.7	AC-FT 116400				
WTR YR 1980 TOTAL	122873.0			MEAN 336	MAX 5630	MIN	15	AC-FT 243700				

SACRAMENTO RIVER BASIN

11349000 PIT RIVER NEAR LOOKOUT, CA

LOCATION.--Lat 41°19'27", long 121°07'36", in SE4NE4 sec.11, T.40 N., R.7 E., Modoc County, Hydrologic Unit 18020002, on right bank 0.2 mi (0.3 km) downstream from unnamed tributary, and 8.2 mi (13.2 km) north of Lookout.

DRAINAGE AREA.--1,585 mi² (4,105 km²), excluding Goose Lake basin.

PERIOD OF RECORD.--January 1929 to September 1931, August 1958 to September 1971, August 1978 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 4,147.9 ft (1,264.28 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service). January 1929 to September 1931 at site approximately 2.5 mi (4.0 km) downstream at different datum.

REMARKS.--Records good. Flow regulated by many small reservoirs. Diversions for irrigation of 41,000 acres (16,593 hm²) above station. See schematic diagram of Pit and McCloud River basins.

AVERAGE DISCHARGE.--17 years (water years 1930-31, 1959-71, 1979-80), 299 ft³/s (8.468 m³/s), 216,600 acre-ft/yr (267 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s (309 m³/s) Jan. 24, 1970, gage height, 20.96 ft (6.389 m); no flow Aug. 29, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,030 ft³/s (227 m³/s) Jan. 14, gage height, 19.27 ft (5.874 m); minimum daily, 24 ft³/s (0.68 m³/s) Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	74	119	358	230	852	311	637	228	142	36	42
2	65	72	126	404	240	766	312	579	264	107	36	53
3	50	78	188	324	633	708	342	540	252	103	41	54
4	39	85	176	282	840	717	332	495	405	136	47	60
5	36	92	230	270	1100	797	324	480	451	134	38	54
6	36	102	173	353	904	806	330	483	500	109	32	46
7	36	106	135	417	701	715	350	486	548	189	40	51
8	38	95	116	490	562	626	326	419	549	198	46	50
9	38	86	109	464	458	537	314	453	473	163	61	76
10	38	79	106	479	389	492	286	575	320	130	81	98
11	37	73	101	388	337	485	269	771	249	113	81	101
12	36	74	100	2210	305	491	254	808	268	118	81	95
13	35	76	92	5530	277	495	248	863	311	111	65	93
14	39	69	91	7640	262	533	253	906	317	88	58	100
15	46	67	86	6680	259	739	284	922	297	77	49	144
16	43	67	82	4700	270	689	327	908	318	65	35	202
17	41	87	81	4450	373	654	366	867	305	70	25	269
18	40	91	80	3440	1100	637	400	792	264	55	48	228
19	57	98	77	2480	1960	607	435	732	206	43	44	193
20	83	125	87	1810	2420	584	462	662	208	44	42	180
21	113	119	81	1200	2490	602	562	574	188	67	33	166
22	121	114	78	801	2460	687	622	483	194	56	27	154
23	114	96	74	633	2190	704	724	444	164	33	26	154
24	107	103	73	538	1800	748	700	442	172	25	34	162
25	141	121	95	469	1410	675	695	518	182	29	38	146
26	167	166	89	400	1150	573	692	556	177	25	33	135
27	114	250	86	344	985	497	685	558	191	42	30	123
28	110	195	70	278	1070	444	661	538	146	63	29	123
29	140	159	79	243	995	397	656	472	171	54	25	136
30	104	135	83	243	---	361	665	349	166	46	24	136
31	97	---	146	239	---	337	---	337	---	40	27	---
TOTAL	2207	3154	3309	48557	28170	18950	13184	18649	8484	2675	1312	3624
MEAN	71.2	105	107	1566	971	613	439	602	283	86.3	42.3	121
MAX	167	250	230	7640	2490	852	724	922	549	198	81	269
MIN	35	67	70	239	830	337	245	337	146	25	24	42
AC-FT	4380	6260	6560	96310	55880	37600	26150	36990	16830	5310	2600	7190
CAL YR 1979 TOTAL	67765			MEAN 186	MAX 1620	MIN 13	AC-FT 134400					
WTR YR 1980 TOTAL	152281			MEAN 416	MAX 7640	MIN 24	AC-FT 302000					

SACRAMENTO RIVER BASIN

47

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 bridge 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.--28 years (water years 1905, 1929-32, 1958-80), 75.2 ft³/s (2.130 m³/s), 54,480 acre-ft/yr (67.2 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, 2,740 ft³/s (77.6 m³/s) Jan. 13, gage height, 14.36 ft (4.377 m); minimum daily, 15 ft³/s (0.42 m³/s) Sept. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	33	45	105	55	222	103	127	37	20	20	16
2	18	33	49	71	61	245	95	118	42	24	20	16
3	18	38	50	63	399	303	96	110	33	27	20	18
4	20	55	42	79	162	385	91	105	38	23	20	17
5	20	41	39	106	123	411	96	99	48	21	21	17
6	20	34	37	94	150	341	110	92	39	19	28	18
7	21	31	37	87	105	247	96	85	35	19	22	18
8	33	30	37	87	91	204	86	81	31	18	22	19
9	27	29	36	87	78	173	86	120	28	19	21	18
10	23	30	34	94	77	154	83	125	28	18	21	19
11	23	30	31	153	71	180	79	156	28	18	21	17
12	22	30	31	1280	67	211	76	151	29	19	21	15
13	21	30	31	2220	60	219	80	119	30	20	21	25
14	21	29	31	1530	61	295	83	118	33	19	21	25
15	38	29	31	883	69	470	93	96	28	19	22	23
16	28	30	31	585	72	278	105	90	25	18	21	21
17	25	44	31	988	108	239	117	84	21	18	22	20
18	26	49	32	462	499	228	132	77	19	18	21	22
19	33	37	34	269	519	181	141	70	19	17	21	23
20	35	32	35	210	743	182	157	66	19	18	21	23
21	30	30	34	178	601	272	176	60	22	18	21	24
22	30	31	33	153	490	301	167	57	22	17	25	25
23	29	33	35	131	450	299	208	58	24	18	23	28
24	28	61	36	119	315	212	208	62	24	17	23	22
25	41	64	34	106	253	184	187	68	22	20	23	21
26	31	61	28	87	210	155	179	60	21	29	24	20
27	30	42	31	78	201	133	174	51	20	21	23	20
28	30	38	32	59	325	126	170	45	19	21	23	21
29	30	43	32	65	269	116	175	41	18	22	24	19
30	32	48	91	51	---	106	146	38	19	24	24	19
31	33	---	180	54	---	100	---	35	---	23	21	---
TOTAL	833	1145	1290	10534	6684	7172	3795	2664	821	622	681	609
MEAN	26.9	38.2	41.6	340	230	231	127	85.9	27.4	20.1	22.0	20.3
MAX	41	64	180	2220	743	470	208	156	48	29	28	28
MIN	17	29	28	51	55	100	76	35	18	17	20	15
AC-FT	1650	2270	2560	20890	13260	14230	7530	5280	1630	1230	1350	1210
CAL YR 1979	TOTAL	17682	MEAN	48.4	MAX	537	MIN	11	AC-FT	35070		
WTR YR 1980	TOTAL	36850	MEAN	101	MAX	2220	MIN	15	AC-FT	73090		

SACRAMENTO RIVER BASIN

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

LOCATION.--Lat 40°59'00", long 121°30'39", in NE¼NW¼ sec.15, T.36 N., R.4 E., Shasta County, 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 good. 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.--5 years, 1,729 ft³/s (48.96 m³/s), 1,253,000 acre-ft/yr (1.54 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, 19,900 ft³/s (564 m³/s) Jan. 14, gage height, 14.78 ft (4.505 m) from crest-stage gage; minimum daily, 1,120 ft³/s (31.7 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1320	1470	1520	1770	1910	4300	2390	2350	2040	1300	1210	1250
2	1120	1560	1600	2160	1950	3800	2250	2390	1760	1450	1250	1160
3	1220	1340	1600	2110	2760	3850	2180	2500	1600	1460	1200	1240
4	1160	1470	1420	2130	3610	4000	2290	2310	1500	1390	1260	1230
5	1240	1530	1560	2150	3990	4240	2250	2210	1420	1350	1190	1330
6	1200	1540	1570	2140	3800	4240	2370	2170	1810	1390	1200	1240
7	1210	1530	1570	2320	3560	4100	2430	1970	2010	1360	1240	1210
8	1210	1490	1520	2410	3140	3780	2400	1940	1890	1320	1170	1340
9	1220	1470	1490	2670	2880	3500	2320	2010	1970	1270	1180	1280
10	1210	1450	1470	2980	2670	3230	2300	2210	1890	1320	1240	1200
11	1210	1440	1460	2630	2480	3120	2260	2380	1840	1320	1200	1300
12	1250	1430	1390	4090	2370	3080	2070	2440	1730	1300	1160	1230
13	1230	1440	1410	8580	2350	3140	2180	2420	1690	1170	1190	1230
14	1260	1420	1410	16100	2270	3250	2100	2670	1740	1390	1210	1290
15	1420	1440	1380	16900	2210	3790	2320	2910	1650	1240	1240	1370
16	1260	1500	1380	14600	2230	4190	2300	2790	1740	1220	1250	1210
17	1260	1690	1380	13600	2330	3830	2140	2560	1590	1200	1240	1320
18	1310	1600	1390	11700	2970	3570	2220	2420	1500	1210	1240	1340
19	1450	1570	1400	9100	4410	3330	2200	2620	1500	1220	1220	1320
20	1330	1560	1450	7440	6930	3130	2230	2340	1500	1210	1210	1310
21	1390	1480	1390	6120	7700	3130	2470	2160	1430	1220	1230	1280
22	1390	1400	1440	5040	8040	3120	2550	2060	1390	1230	1170	1460
23	1390	1600	1470	4250	7870	3190	2680	1980	1330	1150	1240	1520
24	1390	1560	1530	3690	7120	3200	2700	1920	1350	1280	1240	1390
25	1500	1580	1480	3410	6050	3150	2740	1870	1290	1230	1230	1410
26	1950	1900	1430	3140	5290	3020	2690	2050	1360	1220	1230	1420
27	1680	1680	1420	2860	4690	2860	2640	1680	1330	1240	1240	1360
28	1670	1630	1410	2700	4400	2630	2590	1590	1270	1220	1260	1440
29	1550	1640	1430	2520	4340	2590	2570	1840	1330	1160	1230	1420
30	1430	1600	1450	2300	---	2460	2470	1930	1310	1240	1220	1340
31	1430	---	1590	2280	---	2350	---	2220	---	1230	1220	---
TOTAL	41860	46010	45410	165890	116420	105170	71300	68910	47760	39510	37810	39440
MEAN	1350	1534	1465	5351	4014	3393	2377	2223	1592	1275	1220	1315
MAX	1950	1900	1600	16900	8040	4300	2740	2910	2040	1460	1260	1520
MIN	1120	1340	1380	1770	1910	2350	2070	1590	1270	1150	1160	1160
AC-FT	83030	91260	90070	329000	230900	208600	141400	136700	94730	78370	75000	78230
CAL YR 1979 TOTAL	569484			1560	4010	819	AC-FT	1130000				
WTR YR 1980 TOTAL	825490			2255	16900	1120	AC-FT	1637000				

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.--53 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.--Peak discharges above base of 220 ft³/s (6.23 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 25	1330	*498 14.1	4.58 1.396
Jan. 13	2045	437 12.4	4.34 1.323
May 21	2400	230 6.51	3.39 1.033

Minimum daily, 104 ft³/s (2.945 m³/s) Oct. 8-10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	107	120	116	118	126	126	116	164	172	174	119	125
2	107	119	117	116	124	125	115	167	174	177	119	125
3	107	123	116	115	134	126	115	174	162	177	118	125
4	108	121	115	115	130	125	115	187	158	168	118	124
5	107	120	115	115	125	126	116	197	155	163	118	124
6	107	119	115	115	124	125	116	199	150	159	118	124
7	106	119	115	114	122	123	115	190	152	156	118	123
8	104	118	115	114	121	122	115	192	157	153	118	119
9	104	117	115	115	120	122	114	191	159	150	122	117
10	104	117	114	114	120	122	114	170	171	146	125	117
11	105	117	111	116	120	124	114	158	174	144	124	118
12	107	117	111	189	119	120	114	149	171	142	124	119
13	107	117	113	339	119	121	116	143	166	135	125	120
14	108	117	114	301	119	122	117	144	160	136	127	120
15	110	117	113	202	119	121	117	148	160	136	126	119
16	108	120	113	171	121	119	119	152	170	136	125	118
17	108	122	114	158	132	121	123	156	178	135	125	119
18	109	118	114	146	157	120	127	164	183	135	125	126
19	135	117	114	138	146	119	132	173	188	135	122	125
20	129	113	113	139	138	129	146	185	186	137	117	125
21	121	114	114	136	134	119	140	202	180	137	119	125
22	120	119	113	133	131	118	137	214	172	137	118	124
23	124	117	111	130	128	118	135	201	180	135	119	125
24	125	125	111	130	127	118	143	173	170	133	118	124
25	271	125	110	128	126	119	143	161	168	132	118	123
26	157	121	109	127	126	118	149	155	165	131	118	123
27	133	115	110	126	127	118	155	150	160	130	117	123
28	127	119	110	121	131	117	166	151	165	131	117	123
29	123	117	113	118	127	118	174	153	168	131	123	120
30	123	116	116	115	---	118	170	156	170	123	126	115
31	121	---	117	126	---	117	---	168	---	120	126	---
TOTAL	3732	3556	3517	4440	3693	3747	3896	5287	5044	4434	3752	3657
MEAN	120	119	113	143	127	121	130	171	168	143	121	122
MAX	271	125	117	339	157	126	174	214	188	177	127	126
MIN	104	113	109	114	119	117	114	143	150	120	117	115
AC-FT	7400	7050	6980	8810	7330	7430	7730	10490	10000	8790	7440	7250

CAL YR 1979 TOTAL 45179 MEAN 124 MAX 271 MIN 100 AC-FT 89610
WTR YR 1980 TOTAL 48755 MEAN 133 MAX 339 MIN 104 AC-FT 96710

SACRAMENTO RIVER BASIN

11360500 BURNEY CREEK AT PARK AVENUE, NEAR BURNEY, CA

LOCATION.--Lat 40°52'35", long 121°40'13", in NE¼SE¼ sec.19, T.35 N., R.3 E., Shasta County, Hydrologic Unit 18020003, on right bank upstream edge of Park Avenue bridge, 0.4 mi (0.6 km) southwest of Burney Post Office, and 3.5 mi (5.6 km) upstream from Goose Creek.

DRAINAGE AREA.--94.6 mi² (245.0 km²).

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

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

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

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

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

AVERAGE DISCHARGE.--23 years (water years 1912-13, 1922, 1959-64, 1966-75, 1977-80), 69.6 ft³/s (1.971 m³/s), 50,420 acre-ft/yr (62.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,910 ft³/s (139 m³/s) Jan. 23, 1970, gage height, 15.89 ft (4.843 m), from rating curve extended above 2,500 ft³/s (70.8 m³/s) on basis of contracted-opening measurement of maximum flow; minimum, 3.4 ft³/s (0.096 m³/s) Aug. 4, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,170 ft³/s (89.8 m³/s) Jan. 13, gage height, 8.84 ft (2.694 m); minimum daily, 8.4 ft³/s (0.238 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	19	28	115	92	263	75	89	52	13	13	14
2	8.5	16	28	78	90	239	72	88	53	13	13	14
3	8.4	30	27	71	226	232	69	83	54	13	13	13
4	8.6	36	26	65	186	242	69	83	54	14	13	13
5	8.8	56	25	64	143	227	137	83	55	14	13	13
6	8.5	41	25	65	127	228	163	82	55	14	13	13
7	8.8	31	24	66	112	210	117	78	55	14	13	13
8	9.0	27	24	69	103	181	99	76	54	14	13	13
9	9.0	25	24	100	95	167	103	113	54	14	13	13
10	8.8	24	24	153	92	158	110	140	49	14	13	13
11	8.8	23	23	138	85	151	94	122	46	14	14	13
12	8.9	23	22	1130	82	145	87	108	46	15	14	13
13	9.5	22	24	2150	78	135	85	100	44	16	14	13
14	9.6	21	24	2050	79	132	85	92	45	16	14	13
15	19	20	23	1150	96	134	84	85	39	16	13	13
16	9.8	27	22	752	146	132	83	79	35	16	13	13
17	9.5	51	23	740	309	132	81	75	33	15	13	14
18	9.8	39	23	477	885	132	82	72	31	15	13	16
19	35	31	23	311	1080	130	83	70	28	15	14	15
20	30	28	27	260	893	124	89	69	27	14	13	14
21	22	26	33	211	540	116	117	68	27	14	13	14
22	26	27	30	185	458	108	124	69	25	15	13	14
23	22	27	35	164	403	102	128	69	25	15	14	13
24	21	36	34	151	318	96	117	68	25	15	14	13
25	118	45	35	141	276	90	105	67	24	15	14	13
26	51	71	34	126	262	85	99	64	24	15	13	13
27	30	46	36	119	256	81	97	61	23	14	12	13
28	25	37	40	104	398	79	102	59	23	14	12	13
29	22	33	38	103	326	81	101	57	20	14	12	13
30	21	30	41	87	---	81	95	55	15	13	13	13
31	21	---	81	89	---	77	---	54	---	13	14	---
TOTAL	615.9	968	926	11484	8236	4490	2952	2478	1140	446	409	401
MEAN	19.9	32.3	29.9	370	284	145	98.4	79.9	38.0	14.4	13.2	13.4
MAX	118	71	81	2150	1080	263	163	140	55	16	14	16
MIN	8.4	16	22	64	78	77	69	54	15	13	12	13
AC-FT	1220	1920	1840	22780	16340	8910	5860	4920	2260	885	811	795
CAL YR 1979 TOTAL	13913.3		MEAN 38.1	MAX 259	MIN 8.4	AC-FT 27600						
WTR YR 1980 TOTAL	34545.9		MEAN 94.4	MAX 2150	MIN 8.4	AC-FT 68520						

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, 43,938 acre-ft (54.2 hm³) Jan. 15, elevation, 2,759.55 ft (841.111 m); minimum, 28,328 acre-ft (34.9 hm³) Dec. 27, 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, 21,005 acre-ft (25.9 hm³) June 22, elevation, 2,658.30 ft (810.250 m); minimum, 3,257 acre-ft (4.02 hm³) Feb. 24, elevation, 2,593.50 ft (790.450 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, 35,027 acre-ft (43.2 hm³) Feb. 26, 27, elevation, 2,679.60 ft (816.742 m); minimum, 17,443 acre-ft (21.5 hm³) Oct. 6, elevation, 2,638.1 ft (804.093 m).

MONTHEND ELEVATION NGVD AND CONTENTS, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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.....	2754.10	37044	--	2628.60	10190	--	2639.70	17984	--
Oct. 31.....	2749.40	31671	-5373	2629.90	10558	+368	2642.20	18851	+867
Nov. 30.....	2748.10	30282	-1389	2628.60	10190	-368	2641.10	18466	-385
Dec. 31.....	2749.25	31509	+1227	2630.30	10637	+447	2642.50	18957	+491
CAL YR 1979..	--	--	-1483	--	--	+1610	--	--	+1312
Jan. 31.....	2751.60	34119	+2610	2601.60	4351	-6286	2659.50	25576	+6619
Feb. 29.....	2754.90	38012	+3892	2595.60	3517	-834	2679.50	34975	+9399
Mar. 31.....	2752.90	35621	-2391	2601.70	4366	+849	2660.10	25833	-9142
Apr. 30.....	2753.80	36685	+1064	2605.70	5009	+643	2657.70	24816	-1017
May 31.....	2752.35	34981	-1704	2638.70	13273	+8264	2669.30	29954	+5138
June 30.....	2756.20	39618	+4637	2657.00	20412	+7139	2676.50	33445	+3491
July 31.....	2753.10	35856	-3762	2648.20	16702	-3710	2671.70	31089	-2356
Aug. 31.....	2755.85	39182	+3326	2643.60	14968	-1734	2659.90	25747	-5342
Sept. 30.....	2748.40	30599	-8583	2631.50	11022	-3946	2649.10	21380	-4367
WTR YR 1980..	--	--	-6445	--	--	+832	--	--	+3396

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.--58 years (water years 1923-80), 2,719 ft³/s (77.00 m³/s), 1,970,000 acre-ft/yr (2.43 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, 20,200 ft³/s (572 m³/s) Jan. 15, gage height, 15.27 ft (4.654 m); minimum daily, 41 ft³/s (1.16 m³/s) Jan. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	241	78	114	75	49	1900	104	159	162	147	148	148
2	120	76	46	73	48	1690	108	159	158	153	148	147
3	117	79	49	76	48	1420	108	160	160	152	146	149
4	100	78	47	72	48	1360	109	159	159	151	148	148
5	100	78	46	70	50	1590	108	159	156	153	147	148
6	100	74	49	70	934	1810	108	159	161	153	146	148
7	102	74	51	75	855	1670	107	158	159	152	152	146
8	103	142	52	77	566	1350	110	160	159	153	148	148
9	98	67	51	68	199	989	114	158	160	153	146	149
10	95	72	56	52	73	721	112	159	154	152	148	145
11	99	73	60	56	49	489	114	161	153	153	149	149
12	100	74	60	931	47	443	111	161	154	150	147	147
13	97	75	63	8370	48	364	115	157	155	151	148	147
14	107	75	62	13000	48	435	111	160	155	154	148	149
15	130	75	61	17300	49	963	108	159	153	152	147	146
16	114	73	57	15500	76	1490	107	158	153	150	147	149
17	101	78	56	14000	49	1270	108	157	152	155	151	149
18	95	78	59	11200	86	962	108	160	152	152	148	152
19	99	79	59	8210	688	720	108	159	152	152	147	154
20	103	75	60	5750	5030	483	111	158	153	151	146	152
21	104	75	61	4410	6170	292	109	156	151	151	148	158
22	102	77	64	3030	6150	284	107	159	151	152	146	151
23	89	79	64	1890	6330	293	108	157	154	150	147	162
24	101	82	62	1200	5320	332	108	158	153	150	150	152
25	103	81	61	706	4300	305	110	160	154	150	149	153
26	94	80	60	382	3350	221	121	160	152	149	149	154
27	95	80	62	165	2730	79	157	161	152	149	148	152
28	98	78	69	48	2160	57	161	159	154	151	148	155
29	100	78	75	41	2040	58	157	160	151	149	148	154
30	97	77	75	49	---	58	161	157	155	149	145	152
31	97	---	77	49	---	58	---	160	---	147	147	---
TOTAL	3301	2360	1888	106995	47590	24156	3488	4927	4647	4686	4580	4513
MEAN	106	78.7	60.9	3451	1641	779	116	159	155	151	148	150
MAX	241	142	114	17300	6330	1900	161	161	162	155	152	162
MIN	89	67	46	41	47	57	104	156	151	147	145	145
AC-FT	6550	4680	3740	212200	94390	47910	6920	9770	9220	9290	9080	8950
MEAN ‡	2216	2388	2221	6974	5438	4897	3509	3164	2335	2059	1836	2162
AC-FT ‡	136200	142100	136500	428800	312800	301100	208800	194600	138900	126600	112900	128600

CAL YR 1979 TOTAL 45011 MEAN 123 MAX 975 MIN 46 AC-FT 89280 MEAN ‡ 2383 AC-FT ‡ 1725000
WTR YR 1980 TOTAL 213131 MEAN 582 MAX 17300 MIN 41 AC-FT 422700 MEAN ‡ 3262 AC-FT ‡ 2368000

‡ Adjusted for diversion to Pit No. 4 powerplant.

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.

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.

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.

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); 37 years (water years 1944-80), 559 ft³/s (15.83 m³/s), 405,000 acre-ft/yr (499 km³/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, 28,600 ft³/s (810 m³/s) Jan. 15, gage height, 15.40 ft (4.694 m); minimum daily, 51 ft³/s (1.44 m³/s) Dec. 16.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	112	103	96	189	155	2600	143	182	149	126	117	108
2	103	95	66	134	148	2400	139	179	144	123	110	113
3	104	109	65	120	189	2150	136	178	148	126	109	109
4	104	119	63	114	161	2090	146	178	147	122	115	113
5	107	142	61	114	152	2420	200	175	141	122	117	113
6	100	116	59	110	1080	2590	171	170	144	124	115	112
7	103	107	58	103	1060	2370	154	169	188	124	116	108
8	100	105	57	109	893	1980	146	167	143	121	113	110
9	100	101	57	163	554	1630	149	192	141	121	108	114
10	107	96	57	178	367	1330	141	190	140	122	112	115
11	106	91	56	180	170	1090	135	180	145	121	116	114
12	104	96	56	1800	130	1020	132	177	143	116	114	111
13	101	93	54	10700	123	926	131	176	142	114	115	109
14	116	96	55	14600	120	1090	130	174	135	117	114	110
15	204	92	54	18500	138	1540	127	172	132	118	113	113
16	109	105	51	16000	158	2100	126	168	136	119	108	113
17	103	121	54	15200	270	1900	125	166	137	119	107	112
18	109	105	54	11800	692	1570	124	164	136	118	113	113
19	154	102	53	8800	1940	1310	122	161	136	114	113	112
20	122	98	65	6850	6290	1050	133	161	134	118	117	111
21	114	94	76	4930	6930	820	133	158	125	118	113	110
22	111	99	66	3730	7030	810	129	156	125	114	112	113
23	116	103	71	2540	7160	794	125	155	128	115	108	112
24	116	129	122	1780	5910	829	121	154	129	115	109	110
25	213	137	81	1330	4990	805	119	150	128	115	112	112
26	141	142	70	948	4060	722	118	150	126	114	111	109
27	121	122	69	711	3420	569	116	149	128	118	111	112
28	113	114	65	551	3000	505	118	150	122	119	114	113
29	113	105	62	454	2880	197	119	147	123	115	110	107
30	112	109	74	327	---	157	130	146	123	114	111	110
31	116	---	236	183	---	148	---	142	---	116	109	---
TOTAL	3654	3246	2183	123248	60170	41512	4037	5136	4118	3677	3482	3341
MEAN	118	108	70.4	3976	2075	1339	135	166	137	119	112	111
MAX	213	142	236	18500	7160	2600	200	192	188	126	117	115
MIN	100	91	51	103	120	148	116	142	122	114	107	107
AC-FT	7250	6440	4330	244500	119300	82340	8010	10190	8170	7290	6910	6630
CAL YR 1979	TOTAL	51241	MEAN	140	MAX	1590	MIN	43	AC-FT	101600		
WTR YR 1980	TOTAL	257804	MEAN	704	MAX	18500	MIN	51	AC-FT	511400		

SACRAMENTO RIVER BASIN

11363910 JAMES B. BLACK POWERPLANT NEAR BIG BEND, CA

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

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

GAGE.--Recorded output from powerplant turbines.

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

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

AVERAGE DISCHARGE.--14 years, 969 ft³/s (27.44 m³/s), 702,000 acre-ft/yr (866 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1100	514	569	656	906	1520	1170	799	40	687	887	573
2	316	853	522	1080	1100	1530	1330	1190	1160	824	434	1070
3	469	499	521	735	1060	1490	1150	1270	48	805	763	1170
4	699	433	712	742	1180	1380	1070	880	837	745	975	1000
5	529	848	627	432	792	1490	1390	962	565	649	1010	1080
6	82	958	693	787	1000	1450	1290	982	1110	626	996	144
7	310	484	569	572	707	1480	1180	900	592	729	948	634
8	615	357	387	972	933	1430	1150	962	494	743	1110	1120
9	782	774	573	1010	1190	1420	1230	996	207	753	446	896
10	587	535	719	986	744	1350	1010	1170	355	798	892	287
11	480	534	768	988	903	1330	1250	951	513	873	1140	610
12	533	1020	1010	983	1020	1220	1160	723	887	622	641	758
13	591	200	602	988	1310	1410	1210	201	475	537	1070	565
14	189	538	443	996	833	1350	1020	23	948	1030	510	652
15	797	874	264	1130	739	1780	1260	60	975	808	1050	686
16	577	374	573	1910	1300	1470	1240	261	909	933	300	723
17	290	527	671	1900	1480	1390	1140	1540	124	1160	958	812
18	756	685	959	1860	1920	1310	926	1960	0	957	302	672
19	581	930	658	1900	1920	1460	1220	201	652	294	1000	549
20	519	639	894	1830	1890	1530	1290	0	762	621	881	619
21	530	727	457	1340	1890	1330	1160	0	797	849	517	589
22	516	190	482	1540	1820	1430	1230	0	520	790	733	964
23	306	991	660	1420	1690	1350	1010	1200	716	1090	522	1130
24	600	387	754	1360	1580	1300	1240	1170	968	795	691	712
25	770	613	109	1380	1500	1310	1360	1230	717	879	750	883
26	652	960	437	1400	1500	1130	1020	1590	630	452	959	579
27	490	478	761	1270	1510	1160	1220	1070	1160	632	482	689
28	868	574	568	1260	1510	1280	795	477	605	1090	677	499
29	666	464	812	1030	1490	1280	1100	872	578	1230	773	821
30	307	413	222	1170	---	1150	1110	905	704	988	585	841
31	558	---	494	1310	---	1210	---	995	---	818	655	---
TOTAL	17065	18373	18490	36937	37417	42720	34931	25540	19048	24807	23657	22327
MEAN	550	612	596	1192	1290	1378	1164	824	635	800	763	744
MAX	1100	1020	1010	1910	1920	1780	1390	1960	1160	1230	1140	1170
MIN	82	190	109	432	707	1130	795	0	0	294	300	144
AC-FT	33850	36440	36670	73260	74220	84740	69290	50660	37780	49200	46920	44290
CAL YR 1979	TOTAL	262453.30	MEAN	719	MAX	2000	MIN	0	AC-FT	520600		
WTR YR 1980	TOTAL	321312.00	MEAN	878	MAX	1960	MIN	0	AC-FT	637300		

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

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

DRAINAGE AREA.--11.6 mi² (30.0 km²).

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

GAGE.--Water-stage recorder, 60° sharp-crested V-notch weir, and concrete control. Datum of gage is 2,461.52 ft (750.271 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

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

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

AVERAGE DISCHARGE.--14 years, 6.98 ft³/s (0.198 m³/s), 5,060 acre-ft/yr (6.24 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 582 ft³/s (16.5 m³/s) Feb. 25, 1978, gage height, 3.24 ft (0.988 m), flow was the result of failure of the James B. Black penstock; no flow July 15-18, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23 ft³/s (0.651 m³/s) Feb. 17, gage height, 1.73 ft (0.527 m); minimum daily, 2.7 ft³/s (0.076 m³/s) Nov. 1, 28, Mar. 11, Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	2.7	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.0	3.1
2	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.0	3.1	3.1	3.1
3	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.0	3.1	3.1	3.1	3.1
4	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.0	3.1	3.0	3.0	3.1
5	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1	3.1	3.1
6	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.0	3.1	3.1	3.1
7	3.0	3.2	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1
8	3.0	3.1	3.0	3.0	3.0	3.0	3.1	3.1	3.0	3.1	3.1	3.1
9	3.1	3.0	3.0	3.0	3.1	3.0	3.1	3.1	3.1	3.0	3.1	3.1
10	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.1
11	3.0	3.1	3.0	3.1	3.0	2.7	3.0	3.1	3.1	3.1	3.1	2.7
12	3.0	3.0	3.1	3.6	3.1	3.0	3.1	3.1	3.1	3.1	3.1	3.0
13	3.0	3.0	3.0	4.7	3.0	3.0	3.1	2.9	3.1	3.0	3.0	3.0
14	3.0	3.0	3.0	5.1	3.0	3.1	3.1	3.1	3.0	3.1	3.1	3.0
15	3.0	3.0	3.0	3.4	3.0	3.0	3.0	3.1	3.1	3.0	3.1	3.0
16	3.0	3.1	3.0	3.1	3.1	3.0	3.1	3.0	3.0	3.1	3.1	3.0
17	3.0	3.0	3.0	3.0	5.4	3.0	3.0	3.1	3.0	3.1	3.1	3.0
18	3.0	3.0	3.0	3.0	7.9	3.0	3.0	3.1	3.1	3.1	3.1	3.0
19	3.0	3.0	3.1	3.0	6.3	3.0	3.0	3.1	3.1	3.1	3.1	3.0
20	3.0	3.0	3.0	3.0	5.1	3.0	3.1	3.0	3.1	3.1	3.1	3.0
21	3.1	3.0	3.0	3.0	3.7	3.0	3.1	3.1	3.0	3.1	3.1	3.0
22	3.1	3.0	3.0	3.0	3.7	3.0	3.1	3.0	3.1	3.1	3.0	3.0
23	3.0	3.0	3.0	3.1	3.2	3.0	3.0	3.1	3.0	3.0	3.1	3.0
24	3.1	3.0	3.0	3.1	3.0	3.0	3.1	3.1	3.0	3.0	3.1	3.0
25	3.1	3.0	3.1	3.0	3.0	3.0	3.1	3.1	3.0	3.1	3.1	3.0
26	3.0	3.0	3.1	3.0	3.0	3.0	3.1	3.0	3.1	3.1	3.1	3.1
27	3.0	3.0	3.1	3.0	3.0	3.0	3.0	3.1	3.1	3.1	3.1	3.0
28	3.0	2.7	3.1	3.0	3.0	3.0	3.1	3.1	3.1	3.0	3.1	3.1
29	3.1	3.1	3.0	3.1	3.0	3.0	3.1	3.1	3.0	3.1	3.1	3.0
30	3.0	3.0	3.0	3.0	---	3.0	3.1	3.1	3.1	3.1	3.1	3.1
31	3.0	---	3.0	3.0	---	3.0	---	3.1	---	3.0	3.1	---
TOTAL	93.6	90.0	93.6	98.3	101.6	93.1	91.9	95.3	91.9	95.3	95.7	91.0
MEAN	3.02	3.00	3.02	3.17	3.50	3.00	3.06	3.07	3.06	3.07	3.09	3.03
MAX	3.1	3.2	3.1	5.1	7.9	3.1	3.1	3.1	3.1	3.1	3.1	3.1
MIN	3.0	2.7	3.0	3.0	3.0	2.7	3.0	2.9	3.0	3.0	3.0	2.7
AC-FT	186	179	186	195	202	185	182	189	182	189	190	180

CAL YR 1979 TOTAL 1132.2 MEAN 3.10 MAX 3.2 MIN 2.7 AC-FT 2250
WTR YR 1980 TOTAL 1131.3 MEAN 3.09 MAX 7.9 MIN 2.7 AC-FT 2240

SACRAMENTO RIVER BASIN

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA

LOCATION.--Lat 40°50'36", long 122°00'58", in NW¼SE¼ sec.31, T.35 N., R.1 W., Shasta County, Hydrologic Unit 18020003, Shasta National Forest, on right bank 0.5 mi (0.8 km) upstream from Potem Creek, 1.9 mi (3.1 km) downstream from Pit No. 7 Dam and powerhouse, and 5.0 mi (8.0 km) west of town of Montgomery Creek.

DRAINAGE AREA.--4,952 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 1,036 ft (315.773 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.). October 1944 to Feb. 17, 1963, at site 1.9 mi (3.1 km) upstream at different datum. Feb. 17, 1963, to May 21, 1965, at site 2.7 mi (4.3 km) upstream at different datum.

REMARKS.--Flow regulated by many reservoirs and powerplants, total usable reservoir capacity, 337,000 acre-ft (416 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); 15 years (water years 1966-80), 5,099 ft³/s (144.4 m³/s), 3,694,000 acre-ft/yr (4.55 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); 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, 53,200 ft³/s (1,507 m³/s) Jan. 13, gage height, 31.14 ft (9.491 m); minimum daily, 345 ft³/s (9.77 m³/s) July 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2690	6140	597	6920	6330	10700	5970	4870	2680	4220	3440	1810
2	1050	3660	488	6090	6480	10100	6180	5450	3140	3500	950	3760
3	1980	939	1380	3820	7580	9920	5820	6000	3890	3720	1430	3630
4	2390	437	4070	4580	6210	9830	6070	4730	4890	2710	3660	4120
5	2670	4750	3350	3930	7000	10700	6960	4330	3020	2630	4100	3510
6	1660	7450	3530	4440	7520	10500	5790	3830	4390	1480	3850	833
7	2460	7200	2860	4470	6630	10200	6300	4020	1280	3410	3300	2620
8	2360	3540	1380	6320	7200	740	6020	4850	3160	3450	3170	3250
9	2370	3880	2920	6100	6730	9110	6070	5680	3160	3410	1490	2840
10	3760	1560	3720	7690	6430	8730	6020	6060	4270	3510	1870	3220
11	2640	1410	3920	6950	6790	8730	5880	5710	3790	3900	3600	3260
12	2860	3690	4300	12000	5560	7850	5260	4240	4540	1650	3290	2740
13	2180	2210	3170	30300	6120	8440	5860	3430	3420	988	3960	930
14	722	4790	2380	30100	5820	8860	5800	3390	2520	3580	3440	2040
15	3200	3940	1630	32200	7190	9830	6060	3450	1860	3290	3280	3130
16	5400	3500	1870	29300	7390	9730	6090	3810	3230	3930	1370	3020
17	5230	954	3180	30400	8390	9310	5980	6640	3320	3970	1700	3240
18	3090	585	4030	23600	15100	8830	5760	4630	3540	3850	3020	2960
19	2490	4110	3600	18700	16500	8560	5940	3620	3840	345	3570	3370
20	594	2540	3770	15300	20400	8550	5570	3510	3880	710	3890	2630
21	1210	2860	3520	12600	18300	7920	5240	3480	1480	3400	2740	2620
22	2690	1770	1990	11300	18600	7810	6010	2100	1270	2470	2410	3640
23	3550	2850	3670	9860	18300	7530	5760	3270	3430	4000	1920	3760
24	5980	3770	4300	9200	15400	6990	6050	4910	4560	3630	1720	2870
25	8260	4770	3460	8680	13500	7140	5950	3860	3630	3690	3260	3550
26	4030	5490	3520	8370	12300	6580	5730	4350	3700	1130	3470	3130
27	799	7910	4160	7780	11500	6730	6310	4040	4420	1360	2640	3430
28	1440	6380	2520	7270	11600	6450	4940	3780	1200	3960	3670	3620
29	4190	3420	2060	6790	10900	6310	4980	3680	1350	4350	3540	5160
30	2200	2940	2420	6830	---	6380	5180	4150	2450	3470	2030	2950
31	5700	---	7260	6800	---	5850	---	4220	---	3650	1910	---
TOTAL	91845	109445	95025	378690	297770	254910	175550	134090	95310	93363	87690	91643
MEAN	2963	3648	3065	12220	10270	8223	5852	4325	3177	3012	2829	3055
MAX	8260	7910	7260	32200	20400	10700	6960	6640	4890	4350	4100	5160
MIN	594	437	488	3820	5560	740	4940	2100	1200	345	950	833
AC-FT	182200	217100	188500	751100	590600	505600	348200	266000	189000	185200	173900	181800
CAL YR 1979 TOTAL	1324287			MEAN 3628	MAX 8430	MIN 151	AC-FT 2627000					
WTR YR 1980 TOTAL	1905331			MEAN 5206	MAX 32200	MIN 345	AC-FT 3779000					

SACRAMENTO RIVER BASIN

57

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV											
14...A	1000	6640	--	7.3	9.5	3.0	11.2	--	--	--	--
28...	0830	6380	138	7.2	7.5	--	12.0	--	--	--	--
JAN											
23...	0950	9800	97	7.4	6.5	--	13.2	--	--	--	--
MAR											
19...	0920	8550	120	7.8	9.0	--	12.1	--	--	--	--
MAY											
07...A	1020	2800	134	7.3	17.0	3.0	10.0	7	1.9	46	10
14...	0910	3600	122	7.7	15.0	--	11.4	--	--	--	--
JUL											
17...A	1000	3970	--	8.1	19.5	1.0	9.9	--	--	--	--
SEP											
03...A	1240	4790	144	8.1	19.5	.00	9.5	--	--	50	10

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV										
14...A	--	--	--	--	--	--	--	--	.10	--
28...	--	--	--	--	--	--	--	--	.12	--
JAN										
23...	--	--	--	--	--	53	--	--	.19	.06
MAR										
19...	--	--	--	--	--	60	--	--	.08	.04
MAY										
07...A	5.0	8.0	27	.5	1.7	60	2.0	8	.02	--
14...	--	--	--	--	--	49	--	--	.03	.04
JUL										
17...A	--	--	--	--	--	--	--	--	.00	--
SEP										
03...A	6.0	10	29	.6	2.1	63	3.0	--	.10	--

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
NOV										
14...A	.00	--	--	.20	--	--	.060	--	.03	--
28...	.04	--	.44	--	.48	.60	.049	.03	.05	--
JAN										
23...	.00	--	.51	--	.51	.70	.112	.07	.05	--
MAR										
19...	.04	.37	.37	.41	.41	.49	--	.05	.04	--
MAY										
07...A	.00	--	--	.70	--	--	.050	--	.03	1.2
14...	.02	.36	.21	.40	.23	.26	.039	--	--	--
JUL										
17...A	.02	--	--	.40	--	--	.040	--	.02	--
SEP										
03...A	.04	--	.00	.10	--	--	.050	--	.03	--

SACRAMENTO RIVER BASIN

11365000 PIT RIVER NEAR MONTGOMERY CREEK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
MAY 07...A	1020	0	0	0	0	0	0
SEP 03...A	1240	0	0	100	0	0	0

DATE	TIME	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
MAY 07...A	10	0	0	0	.0	0	1.2	.00
SEP 03...A	10	0	0	0	.0	10	--	--

11365500 SQUAW CREEK ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°51'25", long 122°05'08", in SE¼ sec.29, T.35 N., R.2 W., Shasta County, Hydrologic Unit 18020003, 1.3 mi (2.1 km) upstream from Salt Creek, 2.0 mi (3.2 km) upstream from Shasta Lake, and 10 mi (16.1 km) west of town of Montgomery Creek.

DRAINAGE AREA.--64.0 mi² (165.8 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977-78, 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CAC03)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV 28...	1045	131	218	7.4	6.5	12.0	--	.02	.00
JAN 23...	1330	398	178	7.8	9.0	11.4	82	.02	.01
MAR 19...	1140	476	107	7.8	6.0	11.4	81	.03	.00
MAY 14...	1125	115	210	7.9	12.5	10.6	94	.05	.00

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
NOV 28...	.01	.25	.30	.25	.31	.33	.013	.01	.01
JAN 23...	.00	.37	.35	.38	.35	.37	.006	.01	.01
MAR 19...	.01	--	.55	--	.56	.59	--	.03	.01
MAY 14...	.02	.26	.17	.26	.19	.24	.099	--	.08

SACRAMENTO RIVER BASIN

59

11367500 McCLOUD RIVER NEAR McCLOUD, CA

LOCATION.--Lat 41°11'18", long 122°03'52", in NW¼NE¼ sec.34, T.39 N., R.2 W., Siskiyou County, Hydrologic Unit 18020004, on right bank 0.4 mi (0.6 km) downstream from Angel Creek, and 6 mi (10 km) southeast of McCloud.

DRAINAGE AREA.--358 mi² (927 km²).

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

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

GAGE.--Water-stage recorder. Datum of gage is 2,711.2 ft (826.37 m) National Geodetic Vertical Datum of 1929 (river-profile survey).

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

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

AVERAGE DISCHARGE.--49 years, 925 ft³/s (26.20 m³/s), 670,200 acre-ft/yr (826 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,800 ft³/s (334 m³/s) Dec. 21, 1955, gage heights, 9.42 ft (2.871 m) in gage well, 10.7 ft (3.26 m) from floodmarks, from rating curve extended above 8,800 ft³/s (249 m³/s) on basis of slope-area measurement of maximum flow; minimum, 524 ft³/s (14.8 m³/s) Nov. 23, 24, 1932.

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. 14	2330	2,780 78.7	3.70 1.128
Feb. 18	2245	*4,240 120	4.90 1.494

Minimum daily, 641 ft³/s (18.2 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	668	669	669	711	741	1240	915	1110	860	779	736	714
2	668	671	678	712	739	1210	908	1090	860	779	732	714
3	668	686	684	693	785	1170	902	1090	854	779	732	712
4	668	696	681	683	800	1150	910	1090	856	779	732	708
5	667	746	676	683	776	1150	968	1090	862	774	732	708
6	667	774	674	678	773	1120	1010	1080	853	773	732	708
7	665	726	674	678	770	1090	964	1070	845	770	730	708
8	667	706	674	678	765	1050	945	1050	839	767	728	708
9	664	697	669	684	758	1030	951	1060	835	767	727	708
10	663	690	669	698	758	1010	965	1070	830	765	726	708
11	663	686	669	706	750	1000	953	1030	829	761	726	708
12	663	680	667	943	747	987	950	997	836	761	726	708
13	663	677	663	1490	743	983	958	983	837	761	726	708
14	672	674	663	2140	743	1150	978	982	833	759	726	708
15	683	672	663	2190	768	1270	990	960	826	755	726	708
16	668	684	663	1580	929	1130	993	948	821	752	726	706
17	664	706	660	1560	1740	1090	1010	937	817	749	726	703
18	667	700	658	1310	3210	1060	1030	934	814	749	726	704
19	676	688	658	1120	3760	1030	1050	935	810	749	721	703
20	673	679	665	1010	2440	1010	1120	937	807	749	720	703
21	669	675	669	954	1840	997	1210	939	802	747	720	703
22	672	677	665	907	1630	979	1120	943	799	743	720	703
23	672	674	669	872	1480	973	1100	929	800	743	720	703
24	680	681	653	849	1350	963	1130	915	797	743	720	703
25	841	683	648	835	1270	959	1120	900	794	743	720	703
26	745	682	648	814	1230	949	1100	891	791	742	718	701
27	694	674	647	799	1230	937	1100	883	785	737	714	697
28	680	670	644	782	1380	927	1120	877	784	737	714	697
29	674	669	641	765	1310	921	1190	870	779	737	714	697
30	672	669	646	758	---	919	1150	866	779	737	714	697
31	669	---	673	750	---	919	---	863	---	737	714	---
TOTAL	21025	20661	20580	30032	36215	32373	30810	30319	24634	23423	22444	21159
MEAN	678	669	664	969	1249	1044	1027	978	821	756	724	705
MAX	841	774	684	2190	3760	1270	1210	1110	862	779	736	714
MIN	663	669	641	678	739	919	902	863	779	737	714	697
AC-FT	41700	40980	40820	59570	71830	64210	61110	60140	48860	46460	44520	41970

CAL YR 1979 TOTAL 266524 MEAN 730 MAX 1090 MIN 635 AC-FT 528700
WTR YR 1980 TOTAL 313675 MEAN 857 MAX 3760 MIN 641 AC-FT 622200

↓
Close to Avg of 925 cfs

SACRAMENTO RIVER BASIN

11367720 McCLOUD-IRON CANYON DIVERSION TUNNEL NEAR McCLOUD, CA

LOCATION.--Lat 41°08'06", long 122°04'26", in SE&SW¼ 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.

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

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

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

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

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

AVERAGE DISCHARGE.--14 years, 960 ft³/s (27.19 m³/s), 695,500 acre-ft/yr (858 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	560	492	508	540	1100	1420	1150	1070	751	655	724	578
2	516	533	506	616	1080	1420	1160	1080	785	664	691	625
3	485	499	503	622	1060	1410	1140	1100	710	671	682	668
4	518	506	526	631	1060	1390	1110	1080	716	672	694	689
5	506	551	538	599	993	1410	1140	1060	704	664	716	709
6	407	620	559	620	985	1400	1150	1050	738	654	723	629
7	389	594	551	610	930	1400	1140	1030	716	658	728	613
8	430	553	513	648	912	1400	1130	1000	692	656	747	656
9	480	580	506	680	930	1390	1140	1000	646	658	703	664
10	494	566	533	710	885	1370	1110	1020	621	662	701	603
11	470	551	564	734	868	1350	1120	1000	613	672	731	591
12	475	612	612	763	867	1320	1110	965	638	660	706	595
13	470	531	593	831	910	1320	1110	880	625	645	730	581
14	413	517	551	908	876	1310	1080	793	647	667	688	573
15	482	559	487	991	848	1380	1090	728	674	676	713	577
16	487	520	497	1100	921	1380	1110	693	685	686	659	579
17	438	517	520	1180	1010	1360	1100	788	634	714	674	593
18	487	538	585	1260	1210	1340	1060	898	579	724	622	589
19	494	588	583	1330	1280	1340	1080	826	590	681	648	571
20	492	582	624	1390	1320	1360	1110	751	611	664	661	569
21	484	597	589	1370	1380	1330	1120	688	621	669	630	556
22	477	520	568	1380	1420	1330	1130	631	609	674	631	601
23	438	580	568	1360	1430	1330	1110	701	617	699	608	641
24	467	538	587	1350	1430	1310	1130	748	645	697	596	632
25	549	540	506	1330	1420	1300	1150	792	645	700	606	650
26	564	601	474	1330	1410	1250	1120	864	640	669	622	635
27	543	568	522	1290	1420	1230	1150	868	679	660	598	605
28	570	559	513	1290	1410	1230	1090	821	669	689	598	579
29	568	531	559	1210	1410	1220	1110	820	655	721	608	597
30	510	508	494	1180	---	1190	1120	822	653	729	596	616
31	503	---	504	1170	---	1180	---	832	---	723	592	---
TOTAL	15166	16551	16743	31023	32775	41370	33570	27399	19808	21033	20626	18364
MEAN	489	552	540	1001	1130	1335	1119	884	660	678	665	612
MAX	570	620	624	1390	1430	1420	1160	1100	785	729	747	709
MIN	389	492	474	540	848	1180	1060	631	579	645	592	556
AC-FT	30080	32830	33210	61530	65010	82060	66590	54350	39290	41720	40910	36420
CAL YR 1979 TOTAL	239893			MEAN 657	MAX 1180	MIN 389	AC-FT 475800					
WTR YR 1980 TOTAL	294428			MEAN 804	MAX 1430	MIN 389	AC-FT 584000					

11367760 MC CLOUD RIVER BELOW MC CLOUD DAM, NEAR MC CLOUD, 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 2,401.76 ft (732.056 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. Prior to water year 1974, flow was computed up to 400 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	188	42	85	122	84	89	152	167	176	188
2	---	---	184	61	88	57	87	90	153	167	177	188
3	---	172	178	77	78	55	88	93	155	167	176	188
4	---	165	179	83	78	54	82	94	153	166	177	188
5	---	159	183	81	85	54	44	96	152	168	176	188
6	---	150	184	77	87	53	42	98	156	169	176	189
7	---	174	186	80	89	53	41	100	156	168	178	189
8	---	179	188	80	89	51	41	101	156	169	178	189
9	---	184	189	70	92	50	45	92	158	167	177	189
10	---	191	190	45	93	48	49	97	159	169	177	189
11	---	193	192	48	94	47	56	102	161	170	177	189
12	---	196	195	52	95	45	62	105	155	169	178	189
13	---	198	196	58	97	45	64	107	157	170	178	188
14	---	---	196	61	98	48	66	105	158	170	178	189
15	192	200	195	62	82	49	67	108	158	171	177	188
16	---	193	157	---	62	48	70	135	160	169	177	188
17	---	173	148	---	65	46	71	139	160	172	176	189
18	---	180	141	---	92	45	71	142	161	174	177	188
19	200	185	141	---	---	45	70	142	162	174	177	187
20	---	189	134	56	---	44	64	143	163	173	176	187
21	---	192	113	53	---	44	61	144	165	174	176	187
22	---	191	119	51	---	44	67	146	165	174	176	192
23	---	195	118	49	---	50	72	145	164	175	174	199
24	---	177	121	48	---	55	74	146	163	177	179	---
25	90	176	123	54	---	61	77	149	165	176	177	---
26	164	166	128	59	58	66	79	148	167	176	177	---
27	189	172	128	65	---	70	81	148	167	176	177	---
28	195	179	131	71	---	75	81	152	166	175	177	---
29	199	183	132	75	---	79	81	150	166	176	178	---
30	---	187	127	77	---	80	85	153	166	177	177	---
31	---	---	64	80	---	82	---	153	---	176	177	---
TOTAL	---	---	4848	---	---	1765	2022	3812	4799	5321	5484	---
MEAN	---	---	156	---	---	56.9	67.4	123	160	172	177	---
MAX	---	---	196	---	---	122	88	153	167	177	179	---
MIN	---	---	64	---	---	44	41	89	152	166	174	---
AC-FT	---	---	9620	---	---	3500	4010	7560	9520	10550	10880	---

SACRAMENTO RIVER BASIN

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 River diversion tunnel (station 11367720) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

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

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--16 years, 1,244 ft³/s (35.23 m³/s), 901,300 acre-ft/yr (1.11 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, 6,280 ft³/s (178 m³/s) Feb. 19, gage height, 7.69 ft (2.344 m); minimum daily, 156 ft³/s (4.42 m³/s) Feb. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	217	218	169	160	427	171	172	202	201	195	205
2	211	219	222	160	161	321	171	169	199	201	195	206
3	211	219	219	166	164	292	170	170	201	202	195	206
4	211	206	217	161	156	268	174	170	202	200	195	205
5	211	243	219	164	162	273	246	170	199	201	195	204
6	211	216	219	162	163	266	222	171	202	201	195	206
7	211	222	219	164	163	263	193	172	200	200	197	205
8	211	217	219	161	161	246	174	170	200	202	196	205
9	211	216	219	166	161	227	171	172	201	200	195	205
10	211	218	218	164	162	214	169	170	202	200	195	206
11	212	218	219	174	161	209	170	171	204	201	194	206
12	212	219	220	569	160	199	171	170	201	200	196	206
13	212	219	220	850	160	200	170	172	201	200	196	205
14	218	220	219	1050	161	431	172	170	201	201	196	207
15	211	219	217	802	177	447	169	169	200	200	195	205
16	214	223	185	610	254	342	171	195	201	199	195	204
17	214	220	179	1110	1040	286	172	200	200	200	195	206
18	217	219	169	739	2080	248	172	202	200	201	196	206
19	217	218	171	408	4190	229	171	200	200	201	196	204
20	219	218	174	289	2950	201	178	200	201	200	196	203
21	215	218	173	245	1640	186	170	200	203	201	196	203
22	217	219	170	212	1350	173	169	203	203	197	196	207
23	216	221	170	188	910	171	169	200	202	197	193	213
24	222	220	171	169	721	170	170	200	200	199	196	215
25	258	225	170	164	552	171	170	202	200	199	195	218
26	210	218	170	163	369	172	171	200	203	198	196	221
27	216	217	169	161	438	171	171	199	202	198	196	219
28	215	218	171	162	732	171	172	202	202	198	196	219
29	216	218	170	161	561	174	169	199	201	198	196	221
30	218	219	172	158	---	171	171	201	200	198	196	219
31	219	---	192	158	---	171	---	201	---	198	196	---
TOTAL	6678	6579	6060	10179	20219	7480	5279	5762	6033	6192	6060	6260
MEAN	215	219	195	328	697	241	176	186	201	200	195	209
MAX	258	243	222	1110	4190	447	246	203	204	202	197	221
MIN	210	206	169	158	156	170	169	169	199	197	193	203
AC-FT	13250	13050	12020	20190	40100	14840	10470	11430	11970	12280	12020	12420
MEAN ‡	719	765	744	1437	1991	1427	1278	1153	920	840	774	747
AC-FT ‡	44200	45500	45720	88340	114500	87760	76040	70880	54750	51640	47590	44470

CAL YR 1979 TOTAL 71333 MEAN 195 MAX 427 MIN 156 AC-FT 141500 MEAN ‡ 854 AC-FT ‡ 618600
WTR YR 1980 TOTAL 92781 MEAN 254 MAX 4190 MIN 156 AC-FT 184000 MEAN ‡ 1063 AC-FT ‡ 771400

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

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 2,401.76 ft (732.056 m) National Geodetic Vertical Datum of 1929 (levels by Pacific Gas and Electric Co.).

REMARKS.--Flow regulated by Lake McCloud (station 11367740) since November 1965. Most of McCloud River runoff is diverted from reservoir through tunnel to Iron Canyon Reservoir (station 11363920) in Pit River basin. This station records fishwater release. Prior to water year 1974, flow was computed up to 400 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	188	42	85	122	84	89	152	167	176	188
2	---	---	184	61	88	57	87	90	153	167	177	188
3	---	172	178	77	78	55	88	93	155	167	176	188
4	---	165	179	83	78	54	82	94	153	166	177	188
5	---	159	183	81	85	54	44	96	152	168	176	188
6	---	150	184	77	87	53	42	98	156	169	176	189
7	---	174	186	80	89	53	41	100	156	168	178	189
8	---	179	188	80	89	51	41	101	156	169	178	189
9	---	184	189	70	92	50	45	92	158	167	177	189
10	---	191	190	45	93	48	49	97	159	169	177	189
11	---	193	192	48	94	47	56	102	161	170	177	189
12	---	196	195	52	95	45	62	105	155	169	178	189
13	---	198	196	58	97	45	64	107	157	170	178	188
14	---	---	196	61	98	48	66	105	158	170	178	189
15	192	200	195	62	82	49	67	108	158	171	177	188
16	---	193	157	---	62	48	70	135	160	169	177	188
17	---	173	148	---	65	46	71	139	160	172	176	189
18	---	180	141	---	92	45	71	142	161	174	177	188
19	200	185	141	---	---	45	70	142	162	174	177	187
20	---	189	134	56	---	44	64	143	163	173	176	187
21	---	192	113	53	---	44	61	144	165	174	176	187
22	---	191	119	51	---	44	67	146	165	174	176	192
23	---	195	118	49	---	50	72	145	164	175	174	199
24	---	177	121	48	---	55	74	146	163	177	179	---
25	90	176	123	54	---	61	77	149	165	176	177	---
26	164	166	128	59	58	66	79	148	167	176	177	---
27	189	172	128	65	---	70	81	148	167	176	177	---
28	195	179	131	71	---	75	81	152	166	175	177	---
29	199	183	132	75	---	79	81	150	166	176	178	---
30	---	187	127	77	---	80	85	153	166	177	177	---
31	---	---	64	80	---	82	---	153	---	176	177	---
TOTAL	---	---	4848	---	---	1765	2022	3812	4799	5321	5484	---
MEAN	---	---	156	---	---	56.9	67.4	123	160	172	177	---
MAX	---	---	196	---	---	122	88	153	167	177	179	---
MIN	---	---	64	---	---	44	41	89	152	166	174	---
AC-FT	---	---	9620	---	---	3500	4010	7560	9520	10550	10880	---

SACRAMENTO RIVER BASIN

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 River diversion tunnel (station 11367720) started Dec. 1, 1965. See schematic diagram of Pit and McCloud River basins.

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

AVERAGE DISCHARGE (adjusted for diversion to Iron Canyon Reservoir and change in contents in Lake McCloud).--16 years, 1,244 ft³/s (35.23 m³/s), 901,300 acre-ft/yr (1.11 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, 6,280 ft³/s (178 m³/s) Feb. 19, gage height, 7.69 ft (2.344 m); minimum daily, 156 ft³/s (4.42 m³/s) Feb. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	217	218	169	160	427	171	172	202	201	195	205
2	211	219	222	160	161	321	171	169	199	201	195	206
3	211	219	219	166	164	292	170	170	201	202	195	206
4	211	206	217	161	156	268	174	170	202	200	195	205
5	211	243	219	164	162	273	246	170	199	201	195	204
6	211	216	219	162	163	266	222	171	202	201	195	206
7	211	222	219	164	163	263	193	172	200	200	197	205
8	211	217	219	161	161	245	174	170	200	202	196	205
9	211	216	219	166	161	227	171	172	201	200	195	205
10	211	218	218	164	162	214	169	170	202	200	195	206
11	212	218	219	174	161	209	170	171	204	201	194	206
12	212	219	220	569	160	199	171	170	201	200	196	206
13	212	219	220	850	160	200	170	172	201	200	196	205
14	218	220	219	1050	161	431	172	170	201	201	196	207
15	211	219	217	802	177	447	169	169	200	200	195	205
16	214	223	185	610	254	342	171	195	201	199	195	204
17	214	220	179	1110	1040	286	172	200	200	200	195	206
18	217	219	169	739	2080	248	172	202	200	201	196	206
19	217	218	171	408	4190	220	171	200	200	201	196	204
20	219	218	174	289	2950	201	170	200	201	200	196	203
21	215	218	173	245	1640	186	170	200	203	201	196	203
22	217	219	170	212	1350	173	169	203	203	197	196	207
23	216	221	170	188	910	171	169	200	202	197	193	213
24	222	220	171	169	721	170	170	200	200	199	196	215
25	258	225	170	164	552	171	170	202	200	199	195	218
26	210	218	170	163	369	172	171	200	203	198	196	221
27	216	217	169	161	438	171	171	199	202	198	196	219
28	215	218	171	162	732	171	172	202	202	198	196	219
29	216	218	170	161	561	174	169	199	201	198	196	221
30	218	219	172	158	---	171	171	201	200	198	196	219
31	219	---	192	158	---	171	---	201	---	198	196	---
TOTAL	6678	6579	6060	10179	20219	7480	5279	5762	6033	6192	6060	6260
MEAN	215	219	195	328	697	241	176	186	201	200	195	209
MAX	258	243	222	1110	4190	447	246	203	204	202	197	221
MIN	210	206	169	158	156	170	169	169	199	197	193	203
AC-FT	13250	13050	12020	20190	40100	14840	10470	11430	11970	12280	12020	12420
MEAN ‡	719	765	744	1437	1991	1427	1278	1153	920	840	774	747
AC-FT ‡	44200	45500	45720	88340	114500	87760	76040	70880	54750	51640	47590	44470

CAL YR 1979 TOTAL 71333 MEAN 195 MAX 427 MIN 156 AC-FT 141500 MEAN ‡ 854 AC-FT ‡ 618600
WTR YR 1980 TOTAL 92781 MEAN 254 MAX 4190 MIN 156 AC-FT 184000 MEAN ‡ 1063 AC-FT ‡ 771400

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

11368000 McCLOUD RIVER ABOVE SHASTA LAKE, CA

LOCATION.--Lat 40°57'30", long 122°13'07", unsurveyed, T.36 N., R.3 W., Shasta County, Hydrologic Unit 18020004, on right bank just upstream from Shasta Lake, 0.2 mi (0.3 km) downstream from Big Bollibokka Creek, and 11.3 mi (18.2 km) east of Lamoine.

DRAINAGE AREA.--604 mi² (1,564 km²).

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 1,100.00 ft (335.280 m) National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service).

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

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

AVERAGE DISCHARGE (prior to regulation by Lake McCloud and diversion to Pit River basin).--20 years (water years 1946-65), 1,699 ft³/s (48.12 m³/s), 1,230,000 acre-ft/yr (1.52 km³/yr); 15 years (water years 1966-80), 791 ft³/s (22.40 m³/s), 573,100-acre-ft/yr (707 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,500 ft³/s (1,290 m³/s) Jan. 16, 1974, gage height, 28.26 ft (8.614 m), from rating curve extended above 15,000 ft³/s (425 m³/s) on basis of slope-area measurement of maximum flow; minimum daily, 109 ft³/s (3.09 m³/s) Dec. 16-20, 1971.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,100 ft³/s (484 m³/s) Feb. 19, gage height, 21.12 ft (6.437 m); minimum daily, 271 ft³/s (7.67 m³/s) Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	286	331	397	1190	540	1830	630	492	382	326	283	277
2	285	340	436	918	528	1590	617	486	382	326	283	280
3	284	467	441	781	617	1440	603	477	379	330	283	279
4	286	450	418	720	544	1310	649	471	401	332	283	277
5	286	684	408	732	529	1480	1210	466	397	329	284	275
6	286	608	397	788	521	1710	1050	456	392	329	283	276
7	286	502	391	772	507	1710	903	452	380	326	284	276
8	289	440	383	737	495	1570	824	447	372	323	282	276
9	287	405	375	809	484	1410	792	520	364	321	282	276
10	286	385	369	934	475	1280	742	492	361	320	279	280
11	284	371	361	956	466	1200	705	457	362	318	278	284
12	286	361	356	3980	459	1100	680	450	382	313	279	286
13	286	353	353	4970	453	1080	660	438	374	311	278	291
14	320	350	348	5430	450	2260	645	449	373	310	278	288
15	379	346	345	4360	600	2480	626	429	360	309	278	289
16	305	399	320	3160	1670	1880	612	432	351	305	274	283
17	298	494	298	3620	6920	1560	599	436	347	305	274	284
18	309	440	284	2760	13000	1340	587	432	345	305	275	297
19	381	411	295	1970	14700	1180	575	427	345	304	274	290
20	347	393	347	1470	8980	1070	617	419	344	303	274	287
21	337	380	461	1220	5370	982	627	418	344	300	274	286
22	320	390	409	1040	4710	909	577	417	343	298	274	284
23	342	389	419	911	3910	856	561	415	348	295	272	290
24	351	534	434	820	3000	815	556	414	342	293	274	292
25	1390	613	454	759	2390	791	541	411	341	290	274	291
26	516	681	442	711	1950	758	532	408	339	290	271	296
27	405	571	421	671	1840	726	524	399	333	285	273	294
28	371	500	404	637	2400	699	519	396	330	285	272	294
29	351	461	393	610	2190	680	512	394	331	288	272	290
30	347	426	443	578	---	661	500	384	330	287	272	292
31	339	---	1150	555	---	644	---	382	---	286	272	---
TOTAL	11125	13475	12752	49569	80698	39001	19775	13566	10774	9542	8588	8560
MEAN	359	449	411	1599	2783	1258	659	438	359	308	277	285
MAX	1390	684	1150	5430	14700	2480	1210	520	401	332	284	297
MIN	284	331	284	555	450	644	500	382	330	285	271	275
AC-FT	22070	26730	25290	98320	160100	77360	39220	26910	21370	18930	17030	16980
CAL YR 1979	TOTAL	170567	MEAN 467	MAX 2960	MIN 248	AC-FT 338300						
WTR YR 1980	TOTAL	277425	MEAN 758	MAX 14700	MIN 271	AC-FT 550300						

SACRAMENTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV									
13...A	0830	353	--	7.5	7.0	1.0	12.0	--	--
28...	1330	497	113	7.1	6.5	--	12.1	--	--
JAN									
07...A	0755	782	--	7.4	6.0	1.0	11.7	--	--
23...	1445	953	105	8.0	11.0	--	11.5	--	--
MAR									
19...	1315	1180	98	7.8	10.5	--	11.3	--	--
MAY									
06...A	0710	456	123	7.7	13.5	.00	10.1	52	16
14...	1300	442	117	7.9	19.0	--	9.0	--	--
SEP									
02...A	1010	280	--	7.9	16.0	1.0	10.0	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
NOV								
13...A	--	--	--	--	--	--	--	--
28...	--	--	--	--	--	--	.03	.01
JAN								
07...A	--	--	--	--	--	--	--	--
23...	--	--	--	--	49	--	.04	.01
MAR								
19...	--	--	--	--	47	--	.02	.00
MAY								
06...A	3.0	4.0	14	.2	.6	54	2.0	.01
14...	--	--	--	--	--	55	--	.04
SEP								
02...A	--	--	--	--	--	--	--	--

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
NOV									
13...A	--	--	--	--	--	--	--	--	--
28...	.03	.38	.34	.39	.37	.40	.035	.02	.37
JAN									
07...A	--	--	--	--	--	--	--	--	--
23...	.00	--	.39	--	.39	.43	.007	.01	.01
MAR									
19...	.00	.68	.39	.68	.39	.41	.009	.02	.01
MAY									
06...A	--	--	--	--	--	--	--	--	.00
14...	.02	--	.43	--	.45	.50	.005	.14	.03
SEP									
02...A	--	--	--	--	--	--	--	--	--

DATE	TIME	BORON, DIS- SOLVED (UG/L AS B)
MAY		
06...A	0710	0

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.

WATER-DISCHARGE RECORDS

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 Water and Power Resources Service). 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 Water and Power Resources Service.

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, 4,195,600 acre-ft (5.17 km³) May 20, elevation, 1,054.73 ft (321.482 m); minimum, 3,102,200 acre-ft (3.83 km³) Oct. 14, elevation, 1,012.19 ft (308.516 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3139500	3220600	3312700	3398100	3600400	3764000	3874300	4156700	4170700	3911100	3546700	3322900
2	3134300	3225100	3307900	3410600	3598900	3731900	3878800	4160000	4167400	3901900	3533500	3320200
3	3130400	3228700	3305200	3413800	3603700	3699400	3883100	4165400	4165400	3892500	3521600	3318500
4	3126400	3228700	3306400	3417100	3605000	3664000	3893900	4168200	4165400	3883100	3513300	3318500
5	3124100	3240600	3306000	3418500	3608600	3646700	3917300	4168500	4162300	3872400	3507500	3316800
6	3119600	3255700	3306000	3421500	3613700	3646700	3931100	4169300	4159800	3859000	3501000	3312500
7	3116400	3268600	3306400	3423200	3615800	3660100	3943000	4169600	4151000	3849100	3493200	3311000
8	3112700	3274200	3302400	3429200	3618900	3671100	3953300	4169300	4142000	3839300	3484700	3310500
9	3110600	3279200	3301100	3440800	3619400	3678100	3964200	4175000	4133600	3829700	3473200	3311300
10	3109400	3279700	3300700	3453500	3620900	3683000	3975100	4179200	4126900	3820400	3461500	3312500
11	3106900	3279700	3300700	3468900	3624000	3686600	3985000	4181800	4120500	3811600	3454500	3313400
12	3104500	3281400	3300900	3530500	3627900	3688200	3992600	4183400	4115100	3798900	3448000	3314400
13	3102700	3281900	3299700	3626600	3630500	3690300	4002500	4183400	4106800	3784600	3442600	3313000
14	3102200	3285700	3297500	3678800	3633500	3705900	4011500	4182000	4093700	3774300	3435400	3313000
15	3104300	3288100	3293400	3713000	3645200	3719300	4020300	4182300	4078400	3762700	3429200	3314400
16	3107600	3293000	3289100	3734500	3674400	3729300	4028600	4183400	4065300	3751600	3417600	3314700
17	3114100	3292000	3287400	3763200	3782000	3736600	4037700	4189100	4052900	3740000	3407400	3315900
18	3119900	3288400	3286900	3767700	3901900	3742900	4046500	4195000	4040200	3729300	3398600	3317800
19	3123600	3288400	3286900	3753700	3994300	3750300	4052600	4195000	4029100	3711200	3393900	3319500
20	3123600	3286400	3288600	3729300	4022500	3758200	4064500	4195600	4017600	3694500	3389500	3319500
21	3123600	3283800	3290500	3696000	4020300	3764500	4073700	4194500	4002500	3681700	3383300	3319500
22	3127800	3281900	3290500	3659100	4018100	3775400	4083700	4190000	3988800	3668200	3376700	3320200
23	3133400	3280400	3300400	3627600	4005800	3788600	4094200	4186300	3980600	3656500	3369400	3321700
24	3147600	3284500	3315600	3625300	3975400	3801100	4103700	4186300	3973800	3644600	3361100	3322200
25	3180100	3291700	3331100	3626900	3935200	3814300	4111200	4184000	3965600	3632300	3356700	3322700
26	3189000	3299900	3340600	3626900	3889800	3826200	4119900	4183400	3956900	3615800	3352800	3322900
27	3190900	3310800	3345000	3625800	3846500	3837700	4130000	4181500	3949000	3599600	3348900	3323900
28	3192600	3316400	3347400	3623500	3815400	3848300	4139200	4178900	3938200	3587100	3345200	3321900
29	3199000	3318100	3347400	3618100	3792600	3856400	4146500	4175800	3928400	3577400	3342300	3322900
30	3202100	3317800	3354200	3611900	---	3865400	4153800	4174100	3919500	3565900	3336000	3320700
31	3212000	---	3380900	3605500	---	3869700	---	4173800	---	3555500	3329700	---
MAX	3212000	3318100	3380900	3767700	4022500	3869700	4153800	4195600	4170700	3911100	3546700	3323900
MIN	3102200	3220600	3286900	3398100	3598900	3646700	3874300	4156700	3919500	3555500	3329700	3310500
†	1016.87	1021.28	1023.87	1032.83	1040.00	1042.90	1053.25	1053.96	1044.75	1030.87	1021.77	1021.40
††	+70700	+105800	+63100	+224600	+187000	+77100	+284100	+20000	-254300	-364000	-225800	-9000
†††	4760	2800	2500	2790	2170	4660	8670	12010	12860	16690	15800	9200

CAL YR 1979 † +45200
WTR YR 1980 † +179400

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

†† Change in contents, in acre-feet.

††† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

11370000 SHASTA LAKE NEAR REDDING, CA--Continued

WATER-QUALITY RECORDS

SACRAMENTO RIVER ARM OF SHASTA LAKE NEAR LAKEHEAD, CA

LOCATION.--Lat 40°48'08", long 122°22'44", Shasta County, Hydrologic Unit 18020005, 7.2 mi (11.6 km) south of Lakehead.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	LIGHT TRANS- MISSION 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
AUG									
26...	0906	.50	113	8.2	25.1	7.5	94	24	1.43
26...	0907	1.0	113	8.2	25.1	7.6	96	24	1.43
26...	0908	2.0	113	8.1	25.1	7.6	96	23	1.48
26...	0909	3.0	113	8.1	25.1	7.7	97	23	1.48
26...	0910	4.0	113	8.1	25.1	7.7	97	21	1.54
26...	0911	5.0	113	8.2	25.1	7.8	98	21	1.54
26...	0912	6.0	113	8.1	25.1	7.5	94	21	1.54
26...	0913	7.0	113	8.1	25.1	7.5	94	21	1.54
26...	0914	8.0	113	8.0	25.1	7.5	94	21	1.54
26...	0915	9.0	118	7.5	23.3	6.8	83	21	1.54
26...	0916	10.0	117	7.3	21.8	6.8	81	24	1.43
26...	0917	11.0	119	7.4	21.0	6.5	76	27	1.31
26...	0918	12.0	127	7.4	20.6	6.4	74	27	1.31
26...	0919	13.0	131	7.4	20.0	6.2	71	27	1.31
26...	0920	14.0	133	7.4	19.6	6.1	69	27	1.31
26...	0921	15.0	133	7.4	19.3	6.1	69	28	1.26
26...	0922	16.0	134	7.4	18.9	6.1	68	27	1.31
26...	0923	17.0	135	7.3	18.7	6.0	67	27	1.31
26...	0924	18.0	133	7.3	18.5	6.0	66	28	1.26
26...	0925	19.0	133	7.3	18.1	5.9	65	32	1.15
26...	0926	20.0	131	7.3	17.9	5.9	64	33	1.10
26...	0927	21.0	130	7.2	17.7	6.0	65	35	1.05
26...	0928	22.0	129	7.2	17.4	6.0	65	37	.99
26...	0929	23.0	124	7.2	16.8	6.2	67	37	.99
26...	0930	24.0	121	7.2	16.2	6.5	69	37	.99
26...	0931	25.0	120	7.2	16.0	6.7	70	37	.99
26...	0932	26.0	119	7.2	15.5	6.9	71	37	.99
26...	0933	27.0	118	7.2	15.2	7.0	72	37	.99
26...	0934	28.0	119	7.2	15.1	7.1	73	37	.99
26...	0935	29.0	115	7.2	14.8	7.2	74	37	.99
26...	0936	30.0	115	7.2	14.5	7.3	74	37	.99
26...	0937	31.0	110	7.2	14.2	7.4	75	39	.94
26...	0938	32.0	105	7.2	13.8	7.5	75	37	.99
26...	0939	33.0	103	7.2	13.6	7.6	76	37	.99
26...	0940	34.0	102	7.1	13.4	7.6	75	37	.99
26...	0941	35.0	102	7.1	13.2	7.8	77	50	.70
26...	0942	36.0	100	7.1	13.0	7.9	78	45	.79
26...	0943	37.0	100	7.1	12.8	8.0	78	43	.84
26...	0944	38.0	98	7.2	12.5	8.1	79	43	.84
26...	0945	39.0	97	7.2	12.3	8.2	79	41	.89
26...	0946	40.0	96	7.1	12.2	8.2	79	43	.84
26...	0947	41.0	96	7.2	11.8	8.3	80	45	.79
26...	0948	42.0	95	7.2	11.7	8.3	79	45	.79
26...	0949	43.0	95	7.2	11.6	8.4	80	47	.75
26...	0950	44.0	95	7.5	11.5	8.5	81	47	.75
26...	0951	45.0	96	7.3	11.3	8.4	80	45	.79
26...	0952	46.0	95	7.2	11.2	8.4	79	45	.79
26...	0953	47.0	95	7.2	11.1	8.5	80	45	.79
26...	0954	48.0	97	7.2	11.0	8.6	81	43	.84
26...	0955	49.0	97	7.2	10.8	8.6	80	45	.79
26...	0956	50.0	96	7.3	10.7	8.5	79	50	.70
26...	0957	55.0	95	7.2	10.4	8.4	79	45	.79

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
AUG							
26...	1005	13	13	5.2	42.6	.00	.04
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
AUG							
26...		.00	.08	.12	.47	.00	.00

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

SACRAMENTO RIVER BASIN

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11370000 SHASTA LAKE NEAR REDDING, CA--Continued

PIT RIVER ARM OF SHASTA LAKE BELOW BRUSHY CANYON, NEAR PROJECT CITY, CA

LOCATION.--Lat 40°45'00", long 122°12'50", Shasta County, Hydrologic Unit 18020003, 8.7 mi (14.0 km) northeast of Project City.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	LIGHT TRANSMISSION 1 METER PATH- LENGTH (%)	LIGHT ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
AUG									
26...	1231	.50	119	8.8	26.1	8.1	104	14	1.98
26...	1232	1.0	119	8.8	26.0	8.3	106	14	1.98
26...	1233	2.0	119	8.7	25.7	8.4	107	13	2.04
26...	1234	3.0	118	8.7	25.6	8.4	107	11	2.18
26...	1235	4.0	118	8.7	25.6	8.5	108	11	2.18
26...	1236	5.0	119	8.7	25.5	8.7	110	11	2.18
26...	1237	6.0	119	8.7	25.4	8.6	109	13	2.04
26...	1238	7.0	118	8.2	25.3	7.3	92	15	1.91
26...	1239	8.0	119	7.7	24.8	5.8	73	15	1.91
26...	1240	9.0	122	7.4	24.0	4.5	56	21	1.54
26...	1241	10.0	129	7.3	22.5	5.3	64	24	1.43
26...	1242	11.0	133	7.7	21.3	6.3	74	19	1.66
26...	1243	12.0	134	7.7	20.6	6.7	77	15	1.91
26...	1244	13.0	134	7.7	20.2	6.9	79	11	2.18
26...	1245	14.0	136	7.8	19.8	7.3	83	8.0	2.46
26...	1246	15.0	136	7.8	19.5	7.5	85	7.0	2.69
26...	1247	16.0	136	7.8	19.4	7.5	84	7.0	2.62
26...	1248	17.0	136	7.7	19.2	7.5	84	6.0	2.77
26...	1249	18.0	136	7.6	18.8	7.3	81	6.0	2.77
26...	1250	19.0	138	7.6	18.5	7.0	78	6.0	2.77
26...	1251	20.0	136	7.4	18.1	6.3	69	6.0	2.77
26...	1252	21.0	137	7.3	17.8	6.1	67	7.0	2.62
26...	1253	22.0	139	7.2	17.4	6.0	65	6.0	2.77
26...	1254	23.0	139	7.2	17.0	5.9	63	6.0	2.77
26...	1255	24.0	138	7.2	16.6	5.9	63	6.0	2.77
26...	1256	25.0	136	7.2	16.3	6.1	64	7.0	2.62
26...	1257	26.0	136	7.2	16.0	6.2	65	8.0	2.46
26...	1258	27.0	135	7.1	15.7	6.2	65	8.0	2.46
26...	1259	28.0	135	7.1	15.3	6.1	63	7.0	2.62
26...	1300	29.0	134	7.1	14.9	6.2	64	5.0	2.94
26...	1301	30.0	133	7.1	14.7	6.1	62	4.0	3.11
26...	1302	31.0	131	7.1	14.5	5.9	60	4.0	3.11
26...	1303	32.0	131	7.0	14.2	6.0	61	4.0	3.28
26...	1304	33.0	129	7.0	13.9	6.3	63	4.0	3.28
26...	1305	34.0	129	7.0	13.6	6.5	65	3.0	3.47
26...	1306	35.0	128	7.0	13.5	6.6	66	3.0	3.57
26...	1307	36.0	128	7.0	13.2	6.7	66	3.0	3.66
26...	1308	37.0	126	7.0	13.0	6.8	67	2.0	3.87
26...	1309	38.0	126	7.0	12.6	6.9	67	2.0	3.87
26...	1310	39.0	125	7.0	12.5	6.9	67	2.0	4.09
26...	1311	40.0	123	7.0	12.3	7.0	68	1.0	4.44
26...	1312	41.0	122	7.0	12.1	7.1	68	1.0	4.32
26...	1313	42.0	121	7.0	11.9	7.1	68	1.0	4.32
26...	1314	43.0	122	7.0	11.8	7.2	69	1.0	4.56
26...	1315	44.0	121	7.0	11.7	7.2	69	.80	4.82
26...	1316	45.0	121	7.0	11.6	7.2	69	.80	4.82
26...	1317	46.0	122	7.0	11.4	7.0	66	.60	5.09
26...	1318	47.0	122	7.0	11.3	6.9	65	.60	5.09
26...	1319	48.0	122	7.0	11.2	6.8	64	.50	5.39
26...	1320	49.0	122	7.0	11.1	6.7	63	.50	5.39
26...	1321	50.0	122	7.0	11.1	6.6	62	.50	5.39
26...	1322	55.0	128	6.9	10.8	5.8	54	.30	5.71
26...	1323	60.0	132	6.9	10.4	5.4	50	.40	5.45

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	NITRO- GEN, NO2+N03 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA SOLVED (MG/L AS N)
AUG								
26...	1330	13	13	3.0	32.2	.15	.02	.00

DATE	TIME	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL- (MG/L AS P)
AUG								
26...	.30	.33	.32	.33	.48	.005	.02	.00

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

SACRAMENTO RIVER BASIN

11370000 SHASTA LAKE NEAR REDDING, CA--Continued

PIT RIVER ARM OF SHASTA LAKE AT ALLIE COVE, NEAR LAKEHEAD, CA

LOCATION.--Lat 40°45'51", long 122°16'52", Shasta County, Hydrologic Unit 18020003, 11.2 mi (18.0 km) southeast of Lakehead.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (M) 1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, (PER-CENT SATURATION)	LIGHT TRANSMISSION 1 METER PATH-LENGTH (%)	LIGHT ATTENUATION COEFFICIENT (ALPHA/METER)
AUG									
26...	1405	.50	119	8.9	27.0	8.6	112	15	1.91
26...	1406	1.0	119	8.9	26.8	8.7	113	15	1.91
26...	1407	2.0	119	8.9	26.5	8.8	114	14	1.98
26...	1408	3.0	119	8.9	26.0	8.9	114	11	2.18
26...	1409	4.0	118	8.8	25.8	8.8	112	8.0	2.46
26...	1410	5.0	118	8.7	25.6	8.4	106	10	2.32
26...	1411	6.0	118	8.6	25.5	8.1	103	10	2.32
26...	1412	7.0	117	8.4	25.4	7.9	100	10	2.32
26...	1413	8.0	117	8.3	25.0	7.2	90	10	2.32
26...	1414	9.0	119	7.8	23.9	5.2	64	15	1.91
26...	1415	10.0	129	7.3	21.9	4.6	54	17	1.78
26...	1416	11.0	135	7.3	21.1	5.3	61	10	2.32
26...	1417	12.0	136	7.4	20.5	5.6	65	8.0	2.46
26...	1418	13.0	135	7.4	20.0	6.2	71	6.0	2.77
26...	1419	14.0	136	7.5	19.8	6.8	77	4.0	3.11
26...	1420	15.0	137	7.5	19.5	7.0	79	4.0	3.28
26...	1421	16.0	135	7.5	19.3	7.2	81	4.0	3.28
26...	1422	17.0	136	7.5	19.1	6.9	77	3.0	3.47
26...	1423	18.0	137	7.4	18.6	6.7	74	4.0	3.28
26...	1424	19.0	137	7.4	18.3	6.5	72	4.0	3.28
26...	1425	20.0	138	7.3	17.9	6.4	70	4.0	3.28
26...	1426	21.0	137	7.3	17.5	6.4	69	4.0	3.28
26...	1427	22.0	136	7.2	17.1	6.4	69	4.0	3.28
26...	1428	23.0	136	7.2	16.9	6.5	70	4.0	3.11
26...	1429	24.0	136	7.2	16.4	6.6	70	4.0	3.11
26...	1430	25.0	135	7.2	16.0	6.8	71	4.0	3.11
26...	1431	26.0	133	7.2	15.7	6.9	72	4.0	3.11
26...	1432	27.0	133	7.2	15.6	7.0	73	4.0	3.11
26...	1433	28.0	133	7.2	15.2	7.1	73	4.0	3.11
26...	1434	29.0	132	7.2	15.0	7.2	74	4.0	3.28
26...	1435	30.0	129	7.2	14.6	7.3	74	4.0	3.28
26...	1436	31.0	129	7.2	14.3	7.4	75	4.0	3.28
26...	1437	32.0	127	7.2	14.2	7.4	75	4.0	3.28
26...	1438	33.0	127	7.2	13.8	7.6	76	4.0	3.28
26...	1439	34.0	126	7.2	13.6	7.6	76	4.0	3.28
26...	1440	35.0	124	7.2	13.4	7.7	76	4.0	3.28
26...	1441	36.0	124	7.1	13.1	7.9	78	4.0	3.28
26...	1442	37.0	123	7.1	12.9	8.0	78	4.0	3.19
26...	1443	38.0	122	7.1	12.8	8.0	73	4.0	3.19
26...	1444	39.0	122	7.1	12.5	8.0	78	4.0	3.28
26...	1445	40.0	122	7.1	12.2	8.1	78	4.0	3.28
26...	1446	41.0	121	7.1	12.1	8.2	79	4.0	3.28
26...	1447	42.0	120	7.1	11.9	8.3	80	4.0	3.28
26...	1448	43.0	119	7.1	11.8	8.3	79	4.0	3.28
26...	1449	44.0	119	7.1	11.7	8.2	78	4.0	3.28
26...	1450	45.0	120	7.1	11.6	8.2	78	4.0	3.28
26...	1451	46.0	120	7.1	11.4	8.3	79	3.0	3.47
26...	1452	47.0	119	7.1	11.3	8.3	78	3.0	3.47
26...	1453	48.0	119	7.1	11.2	8.3	78	3.0	3.47
26...	1454	49.0	118	7.1	11.1	8.3	78	3.0	3.47
26...	1455	50.0	119	7.1	11.0	8.3	78	3.0	3.47
26...	1456	55.0	121	7.0	10.7	8.2	76	2.0	3.87
26...	1457	60.0	125	7.0	10.4	8.0	74	2.0	4.09
26...	1458	65.0	129	7.0	10.0	7.9	72	2.0	4.09
26...	1459	70.0	131	7.0	9.8	7.9	72	1.0	4.32

DATE	TIME	DEPTH TO BOTTOM OF SAMPLE INTERVAL (FT)	DEPTH TO TOP OF SAMPLE INTERVAL (FT)	TRANSPAR-ENCY (SECCHI DISK) (M) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	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)
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AUG 26... 1505 13 13 2.60 29.2 .00 .02 .00

DATE	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS P)
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AUG 26... .31 .14 .33 .14 .14 .004 .00

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

SACRAMENTO RIVER BASIN

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11370000 SHASTA LAKE NEAR REDDING, CA--Continued

SQUAW CREEK ARM OF SHASTA LAKE NEAR PROJECT CITY, CA

LOCATION.--Lat 40°46'35", long 122°11'58", Shasta County, Hydrologic Unit 18020003, 9.7 mi (15.6 km) northeast of Project City.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED CENT SATUR- ATION)	LIGHT TRAN- SMIS- SION (PER- CENT) 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
AUG									
26...	1100	.50	122	8.8	26.1	7.9	101	11	2.18
26...	1101	1.0	121	8.8	26.1	8.1	104	11	2.18
26...	1102	2.0	122	8.8	26.0	8.5	109	10	2.32
26...	1103	3.0	123	8.7	25.9	8.7	111	3.0	3.38
26...	1104	4.0	123	8.7	25.8	8.8	112	3.0	3.67
26...	1105	5.0	123	8.6	25.7	8.8	112	2.0	3.87
26...	1106	6.0	123	8.6	25.7	9.0	115	2.0	3.87
26...	1107	7.0	124	8.6	25.5	8.9	113	3.0	3.57
26...	1108	8.0	127	7.9	24.3	7.1	88	6.0	2.85
26...	1109	9.0	125	7.4	23.6	6.2	76	6.0	2.77
26...	1110	10.0	131	7.3	21.8	6.0	71	6.0	2.77
26...	1111	11.0	136	7.3	20.8	6.0	70	6.0	2.77
26...	1112	12.0	136	7.3	20.3	5.5	63	6.0	2.77
26...	1113	13.0	138	7.4	19.8	5.7	65	5.0	2.94
26...	1114	14.0	136	7.3	19.7	5.8	66	5.0	2.94
26...	1115	15.0	137	7.4	19.5	6.0	68	5.0	3.02
26...	1116	16.0	136	7.4	19.4	6.2	70	5.0	3.02
26...	1117	17.0	136	7.4	19.1	6.1	68	4.0	3.11
26...	1118	18.0	137	7.3	18.8	5.5	61	4.0	3.28
26...	1119	19.0	136	7.2	18.5	5.3	59	3.0	3.47
26...	1120	20.0	137	7.2	18.2	5.2	57	3.0	3.47
26...	1121	21.0	137	7.2	17.8	5.1	56	3.0	3.47
26...	1122	22.0	137	7.1	17.4	5.1	55	3.0	3.38
26...	1123	23.0	139	7.1	17.0	5.2	56	3.0	3.47
26...	1124	24.0	139	7.1	16.7	5.2	55	3.0	3.47
26...	1125	25.0	139	7.1	16.3	5.2	55	3.0	3.47
26...	1126	26.0	137	7.1	16.0	5.3	56	3.0	3.47
26...	1127	27.0	137	7.1	15.7	5.4	56	3.0	3.47
26...	1128	28.0	137	7.1	15.4	5.4	56	3.0	3.47
26...	1129	29.0	136	7.1	15.0	5.5	57	3.0	3.47
26...	1130	30.0	136	7.1	14.9	5.5	56	3.0	3.47
26...	1131	31.0	137	7.1	14.4	5.6	57	3.0	3.47
26...	1132	32.0	136	7.1	14.2	5.8	59	3.0	3.47
26...	1133	33.0	134	7.1	13.9	5.8	58	3.0	3.47
26...	1134	34.0	134	7.1	13.7	5.9	59	3.0	3.47
26...	1135	35.0	133	7.0	13.4	6.0	60	3.0	3.57
26...	1136	36.0	133	7.0	13.2	6.0	59	3.0	3.47
26...	1137	37.0	133	7.0	13.1	5.9	58	3.0	3.67
26...	1138	38.0	135	7.0	12.7	5.8	57	3.0	3.67
26...	1139	39.0	137	7.0	12.5	5.6	54	3.0	3.47
26...	1140	40.0	137	7.0	12.4	5.5	53	3.0	3.47
26...	1141	41.0	138	7.0	12.2	5.4	52	3.0	3.67
26...	1142	42.0	138	7.0	12.1	5.2	50	3.0	3.67
26...	1143	43.0	140	6.9	11.9	5.1	49	3.0	3.47
26...	1144	44.0	139	6.9	11.8	5.1	49	3.0	3.67
26...	1145	45.0	140	6.9	11.7	5.0	49	4.0	3.11
26...	1146	46.0	139	6.9	11.5	5.1	49	4.0	3.19
26...	1147	47.0	139	6.9	11.4	5.1	49	4.0	3.19
26...	1148	48.0	140	7.0	11.3	4.8	45	4.0	3.11
26...	1149	49.0	139	7.0	11.2	4.9	46	4.0	3.11
26...	1150	50.0	138	7.0	11.1	5.0	47	4.0	3.11
26...	1151	55.0	136	7.0	10.8	5.1	48	4.0	3.28
26...	1152	60.0	133	6.9	10.4	4.9	45	--	--

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	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)
AUG								
26...	1200	13	13	2.50	25.6	.00	.01	.00
		NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
AUG								
26...	.20	.15	.21	.15	.15	.004	.02	.02

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

SACRAMENTO RIVER BASIN

11370000 SHASTA LAKE NEAR REDDING, CA--Continued

McCLOUD RIVER ARM OF SHASTA LAKE NEAR LAKEHEAD, CA

LOCATION.--Lat 40°48'30", long 122°17'30", Shasta County, Hydrologic Unit 18020004, 8.4 mi (13.5 km) southeast of Lakehead.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) <u>1/</u>	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	LIGHT TRANSMISSION 1 METER PATH- LENGTH (%)	LIGHT ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
AUG									
26...	1553	.50	118	8.4	26.1	8.1	104	24	1.43
26...	1554	1.0	118	8.4	26.1	8.3	106	24	1.43
26...	1555	2.0	117	8.4	25.9	8.6	110	13	2.04
26...	1556	3.0	118	8.4	25.4	8.8	111	11	2.18
26...	1557	4.0	117	8.4	25.3	9.0	114	11	2.18
26...	1558	5.0	117	8.4	25.2	9.2	116	11	2.45
26...	1559	6.0	117	8.3	25.2	9.2	116	11	2.18
26...	1600	7.0	117	8.2	25.1	9.1	115	13	2.04
26...	1601	8.0	117	8.2	25.0	9.0	113	13	2.04
26...	1602	9.0	118	7.7	24.7	8.3	104	13	2.04
26...	1603	10.0	124	7.4	21.8	6.6	78	17	1.78
26...	1604	11.0	125	7.3	20.8	6.5	75	17	1.78
26...	1605	12.0	132	7.3	20.2	6.6	76	19	1.66
26...	1606	13.0	134	7.3	19.9	6.7	76	20	1.60
26...	1607	14.0	135	7.3	19.6	6.8	77	21	1.54
26...	1608	15.0	135	7.3	19.4	6.6	74	20	1.60
26...	1609	16.0	136	7.3	19.3	6.5	73	20	1.60
26...	1610	17.0	136	7.3	19.1	6.3	71	17	1.78
26...	1611	18.0	134	7.3	18.8	6.1	70	18	1.72
26...	1612	19.0	134	7.2	18.3	6.0	66	19	1.66
26...	1613	20.0	134	7.2	17.9	5.8	63	19	1.66
26...	1614	21.0	133	7.2	17.6	6.0	65	19	1.66
26...	1615	22.0	132	7.2	17.3	6.0	65	19	1.66
26...	1616	23.0	131	7.2	16.8	6.0	64	18	1.72
26...	1617	24.0	131	7.2	16.2	6.2	65	18	1.72
26...	1618	25.0	132	7.2	16.0	6.4	67	16	1.85
26...	1619	26.0	131	7.2	15.8	6.4	67	16	1.85
26...	1620	27.0	128	7.2	15.4	6.6	68	15	1.91
26...	1621	28.0	129	7.2	15.2	6.7	69	15	1.91
26...	1622	29.0	128	7.2	14.8	6.8	70	16	1.85
26...	1623	30.0	126	7.2	14.5	6.9	70	15	1.91
26...	1624	31.0	126	7.2	14.2	7.1	72	14	1.98
26...	1625	32.0	123	7.2	13.9	7.3	73	13	2.04
26...	1626	33.0	122	7.2	13.8	7.3	73	13	2.04
26...	1627	34.0	120	7.2	13.3	7.6	75	13	2.04
26...	1628	35.0	118	7.1	13.2	7.6	75	15	1.91
26...	1629	36.0	119	7.2	13.1	7.7	76	14	1.98
26...	1630	37.0	117	7.2	12.8	7.8	76	15	1.91
26...	1631	38.0	116	7.2	12.7	7.8	76	15	1.91
26...	1632	39.0	114	7.1	12.4	8.2	80	15	1.91
26...	1633	40.0	114	7.1	12.2	8.2	79	15	1.91
26...	1634	41.0	114	7.2	12.1	8.2	79	15	1.91
26...	1635	42.0	113	7.2	11.9	8.4	81	15	1.91
26...	1636	43.0	112	7.2	11.7	8.4	80	17	1.78
26...	1637	44.0	110	7.2	11.6	8.4	80	17	1.78
26...	1638	45.0	111	7.2	11.4	8.5	81	18	1.72
26...	1639	46.0	110	7.2	11.2	8.6	81	18	1.72
26...	1640	47.0	110	7.2	11.1	8.6	81	17	1.78
26...	1641	48.0	109	7.2	11.1	8.6	81	17	1.78
26...	1642	49.0	109	7.2	11.0	8.6	81	17	1.78
26...	1643	50.0	108	7.2	11.0	8.6	81	17	1.78
26...	1644	55.0	107	6.8	10.6	8.3	77	17	1.78

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) <u>1/</u>	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	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)
AUG								
26...	1650	13	13	3.5	34.4	.00	.03	.00

DATE	TIME	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)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
AUG								
26...	.13	.13	.16	.16	.16	.021	.02	.00

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

SACRAMENTO RIVER BASIN

71

11370000 SHASTA LAKE NEAR REDDING, CA--Continued

SHASTA LAKE AT SHASTA DAM, NEAR PROJECT CITY, CA

LOCATION.--Lat 40°43'33", long 122°24'36", Shasta County, Hydrologic Unit, 18020005, 4.4 mi (7.1 km) northwest of Project City.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) <u>1/</u>	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	LIGHT TRANS- MISSION 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
AUG									
25...	1620	.50	114	8.1	26.0	7.5	96	55	.60
25...	1621	1.0	114	8.1	25.9	7.4	95	55	.60
25...	1622	2.0	114	8.1	25.8	7.6	97	50	.70
25...	1623	3.0	114	8.1	25.7	7.8	99	50	.70
25...	1624	4.0	114	8.1	25.5	7.9	100	50	.70
25...	1625	5.0	114	8.1	25.4	7.9	100	50	.70
25...	1626	6.0	113	8.1	25.3	7.8	99	41	.89
25...	1627	7.0	113	8.1	25.2	7.8	98	27	1.31
25...	1628	8.0	113	8.0	25.1	7.3	92	19	1.66
25...	1629	9.0	113	8.1	25.1	7.3	92	15	1.91
25...	1630	10.0	122	7.6	22.2	7.0	83	12	2.11
25...	1631	11.0	123	7.6	21.3	7.0	82	10	2.32
25...	1632	12.0	124	7.6	20.9	6.9	80	9.0	2.39
25...	1633	13.0	127	7.5	20.1	6.6	76	9.0	2.46
25...	1634	14.0	128	7.5	19.9	6.6	75	9.0	2.46
25...	1635	15.0	127	7.5	19.6	6.5	74	9.0	2.39
25...	1636	16.0	128	7.4	19.3	6.4	72	10	2.32
25...	1637	17.0	129	7.4	19.0	6.3	70	9.0	2.39
25...	1638	18.0	130	7.4	18.6	6.2	69	9.0	2.39
25...	1639	19.0	131	7.4	18.4	6.2	68	10	2.32
25...	1640	20.0	129	7.4	18.2	6.3	69	11	2.18
25...	1641	21.0	129	7.4	17.9	6.4	70	11	2.25
25...	1642	22.0	127	7.4	17.4	6.5	70	11	2.18
25...	1643	23.0	126	7.4	17.0	6.8	73	11	2.18
25...	1644	24.0	127	7.4	16.6	6.7	71	11	2.18
25...	1645	25.0	127	7.4	16.3	6.8	72	11	2.18
25...	1646	26.0	126	7.4	16.0	6.8	71	11	2.18
25...	1647	27.0	125	7.4	15.7	6.9	72	11	2.18
25...	1648	28.0	124	7.4	15.4	7.0	73	11	2.25
25...	1649	29.0	124	7.4	15.2	7.0	72	11	2.25
25...	1650	30.0	124	7.4	14.9	7.2	74	11	2.25
25...	1651	31.0	121	7.4	14.5	7.4	75	11	2.25
25...	1652	32.0	119	7.4	14.2	7.6	77	10	2.32
25...	1653	33.0	117	7.4	14.0	7.6	76	10	2.32
25...	1654	34.0	117	7.4	13.8	7.7	77	10	2.32
25...	1655	35.0	116	7.4	13.6	7.8	78	10	2.32
25...	1656	36.0	114	7.4	13.4	7.9	78	10	2.32
25...	1657	37.0	111	7.4	13.1	8.0	79	10	2.32
25...	1658	38.0	112	7.4	12.8	8.1	79	10	2.32
25...	1659	39.0	110	7.4	12.6	8.2	80	10	2.32
25...	1700	40.0	109	7.4	12.4	8.4	82	11	2.25
25...	1701	41.0	108	7.4	12.2	8.4	81	10	2.32
25...	1702	42.0	107	7.5	12.1	8.4	81	9.0	2.39
25...	1703	43.0	106	7.5	11.9	8.6	82	9.0	2.46
25...	1704	44.0	107	7.5	11.8	8.5	81	9.0	2.46
25...	1705	45.0	106	7.5	11.6	8.5	81	9.0	2.39
25...	1706	46.0	106	7.5	11.5	8.5	81	9.0	2.46
25...	1707	47.0	107	7.5	11.4	8.5	81	9.0	2.46
25...	1708	48.0	105	7.5	11.3	8.6	82	9.0	2.46
25...	1709	49.0	107	7.5	11.3	8.5	80	8.0	2.54
25...	1710	50.0	107	7.5	11.2	8.4	79	9.0	2.46
25...	1711	55.0	107	7.4	10.7	8.4	78	7.0	2.69
25...	1712	60.0	108	7.4	10.5	8.3	77	6.0	2.85
25...	1713	65.0	109	7.4	10.0	6.3	58	5.0	3.02
25...	1714	70.0	110	7.3	9.8	6.1	56	4.0	3.28
25...	1715	75.0	111	7.3	9.4	5.8	52	3.0	3.57
25...	1716	80.0	112	7.3	9.0	6.7	60	1.0	4.56
25...	1717	85.0	114	7.3	8.8	6.7	60	1.0	5.09
25...	1718	90.0	117	7.2	8.5	5.8	51	.20	6.44
25...	1719	95.0	118	7.2	8.2	6.5	57	.04	7.95
25...	1720	100	117	7.2	8.0	6.5	57	.01	8.83

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

SACRAMENTO RIVER BASIN

11370000 SHASTA LAKE NEAR REDDING, CA--Continued

SHASTA LAKE AT SHASTA DAM, NEAR PROJECT CITY, CA--Continued
WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) <u>1</u> /	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	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)
AUG								
25...	1725	13	13	6.8	50.5	.01	.03	.00
25...	1730	164	164	--	--	.05	--	.00

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,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPH TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH DISSOL. (MG/L AS P)
AUG							
25...	.23	.30	.26	.30	.31	.000	.00
25...	.28	.28	.30	.28	.33	.007	--

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

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, 4,170 acre-ft (5.14 hm³). 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).--42 years, 8,538 ft³/s (241.8 m³/s), 6,186,000 acre-ft/yr (7.63 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, 51,300 ft³/s (1,450 m³/s) Feb. 20, gage height, 27.55 ft (8.397 m); minimum daily, 3,900 ft³/s (110 m³/s) Oct. 15, 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5190	4200	5370	6390	10700	39400	7460	7070	7550	11000	11300	8260
2	5180	4220	5330	6450	9450	39400	7490	7450	7600	11100	11000	8250
3	5180	4210	5300	8000	8000	39400	7540	7960	7550	11000	11000	7930
4	5190	4280	5310	8350	8030	39300	7560	7920	7580	11000	10900	7910
5	5180	4280	5410	8310	8040	37600	6150	8010	7690	11000	10500	7850
6	5150	4290	5380	8340	7990	26500	5810	8050	8210	11000	10600	7420
7	5160	4240	5370	8300	8050	17500	5830	8050	9340	11000	10600	7430
8	5180	4220	5340	7400	8160	17100	5870	7990	10100	11100	10600	7340
9	5140	4170	5320	6430	8010	17000	5930	8060	10200	11000	10500	6810
10	5160	4170	5320	6390	7170	16900	5850	8010	10100	11000	10600	6750
11	5160	4170	5270	6400	6230	16700	5840	7600	10500	11000	10500	6720
12	5140	4140	5290	7660	6250	16600	5830	7190	10500	11000	10200	6160
13	4510	4180	5260	12600	6120	16800	5790	7160	11300	10900	10000	6120
14	4230	4170	5260	32800	6110	16900	5750	7120	12200	11100	10000	6150
15	3900	4150	5290	37000	6190	16900	5850	6140	12200	12000	10000	6100
16	3920	4260	5290	36600	6350	16700	5850	6090	12200	12300	9940	6100
17	3950	5290	5310	36500	11700	16700	5880	6020	13400	12200	9970	6130
18	3920	5370	5350	36400	31500	15300	5840	5980	13700	12200	10000	6110
19	3980	5390	5380	36200	45500	12600	6980	6020	13600	12200	9490	6120
20	3980	5380	5370	36200	50700	12200	7050	6640	13500	12200	9320	6110
21	3990	5280	5410	36000	50500	10600	7030	7160	11800	12200	9220	6160
22	4000	5380	5340	36100	50500	7580	7050	7130	11800	12200	8780	6180
23	4010	5430	5430	31500	50200	6080	6120	7140	11700	12200	8760	6260
24	3900	5460	5710	13700	50100	6000	5870	7120	11700	12200	8740	6190
25	4020	5470	5630	12000	50000	6000	5940	7180	11800	12200	8840	6270
26	4000	5400	5490	12000	50000	6000	5850	7240	11700	12200	8850	6330
27	4100	5360	6420	12000	49900	6000	5830	7200	11700	12100	8320	6290
28	4230	5320	6400	12000	46300	6000	5920	7190	11000	12200	8310	6190
29	4220	5330	6410	12000	39400	6000	6540	7170	11000	11400	8250	6210
30	4130	5330	6460	12000	---	6040	7010	7170	11000	11400	8300	6220
31	4190	---	6450	12000	---	7390	---	7160	---	11400	8300	---
TOTAL	139190	142540	171670	554020	697150	521190	189310	223390	324220	359000	301690	200070
MEAN	4490	4751	5538	17870	24040	16810	6310	7206	10810	11580	9732	6669
MAX	5190	5470	6460	37000	50700	39400	7560	8060	13700	12300	11300	8260
MIN	3900	4140	5260	6390	6110	6000	5750	5980	7550	10900	8250	6100
AC-FT	276100	282700	340500	1099000	1383000	1034000	375500	443100	643100	712100	598400	396800
MEAN ‡	4429	5960	6004	20830	25490	15020	9513	7118	4917	4193	3718	3900
AC-FT ‡	272300	354600	369200	1281000	1466000	923400	566000	437700	292600	257800	228600	232100
CAL YR 1979 TOTAL	2559340			7012		14400	3620	AC-FT	5076000	MEAN ‡ 6237	AC-FT	‡4516000
WTR YR 1980 TOTAL	3823440			10450		50700	3900	AC-FT	7584000	MEAN ‡ 9204	AC-FT	‡6681000

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

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER-QUALITY RECORDS

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.

SEDIMENT RECORDS: Water years 1978 to current year.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM 5 DAY UNINHIB (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	
OCT												
19...	A 1305	4010	113	7.1	12.5	1.0	10.4	--	--	--	--	
23...	0845	4000	98	7.4	12.5	1.2	10.1	--	--	14	8	
NOV												
20...	A 1340	5370	125	7.1	11.5	2.0	9.7	--	--	--	--	
27...	0930	5340	117	7.5	11.0	1.6	9.8	--	--	K2	K2	
DEC												
18...	0900	5300	131	--	11.0	2.0	9.9	--	--	21	<1	
26...	A 1210	5340	119	7.3	9.5	3.0	10.6	--	--	--	--	
JAN												
22...	1030	36100	122	7.9	9.5	4.4	12.6	--	--	11	--	
23...	A 1210	32800	139	7.3	11.0	--	12.5	--	--	--	--	
FEB												
27...	0930	49200	112	7.7	9.5	8.8	13.0	--	--	K4	K2	
MAR												
18...	0915	15500	102	7.6	6.0	15	10.9	--	--	K1	<1	
25...	A 1405	6000	112	7.3	10.5	--	11.1	5	1.2	--	--	
APR												
22...	0830	6940	99	7.7	9.5	10	10.8	--	--	K37	K4	
MAY												
12...	0930	7200	107	7.5	10.0	8.0	10.5	--	--	K9	K2	
23...	A 1145	7150	113	7.1	11.0	8.0	11.2	--	--	--	--	
JUN												
20...	A 1305	13300	113	7.1	12.0	5.0	10.2	--	--	--	--	
23...	1000	11100	101	7.6	10.0	6.0	10.4	--	--	K2	K3	
JUL												
22...	0910	12000	105	6.7	10.5	3.5	10.2	--	--	K4	K3	
24...	A 1115	12200	114	7.1	12.0	2.0	10.2	--	--	--	--	
AUG												
26...	0830	8940	98	7.3	12.0	2.1	9.4	--	--	K10	K3	
29...	A 1440	8210	106	7.1	13.0	2.0	9.9	--	--	--	--	
SEP												
23...	0915	6280	98	7.3	12.0	1.0	10.4	--	--	<1	K3	
30...	A 1150	6440	108	7.2	13.0	2.0	10.1	--	--	--	--	
DATE		HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT												
19...	A	--	--	--	--	--	--	--	--	--	--	--
23...		42	3	7.5	5.7	4.3	32	.3	.9	39	7.3	2.1
NOV												
20...	A	--	--	--	--	--	--	--	--	--	--	--
27...		47	0	11	4.8	6.6	33	.4	1.4	53	9.6	2.0
DEC												
18...		48	0	11	5.1	7.8	37	.5	1.5	59	6.9	2.4
26...	A	--	--	--	--	--	--	--	--	--	--	--
JAN												
22...		47	0	11	4.7	6.9	24	.4	1.6	54	6.4	2.2
23...	A	--	--	--	--	--	--	--	--	--	--	--
FEB												
27...		44	1	10	4.7	7.1	25	.5	1.3	43	12	1.9
MAR												
18...		40	0	8.9	4.4	5.0	21	.3	1.0	42	8.0	1.4
25...	A	--	--	--	--	--	--	--	--	--	--	--
APR												
22...		40	0	8.9	4.2	5.0	21	.3	1.1	48	4.4	3.0
MAY												
12...		43	3	9.6	4.5	5.7	22	.4	1.1	40	10	1.2
23...	A	42	--	10	4.0	6.0	23	.4	1.0	47	--	2.0
JUN												
20...	A	--	--	--	--	--	--	--	--	--	--	--
23...		42	0	9.4	4.5	5.2	21	.4	.9	47	5.8	1.3
JUL												
22...		43	0	9.5	4.6	5.3	21	.4	1.1	47	3.8	1.6
24...	A	--	--	--	--	--	--	--	--	--	--	--
AUG												
26...		41	0	8.6	4.8	4.5	19	.3	.8	48	3.4	2.2
29...	A	--	--	--	--	--	--	--	--	--	--	--
SEP												
23...		41	0	8.0	5.1	4.3	18	.3	.9	46	1.6	2.2
30...	A	--	--	--	--	--	--	--	--	--	--	--

See footnotes at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	
		AS	AS	AS	AS	AS	BA	AS	BA	AS	CD	AS	CD	AS	CR	AS	CR	AS	CO	AS	CO
DEC 18...	0900	2		2		200		20		1		<1		16		0		0		<3	
MAR 18...	0915	1		1		100		20		1		1		0		0		0		<3	
JUN 23...	1000	2		1		0		20		1		2		0		0		0		<3	
SEP 23...	0915	1		1		0		20		0		1		10		0		0		<3	

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)	
	AS	CU	AS	CU	AS	FE	AS	FE	AS	PB	AS	PB	AS	MN	AS	MN	AS	HG	AS	HG
DEC 18...	18		2		180		20		5		3		10		5		.0		.0	
MAR 18...	29		8		1600		10		11		0		20		10		.1		.0	
JUN 23...	28		9		610		80		8		0		10		4		.4		.0	
SEP 23...	14		8		250		50		10		4		10		4		.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- PENDE (MG/L AS C)	
	AS	NI	AS	NI	AS	SE	AS	SE	AS	AG	AS	AG	AS	ZN	AS	ZN	AS	C	AS	C
DEC 18...	0		2		0		0		0		0		220		60		4.8		.1	
MAR 18...	3		1		0		0		0		0		110		60		4.6		1.5	
JUN 23...	9		1		0		0		2		0		80		50		3.5		--	
SEP 23...	5		2		0		0		0		0		70		40		1.9		--	

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.

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	DEC 18,79 0900		MAR 18,80 0915		MAY 12,80 0930		JUN 23,80 1000	
TOTAL CELLS/ML	1500		250		13		26	
DIVERSITY: DIVISION	0.7		1.5		0.0		0.0	
..CLASS	0.7		1.5		0.0		0.0	
...ORDER	0.9		1.9		0.0		1.0	
...FAMILY	0.9		2.1		0.0		1.0	
....GENUS	1.6		2.1		0.0		1.0	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	--	-
....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	44	3	55#	22	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
....CYCLOTELLA	350#	24	41#	17	--	-	13#	50
....MELOSIRA	860#	59	--	-	--	-	--	-
..PENNALES								
....ACHNANTHACEAE								
....COCONEIS	7	1	--	-	--	-	13#	50
...FRAGILARIACEAE								
....ASTERIONELLA	--	-	28	11	--	-	--	-
....SYNEDRA	7	1	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	--	-	28	11	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	29	2	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
....ANACYSTIS	--	-	96#	39	13#	100	--	-
...HORMOGONALES								
...OSCILLATORIA								
....OSCILLATORIA	--	-	--	-	--	-	--	-
....SCHIZOTHRIX	150	11	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	JUL 22,80 0910	AUG 26,80 0830	SEP 23,80 0915
TOTAL CELLS/ML	190	130	770
DIVERSITY: DIVISION	0.9	1.8	0.0
..CLASS	0.9	1.8	0.0
...ORDER	1.0	2.2	0.0
...FAMILY	1.0	2.2	0.0
....GENUS	1.0	2.4	0.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	--	-	26# 20	--	--	-
....TETRAEDRON	--	-	13 10	--	--	-
...SCENEDESMACEAE						
...SCENEDESMUS	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	13	7	13 10	--	--	-
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISACEAE						
....CYCLOTELLA	13	7	13 10	--	--	-
....MELOSIRA	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
...COCCONEIS	--	-	--	-	--	-
...FRAGILARIACEAE						
...ASTERIONELLA	--	-	--	-	--	-
...SYNEDRA	--	-	--	-	--	-
...NAVICULACEAE						
...NAVICULA	--	-	--	-	--	-
...NITZSCHACEAE						
....NITZSCHIA	13	7	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	--	-	26# 20		770#100	
...HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	150# 80		--	-	--	-
...SCHIZOTHRIX	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	39# 30	--	--	-

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

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

PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON TOTAL BIOMASS DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	Sampling method
OCT 23...	35	.470	.310	15.2	3.37	10.5	Polyethylene strip
APR 22...	35	.157	.000	1.75	.000	89.7	do
JUN 23...	42	2.84	.630	6.44	.730	343	do
AUG 26...	35	4.57	1.81	6.06	1.21	455	do

SACRAMENTO RIVER BASIN

79

11370500 SACRAMENTO RIVER AT KESWICK, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 23...	0845	4000	12.5	1	11	--
NOV 27...	0930	5340	11.0	2	29	79
DEC 18...	0900	5300	11.0	3	43	82
JAN 22...	1030	36100	9.5	10	975	87
FEB 27...	0930	49200	9.5	14	1860	81
MAR 18...	0915	15500	6.0	12	502	84
APR 22...	0830	6940	9.5	6	112	94
MAY 12...	0930	7200	10.0	5	97	93
JUL 22...	0910	12000	10.5	4	130	71
AUG 26...	0830	8940	12.0	3	72	71

SACRAMENTO RIVER BASIN

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.--30 years, 215 ft³/s (6.089 m³/s), 155,800 acre-ft/yr (192 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. 13	1830	1,690 47.9	6.95 2.118
Feb. 17	2245	*6,290 178	11.47 3.496

Minimum daily, 10 ft³/s (0.28 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	38	120	452	177	947	229	157	75	42	16	14
2	11	39	136	387	174	817	218	152	73	42	16	13
3	11	81	181	330	237	717	211	148	74	43	15	13
4	10	118	153	291	226	634	234	144	86	43	16	12
5	11	117	132	318	211	662	369	140	87	41	16	12
6	12	244	119	347	201	673	327	137	81	39	16	12
7	13	210	110	316	190	670	290	133	75	38	16	12
8	15	143	101	283	183	646	270	132	69	37	15	12
9	16	110	93	265	175	610	261	145	68	37	15	12
10	16	88	87	260	169	573	249	139	66	36	14	12
11	17	74	81	268	164	540	237	132	68	35	13	12
12	16	65	76	956	158	499	224	131	71	34	13	12
13	17	59	72	1420	154	478	217	125	78	33	13	13
14	21	54	69	1430	152	595	213	122	80	32	14	17
15	26	51	66	1110	183	632	205	118	69	31	14	19
16	22	122	64	867	764	559	197	114	63	30	14	17
17	19	220	61	824	3380	515	192	109	60	28	14	15
18	22	165	59	673	4450	476	186	104	57	27	13	16
19	44	128	64	545	3250	438	183	100	55	27	13	17
20	26	108	76	456	2410	410	236	96	54	25	13	16
21	28	92	114	396	1920	389	235	94	53	24	13	15
22	23	95	110	352	1640	366	216	93	54	22	13	14
23	34	102	143	314	1410	344	205	95	55	22	13	12
24	34	341	200	287	1140	326	197	96	54	21	12	11
25	376	316	214	268	957	316	191	94	53	21	13	11
26	127	258	218	251	844	300	185	92	52	19	13	11
27	75	208	192	237	857	282	179	89	48	18	12	11
28	57	171	175	224	1350	266	173	87	46	18	13	11
29	48	147	165	211	1140	253	167	83	45	18	13	12
30	43	130	220	197	---	242	161	80	43	17	14	11
31	40	---	486	187	---	234	---	79	---	16	14	---
TOTAL	1243	4094	4157	14722	28266	15409	6657	3560	1912	916	432	397
MEAN	40.1	136	134	475	975	497	222	115	63.7	29.5	13.9	13.2
MAX	376	341	486	1430	4450	947	369	157	87	43	16	19
MIN	10	38	59	187	152	234	161	79	43	16	12	11
AC-FT	2470	8120	8250	29200	56070	30560	13200	7060	3790	1820	857	787
CAL YR 1979	TOTAL	47824	MEAN 131	MAX 2050	MIN 10	AC-FT 94860						
WTR YR 1980	TOTAL	81765	MEAN 223	MAX 4450	MIN 10	AC-FT 162200						

11525430 JUDGE FRANCIS CARR POWERPLANT NEAR FRENCH GULCH, CA

LOCATION.--Lat 40°38'49", long 122°37'34", Shasta County, Hydrologic Unit 18010211, 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 Water and Power Resources Service, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--17 years, 1,575 ft³/s (44.60 m³/s), 1,141,000 acre-ft/yr (1.41 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	522	501	0	0	0	1840	1610	535	1340	1760	2680	2620
2	525	486	0	0	0	1850	1560	565	815	1680	2640	2630
3	526	499	0	0	0	2100	1500	420	1130	1420	2630	2650
4	519	500	0	0	86	3230	1530	510	1060	1930	2640	2660
5	523	548	0	0	0	3380	1510	514	1110	1690	2630	2650
6	529	484	0	0	0	2580	1550	568	1050	1620	2650	3190
7	534	499	507	0	0	2590	1310	506	1020	1630	2640	3010
8	525	501	0	0	0	2580	1470	513	986	1600	2630	3110
9	530	41	0	4.0	0	2570	1620	503	1010	1720	2620	3180
10	524	0	0	0	0	2570	1470	505	1010	1690	2620	3210
11	528	0	0	0	0	2850	1480	461	1020	1700	2630	3240
12	468	0	0	4.0	0	3370	1480	515	1010	1700	2770	3240
13	500	0	0	0	0	3570	860	503	1020	1710	1940	3200
14	505	0	0	0	0	3600	1480	496	1010	1700	1180	3240
15	510	0	0	0	0	3600	1480	509	1090	1700	2630	3220
16	680	0	0	0	0	3460	1490	501	1050	1670	2630	2630
17	1390	0	0	4.0	0	3430	1590	506	2510	1670	2620	2620
18	1480	0	0	0	0	3220	1540	503	2520	1840	2620	2640
19	1480	0	0	0	0	2250	1590	588	2500	1690	2620	2620
20	1490	0	0	0	0	2340	1600	537	2580	1660	2640	2630
21	1480	0	877	0	0	564	1580	624	1610	1670	2630	2620
22	1480	0	889	0	0	1680	1320	503	1310	1680	2630	2620
23	1470	0	883	0	0	1560	1600	570	2600	1710	2640	2620
24	1490	0	924	0	0	1820	1590	507	2650	1760	2610	2620
25	1470	0	883	0	0	1530	1600	505	2500	1700	2620	2620
26	1500	0	874	0	4.0	1630	1460	505	2510	1670	2630	2620
27	1510	0	1410	0	0	1600	1970	502	2510	1620	2640	2640
28	1500	0	1440	0	1070	1600	1900	513	2550	1690	2630	278
29	1480	0	1420	0	1870	1610	1500	504	2460	1660	2630	1360
30	1480	0	1430	0	---	1560	1580	500	2490	1630	2620	10
31	1480	---	1300	0	---	1490	---	496	---	2010	2620	---
TOTAL	30628	4059	12837	12.0	3030.0	73624	45820	15987	50031	52580	79560	78198
MEAN	988	135	414	.39	104	2375	1527	516	1668	1696	2566	2607
MAX	1510	548	1440	4.0	1870	3600	1970	624	2650	2010	2770	3240
MIN	468	0	0	0	0	564	860	420	815	1420	1180	10
AC-FT	60750	8050	25460	24	6010	146000	90880	31710	99240	104300	157800	155100
CAL YR 1979	TOTAL	280288.00	MEAN	768	MAX	2770	MIN	0	AC-FT	556000		
WTR YR 1980	TOTAL	446366.00	MEAN	1220	MAX	3600	MIN	0	AC-FT	885400		

SACRAMENTO RIVER BASIN

11371600 SPRING CREEK POWERPLANT AT KESWICK, CA

LOCATION.--Lat 40°37'41", long 122°27'59", in NE¼SE¼ sec.18, T.32 N., R.5 W., Shasta County, 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 Water and Power Resources Service, rounded to Geological Survey standards.

AVERAGE DISCHARGE.--16 years, 1,959 ft³/s (55.48 m³/s), 1,419,000 acre-ft/yr (1.75 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 1974-80.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	418	1270	0	0	0	3990	1520	839	1640	1870	2660	2640
2	433	1220	0	967	0	4010	1520	904	1630	1860	2630	2710
3	430	1210	389	868	285	4010	1610	944	1060	1840	2600	2690
4	432	1290	390	727	606	4000	1600	909	1110	1600	2680	2680
5	430	1060	151	553	569	4010	1270	823	1130	1630	2700	2690
6	505	1190	4.0	591	404	4000	1700	575	1260	1820	2680	3420
7	428	1240	1180	320	426	4000	1560	687	1200	1760	2690	3710
8	374	1250	0	458	353	4000	1580	616	1160	1650	2700	3610
9	376	1290	0	388	130	4000	1350	623	1040	1490	2680	3590
10	419	1280	0	442	0	4000	1940	600	1150	1620	2680	3600
11	416	1010	0	439	33	4000	1710	756	1150	1470	2760	3420
12	417	822	0	770	0	3990	1670	888	1160	1690	2800	3420
13	484	799	0	1650	255	4010	2010	665	1380	1790	2740	3440
14	460	604	0	2710	0	3930	2040	537	1150	1900	2210	3430
15	456	274	0	2040	0	3980	1870	515	1150	2020	2700	3430
16	623	0	0	2060	517	3980	1760	534	1050	1840	2310	2760
17	1610	0	0	1330	2780	3980	1780	527	2630	1840	2530	2750
18	1640	0	0	991	3820	3800	1600	525	2500	1760	2550	2720
19	1660	0	0	790	3910	2880	1580	554	2660	1860	2520	2720
20	2360	0	0	634	3910	2930	1910	932	2730	1670	2530	2730
21	2280	0	827	566	3900	1950	1790	350	2000	1670	2570	2720
22	2300	0	900	569	3910	1810	2560	293	1480	1700	2520	2740
23	2280	296	917	637	3900	1890	2150	264	2670	1700	2570	2440
24	2290	302	1480	567	3920	1890	2010	284	2710	1750	2540	2730
25	2480	137	2180	501	3950	1720	1180	352	2720	1690	2550	2720
26	2530	324	2040	407	3950	1820	1500	628	2730	1660	2550	2700
27	2280	440	1400	431	3960	1750	1360	422	2740	1650	2550	2770
28	2200	437	1650	287	3960	1780	1490	423	2730	1690	2670	36
29	2290	381	1730	288	3980	1690	1980	478	2600	1710	2540	1470
30	2290	364	1770	0	---	1670	1990	484	2650	1720	2530	660
31	2290	---	1610	0	---	1540	---	940	---	2010	2610	---
TOTAL	39881	18490	18618.0	22981	53428	97010	51590	18871	54970	53930	80550	83146
MEAN	1286	616	601	741	1842	3129	1720	609	1832	1740	2598	2772
MAX	2530	1290	2180	2710	3980	4010	2560	944	2740	2020	2800	3710
MIN	374	0	0	0	0	1540	1180	264	1040	1470	2210	36
AC-FT	79100	36670	36930	45580	106000	192400	102300	37430	109000	107000	159800	164900

CAL YR 1979 TOTAL 355713.00 MEAN 975 MAX 2970 MIN 0 AC-FT 705600
WTR YR 1980 TOTAL 593465.00 MEAN 1621 MAX 4010 MIN 0 AC-FT 1177000

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 Water and Power Resources Service).

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 Water and Power Resources Service.

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, 240,100 acre-ft (296 hm³) May 30, elevation, 1,209.69 ft (368.714 m); minimum, 200,400 acre-ft (247 hm³) Jan. 29, elevation, 1,196.69 ft (364.751 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	234400	219700	202900	204200	201800	206900	219700	235100	239200	237900	238200	239300
2	234500	218300	203100	203400	202400	205600	220500	234900	237800	237600	238200	239200
3	234600	217500	202600	202600	202700	204400	221000	234300	238500	237000	238300	239300
4	234700	216100	202100	202000	202300	205600	222600	234000	238600	237800	238400	239300
5	234900	215600	202000	201800	201800	207500	225800	233800	238900	238100	238300	239300
6	234900	215300	202100	201800	201600	207600	227100	234200	238800	237800	238400	239200
7	235000	214300	200900	202000	201300	207600	227600	234200	238600	237700	238400	238000
8	235300	213200	201000	201900	201000	207300	228400	234400	238500	237700	238400	237400
9	235500	210900	201100	201900	201200	206700	229800	234900	238700	238200	238400	236800
10	235600	208500	201100	201700	201600	206000	229800	234800	238500	238500	238300	236200
11	235800	206600	201100	201900	202000	205700	230200	234900	238600	239000	238200	236100
12	235800	205000	201200	203300	202400	206100	230700	234600	238600	239100	238200	236100
13	235800	203500	201200	204400	202300	207000	229200	234700	238300	239100	236800	235900
14	236100	202400	201200	203500	202600	208900	229000	235000	238300	239000	234700	235900
15	236200	201900	201200	202900	203900	210400	229000	235400	238300	238500	234700	235700
16	236300	202600	201200	201600	206800	211300	229200	235600	238500	238200	235300	235600
17	235800	203100	201200	201400	219500	212200	229500	235900	238600	237900	235600	235600
18	235800	203400	201200	201500	228400	212800	230200	236100	239000	238200	235800	235600
19	235600	203600	201300	201600	232300	213100	230900	236300	239000	237900	236100	235600
20	234100	203800	201500	201700	232600	213300	231800	235800	239100	238000	236400	235600
21	232700	203900	202000	201800	231500	211700	232300	236500	238500	238100	236600	235500
22	231400	204300	202200	201700	229900	212700	230700	237000	238400	238100	236900	235400
23	230000	203900	203000	201300	226800	213200	230500	237800	238600	238100	237200	235900
24	229200	204300	203700	201000	222900	214100	230300	238500	238400	238200	237500	235800
25	229700	204900	202000	200800	218300	214900	231800	239000	238300	238200	237800	235700
26	228000	204800	200500	200600	213400	215500	232500	239000	238100	238300	238000	235600
27	226800	204300	201100	200400	209100	216100	234100	239300	238000	238200	238300	235600
28	225500	203700	201200	200500	208000	216700	235700	239700	237900	238200	238500	236000
29	224100	203200	201100	200400	207900	217500	235400	239900	238000	238200	238800	235900
30	222600	202700	201700	200900	---	218200	235300	240100	237900	238000	239100	234500
31	221200	---	202800	201400	---	218900	---	239600	---	238000	239200	---
MAX	236300	219700	203700	204400	232600	218900	235700	240100	239200	239100	239200	239300
MIN	221200	201900	200500	200400	201000	204400	219700	233800	237800	237000	234700	234500
†	1203.65	1197.50	1197.52	1197.03	1199.24	1202.80	1208.18	1209.53	1208.99	1209.04	1209.42	1207.94
‡	-12900	-18500	+100	-1400	+6500	+11000	+16400	+4300	-1700	+100	+1200	-4700
††	490	160	110	150	160	480	780	1250	1290	1860	1840	1130

CAL YR 1979 ‡ +1300

WTR YR 1980 ‡ +400

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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

AVERAGE DISCHARGE (adjusted for change in contents and diversions in and out of Whiskeytown Lake).--40 years, 460 ft³/s (13.03 m³/s), 333,300 acre-ft/yr (411 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, 3,760 ft³/s (106 m³/s) Feb. 17, gage height, 7.16 ft (2.182 m); minimum daily, 46 ft³/s (1.30 m³/s) many days during July to September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	69	107	159	78	263	86	66	61	49	46	47
2	50	103	105	111	78	229	83	66	61	50	46	46
3	49	147	105	97	107	215	82	67	62	50	46	46
4	49	125	102	89	88	197	107	64	62	50	46	46
5	49	123	102	85	84	328	300	63	62	50	46	46
6	49	149	101	80	82	501	159	64	62	49	46	46
7	49	127	101	77	80	334	132	62	61	49	46	46
8	49	114	100	74	78	261	120	63	59	49	46	46
9	50	108	99	75	77	221	113	90	58	49	46	46
10	49	105	99	72	77	197	105	73	59	49	46	46
11	49	103	99	89	75	178	99	68	58	49	46	46
12	49	102	99	327	75	161	94	67	61	49	46	46
13	49	101	98	385	73	154	91	67	63	49	46	47
14	57	100	98	317	74	250	89	66	60	49	46	47
15	52	99	97	232	122	200	86	64	57	49	46	47
16	48	133	97	222	295	175	83	63	56	49	46	46
17	48	141	97	207	2130	163	81	62	57	49	46	46
18	55	119	97	169	1670	151	81	61	55	47	46	52
19	66	112	101	143	1270	141	86	60	54	48	46	49
20	53	108	108	126	663	134	94	61	54	47	46	47
21	52	106	125	114	621	126	85	60	54	47	46	47
22	56	122	112	104	664	120	80	60	55	47	46	46
23	62	123	271	99	479	115	78	61	54	46	46	46
24	57	171	491	95	343	112	77	61	54	46	46	46
25	171	152	251	91	274	110	75	60	53	46	46	46
26	63	142	182	88	232	105	74	60	53	46	46	46
27	56	127	151	86	310	101	72	60	52	46	46	46
28	53	118	136	83	509	95	71	60	51	46	46	47
29	52	112	130	83	334	93	69	60	51	46	46	46
30	52	108	196	80	---	90	67	60	49	46	46	47
31	52	---	211	79	---	89	---	60	---	46	47	---
TOTAL	1745	3569	4268	4138	11042	5609	2919	1979	1708	1487	1427	1397
MEAN	56.3	119	138	133	381	181	97.3	63.8	56.9	48.0	46.0	46.6
MAX	171	171	491	385	2130	501	300	90	63	50	47	52
MIN	48	69	97	72	73	89	67	60	49	46	46	46
AC-FT	3460	7080	8470	8210	21900	11130	5790	3930	3390	2950	2830	2770
MEAN ‡	154	292	328	854	2235	1122	579	247	216	124	128	152
AC-FT ‡	9450	17350	20140	52520	128600	69010	34460	15200	12830	7630	7840	9060
CAL YR 1979 TOTAL	32279			MEAN 88.4	MAX 600	MIN 48	AC-FT 64030	MEAN ‡ 311		AC-FT ‡ 224900		
WTR YR 1980 TOTAL	41288			MEAN 113	MAX 2130	MIN 46	AC-FT 81890	MEAN ‡ 529		AC-FT ‡ 384000		

‡ Adjusted for change in contents in and evaporation from Whiskeytown Lake, diversion from Trinity River through Judge Francis Carr powerplant, and diversion to Spring Creek powerplant, furnished by Water and Power Resources Service.

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 excellent. Numerous small diversions above station for irrigation.

AVERAGE DISCHARGE.--31 years, 679 ft³/s (19.23 m³/s), 491,900 acre-ft/yr (607 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. 24	1530	21,500 609	14.33 4.368	Feb. 17	2015	13,400 379	11.41 3.478
Dec. 31	0645	14,000 396	11.61 3.539	Feb. 19	1600	18,200 515	13.22 4.029
Jan. 11	2230	13,300 377	11.35 3.459	Feb. 21	0330	11,600 329	10.71 3.264
Jan. 13	1945	*26,200 742	15.75 4.801	Mar. 14	2230	11,500 326	10.65 3.246

Minimum daily, 26 ft³/s (0.74 m³/s) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	164	292	2910	576	1740	458	438	200	80	28	40
2	29	152	268	1570	550	1580	445	417	201	74	30	33
3	28	171	254	1100	1610	1710	433	405	201	83	32	31
4	28	665	234	856	1000	2030	450	384	217	87	33	31
5	27	1070	214	756	759	4410	885	380	256	84	31	31
6	30	707	199	709	702	3130	734	377	233	77	31	31
7	32	399	191	616	627	2070	564	362	214	72	31	30
8	34	296	185	595	591	1640	510	356	196	71	32	26
9	36	242	177	1110	559	1380	515	448	184	69	29	27
10	38	208	169	1020	533	1210	525	555	170	71	31	33
11	34	186	159	3260	513	1100	470	437	169	67	27	36
12	42	172	154	7770	493	974	450	411	201	60	28	36
13	49	158	149	10900	474	898	439	408	236	58	30	40
14	49	151	146	10900	477	2630	438	421	214	57	34	63
15	90	145	144	9620	1080	3150	430	385	190	56	34	67
16	164	310	141	6430	2320	1470	422	354	170	52	36	59
17	94	2200	136	5790	7450	1200	425	330	152	52	35	53
18	81	704	134	3580	6090	1100	433	317	142	52	29	68
19	227	415	136	2460	11400	941	459	303	133	54	29	97
20	382	318	188	1890	9940	862	509	292	129	48	34	80
21	247	270	850	1510	6520	800	744	284	128	48	34	78
22	174	330	458	1250	5030	734	593	284	124	42	35	76
23	164	719	3740	1100	3480	687	550	286	121	38	38	74
24	172	2980	15900	992	2410	643	535	281	125	34	40	72
25	2060	1750	8430	909	1920	628	514	266	115	36	36	65
26	1040	1630	3140	837	1630	600	498	251	100	37	36	59
27	385	730	1430	793	1540	564	495	241	98	36	36	55
28	270	509	976	733	4410	529	494	228	94	35	33	50
29	212	399	738	687	2180	506	482	225	89	31	30	48
30	185	331	3200	621	---	489	461	214	86	32	38	45
31	174	---	7130	602	---	468	---	214	---	29	41	---
TOTAL	6607	18481	49662	84676	76864	41873	15360	10554	4888	1722	1021	1534
MEAN	213	616	1602	2731	2650	1351	512	340	163	55.5	32.9	51.1
MAX	2060	2980	15900	10900	11400	4410	885	555	256	87	41	97
MIN	27	145	134	595	474	468	422	214	86	29	27	26
AC-FT	13100	36660	98500	168000	152500	83060	30470	20930	9700	3420	2030	3040
CAL YR 1979 TOTAL	235869.8			MEAN 646	MAX 15900	MIN	8.0	AC-FT 467800				
WTR YR 1980 TOTAL	313242.0			MEAN 856	MAX 15900	MIN	26	AC-FT 621300				

LOCATION.--Lat 40°26'32", long 122°32'57", in SE¼NW¼ sec.21, T.30 N., R.6 W., Shasta County, Hydrologic Unit 18020102, near right bank on downstream side of bridge on Gas Point Road, 1.2 mi (1.9 km) downstream from Huling Creek, 4.4 mi (7.1 km) south of Igo, and 4.5 mi (7.2 km) upstream from Middle Fork.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft³/s (143 m³/s) Feb. 17, gage height, 35.76 ft (10.900 m); minimum daily, 2.2 ft³/s (0.062 m³/s) on several days during October.

DAY	OCT	NOV	DEC	JAN	FEB.	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	31	78	189	139	671	191	94	55	27	18	3.1
2	2.2	33	74	166	137	629	184	88	50	27	17	3.0
3	2.2	127	72	152	294	599	171	81	51	29	18	3.1
4	2.2	88	69	163	175	569	208	79	60	26	18	3.1
5	2.2	84	67	164	149	989	408	77	61	25	18	3.0
6	2.2	242	64	159	137	866	275	75	60	25	18	3.0
7	2.3	142	61	156	125	658	245	74	57	24	18	3.0
8	2.5	98	59	149	117	585	232	73	53	23	17	3.0
9	2.6	81	58	146	114	531	223	98	50	23	9.4	3.0
10	2.9	71	55	138	111	495	214	82	48	22	7.8	2.9
11	3.8	65	50	180	110	462	208	78	54	20	7.6	2.9
12	6.4	61	50	383	113	390	204	76	57	20	6.4	3.0
13	6.7	58	47	649	109	324	200	74	63	20	5.2	3.0
14	28	54	46	550	100	401	196	70	59	20	4.9	3.2
15	27	52	45	445	269	335	190	68	54	20	5.5	5.5
16	17	196	43	437	833	312	185	65	49	20	5.7	6.4
17	14	166	43	361	3090	303	181	63	48	19	5.3	5.2
18	25	95	42	306	2740	292	176	61	46	18	5.3	15
19	69	79	50	273	2000	280	170	66	45	18	4.7	24
20	34	71	57	246	1360	269	195	84	44	17	5.8	13
21	31	66	105	226	1300	261	180	69	44	16	4.5	11
22	35	135	72	208	1240	252	172	67	43	15	3.2	9.4
23	62	117	603	194	934	244	167	65	45	15	3.1	8.4
24	63	269	627	185	791	235	164	64	45	14	3.1	7.4
25	316	167	243	178	711	241	161	62	47	10	3.1	6.5
26	98	133	164	172	642	229	155	60	46	8.7	3.1	6.4
27	75	108	129	166	769	221	149	61	44	8.2	3.1	5.9
28	66	96	111	161	934	212	145	59	42	11	3.1	5.9
29	55	88	104	155	744	207	137	58	31	18	3.0	5.3
30	31	82	327	147	---	201	101	57	29	18	3.0	8.2
31	33	---	260	144	---	197	---	57	---	17	3.1	---
TOTAL	1119.4	3155	3875	7348	20287	12460	5787	2205	1480	593.9	251.0	185.8
MEAN	36.1	105	125	237	700	402	193	71.1	49.3	19.2	8.10	6.19
MAX	316	269	627	649	3090	989	408	98	63	29	18	24
MIN	2.2	31	42	138	100	197	101	57	29	8.2	3.0	2.9
AC-FT	2220	6260	7690	14570	40240	24710	11480	4370	2940	1180	498	369
CAL YR 1979	TOTAL	39899.9	MEAN	109	MAX	1020	MIN	1.7	AC-FT	79140		
WTR YR 1980	TOTAL	58747.1	MEAN	161	MAX	3090	MIN	2.2	AC-FT	116500		

11375810 COTTONWOOD CREEK NEAR OLINDA, CA

LOCATION.--Lat 40°23'06", long 122°28'31", in SEkNW¼ 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.--9 years, 434 ft³/s (12.29 m³/s), 314,400 acre-ft/yr (388 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. 23	2000	4,240 120	10.39 3.167	Feb. 17	2000	*16,000 453	16.73 5.099
Dec. 30	1000	4,200 119	10.36 3.158	Feb. 21	0030	7,330 208	12.18 3.712
Jan. 13	2015	7,610 216	12.68 3.865	Feb. 27	2300	3,770 107	9.87 3.008
Feb. 15	2045	3,030 85.8	9.52 2.902	Mar. 5	2230	5,630 159	11.14 3.395

Minimum daily, 6.5 ft³/s (0.18 m³/s) Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.8	57	275	1050	396	1870	449	258	149	75	24	11
2	8.1	55	256	801	381	1710	437	249	141	73	25	11
3	8.0	175	241	656	1620	1560	412	239	140	79	25	11
4	7.6	241	224	590	1010	1430	452	233	151	76	25	10
5	7.5	171	210	557	754	2560	783	229	166	71	25	10
6	7.6	506	196	560	671	2580	638	223	156	65	26	9.0
7	8.2	537	184	550	587	1730	569	216	152	62	24	7.3
8	8.8	339	175	519	539	1510	536	213	145	58	24	8.5
9	9.2	240	166	491	503	1350	521	237	134	57	21	8.4
10	9.8	194	157	558	476	1240	517	244	128	57	20	8.1
11	11	164	142	614	451	1150	494	219	133	56	17	6.5
12	12	146	136	2940	428	1040	476	217	139	53	16	7.1
13	14	131	131	5340	404	929	462	209	146	53	15	9.6
14	16	120	126	4520	373	1140	455	208	145	50	15	9.6
15	38	112	121	2850	827	1080	443	199	135	51	18	12
16	25	582	117	2160	2860	939	420	192	127	49	18	14
17	23	988	114	1640	8630	878	409	179	121	49	18	15
18	21	445	111	1330	8350	827	397	176	116	46	17	16
19	69	303	121	1140	6030	768	386	171	110	46	14	28
20	63	242	163	997	4080	722	428	191	109	43	16	20
21	73	210	309	884	4370	687	430	179	109	39	14	17
22	55	382	276	797	3620	643	394	172	109	34	14	16
23	115	590	1650	720	2810	612	375	172	110	33	14	16
24	130	809	2290	660	2330	586	366	171	110	31	14	15
25	676	844	1030	613	2040	589	352	166	110	31	14	14
26	338	759	726	569	1810	559	343	165	107	30	14	15
27	188	545	518	532	2140	530	334	162	100	29	13	14
28	143	426	415	499	2840	508	326	159	99	27	11	13
29	113	348	365	471	2190	490	312	156	90	29	10	14
30	74	304	1620	438	---	474	273	155	82	24	10	14
31	63	---	1390	417	---	465	---	155	---	24	11	---
TOTAL	2343.6	10965	13955	36463	63520	33156	13189	6114	3769	1500	542	380.1
MEAN	75.6	366	450	1176	2190	1070	440	197	126	48.4	17.5	12.7
MAX	676	988	2290	5340	8630	2580	783	258	166	79	26	28
MIN	7.5	55	111	417	373	465	273	155	82	24	10	6.5
AC-FT	4650	21750	27680	72320	126000	65760	26160	12130	7480	2980	1080	754

CAL YR 1979 TOTAL 111589.3 MEAN 306 MAX 2550 MIN 2.1 AC-FT 221300
WTR YR 1980 TOTAL 185896.7 MEAN 508 MAX 8630 MIN 6.5 AC-FT 368700

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 to September 1980 (discontinued).

SEDIMENT RECORDS: Water years 1977 to current year.

TURBIDITY: Water years 1977-79.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1973 to September 1980 (discontinued).

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

INSTRUMENTATION.--Temperature recorder from February 1973 to September 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 33.5°C Aug. 6, 7, 1978; minimum recorded, 1.0°C Dec. 31, 1978.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,600 mg/L Jan. 16, 1978; minimum daily mean, 0 mg/L Nov. 1, 1978.

SEDIMENT DISCHARGE: Maximum daily, 113,000 tons (103,000 metric tons) Jan. 16, 1978; minimum daily, 0 ton (0 metric ton) Nov. 1, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 33.0°C July 26, 27; minimum recorded, 1.5°C Jan. 30.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 1,770 mg/L Feb. 17; minimum daily mean, 2 mg/L on several days during December.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 57,800 tons (52,500 metric tons) Feb. 17; minimum daily, 0.60 ton (0.54 metric ton) Dec. 18.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	26.5	19.0	---	---	9.0	6.5	8.5	6.5	7.0	5.0	10.0	8.5
2	26.0	19.0	---	---	9.5	8.5	7.5	5.5	8.0	6.5	10.0	9.0
3	25.5	19.5	---	---	9.5	7.5	7.0	6.0	9.5	8.0	10.5	9.0
4	26.5	20.0	---	---	9.0	7.5	7.5	6.0	10.0	7.0	9.0	7.5
5	25.0	20.0	---	---	9.5	7.0	8.5	7.5	9.0	7.5	9.5	8.0
6	24.0	20.0	---	---	10.0	7.5	8.0	6.0	10.0	8.0	11.5	8.5
7	23.5	18.5	---	---	10.5	8.5	7.5	5.5	9.0	5.5	10.0	8.5
8	23.0	19.0	---	---	10.0	8.0	8.0	7.5	8.5	5.5	12.0	7.0
9	24.5	17.5	---	---	9.5	7.5	8.0	7.5	8.5	5.5	12.0	7.5
10	24.5	17.5	---	---	9.0	7.0	7.5	5.5	10.0	7.0	12.0	7.5
11	21.0	17.0	---	---	7.0	5.5	6.0	4.5	8.5	6.0	12.5	9.0
12	23.0	17.0	---	---	6.0	3.5	8.5	5.5	9.5	6.0	10.5	6.5
13	22.0	19.0	---	---	6.5	4.0	9.5	8.5	9.0	5.5	---	---
14	20.0	19.0	11.0	8.0	6.5	4.0	10.0	8.5	8.0	7.0	---	---
15	22.5	19.0	10.5	8.5	6.5	4.0	9.0	8.0	10.0	8.0	---	---
16	22.0	17.5	11.5	10.5	6.0	3.5	9.5	8.5	10.5	10.0	---	---
17	21.5	17.0	12.5	11.0	6.0	4.0	10.0	8.5	10.5	10.0	---	---
18	18.5	16.5	11.0	8.5	7.5	5.0	8.0	5.5	10.5	10.0	---	---
19	17.0	15.5	9.0	7.0	8.0	7.5	6.5	3.5	10.5	9.5	---	---
20	16.0	14.0	8.0	6.0	8.0	8.0	7.0	4.0	10.0	9.0	---	---
21	15.5	12.0	7.0	5.0	9.5	7.5	7.5	4.5	10.5	8.0	---	---
22	14.5	14.0	7.0	6.5	7.0	5.0	8.0	5.5	10.5	9.0	---	---
23	14.5	13.5	8.0	5.5	5.5	4.0	8.0	5.0	10.5	8.0	---	---
24	14.0	13.5	9.5	8.0	6.5	4.5	8.5	5.5	11.0	9.0	---	---
25	16.0	14.5	9.0	7.5	7.5	6.5	8.5	6.5	10.5	10.0	---	---
26	---	---	8.0	6.0	7.0	5.0	8.0	6.5	12.0	9.5	---	---
27	---	---	6.5	4.5	6.0	4.0	7.0	5.5	11.0	10.5	---	---
28	---	---	7.5	5.0	5.5	4.0	5.5	3.5	11.5	9.5	---	---
29	---	---	8.0	6.0	7.0	5.5	4.5	2.5	11.5	8.0	---	---
30	---	---	8.5	6.0	7.0	6.0	4.0	1.5	---	---	---	---
31	---	---	---	---	8.5	7.0	5.5	3.5	---	---	---	---
MONTH	26.5	12.0	---	---	10.5	3.5	10.0	1.5	12.0	5.0	---	---

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	14.0	9.0	22.0	15.5	26.0	21.0	28.0	22.0	32.0	25.0	28.0	21.0
2	14.0	9.0	21.5	17.0	23.5	18.5	26.5	23.0	31.5	25.0	28.0	21.5
3	12.5	10.0	23.5	17.0	22.5	17.0	29.0	22.5	31.5	25.0	28.5	21.5
4	10.5	10.0	24.0	18.0	19.5	17.0	28.5	22.5	31.0	25.0	28.5	21.5
5	13.5	9.5	24.0	19.5	21.5	16.0	28.5	22.0	30.0	24.5	28.0	21.5
6	15.0	9.5	23.5	18.5	21.5	17.5	28.5	22.5	30.5	24.5	28.0	22.0
7	13.0	8.5	23.0	17.0	24.0	17.0	28.0	22.0	30.5	24.0	28.0	21.0
8	14.0	9.5	21.0	17.0	25.0	18.5	27.0	21.5	30.0	24.0	28.0	21.5
9	17.0	11.5	17.0	14.5	26.5	19.5	26.0	21.0	30.0	24.0	28.5	22.0
10	16.0	10.0	19.0	12.5	26.5	20.5	28.0	20.5	30.0	23.0	28.0	22.0
11	16.5	11.0	17.5	14.5	24.0	20.0	28.0	21.5	30.5	23.0	28.5	21.5
12	17.5	11.5	19.0	15.0	21.5	18.5	28.5	22.0	30.5	23.5	27.5	22.0
13	16.5	12.5	20.0	15.5	22.0	17.5	29.0	22.5	30.0	24.0	24.0	20.0
14	16.5	13.0	22.5	16.0	24.0	17.0	29.0	23.0	29.5	23.5	22.0	19.0
15	18.0	11.5	22.5	16.5	26.0	19.5	30.5	23.5	29.5	23.5	23.5	18.0
16	18.5	12.5	23.0	17.0	27.5	20.5	30.5	23.5	30.0	23.5	25.0	18.0
17	18.5	13.5	24.5	17.5	28.5	22.0	31.0	24.0	30.0	24.0	24.0	19.0
18	20.0	14.0	25.5	19.0	29.0	22.5	30.5	24.5	29.5	24.0	25.0	20.5
19	20.0	14.5	26.5	19.5	28.5	22.5	30.5	24.0	29.5	23.0	25.5	20.5
20	18.5	13.0	27.0	20.0	28.5	22.5	31.5	24.5	30.0	23.0	24.0	20.5
21	14.5	11.0	26.5	20.5	27.5	22.0	31.5	25.0	29.0	23.5	24.0	18.5
22	16.5	11.5	23.0	18.5	25.5	22.0	32.0	25.0	29.5	24.0	24.5	18.0
23	18.5	13.5	18.5	15.0	25.0	19.5	32.0	25.5	29.0	23.0	25.0	18.5
24	18.5	15.0	19.5	13.5	25.5	20.5	32.5	25.5	29.0	23.0	26.0	19.5
25	19.5	13.5	20.5	14.0	25.0	20.0	32.5	25.5	29.0	22.5	26.0	20.0
26	21.0	15.5	21.5	16.0	26.0	19.0	33.0	25.5	29.0	22.5	26.0	21.0
27	21.5	15.5	22.5	16.0	26.5	20.0	33.0	26.0	28.5	22.0	24.5	19.0
28	22.0	16.5	23.0	17.0	28.5	21.5	30.0	26.5	28.0	22.0	25.0	19.0
29	22.0	16.0	24.5	18.0	27.0	22.5	32.0	25.5	25.0	21.0	25.0	19.0
30	21.0	15.5	25.5	19.0	28.5	21.5	32.0	25.5	27.5	20.5	26.0	19.0
31	---	---	26.0	19.5	---	---	32.0	26.0	28.0	21.0	---	---
MONTH	22.0	8.5	27.0	12.5	29.0	16.0	33.0	20.5	32.0	20.5	28.5	18.0

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	OCTOBER			NOVEMBER			DECEMBER		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
				57	11	1.7	275	5	3.7
				55	11	1.6	256	4	2.8
				175	64	60	241	4	2.6
				241	35	25	224	3	1.8
				171	12	5.5	210	3	1.7
				506	145	274	196	3	1.6
				537	38	58	184	3	1.5
				339	14	13	175	3	1.4
				240	9	5.8	166	2	.90
				194	8	4.2	157	2	.85
				164	6	2.7	142	2	.77
				146	4	1.6	136	2	.73
				131	3	1.1	131	2	.71
				120	3	.97	126	2	.68
				112	3	.91	121	2	.65
				582	139	470	117	2	.63
				988	89	300	114	2	.62
				445	6	7.2	111	2	.60
				303	5	4.1	121	5	1.6
				242	5	3.3	163	7	3.1
				210	4	2.3	309	24	23
				382	44	114	276	15	11
				590	62	120	1650	472	4740
				809	119	298	2290	431	3110
				844	69	164	1030	150	417
				759	69	150	726	60	118
				545	29	43	518	37	52
				426	15	17	415	26	29
				348	8	7.5	365	23	23
				304	6	4.9	1620	1020	7560
				---	---	---	1390	309	1190
				10965	---	2161.38	13955	---	17301.94

SACRAMENTO RIVER BASIN

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	1050	167	473	396	7	7.5	1870	117	591
2	801	69	149	381	7	7.2	1710	107	494
3	656	45	80	1620	160	947	1560	99	417
4	590	31	49	1010	72	196	1430	98	378
5	557	28	42	754	44	90	2560	298	2540
6	560	27	41	671	25	45	2580	212	1740
7	550	24	36	587	16	25	1730	92	430
8	519	22	31	539	11	16	1510	88	359
9	491	22	29	503	10	14	1350	80	292
10	558	26	39	476	10	13	1240	67	224
11	614	40	66	451	9	11	1150	55	171
12	2940	1140	10700	428	9	10	1040	45	126
13	5340	1630	26000	404	9	9.8	929	40	100
14	4520	956	12300	373	8	8.1	1140	67	221
15	2850	477	3670	827	84	426	1080	67	195
16	2160	304	1770	2860	398	6980	939	45	114
17	1640	199	881	8630	1770	57800	878	32	76
18	1330	133	478	8350	1400	34000	827	26	58
19	1140	110	339	6030	675	11000	768	22	46
20	997	94	253	4080	450	4960	722	18	35
21	884	55	131	4370	369	4350	687	17	32
22	797	27	58	3620	445	4650	643	16	28
23	720	19	37	2810	340	2580	612	15	25
24	660	17	30	2330	270	1700	586	15	24
25	613	14	23	2040	216	1190	589	18	29
26	569	12	18	1810	169	826	559	13	20
27	532	10	14	2140	386	2920	530	11	16
28	499	9	12	2840	335	2750	508	10	14
29	471	8	10	2190	128	757	490	10	13
30	438	8	9.5	---	---	---	474	9	12
31	417	7	7.9	---	---	---	465	9	11
TOTAL	36463	---	57776.4	63520	---	138288.6	33156	---	8831
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	449	9	11	258	8	5.6			
2	437	8	9.4	249	7	4.7			
3	412	8	8.9	239	6	3.9			
4	452	13	16	233	4	2.5			
5	783	46	102	229	3	1.9			
6	638	20	34	223	3	1.8			
7	569	12	18	216	3	1.7			
8	536	11	16	213	3	1.7			
9	521	9	13	237	6	3.8			
10	517	8	11	244	8	5.3			
11	494	8	11	219	5	3.0			
12	476	8	10	217	5	2.9			
13	462	7	8.7	209	5	2.8			
14	455	7	8.6	208	5	2.8			
15	443	7	8.4	199	5	2.7			
16	420	7	7.9	192	5	2.6			
17	409	7	7.7	179	5	2.4			
18	397	7	7.5	176	5	2.4			
19	386	7	7.3	171	4	1.8			
20	428	10	12	191	4	2.1			
21	430	10	12	179	4	1.9			
22	394	8	8.5	172	4	1.9			
23	375	8	8.1	172	4	1.9			
24	366	8	7.9	171	3	1.4			
25	352	8	7.6	166	3	1.3			
26	343	8	7.4	165	3	1.3			
27	334	8	7.2	162	3	1.3			
28	326	8	7.0	159	3	1.3			
29	312	9	7.6	156	3	1.3			
30	273	9	6.6	155	3	1.3			
31	---	---	---	155	3	1.3			
TOTAL	13189	---	408.3	6114	---	74.6			
PERIOD	177362	---	224842.22						

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	10965.00	2161.38	403	2560
DECEMBER ...	13955.00	17301.94	1160	18500
JANUARY 1980	36463.00	57776.40	5380	63200
FEBRUARY ...	63520.00	138288.60	14100	152000
MARCH	33156.00	8831.00	3550	12400
APRIL	13189.00	408.30	426	834
MAY	6114.00	74.60	2	77
PERIOD.....	177362.00	224842.22	25021	249571

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN								
12...	1405	3840	8.0	1860	19300	--	33	47
13...	1120	4860	9.0	1360	17800	--	32	44
15...	1410	2630	9.0	436	3100	26	38	50
22...	1545	786	8.5	24	51	--	--	--
FEB								
06...	1445	669	8.5	26	47	--	--	--
17...	1310	4650	10.0	906	11400	--	33	44
18...	1145	7990	10.0	1510	32600	--	28	38
MAR								
12...	1045	462	7.5	45	56	--	--	--

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
JAN								
12...	61	77	86	91	96	99	100	--
13...	56	69	78	85	92	96	98	100
15...	61	70	77	83	88	97	100	--
22...	--	--	87	93	100	--	--	--
FEB								
06...	--	--	76	86	98	100	--	--
17...	55	64	73	81	89	99	100	--
18...	47	58	66	76	86	95	99	100
MAR								
12...	--	--	60	68	77	100	--	--

SACRAMENTO RIVER BASIN

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM	BED MAT. SIEVE DIAM. % FINER THAN 1.00 MM
MAR							
05...	0955	8.0	1	1990	0	8	42
05...	1000	8.0	1	1990	0	5	24
05...	1005	8.0	1	1990	0	1	15

DATE	BED MAT. SIEVE DIAM. % FINER THAN 2.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 4.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 8.00 MM	BED MAT. SIEVE DIAM. % FINER THAN 16.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 32.0 MM	BED MAT. SIEVE DIAM. % FINER THAN 64.0 MM
MAR						
05...	73	95	99	100	--	--
05...	39	52	63	71	71	100
05...	31	48	69	98	100	--

11375810 COTTONWOOD CREEK NEAR OLINDA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (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
DEC								
04...	1130	8.0	1	226	0	1	2	3
04...	1135	8.0	1	226	--	0	2	8
04...	1140	8.0	1	226	--	0	1	15
04...	1145	8.0	1	226	--	0	2	26
04...	1150	8.0	1	226	--	0	1	9
JAN								
07...	1425	6.5	1	549	--	--	--	0
07...	1430	6.5	1	549	--	--	0	14
07...	1435	6.5	1	549	--	0	1	6
07...	1440	6.5	1	549	--	0	1	9
07...	1445	6.5	1	549	0	1	2	12
12...	1625	8.0	1	4000	--	--	--	0
12...	1630	8.0	1	4000	--	--	0	1
12...	1635	8.0	1	4000	--	--	0	2
12...	1640	8.0	1	4000	--	--	0	2
12...	1645	8.0	1	4000	--	0	1	5
13...	1310	9.0	1	4800	--	--	--	--
13...	1315	9.0	1	4800	--	--	--	--
13...	1320	9.0	1	4800	--	--	--	--
13...	1325	9.0	1	4800	--	--	0	3
13...	1330	9.0	1	4800	--	--	0	11
15...	1430	9.0	1	2610	--	--	0	5
15...	1435	9.0	1	2610	--	--	0	5
15...	1440	9.0	1	2610	--	--	0	7
15...	1445	9.0	1	2610	--	--	0	8
15...	1450	9.0	1	2610	--	--	--	--
FEB								
06...	1545	9.5	1	657	--	0	1	7
06...	1550	9.5	1	657	--	0	1	12
06...	1555	9.5	1	657	--	--	0	2
06...	1600	9.5	1	657	--	0	1	8
06...	1605	9.5	1	657	--	--	0	4
18...	1215	10.0	1	7710	0	1	1	4
18...	1220	10.0	1	7710	--	--	0	2
18...	1225	10.0	1	7710	--	--	0	2
18...	1230	10.0	1	7710	--	--	0	1
18...	1235	10.0	1	7710	--	--	--	--
MAR								
05...	0945	8.0	1	1990	--	0	2	17
05...	0950	8.0	1	1990	--	0	3	49

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
DEC							
04...	13	31	44	55	77	100	--
04...	17	35	52	66	89	100	--
04...	34	48	64	81	96	100	--
04...	41	59	73	84	100	--	--
04...	34	52	62	69	79	100	--
JAN							
07...	3	11	21	31	52	100	--
07...	23	37	59	81	100	--	--
07...	21	34	45	57	76	100	--
07...	18	48	65	73	82	100	--
07...	27	38	51	70	96	100	--
12...	7	32	49	64	81	100	--
12...	14	43	64	77	97	100	--
12...	9	18	23	32	52	100	--
12...	11	31	51	66	71	71	100
12...	16	26	32	39	58	76	100
13...	0	1	1	4	27	100	--
13...	--	--	--	--	--	--	--
13...	--	--	--	--	--	--	--
13...	17	41	59	74	92	100	--
13...	54	84	94	98	98	100	--
15...	50	89	98	100	--	--	--
15...	33	61	76	87	96	100	--
15...	20	32	48	67	84	100	--
15...	45	77	87	94	100	--	--
15...	--	0	1	9	53	100	--
FEB							
06...	34	60	75	86	98	100	--
06...	35	67	88	97	100	--	--
06...	24	73	95	99	100	--	--
06...	25	34	45	59	79	100	--
06...	18	25	36	53	85	100	--
18...	8	16	23	38	100	--	--
18...	7	10	14	16	18	100	--
18...	9	15	19	28	45	100	--
18...	3	9	17	40	72	100	--
18...	--	--	0	1	12	100	--
MAR							
05...	57	76	84	91	100	--	--
05...	94	99	100	--	--	--	--

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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 30	1215	2,730 77.3	4.87 1.484	Feb. 21	0115	6,060 172	6.99 2.131
Jan. 13	2145	8,020 227	7.66 2.335	Mar. 5	0445	2,680 75.9	4.69 1.430
Feb. 17	2000	*12,100 343	9.35 2.850				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	40	174	934	224	933	227	218	97	41	5.0	2.1
2	0	38	153	591	214	835	224	209	95	40	4.5	2.1
3	0	46	138	441	1080	759	216	207	96	39	4.2	2.0
4	0	55	125	363	961	702	234	211	101	38	3.9	2.1
5	0	51	115	334	649	1420	316	215	115	37	3.8	1.7
6	0	61	108	347	509	1040	287	209	101	35	3.8	1.1
7	0	207	103	355	435	853	259	199	91	33	3.9	.54
8	0	172	96	326	397	783	240	190	82	31	4.1	.01
9	0	107	90	289	362	708	231	191	78	29	4.0	0
10	0	81	86	327	337	647	245	190	76	28	4.0	0
11	0	67	83	348	316	605	241	171	79	27	3.9	0
12	0	59	79	3030	298	551	232	162	115	26	3.8	0
13	0	53	78	5690	284	510	232	157	110	24	3.7	0
14	0	49	76	4830	268	576	241	153	98	22	3.5	0
15	0	46	73	2620	527	628	244	144	81	21	3.2	0
16	0	115	72	1670	2860	537	234	135	72	19	3.2	0
17	0	720	70	1200	6710	492	236	132	68	18	3.3	0
18	0	338	69	900	6010	462	242	129	65	17	3.3	.11
19	0	217	69	704	4740	426	248	132	65	16	3.3	1.2
20	0	163	76	581	2500	397	283	140	66	14	3.2	1.3
21	.35	132	93	494	2930	376	318	149	67	13	3.1	1.5
22	33	124	109	436	1700	354	272	149	64	12	3.4	1.8
23	34	362	635	392	1330	336	246	145	63	12	3.5	1.8
24	58	406	1050	358	1090	319	236	138	60	10	3.3	1.6
25	343	545	453	336	962	320	231	130	56	9.3	3.3	1.2
26	255	553	321	313	872	304	235	121	55	8.5	3.2	1.2
27	108	404	220	294	1080	283	229	114	51	7.6	3.1	.95
28	71	302	169	278	1410	265	227	108	47	6.9	3.0	.94
29	56	241	146	261	1080	253	232	104	44	6.8	2.8	.94
30	48	203	1170	238	---	242	228	101	43	6.1	2.7	.76
31	43	---	1710	235	---	235	---	99	---	5.5	2.3	---
TOTAL	1049.35	5957	8009	29515	42135	17151	7366	4852	2301	652.7	109.3	26.95
MEAN	33.9	199	258	952	1453	553	246	157	76.7	21.1	3.53	.90
MAX	343	720	1710	5690	6710	1420	318	218	115	41	5.0	2.1
MIN	0	38	69	235	214	235	216	99	43	5.5	2.3	0
AC-FT	2080	11820	15890	58540	83570	34020	14610	9620	4560	1290	217	53
CAL YR 1979	TOTAL	60078.99	MEAN 165	MAX 2510	MIN 0	AC-FT 119200						
WTR YR 1980	TOTAL	119124.30	MEAN 325	MAX 6710	MIN 0	AC-FT 236300						

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977 to current year.

WATER TEMPERATURES: Water years 1977 to September 1980 (discontinued).

SEDIMENT RECORDS: Water years 1977 to current year.

TURBIDITY: Water years 1977-79.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1976 to September 1980 (discontinued).

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

INSTRUMENTATION.--Temperature recorder from November 1976 to September 1980.

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.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 35.5°C July 27, Aug. 1; minimum recorded, 1.0°C Jan. 30.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 4,020 mg/L Jan. 13; minimum daily mean, 0 mg/L Dec. 11, 12.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 81,000 tons (73,500 metric tons) Feb. 17; minimum daily, 0 ton (0 metric ton) Dec. 11, 12.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	17.5	9.5	24.0	14.0	26.0	20.0	29.5	20.5	35.5	22.5	---	---
2	19.0	9.0	23.0	16.0	24.5	17.0	28.0	21.5	34.0	23.0	---	---
3	15.0	11.0	25.5	16.0	22.5	15.5	30.0	21.5	34.0	21.5	---	---
4	13.5	11.5	25.5	16.5	18.5	16.0	29.5	21.0	33.5	22.0	---	---
5	17.0	11.0	25.0	18.5	23.5	15.5	29.5	20.5	32.5	21.5	---	---
6	17.0	11.0	25.0	17.0	24.0	16.0	29.5	19.0	32.5	22.0	---	---
7	16.5	9.5	24.5	15.5	26.0	16.5	29.0	20.0	33.0	21.5	---	---
8	18.5	10.5	20.0	16.5	27.5	17.5	28.5	19.5	33.0	22.0	---	---
9	21.5	13.5	18.0	15.0	29.0	18.5	27.0	19.0	32.5	21.0	---	---
10	20.0	11.0	21.5	12.5	28.5	19.0	29.5	18.5	32.5	20.0	---	---
11	20.5	11.5	20.0	14.0	24.0	19.0	29.5	19.5	---	---	---	---
12	23.0	12.0	21.0	15.0	23.0	17.5	30.0	21.0	---	---	---	---
13	20.5	13.5	22.0	14.5	24.0	16.5	31.0	21.5	---	---	---	---
14	20.0	13.5	24.5	15.0	27.0	16.5	31.0	21.5	---	---	---	---
15	22.0	12.0	25.5	15.5	28.5	18.5	32.5	22.0	---	---	---	---
16	23.0	13.0	25.0	16.0	30.0	19.5	32.5	22.0	---	---	---	---
17	22.5	14.5	26.0	16.5	31.0	20.5	33.0	22.0	---	---	---	---
18	23.5	14.0	27.5	17.0	31.0	22.0	32.0	21.5	---	---	---	---
19	24.0	15.0	28.5	18.0	30.0	21.0	32.5	22.0	---	---	27.0	18.0
20	19.0	13.5	29.0	19.0	30.0	21.0	33.5	22.5	---	---	25.0	18.0
21	15.5	11.5	28.5	19.5	29.5	21.0	34.0	23.0	---	---	24.0	16.0
22	19.0	11.5	24.0	16.5	26.0	20.0	34.0	22.0	---	---	24.5	15.0
23	21.0	14.0	19.0	13.5	26.5	18.0	34.0	21.5	---	---	25.5	16.0
24	21.0	15.0	21.0	12.5	25.5	18.5	34.5	23.5	---	---	27.0	17.0
25	22.5	13.5	22.5	13.5	27.0	19.0	34.5	21.5	---	---	27.5	18.0
26	24.0	15.5	23.0	15.0	27.0	17.5	35.0	20.5	---	---	28.0	19.0
27	24.5	15.0	24.5	15.5	28.5	18.5	35.5	24.0	---	---	26.0	17.0
28	24.5	17.0	25.0	16.5	30.5	20.0	31.0	21.5	---	---	26.5	16.5
29	23.0	15.0	25.5	16.5	27.5	19.0	34.5	22.0	---	---	25.5	16.0
30	22.0	15.0	27.0	17.5	29.5	19.5	34.5	23.5	---	---	27.0	16.0
31	---	---	28.0	18.0	---	---	34.0	21.5	---	---	---	---
MONTH	24.5	9.0	29.0	12.5	31.0	15.5	35.5	18.5	---	---	---	---

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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				40	2	.22	174	5	2.3
2				38	3	.31	153	4	1.7
3				46	6	.75	138	3	1.1
4				55	3	.45	125	3	1.0
5				51	2	.28	115	3	.93
6				61	4	.66	108	3	.87
7				207	48	29	103	2	.56
8				172	17	8.3	96	2	.52
9				107	6	1.7	90	1	.24
10				81	3	.66	86	1	.23
11				67	3	.54	83	0	0
12				59	3	.48	79	0	0
13				53	2	.29	78	1	.21
14				49	2	.26	76	1	.21
15				46	3	.37	73	1	.20
16				115	36	41	72	1	.19
17				720	419	939	70	1	.19
18				338	45	41	69	2	.37
19				217	13	7.6	69	2	.37
20				163	5	2.2	76	2	.41
21				132	4	1.4	93	4	1.0
22				124	6	2.1	109	4	1.2
23				362	97	102	635	213	1020
24				406	111	152	1050	281	969
25				545	236	373	453	110	135
26				553	133	207	321	80	69
27				404	45	49	220	55	33
28				302	20	16	169	43	20
29				241	10	6.5	146	37	15
30				203	7	3.8	1170	560	2940
31				---	---	---	1710	723	3790
TOTAL				5957	---	1987.87	8009	---	9004.80

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	934	168	424	224	9	5.4	933	180	453
2	591	110	176	214	9	5.2	835	130	293
3	441	62	74	1080	333	1420	759	110	225
4	363	30	29	961	286	812	702	110	208
5	334	18	16	649	102	179	1420	732	3650
6	347	25	23	509	75	103	1040	180	505
7	355	25	24	435	55	65	853	135	311
8	326	25	22	397	40	43	783	105	222
9	289	23	18	362	35	34	708	95	182
10	327	43	38	337	33	30	647	80	140
11	348	36	36	316	25	21	605	70	114
12	3030	2940	29100	298	20	16	551	65	97
13	5690	4020	66000	284	16	12	510	55	76
14	4830	3230	44300	268	13	9.4	576	92	159
15	2620	1800	12700	527	113	313	628	125	209
16	1670	950	4280	2860	2140	34100	537	80	618
17	1200	550	1780	6710	3750	81000	492	55	996
18	900	360	875	6010	3110	51400	462	32	40
19	704	240	456	4740	2180	29600	426	22	25
20	581	130	204	2500	1420	9850	397	18	19
21	494	85	113	2930	1080	11000	376	15	15
22	436	70	82	1700	644	2990	354	14	13
23	392	50	53	1330	510	1830	336	13	12
24	358	42	41	1090	300	883	319	12	10
25	336	35	32	962	210	545	320	12	10
26	313	27	23	872	180	424	304	10	8.2
27	294	21	17	1080	319	1100	283	9	6.9
28	278	14	11	1410	541	2140	265	8	5.7
29	261	13	9.2	1080	260	758	253	7	4.8
30	238	10	6.4	---	---	---	242	7	4.6
31	235	10	6.3	---	---	---	235	7	4.4
TOTAL	29515	---	160968.9	42135	---	230688.0	17151	---	8636.6
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	227	7	4.3	218	19	11			
2	224	7	4.2	209	18	10			
3	216	7	4.1	207	18	10			
4	234	18	11	211	17	9.7			
5	316	28	24	215	15	8.7			
6	287	20	15	209	15	8.5			
7	259	20	14	199	15	8.1			
8	240	18	12	190	15	7.7			
9	231	18	11	191	15	7.7			
10	245	20	13	190	15	7.7			
11	241	20	13	171	14	6.5			
12	232	20	13	162	14	6.1			
13	232	20	13	157	13	5.5			
14	241	20	13	153	13	5.4			
15	244	20	13	144	12	4.7			
16	234	19	12	135	12	4.4			
17	236	19	12	132	11	3.9			
18	242	18	12	129	11	3.8			
19	248	18	12	132	11	3.9			
20	283	25	19	140	10	3.8			
21	318	25	21	149	10	4.0			
22	272	20	15	149	10	4.0			
23	246	20	13	145	9	3.5			
24	236	20	13	138	9	3.4			
25	231	20	12	130	9	3.2			
26	235	20	13	121	9	2.9			
27	229	19	12	114	8	2.5			
28	227	19	12	108	8	2.3			
29	232	19	12	104	8	2.2			
30	228	19	12	101	8	2.2			
31	---	---	---	99	7	1.9			
TOTAL	7366	---	379.6	4852	---	169.2			
PERIOD	114985	---	411834.97						

SACRAMENTO RIVER BASIN

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

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	5957.00	1987.87	494	2480
DECEMBER ...	8009.00	9004.80	1350	10400
JANUARY 1980	29515.00	160968.90	7810	169000
FEBRUARY ...	42135.00	230688.00	12500	243000
MARCH	17151.00	8636.60	2960	11600
APRIL	7366.00	379.60	317	697
MAY	4852.00	169.20	72	241
PERIOD.....	114985.00	411834.97	25503	437418

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
NOV								
26...	1440	577	8.5	111	173	--	--	--
DEC								
26...	1255	323	6.5	71	62	--	--	--
JAN								
07...	1140	360	5.5	26	25	--	--	--
13...	1640	6440	10.0	3680	64000	29	40	52
16...	1615	1600	10.0	1000	4320	24	35	44
FEB								
06...	1155	519	8.5	59	83	--	--	--
17...	1700	6260	11.0	5440	91900	24	29	38
18...	1525	5940	11.0	2860	45900	26	39	50
MAR								
04...	1200	697	8.0	105	198	--	--	--

DATE	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							
26...	--	87	91	97	100	--	--
DEC							
26...	--	99	100	--	--	--	--
JAN							
07...	--	84	89	96	100	--	--
13...	65	75	86	96	99	100	--
16...	52	58	86	93	99	100	--
FEB							
06...	--	84	90	97	100	--	--
17...	48	59	74	87	96	99	100
18...	62	74	85	96	99	100	--
MAR							
04...	--	58	67	82	99	100	--

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

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (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
DEC								
04...	1515	11.0	1	124	1	4	17	35
04...	1520	11.0	1	124	2	3	10	48
04...	1525	11.0	1	124	0	1	2	9
04...	1530	11.0	1	124	1	2	6	21
04...	1535	11.0	1	124	--	1	5	20
FEB								
06...	1220	8.5	1	519	--	0	1	1
06...	1225	8.5	1	519	--	--	0	4
06...	1230	8.5	1	519	--	--	0	2
06...	1235	8.5	1	519	--	0	2	7
06...	1240	8.5	1	519	--	0	3	11
18...	1600	11.0	1	5910	--	--	--	--
18...	1605	11.0	1	5910	--	--	--	0
18...	1610	11.0	1	5910	0	1	1	4
18...	1615	11.0	1	5910	--	0	1	1
18...	1620	11.0	1	5910	--	0	5	23
MAR								
04...	1230	8.0	1	697	0	5	15	30
04...	1235	8.0	1	697	--	--	0	1
04...	1240	8.0	1	697	--	0	1	6
04...	1245	8.0	1	697	--	0	1	14
04...	1250	8.0	1	697	--	0	1	10

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
DEC							
04...	40	49	59	65	70	100	--
04...	73	93	99	100	--	--	--
04...	24	41	58	77	98	100	--
04...	32	46	64	83	99	100	--
04...	35	56	79	90	100	--	--
FEB							
06...	2	5	9	16	28	100	--
06...	11	18	24	36	50	60	100
06...	6	9	12	19	26	38	100
06...	16	27	35	44	63	77	100
06...	20	26	32	44	66	80	100
18...	0	3	23	74	94	100	--
18...	1	3	7	13	37	48	100
18...	8	14	20	42	100	--	--
18...	1	2	4	9	56	100	--
18...	36	49	66	84	98	100	--
MAR							
04...	45	65	95	100	--	--	--
04...	2	5	12	22	44	100	--
04...	14	19	25	39	64	100	--
04...	33	47	68	92	100	--	--
04...	40	64	86	99	100	--	--

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA

LOCATION.--Lat 40°23'14", long 122°14'15", in NE¼NE¼ sec.7, T.29 N., R.3 W., Shasta County, 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, at site 100 ft (30 m) downstream on right bank at datum 3.59 ft (1.094 m) higher. July 26, 1963, to Sept. 13, 1972, at site 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.--40 years, 849 ft³/s (24.04 m³/s), 615,100 acre-ft/yr (758 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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 24	0245	9,180 260	11.93 3.636	Feb. 17	2245	*36,300 1,028	17.27 5.264
Jan. 13	2345	17,000 481	14.01 4.270	Feb. 21	0330	17,000 481	13.60 4.145

Minimum daily, 49 ft³/s (1.39 m³/s) Oct. 5, Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	150	507	2600	556	3460	780	617	337	168	74	65
2	66	138	463	1750	528	3150	757	591	329	147	77	65
3	58	155	421	1350	2520	2900	717	582	329	133	74	65
4	54	372	387	1130	2480	2660	801	572	387	138	84	63
5	49	272	361	1020	1530	4660	1340	573	474	149	84	63
6	59	412	333	1010	1270	4900	1230	564	430	154	70	60
7	62	783	312	1000	1080	3340	1090	533	372	163	75	58
8	55	663	293	930	963	2870	998	518	347	144	79	54
9	74	455	277	841	883	2500	954	611	329	147	79	52
10	85	365	262	902	821	2240	947	714	309	144	72	50
11	80	302	245	946	770	2060	921	566	310	151	72	49
12	85	269	231	5130	729	1870	874	499	344	163	72	56
13	71	235	223	11200	689	1660	837	476	346	144	72	62
14	81	213	215	11900	648	1960	827	455	330	140	70	105
15	109	190	207	6890	835	2290	862	442	294	131	72	90
16	117	318	198	4750	4510	1820	799	421	271	127	72	60
17	107	2060	193	3520	19000	1650	792	352	259	126	72	110
18	104	1060	188	2650	20800	1560	790	339	248	121	71	119
19	127	672	187	2040	16700	1440	769	357	240	117	69	132
20	172	530	228	1660	9270	1340	818	385	241	110	71	126
21	184	423	323	1400	10300	1260	1010	353	243	105	69	121
22	179	377	428	1210	6920	1180	871	345	240	101	69	112
23	172	1130	1710	1060	5150	1110	797	381	240	92	68	98
24	237	1140	6630	952	4050	1060	808	387	236	101	68	83
25	811	1640	2690	885	3610	1060	779	398	232	86	68	70
26	936	1450	1540	820	3320	1030	733	394	227	82	68	52
27	454	1070	1040	764	3620	955	718	375	211	70	67	51
28	318	814	788	709	5900	911	686	345	206	79	65	53
29	244	662	669	660	4050	869	686	335	189	82	65	55
30	200	568	3110	605	---	836	622	326	176	81	64	57
31	168	---	4340	580	---	802	---	342	---	81	65	---
TOTAL	5593	18888	28999	72864	133502	61403	25612	14148	8726	3776	2217	2256
MEAN	180	630	935	2350	4604	1981	854	456	291	122	71.5	75.2
MAX	936	2060	6630	11900	20800	4900	1340	714	474	168	84	132
MIN	49	138	187	580	528	802	622	326	176	70	64	49
AC-FT	11090	37460	57520	144500	264800	121800	50800	28060	17310	7490	4400	4470
CAL YR 1979 TOTAL	219493			601	6630	33	AC-FT	435400				
WTR YR 1980 TOTAL	377984			1033	20800	49	AC-FT	749700				

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977 to current year.

WATER TEMPERATURES: Water years 1963-67, 1977 to current year.

SEDIMENT RECORDS: Water years 1957-67, 1977 to current year.

TURBIDITY: Water years 1977 to current year.

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), discontinued.

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.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,650 mg/L Jan. 5, 1978; minimum daily mean, 1 mg/L on many days during 1963-65, July 29, 30, 1967, Nov. 27, 28, Dec. 5-7, 1978.

SEDIMENT DISCHARGE: Maximum daily, 597,000 tons (542,000 metric tons) Dec. 22, 1964; minimum daily, 0.1 ton (0.09 metric ton) Sept. 30, Oct. 1, 6, 1964.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 32.5°C June 16; minimum recorded, 3.5 Jan. 30.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 3,240 mg/L Jan. 14; minimum daily mean, 5 mg/L on several days during November and December.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 198,000 tons (180,000 metric tons) Feb. 17; minimum daily, 2.5 tons (2.3 metric tons) Dec. 18, 19.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	23.0	18.0	15.5	12.0	9.5	7.5	9.0	8.0	8.5	6.5	11.0	10.0
2	23.0	18.0	14.0	13.0	9.5	9.0	8.0	6.5	9.0	7.5	10.0	10.0
3	23.0	18.5	14.0	13.5	11.0	8.5	9.0	7.5	10.0	9.0	10.0	10.0
4	24.0	19.0	13.0	12.0	10.0	8.0	8.5	8.0	9.5	8.5	10.0	9.0
5	23.5	19.0	14.5	12.5	10.5	8.0	9.0	8.5	9.0	9.0	9.0	9.0
6	21.5	19.0	15.0	13.0	11.5	8.5	8.5	7.5	10.0	9.0	10.5	9.5
7	22.0	18.0	14.0	11.5	12.5	9.5	8.5	7.0	10.0	9.0	10.5	9.5
8	21.0	18.0	13.5	11.0	11.5	9.0	9.0	8.5	9.5	9.0	10.5	9.0
9	20.5	16.5	14.0	10.5	11.0	8.5	9.0	9.0	9.5	8.5	11.0	9.5
10	20.5	16.0	13.5	10.0	10.5	7.5	8.5	7.5	10.0	9.0	11.5	10.0
11	19.0	16.0	13.5	10.0	8.5	6.0	7.5	7.0	10.0	9.0	12.0	11.0
12	20.0	15.5	13.0	10.0	8.0	5.0	10.5	7.5	9.5	8.5	11.5	10.0
13	20.5	17.0	13.0	9.5	8.5	5.5	10.5	9.5	9.5	8.5	11.0	10.0
14	19.0	17.5	13.0	9.0	8.5	5.0	10.5	9.5	9.5	9.0	11.0	10.5
15	22.0	17.0	12.0	9.5	8.5	5.0	10.0	9.0	10.0	9.5	11.0	9.5
16	20.5	16.5	12.0	11.0	8.0	5.0	10.0	9.0	11.0	10.0	10.5	9.0
17	20.5	16.0	12.0	11.0	8.0	5.0	10.5	9.5	11.0	10.5	10.5	10.0
18	18.0	15.5	11.0	9.5	8.5	5.5	9.5	6.5	11.0	10.5	11.0	9.0
19	17.5	15.5	10.5	8.5	9.0	8.0	7.0	5.0	10.5	6.0	12.0	10.0
20	15.5	14.0	9.5	7.0	9.0	8.5	7.5	5.0	10.0	8.0	12.5	11.5
21	16.5	12.5	9.0	6.5	10.5	8.5	8.0	5.5	10.5	8.5	13.0	11.0
22	15.0	14.0	8.5	8.0	8.5	6.5	9.5	7.5	10.5	9.5	13.5	11.0
23	16.0	14.0	8.0	6.5	6.5	5.0	9.0	7.0	10.5	9.5	13.0	11.5
24	15.0	14.0	9.0	8.0	7.0	5.5	9.0	7.5	11.0	9.0	13.0	11.0
25	16.0	14.5	9.0	8.5	8.0	7.0	10.5	8.5	10.5	10.0	13.5	11.5
26	15.5	13.0	8.0	7.0	8.0	6.5	9.0	7.5	11.0	10.0	13.5	11.0
27	16.0	13.0	7.0	5.5	7.5	5.5	8.5	7.0	11.0	11.0	13.5	11.5
28	16.5	13.0	8.5	6.0	6.5	5.0	7.5	5.0	11.0	10.5	14.5	11.5
29	15.5	12.5	9.0	7.0	8.0	6.0	7.0	5.0	11.0	10.0	15.5	12.5
30	15.0	12.5	10.0	7.0	8.0	6.5	6.0	3.5	---	---	15.0	12.5
31	16.0	11.5	---	---	8.5	7.0	6.5	5.0	---	---	15.5	12.0
MONTH	24.0	11.5	15.5	5.5	12.5	5.0	10.5	3.5	11.0	6.0	15.5	9.0

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	15.0	11.0	22.5	15.5	26.0	21.5	---	---	30.0	22.5	---	---
2	15.5	10.5	22.5	17.0	23.0	21.0	---	---	28.5	22.0	---	---
3	13.5	12.0	24.0	17.5	25.0	12.5	---	---	29.5	21.5	---	---
4	12.5	11.0	24.0	18.0	18.0	14.0	---	---	29.0	22.0	---	---
5	13.5	10.5	24.0	19.0	22.5	18.5	---	---	27.5	21.0	---	---
6	15.0	11.5	24.0	18.5	23.5	16.5	---	---	27.5	21.0	---	---
7	13.5	10.5	24.0	17.0	24.0	16.0	---	---	28.0	21.0	---	---
8	15.0	11.0	22.5	16.0	27.0	16.5	---	---	27.5	21.0	---	---
9	17.0	13.0	24.5	17.0	30.0	17.5	---	---	28.0	21.0	---	---
10	16.5	12.0	24.0	18.0	30.5	17.0	---	---	28.0	20.5	---	---
11	17.5	12.5	22.5	16.0	26.5	16.0	---	---	28.0	20.5	---	---
12	18.5	13.0	23.0	17.0	23.5	16.5	---	---	28.0	20.5	---	---
13	18.0	14.5	23.5	17.5	25.0	16.0	---	---	27.5	21.0	---	---
14	18.0	14.0	24.5	18.5	25.5	16.0	---	---	---	---	---	---
15	18.5	13.0	22.0	17.0	29.0	17.0	---	---	---	---	---	---
16	19.5	14.0	22.0	14.5	32.5	17.5	---	---	---	---	---	---
17	20.0	15.0	19.0	17.0	30.5	19.0	---	---	---	---	---	---
18	20.5	15.0	17.5	16.0	---	---	---	---	---	---	---	---
19	21.0	16.0	19.5	14.0	---	---	---	---	---	---	---	---
20	18.5	14.5	21.5	15.0	---	---	---	---	---	---	---	---
21	14.5	12.0	22.0	17.5	---	---	---	---	---	---	---	---
22	17.0	12.5	22.5	17.5	---	---	---	---	---	---	---	---
23	19.0	14.0	24.5	18.5	---	---	30.0	22.5	---	---	---	---
24	19.5	15.0	24.0	20.0	---	---	30.0	22.0	---	---	---	---
25	20.0	14.5	23.0	19.5	---	---	30.0	22.0	---	---	---	---
26	21.5	16.0	23.5	19.5	---	---	30.5	23.0	---	---	23.5	19.0
27	22.0	16.5	26.0	19.5	---	---	30.5	23.0	---	---	23.0	18.0
28	22.5	17.5	27.0	20.5	---	---	27.0	23.5	---	---	23.0	17.5
29	22.0	17.0	26.5	21.5	---	---	30.0	22.5	---	---	23.5	17.5
30	21.0	16.0	27.5	21.0	---	---	30.0	23.0	---	---	24.0	17.5
31	---	---	27.0	21.0	---	---	29.0	22.5	---	---	---	---
MONTH	22.5	10.5	27.5	14.0	---	---	---	---	---	---	---	---

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				150	8	3.2	507	6	8.2
2				138	8	3.0	463	6	7.5
3				155	9	3.8	421	6	6.8
4				372	19	20	387	6	6.3
5				272	12	8.8	361	7	6.8
6				412	21	32	333	7	6.3
7				783	18	38	312	7	5.9
8				663	16	29	293	6	4.7
9				455	13	16	277	6	4.5
10				365	10	9.9	262	6	4.2
11				302	7	5.7	245	6	4.0
12				269	5	3.6	231	6	3.7
13				235	5	3.2	223	6	3.6
14				213	5	2.9	215	6	3.5
15				190	5	2.6	207	6	3.4
16				318	21	35	198	6	3.2
17				2060	223	1320	193	6	3.1
18				1060	86	246	188	5	2.5
19				672	41	74	187	5	2.5
20				530	31	44	228	6	3.7
21				423	27	31	323	13	13
22				377	25	25	428	11	13
23				1130	79	250	1710	397	6280
24				1140	98	363	6630	2130	41000
25				1640	147	651	2690	688	5790
26				1450	132	517	1540	232	965
27				1070	80	231	1040	136	382
28				814	25	55	788	90	191
29				662	8	14	669	66	119
30				568	6	9.2	3110	636	8990
31				---	---	---	4340	543	7120
TOTAL				18888	---	4046.9	28999	---	70957.4

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	2600	210	1470	556	12	18	3460	136	1270			
2	1750	135	638	528	12	17	3150	118	1000			
3	1350	88	321	2520	203	2200	2900	99	775			
4	1130	61	186	2480	155	1110	2660	83	596			
5	1020	47	129	1530	79	326	4660	508	6390			
6	1010	38	104	1270	46	158	4900	385	5090			
7	1000	30	81	1080	33	96	3340	157	1420			
8	930	23	58	963	25	65	2870	118	914			
9	841	20	45	883	20	48	2500	106	715			
10	902	26	63	821	17	38	2240	95	575			
11	946	28	73	770	13	27	2060	89	495			
12	5130	1440	27400	729	12	24	1870	80	404			
13	11200	2660	88700	689	11	20	1660	73	327			
14	11900	3240	108000	648	11	19	1960	118	723			
15	6890	1300	26500	835	39	200	2290	157	1020			
16	4750	355	4550	4510	513	11400	1820	61	300			
17	3520	160	1520	19000	3230	198000	1650	44	196			
18	2650	122	873	20800	2640	158000	1560	36	152			
19	2040	91	501	16700	2020	94100	1440	31	121			
20	1660	76	341	9270	923	24800	1340	23	83			
21	1400	70	265	10300	845	27900	1260	19	65			
22	1210	63	206	6920	612	12300	1180	19	61			
23	1060	52	149	5150	360	5010	1110	16	48			
24	952	45	116	4050	227	2480	1060	15	43			
25	885	38	91	3610	212	2070	1060	16	46			
26	820	33	73	3320	198	1770	1030	20	56			
27	764	26	54	3620	246	2800	955	20	52			
28	709	19	36	5900	464	7900	911	17	42			
29	660	16	29	4050	162	1770	869	16	38			
30	605	13	21	---	---	---	836	13	29			
31	580	12	19	---	---	---	802	12	26			
TOTAL	72864	---	262612	133502	---	554666	61403	---	23072			

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)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	780	12	25	617	14	23						
2	757	12	25	591	14	22						
3	717	12	23	582	14	22						
4	801	18	39	572	13	20						
5	1340	46	170	573	13	20						
6	1230	37	123	564	13	20						
7	1090	18	53	533	13	19						
8	998	12	32	518	12	17						
9	954	12	31	611	17	28						
10	947	12	31	714	22	42						
11	921	12	30	566	17	26						
12	874	12	28	499	12	16						
13	837	12	27	476	10	13						
14	827	12	27	455	10	12						
15	862	12	28	442	10	12						
16	799	12	26	421	10	11						
17	792	12	26	352	10	9.5						
18	790	12	26	339	10	9.2						
19	769	12	25	357	10	9.6						
20	818	17	38	385	10	10						
21	1010	24	65	353	10	9.5						
22	871	24	56	345	10	9.3						
23	797	22	47	381	9	9.3						
24	808	21	46	387	9	9.4						
25	779	20	42	398	9	9.7						
26	733	18	36	394	9	9.6						
27	718	18	35	375	9	9.1						
28	686	17	31	345	9	8.4						
29	685	16	30	335	9	8.1						
30	622	14	24	326	8	7.0						
31	---	---	---	342	8	7.4						
TOTAL	25612	---	1245	14148	---	458.1						

PERIOD 355416

917057.4

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER ...	18888.00	4046.90	1700	5740
DECEMBER ...	28999.00	70957.40	6030	77000
JANUARY 1980	72864.00	262612.00	20300	283000
FEBRUARY ...	133502.00	554666.00	46500	601000
MARCH	61403.00	23072.00	12200	35200
APRIL	25612.00	1245.00	2160	3400
MAY	14148.00	458.10	684	1140
PERIOD.....	355416.00	917057.40	89574	1006480

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
NOV								
26...	1430	1550	8.0	144	603	--	--	--
DEC								
26...	1145	1530	7.0	144	595	--	--	--
JAN								
12...	1355	6290	9.5	1900	32300	35	47	62
12...	1540	7140	9.5	2370	45700	35	50	64
13...	0925	9240	9.5	1940	48400	34	48	63
15...	1145	6660	9.0	1080	19400	33	44	56
FEB								
05...	1525	1450	9.0	80	313	--	--	--
17...	1035	11300	10.5	2120	64700	32	42	52
18...	1035	22300	11.0	3040	183000	25	33	43
19...	1040	18700	10.0	2390	121000	22	29	39
MAR								
05...	1500	4590	9.0	568	7040	25	32	39
12...	1430	1870	10.0	67	338	--	--	--

DATE	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							
26...	--	59	60	64	79	98	100
DEC							
26...	--	32	34	37	51	90	100
JAN							
12...	76	83	88	93	96	98	100
12...	80	89	94	97	99	100	--
13...	65	86	92	96	99	100	--
15...	68	78	85	93	99	100	--
FEB							
05...	--	72	78	89	99	100	--
17...	63	71	83	95	99	100	--
18...	56	68	83	96	100	--	--
19...	49	61	79	94	99	100	--
MAR							
05...	46	53	70	85	97	100	--
12...	--	59	68	79	96	100	--

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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
DEC								
05...	1150	9.0	1	359	--	0	1	5
05...	1155	9.0	1	359	--	0	3	25
05...	1200	9.0	1	359	--	0	4	24
05...	1205	9.0	1	359	0	1	4	22
26...	1405	7.0	1	1470	--	--	0	5
26...	1410	7.0	1	1470	--	0	1	17
26...	1415	7.0	1	1470	--	--	0	15
26...	1420	7.0	1	1470	--	--	0	4
JAN								
08...	1100	8.5	1	918	--	--	0	3
08...	1105	8.5	1	918	--	--	0	10
08...	1110	8.5	1	918	--	0	1	6
12...	1605	9.5	1	7220	0	1	8	27
12...	1610	9.5	1	7220	--	--	0	3
12...	1615	9.5	1	7220	--	--	0	1
12...	1620	9.5	1	7220	--	--	0	1
15...	1220	9.0	1	6580	--	0	1	7
15...	1225	9.0	1	6580	--	--	0	3
15...	1230	9.0	1	6580	--	--	0	1
15...	1235	9.0	1	6580	--	--	--	0
FEB								
05...	1545	9.0	1	1440	--	0	1	18
05...	1550	9.0	1	1440	--	--	0	18
05...	1555	9.0	1	1440	0	1	4	6
17...	1115	10.5	1	10900	--	0	2	8
17...	1120	10.5	1	10900	--	0	6	17
17...	1125	10.5	1	10900	--	0	1	2
17...	1130	10.5	1	10900	--	--	--	0
19...	1120	10.0	1	18200	--	0	3	18
19...	1125	10.0	1	18200	0	1	18	79
19...	1130	10.0	1	18200	--	--	0	1
19...	1135	10.0	1	18200	--	--	0	1
MAR								
05...	1525	9.0	1	5100	--	0	1	13
05...	1530	9.0	1	5100	--	--	0	5
05...	1535	9.0	1	5100	--	--	0	2
05...	1540	9.0	1	5100	--	--	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
DEC							
05...	24	53	70	79	87	100	--
05...	59	88	94	98	100	--	--
05...	56	73	78	82	95	100	--
05...	35	40	44	52	66	100	--
26...	48	93	100	--	--	--	--
26...	74	93	99	100	--	--	--
26...	65	84	90	95	100	--	--
26...	25	41	54	62	63	100	--
JAN							
08...	15	72	92	96	100	--	--
08...	26	39	68	92	100	--	--
08...	25	43	61	79	100	--	--
12...	52	79	99	100	--	--	--
12...	23	57	81	93	100	--	--
12...	3	8	20	42	75	100	--
12...	10	32	47	59	77	100	--
15...	38	59	69	76	87	100	--
15...	12	20	30	40	54	100	--
15...	14	30	43	57	74	100	--
15...	1	3	14	40	96	100	--
FEB							
05...	44	54	57	57	59	67	100
05...	51	74	88	95	100	--	--
05...	11	30	48	73	88	100	--
17...	16	22	28	39	55	100	--
17...	38	73	90	96	98	100	--
17...	7	18	30	45	72	100	--
17...	2	11	28	47	80	100	--
19...	40	54	67	78	94	100	--
19...	91	93	94	95	98	100	--
19...	6	14	22	34	50	71	100
19...	3	8	20	40	75	100	--
MAR							
05...	40	79	97	99	100	--	--
05...	22	41	63	80	89	100	--
05...	7	19	37	65	95	100	--
05...	2	6	16	37	83	100	--

SACRAMENTO RIVER BASIN

11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
OCT						
06...	1300	59	21.5	2	.32	2.0
15...	1100	109	18.0	3	.88	2.0
25...	1000	371	15.0	17	17	8.0
31...	1000	163	13.5	8	3.5	2.0
NOV						
01...	1100	149	13.5	8	3.2	2.0
06...	1450	282	15.0	13	9.9	6.0
13...	1250	233	10.0	4	2.5	2.0
14...	1030	202	9.0	4	2.2	2.0
14...	1035	202	9.0	7	3.8	2.0
15...	1000	190	12.0	5	2.6	2.0
17...	1400	2090	12.0	202	1140	500
25...	1000	1780	9.0	17	82	12
26...	1430	1550	8.0	144	603	70
26...	1435	1550	8.0	160	670	75
26...	1440	1550	8.0	124	519	75
28...	1500	789	8.0	18	38	12
30...	1300	561	8.0	3	4.5	2.0
DEC						
05...	1120	359	9.0	4	3.9	2.0
05...	1130	359	9.0	9	8.7	2.0
26...	1145	1530	7.0	144	595	75
JAN						
02...	1000	1780	8.0	139	668	55
08...	1100	918	8.5	23	57	14
08...	1115	918	8.5	22	55	13
12...	1355	6290	9.5	1900	32300	750
12...	1400	6290	9.5	1980	33600	650
12...	1405	6290	9.5	1990	33800	650
12...	1540	7140	9.5	2370	45700	800
12...	1545	7140	9.5	2300	44300	750
13...	0925	9240	9.5	1940	48400	650
13...	0930	9240	9.5	1870	46700	650
15...	1145	6660	9.0	1080	19400	400
15...	1150	6660	9.0	1090	19600	400
22...	1700	1170	9.0	60	190	21
30...	1600	596	6.0	13	21	6.0
FEB						
05...	0930	1560	9.5	72	303	50
05...	1525	1450	9.0	80	313	45
05...	1530	1450	9.0	81	317	40
05...	1535	1450	9.0	74	290	39
12...	1010	729	9.0	12	24	7.0
16...	1300	1820	11.0	162	796	110
17...	1035	11300	10.5	2120	64700	600
17...	1040	11000	10.5	2310	68600	650
17...	1045	11000	10.5	2060	61200	650
17...	1140	10500	10.5	1900	53900	600
17...	1305	10000	10.5	1180	31900	340
18...	1035	22300	11.0	3040	183000	650
18...	1040	22300	11.0	2880	173000	650
18...	1045	22300	11.0	2920	176000	700
19...	1040	18700	10.0	2390	121000	450
19...	1045	18700	10.0	1890	95400	450
19...	1050	18700	10.0	2100	106000	450
MAR						
03...	1300	2850	10.0	81	623	33
05...	1315	4360	9.0	490	5770	200
05...	1500	4590	9.0	568	7040	140
05...	1505	4590	9.0	549	6800	140
05...	1510	4590	9.0	463	5740	140
11...	1100	2080	11.5	70	393	70
12...	1410	1870	10.0	51	257	20
12...	1430	1870	10.0	67	338	19
12...	1435	1870	10.0	68	343	19
17...	1500	1640	11.0	31	137	16
25...	1010	1040	12.0	10	28	10
27...	1150	955	12.5	15	39	5.0
31...	1615	804	15.0	7	15	4.0
31...	1620	804	15.0	9	20	4.0
MAY						
11...	1545	566	18.0	9	14	3.0
14...	1330	466	21.5	9	11	1.0
20...	1000	418	21.0	5	5.6	1.0
23...	1330	384	18.0	7	7.3	1.0
24...	1245	379	20.0	4	4.1	1.0
27...	0755	388	16.0	4	4.2	1.0
JUN						
03...	1000	342	19.5	19	18	1.0
05...	1510	470	21.5	12	15	2.0

SACRAMENTO RIVER BASIN

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11376000 COTTONWOOD CREEK NEAR COTTONWOOD, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
JUN						
05...	1515	470	21.5	12	15	3.0
10...	0945	309	17.0	5	4.2	1.0
18...	1015	248	23.0	6	4.0	1.0
JUL						
02...	1430	161	26.0	12	5.2	1.0
11...	1400	151	26.0	5	2.0	1.0
17...	1045	125	26.5	4	1.3	1.0
25...	1445	86	29.0	6	1.4	2.0
28...	1300	79	25.0	27	5.8	2.0
AUG						
04...	1045	84	23.0	8	1.8	1.0
13...	1105	72	22.5	29	5.6	2.0
22...	1555	69	29.0	12	2.2	2.0
31...	1830	65	26.5	14	2.5	2.0
SEP						
06...	1200	60	--	10	1.6	2.0
09...	1100	52	29.5	27	3.8	6.0
21...	0835	121	19.0	4	1.3	1.0
26...	1130	52	20.5	3	.42	1.0
30...	1730	57	24.0	3	.46	1.0

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

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	2.5	2.3	3.2	3.1	3.5	2.5	6.2	8.5	10	4.7	3.8
2	.98	2.5	2.3	3.0	3.0	3.3	2.5	6.4	8.6	11	4.4	3.6
3	.98	3.4	2.3	2.6	5.1	3.1	2.4	6.7	8.2	12	4.3	3.5
4	.92	3.5	2.1	2.3	4.6	3.2	2.5	7.2	8.3	11	4.3	3.5
5	.98	2.9	2.1	2.4	3.7	3.2	3.0	7.9	8.2	9.9	4.2	3.4
6	1.0	2.5	2.1	2.5	3.4	3.4	3.3	8.6	7.7	11	4.1	3.3
7	1.0	2.3	2.1	2.3	3.1	3.4	2.8	8.5	7.4	9.7	4.2	3.3
8	1.0	2.2	2.1	2.1	3.0	3.2	2.6	9.3	7.4	8.7	4.1	3.4
9	.98	2.2	2.1	2.2	2.9	3.0	2.6	12	7.7	8.2	4.1	3.4
10	.92	2.1	2.1	2.2	2.9	3.0	2.6	11	8.0	7.8	3.9	3.6
11	.98	2.1	2.0	3.0	2.8	3.0	2.5	8.8	8.3	7.5	3.8	3.7
12	.98	2.1	1.9	10	2.8	3.0	2.6	8.0	9.3	7.3	3.7	3.6
13	.98	2.1	1.9	25	2.8	2.9	2.9	8.0	8.9	7.2	3.8	4.0
14	1.0	2.1	1.9	22	2.8	3.0	3.1	8.3	8.3	7.1	3.8	4.5
15	1.0	2.1	1.9	11	3.0	3.2	3.1	7.8	8.3	7.0	3.8	4.2
16	1.0	3.0	1.9	8.0	3.5	2.9	3.2	7.7	8.5	6.9	3.8	3.9
17	1.0	4.4	1.9	7.0	5.4	3.0	3.5	7.5	8.6	6.8	3.7	3.8
18	1.0	3.3	1.8	5.9	8.3	3.0	3.9	7.8	9.5	6.8	3.7	4.3
19	1.8	2.6	1.9	5.3	7.1	2.8	4.4	8.2	10	6.8	3.8	4.0
20	1.3	2.2	1.9	4.9	5.8	2.8	5.4	9.0	10	6.7	3.7	3.9
21	1.0	2.1	1.9	4.6	5.1	2.8	6.3	10	10	6.5	3.7	3.8
22	1.0	2.4	1.8	4.4	4.5	2.7	5.5	12	10	5.9	4.1	3.7
23	1.0	2.7	1.8	4.2	3.8	2.6	5.3	12	10	5.5	4.3	3.6
24	2.5	3.8	1.7	4.1	3.5	2.5	5.4	11	9.7	5.2	3.7	3.5
25	17	3.9	1.2	4.0	3.4	2.5	5.0	10	9.4	5.0	3.6	3.5
26	12	4.0	1.2	3.8	3.2	2.5	5.2	9.0	9.0	5.0	3.4	3.4
27	5.1	2.8	1.8	3.7	3.4	2.5	5.5	7.6	9.1	4.8	3.3	3.4
28	3.9	2.6	2.2	3.1	4.9	2.4	5.7	8.4	9.3	4.7	3.2	3.4
29	3.0	2.4	2.3	3.0	4.0	2.5	6.2	8.4	9.4	4.8	3.3	3.4
30	2.8	2.4	2.6	2.6	---	2.6	6.3	8.0	9.9	4.6	3.4	3.4
31	2.7	---	3.0	3.0	---	2.5	---	8.3	---	4.7	3.6	---
TOTAL	72.78	81.2	62.1	167.4	114.9	90.0	117.8	269.6	265.5	226.1	119.5	109.8
MEAN	2.35	2.71	2.00	5.40	3.96	2.90	3.93	8.70	8.85	7.29	3.85	3.66
MAX	17	4.4	3.0	25	8.3	3.5	6.3	12	10	12	4.7	4.5
MIN	.92	2.1	1.2	2.1	2.8	2.4	2.4	6.2	7.4	4.6	3.2	3.3
AC-FT	144	161	123	332	228	179	234	535	527	448	237	218

CAL YR 1979	TOTAL	--	MEAN	---	MAX	--	MIN	--	AC-FT	--
WTR YR 1980	TOTAL	1696.68	MEAN	4.64	MAX	25	MIN	.92	AC-FT	3370

SACRAMENTO RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to September 1980.

BIOLOGICAL DATA: October 1979 to September 1980.

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

WATER TEMPERATURES: October 1979 to September 1980.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

WATER TEMPERATURES: October 1979 to September 1980.

INSTRUMENTATION.--Temperature and conductivity recorder since October 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 105 micromhos Mar. 10; minimum daily, 81 micromhos July 24, 25, 28.
WATER TEMPERATURES: Maximum recorded, 23.5°C July 26, 27, 29-31; minimum recorded, 0.0°C many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	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 CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT , 1979											
24...	1030	2.5	93	8.0	6.5	9.5	11	K5	35	0	9.8
NOV											
29...	0850	3.0	91	7.5	1.5	11.3	--	--	--	--	--
JAN , 1980											
03...	1330	2.3	90	8.0	2.0	11.0	--	--	--	--	--
25...	1100	4.1	91	7.8	2.0	11.1	<1	<1	38	0	11
FEB											
25...	1020	3.3	96	7.7	2.5	11.0	--	--	--	--	--
MAR											
17...	1055	2.8	104	8.0	4.0	10.8	--	--	--	--	--
APR											
23...	1015	5.2	93	7.7	8.5	9.0	15	12	39	0	11
MAY											
13...	0930	7.9	96	7.7	8.0	9.7	K4	K1	--	--	--
JUN											
24...	1130	9.8	89	8.4	14.0	8.1	28	K2	--	--	--
JUL											
23...	0950	5.6	77	8.5	17.0	7.6	140	K3	32	0	9.1
AUG											
27...	1000	3.3	85	8.3	15.0	8.0	K350	40	--	--	--
SEP											
24...	1130	3.5	89	8.2	12.0	8.8	K30	180	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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 , 1979											
24...	2.6	4.2	25	.3	2.4	35	6.8	.7	.0	30	78
NOV											
29...	--	--	--	--	--	--	--	--	--	--	--
JAN , 1980											
03...	--	--	--	--	--	47	--	--	--	--	--
25...	2.6	4.0	18	.3	1.7	45	3.1	.5	.0	34	85
FEB											
25...	--	--	--	--	--	35	--	--	--	--	--
MAR											
17...	--	--	--	--	--	45	--	--	--	--	--
APR											
23...	2.9	4.3	18	.3	1.7	46	2.7	.3	.0	33	84
MAY											
13...	--	--	--	--	--	49	--	--	--	--	--
JUN											
24...	--	--	--	--	--	46	--	--	--	--	--
JUL											
23...	2.2	3.5	19	.3	1.4	40	1.2	.1	.2	28	68
AUG											
27...	--	--	--	--	--	42	--	--	--	--	--
SEP											
24...	--	--	--	--	--	40	--	--	--	--	--

See footnotes at end of table.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

SACRAMENTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)
OCT , 1979										
24...	--	--	--	--	30	--	--	--	--	--
NOV										
29...	--	--	--	--	--	--	--	--	--	--
JAN , 1980										
03...	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	20	--	--	--	--	--
FEB										
25...	--	--	--	--	--	--	--	--	--	--
MAR										
17...	5	4	--	150	--	5	10	.0	40	.00
APR										
23...	--	--	--	--	20	--	--	--	--	--
MAY										
13...	--	--	--	--	--	--	--	--	--	--
JUN										
24...	--	--	--	--	--	--	--	--	--	--
JUL										
23...	4	6	70	80	10	9	0	.1	20	.00
AUG										
27...	--	--	--	--	--	--	--	--	--	--
SEP										
24...	--	--	--	--	--	--	--	--	--	--

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.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C); WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	90	96	---	---	102	---	99	101	90	83	87
2	---	90	96	---	---	102	---	99	101	89	83	87
3	---	90	96	100	---	101	---	100	100	88	83	88
4	---	90	96	99	---	102	---	100	100	88	83	87
5	---	91	96	99	---	102	---	100	100	87	84	88
6	---	91	96	100	---	103	---	99	101	86	84	88
7	---	92	96	100	---	103	---	99	101	85	84	88
8	---	92	96	100	---	104	---	99	102	85	84	88
9	---	91	96	99	---	104	---	97	103	84	84	88
10	---	92	96	100	---	105	---	97	102	84	84	88
11	---	92	97	95	---	104	---	97	101	84	85	89
12	---	92	97	95	---	104	---	98	101	84	85	88
13	---	93	98	88	---	104	---	98	101	84	85	88
14	---	92	98	83	---	104	---	98	99	84	85	89
15	---	93	99	85	---	103	---	99	101	84	85	89
16	---	91	99	87	99	104	---	100	101	85	86	89
17	---	92	99	89	98	---	---	101	101	85	86	89
18	---	92	100	91	97	---	---	101	101	84	86	89
19	---	93	99	91	97	---	---	101	99	84	86	89
20	---	93	99	93	99	---	---	102	101	85	86	89
21	---	94	98	94	100	---	---	102	97	84	86	89
22	---	93	---	94	100	---	---	100	96	85	87	90
23	---	94	---	94	101	---	81	99	95	---	87	90
24	91	93	---	95	101	---	96	100	94	82	87	87
25	91	93	---	96	100	---	97	98	93	82	87	87
26	93	93	---	96	101	---	97	99	92	83	87	90
27	91	95	---	96	100	---	98	99	92	83	88	90
28	90	95	---	97	100	---	98	99	92	82	---	90
29	89	95	---	99	101	---	99	100	92	83	---	90
30	90	95	---	102	---	---	99	100	91	83	87	90
31	90	---	---	100	---	---	---	101	---	83	87	---
MONTH	---	92	---	95	---	---	---	99	98	85	85	89

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

SACRAMENTO RIVER BASIN

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 excellent. 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.--19 years, 509 ft³/s (14.41 m³/s), 368,800 acre-ft/yr (455 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)
Oct. 25	1515	2,600 73.6	4.80 1.463	Jan. 16	1215	2,680 75.9	4.88 1.487
Dec. 24	1645	6,490 184	7.93 2.417	Feb. 19	1145	5,410 153	7.20 2.195
Dec. 31	0515	3,840 109	5.96 1.817	Feb. 21	0230	4,270 121	6.32 1.926
Jan. 11	2300	4,870 138	6.80 2.073	Feb. 28	0515	2,640 74.8	4.84 1.475
Jan. 13	1730	*9,700 275	9.59 2.923				

Minimum daily, 229 ft³/s (6.48 m³/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	244	284	320	1470	511	960	500	583	488	393	280	241
2	242	284	316	802	510	924	501	582	486	398	270	238
3	242	392	310	612	669	1180	483	589	467	418	265	238
4	245	510	304	532	659	1180	486	609	483	405	257	232
5	246	393	298	483	560	1710	573	626	529	388	254	233
6	251	353	293	476	544	1230	615	628	482	377	256	233
7	252	315	299	439	519	1020	548	602	459	373	251	229
8	250	302	296	435	506	919	516	588	447	361	252	233
9	249	291	293	527	488	849	498	710	444	363	247	233
10	253	288	292	665	488	805	496	731	443	350	244	234
11	252	285	287	1300	472	792	481	672	454	364	245	236
12	245	283	286	3310	471	743	479	609	476	342	244	245
13	240	285	288	5370	464	715	476	592	479	336	239	250
14	251	276	286	3620	459	707	486	635	481	334	243	264
15	255	279	285	2120	510	765	490	614	446	330	240	238
16	245	441	282	2240	966	680	496	593	437	336	241	255
17	241	1280	278	1710	1990	668	504	584	446	337	237	251
18	238	520	283	1330	2820	670	521	578	452	339	239	265
19	266	381	266	1080	3610	639	531	580	455	346	238	261
20	384	332	318	968	2020	621	588	596	458	332	233	271
21	299	308	451	882	2620	603	697	605	449	323	258	256
22	255	360	359	814	1470	583	606	620	440	322	246	256
23	276	482	1160	735	1160	579	574	597	452	314	246	253
24	303	848	3760	706	1010	560	581	564	447	304	243	249
25	1350	632	1530	674	925	556	573	536	423	295	245	250
26	688	544	762	640	865	552	570	511	408	291	240	255
27	377	438	498	625	855	539	574	493	392	288	236	257
28	328	382	406	596	1830	529	596	480	385	281	240	258
29	301	354	376	570	1110	518	608	470	382	292	240	259
30	288	340	1100	536	---	515	612	466	387	287	239	260
31	289	---	1790	530	---	503	---	467	---	283	241	---
TOTAL	9845	12462	18072	36797	31081	23814	16259	18110	13477	10502	7649	7433
MEAN	318	415	583	1187	1072	768	542	584	449	339	247	248
MAX	1350	1280	3760	5370	3610	1710	697	731	529	418	280	271
MIN	238	276	266	435	459	503	476	466	382	291	233	229
AC-FT	19530	24720	35850	72990	61650	47240	32250	35920	26730	20830	15170	14740

CAL YR 1979 TOTAL 156250 MEAN 428 MAX 3760 MIN 223 AC-FT 309900
WTR YR 1980 TOTAL 205501 MEAN 561 MAX 5370 MIN 229 AC-FT 407600

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 hm²) 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); 18 years (water years 1963-80), 13,290 ft³/s (376.4 m³/s), 9,629,000 acre-ft/yr (11.9 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 1892-1980), 2,000 ft³/s (56.6 m³/s) Mar. 29, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 104,000 ft³/s (2,945 m³/s) Feb. 19, gage height, 27.64 ft (8.425 m); minimum daily, 4,670 ft³/s (132 m³/s) Oct. 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5750	4680	6950	16400	13300	48700	9870	8550	8360	11200	11300	8260
2	5710	4700	6840	12200	12200	47600	9810	8640	8460	11300	11000	8200
3	5680	5030	6780	11500	13300	47600	9770	9180	8530	11300	10900	7990
4	5710	6130	6670	11600	12900	48300	9850	9310	8560	11300	10800	7880
5	5720	6200	6640	11200	11700	54200	10600	9290	8790	11300	10600	7860
6	5690	5820	6690	11200	11400	45500	9840	9370	8970	11200	10400	7560
7	5730	5770	6610	11000	11000	30100	9230	9380	9730	11200	10500	7440
8	5770	5490	6540	10300	10900	26000	8950	9250	10400	11200	10400	7380
9	5780	5140	6490	9750	10800	24500	8830	9720	10600	11200	10400	7140
10	5760	4980	6470	11100	10300	23700	8850	10400	10500	11100	10400	6910
11	5790	4890	6380	11700	9520	23000	8680	9590	10800	11100	10400	6840
12	5770	4830	6350	30700	9150	22300	8560	9050	11000	11100	10000	6580
13	5560	4760	6360	41600	8990	21900	8460	8900	11600	11100	10000	6450
14	5280	4740	6300	60500	8890	22600	8240	8810	12400	11100	9890	6510
15	5210	4710	6300	64200	9250	27400	8280	8240	12600	11700	9900	6510
16	5130	5220	6310	55000	14400	22400	8140	7840	12500	12200	9840	6400
17	5030	12200	6280	51100	42400	21700	8120	7700	13400	12400	9830	6360
18	5000	8650	6330	46500	71600	20600	8100	7630	13900	12200	9840	6470
19	5210	7400	6360	43200	88400	17500	8490	7580	13900	12200	9530	6700
20	5550	7000	6480	41800	87200	16000	9040	7840	13800	12200	9260	6610
21	5440	6750	7480	41000	80400	14900	9660	8240	12700	12200	9070	6570
22	5310	6790	7230	40200	71500	12200	9370	8370	12100	12200	8820	6570
23	5380	8520	14300	39200	67100	10400	8910	8360	12100	12100	8660	6590
24	5140	9390	51700	23400	62700	9850	8300	8310	12100	12100	8640	6460
25	11700	8770	28300	16300	60800	9690	8260	8350	12100	12100	8650	6410
26	7070	7860	14900	15600	59800	9580	8310	8360	12000	12100	8720	6440
27	5480	7400	10800	15300	59300	9310	8140	8280	12000	12000	8460	6480
28	5060	7170	9860	14900	69100	9130	8100	8240	11500	12100	8210	6400
29	4930	7000	9250	14700	52100	8960	8230	8190	11300	11600	8250	6440
30	4720	6870	16300	14400	---	8850	8480	8150	11300	11300	8270	6420
31	4670	---	25300	14200	---	9400	---	8200	---	11300	8290	---
TOTAL	175730	194860	325550	811750	1050400	723870	265470	267320	338000	360700	299230	206830
MEAN	5669	6495	10500	26190	36220	23350	8849	8623	11270	11640	9653	6894
MAX	11700	12200	51700	64200	88400	54200	10600	10400	13900	12400	11300	8260
MIN	4670	4680	6280	9750	8890	8850	8100	7580	8360	11100	8210	6360
AC-FT	348600	386500	645700	1610000	2083000	1436000	526600	530200	670400	715400	593500	410200
CAL YR 1979	TOTAL	3316220	MEAN	9086	MAX	51700	MIN	4230	AC-FT	6578000		
WTR YR 1980	TOTAL	5019710	MEAN	13720	MAX	88400	MIN	4670	AC-FT	9957000		

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 (discontinued), 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 current year.

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 (discontinued).

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

INSTRUMENTATION.--Temperature recorder from March 1970 to June 1980.

REMARKS.--Unpublished records of specific conductance available in files of district office.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 19.0°C on several days in 1976; minimum recorded, 4.0°C Dec. 17, 1972, Jan. 9, 10, 1973.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,470 mg/L Jan. 24, 1970; minimum daily mean, 1 mg/L on many days in 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.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 16.0°C May 18-22; minimum recorded, 7.5°C on several days during December and January.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 1,040 mg/L Jan. 14; minimum daily mean, 6 mg/L on several days during November and December.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 174,000 tons (158,000 metric tons) Jan. 14; minimum daily, 76 tons (69 metric tons) Nov. 15.

REVISIONS.--Revised total sediment discharge for the water years 1977, 1979 are given below. These figures supersede those published in the reports for 1977, 1979.

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1976 TO SEPTEMBER 1977

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
JANUARY 1977	207470.00	3833.00	1090	4920
FEBRUARY....	171280.00	4003.00	85	4090
MARCH.....	198080.00	9341.00	413	9750
APRIL.....	253250.00	8646.00	5700	14300
MAY.....	258240.00	13370.00	653	14000
JUNE.....	286550.00	8960.00	1550	10500
PERIOD.....	1374870.00	48153.00	9491	57560

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1978	199680.00	2434.00	293	2730
DECEMBER.....	209680.00	4179.00	320	4500
JANUARY 1979.	278900.00	79729.00	10600	90300
FEBRUARY.....	290250.00	205165.00	10100	215000
MARCH.....	257010.00	32942.00	1380	34300
APRIL.....	243990.00	9515.00	244	9760
MAY.....	290980.00	10720.00	292	11000
PERIOD.....	1770490.00	344684.00	23229	367590

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
(NOT PREVIOUSLY PUBLISHED)

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1977	121990.00	3465.00	72	3540
NOVEMBER....	168240.00	22805.00	457	23300
DECEMBER....	234720.00	397954.00	11400	409000
JANUARY 1978	668120.00	1778589.00	37900	1820000
FEBRUARY....	498490.00	383236.00	43500	427000
MARCH.....	848730.00	580698.00	63600	644000
APRIL.....	476460.00	73316.00	57700	131000
MAY.....	342750.00	12954.00	7050	20000
JUNE.....	287830.00	8360.00	1270	9630
JULY.....	338100.00	6670.00	3150	9820
AUGUST.....	341130.00	4732.00	3900	8630
SEPTEMBER...	216150.00	2404.00	220	2620
TOTAL.....	4542710.00	3275183.00	230219	3508540

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT								
24...	0900	5080	--	7.3	13.0	10.0	--	--
NOV								
28...	0755	7240	--	7.3	9.0	10.8	--	--
DEC								
17...	0820	6260	--	7.7	9.0	10.8	--	--
JAN								
23...	0900	40000	--	7.3	9.5	11.8	--	--
FEB								
27...	0905	58800	--	.7	10.0	11.8	--	--
APR								
22...	0830	9370	--	7.5	12.0	10.7	--	--
MAY								
28...	0900	8280	128	7.3	13.0	10.7	48	11
JUN								
25...	1010	12100	--	7.3	14.0	10.7	--	--
JUL								
29...	0935	11600	--	7.1	15.0	10.2	--	--
AUG								
27...	0930	8310	--	7.3	14.5	9.8	--	--
SEP								
26...	0810	6370	--	7.5	15.0	10.1	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT								
24...	--	--	--	--	--	4	--	--
NOV								
28...	--	--	--	--	--	6	--	--
DEC								
17...	--	--	--	--	--	4	--	--
JAN								
23...	--	--	--	--	--	18	--	--
FEB								
27...	--	--	--	--	--	22	--	--
APR								
22...	--	--	--	--	--	6	--	--
MAY								
28...	5.0	7.0	1.4	52	3.0	8	.10	.01
JUN								
25...	--	--	--	--	--	7	--	--
JUL								
29...	--	--	--	--	--	--	--	--
AUG								
27...	--	--	--	--	--	--	--	--
SEP								
26...	--	--	--	--	--	6	--	--

SACRAMENTO RIVER BASIN

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		BORON, DIS- SOLVED (UG/L AS B)
DATE	TIME	
MAY 28...	0900	100

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1979 TO JUNE 1980

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

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1979 TO JUNE 1980

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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				4680	7	88	6950	13	244
2				4700	7	89	6840	12	222
3				5030	8	109	6780	11	201
4				6130	17	281	6670	11	198
5				6200	14	234	6640	10	179
6				5820	13	204	6690	10	181
7				5770	13	203	6610	10	178
8				5490	11	163	6540	10	177
9				5140	7	97	6490	10	175
10				4980	6	81	6470	9	157
11				4890	6	79	6380	9	155
12				4830	6	78	6350	7	120
13				4760	6	77	6360	6	103
14				4740	6	77	6300	6	102
15				4710	6	76	6300	6	102
16				5220	7	99	6310	7	119
17				12200	42	1480	6280	6	102
18				8650	12	280	6330	7	120
19				7400	11	220	6360	8	137
20				7000	11	208	6480	9	157
21				6750	11	200	7480	16	323
22				6790	13	238	7230	15	293
23				8520	30	690	14300	95	7280
24				9390	44	1120	51700	803	113000
25				8770	41	971	28300	329	27900
26				7860	24	509	14900	90	3620
27				7400	24	480	10800	41	1200
28				7170	22	426	9860	23	612
29				7000	14	265	9250	19	475
30				6870	13	241	16300	109	6430
31				---	---	---	25300	236	18500
TOTAL				194860	---	9363	325550	---	182762

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	16400	81	3590	13300	41	1470	48700	52	6840
2	12200	41	1350	12200	30	988	47600	52	6680
3	11500	25	776	13300	41	1470	47600	52	6680
4	11600	24	752	12900	42	1460	48300	52	6780
5	11200	23	696	11700	40	1260	54200	52	7610
6	11200	23	696	11400	41	1260	45500	51	6270
7	11000	24	713	11000	42	1250	30100	45	3660
8	10300	25	695	10900	41	1210	26000	38	2670
9	9750	25	658	10800	39	1140	24500	35	2320
10	11100	35	1050	10300	37	1030	23700	30	1920
11	11700	34	1380	9520	35	900	23000	25	1550
12	30700	284	23800	9150	30	741	22300	22	1320
13	41600	765	102000	8990	27	655	21900	21	1240
14	60500	1040	174000	8890	24	576	22600	24	1460
15	64200	889	163000	9250	23	574	27400	35	2590
16	55000	255	37900	14400	47	1990	22400	22	1330
17	51100	128	17700	42400	106	13100	21700	18	1050
18	46500	80	10000	71600	156	30700	20600	16	890
19	43200	73	8510	88400	253	64400	17500	14	661
20	41800	68	7670	87200	279	65700	16000	13	562
21	41000	64	7080	80400	259	57700	14900	13	523
22	40200	56	6080	71500	118	22800	12200	13	428
23	39200	52	5500	67100	100	18100	10400	13	365
24	23400	57	3600	62700	57	9650	9850	13	346
25	16300	45	1980	60800	57	9360	9690	13	340
26	15600	37	1560	59800	57	9200	9580	13	336
27	15300	37	1530	59300	60	9610	9310	13	327
28	14900	38	1530	69100	118	22000	9130	13	320
29	14700	39	1550	52100	53	7460	8960	13	314
30	14400	41	1590	---	---	---	8850	13	311
31	14200	43	1650	---	---	---	9400	16	406
TOTAL	811750	---	590586	1050400	---	357754	723870	---	68099
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	9870	19	506	8550	11	254			
2	9810	18	477	8640	11	257			
3	9770	17	448	9180	10	248			
4	9850	16	426	9310	10	251			
5	10600	16	458	9290	10	251			
6	9840	15	399	9370	10	253			
7	9230	14	349	9380	10	253			
8	8950	14	338	9250	11	275			
9	8830	14	334	9720	13	341			
10	8850	14	335	10400	17	477			
11	8680	14	328	9590	15	388			
12	8560	14	324	9050	13	318			
13	8460	15	343	8900	12	288			
14	8240	15	334	8810	12	285			
15	8280	15	335	8240	11	245			
16	8140	16	352	7840	11	233			
17	8120	16	351	7700	10	208			
18	8100	16	350	7630	9	185			
19	8490	18	413	7580	9	184			
20	9040	22	537	7840	9	191			
21	9660	21	548	8240	9	200			
22	9370	17	430	8370	9	203			
23	8910	14	337	8360	9	203			
24	8300	13	291	8310	8	179			
25	8260	13	290	8350	8	180			
26	8310	12	269	8360	8	181			
27	8140	12	264	8280	8	179			
28	8100	12	262	8240	8	178			
29	8230	11	244	8190	8	177			
30	8480	11	252	8150	8	176			
31	---	---	---	8200	8	177			
TOTAL	265470	---	10924	267320	---	7418			
PERIOD 3639220		---	1226906						

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	194860.00	9363.00	3440	12800
DECEMBER.....	325550.00	182762.00	17200	200000
JANUARY 1980.	811750.00	590586.00	58500	649000
FEBRUARY.....	1050400.00	357754.00	45900	404000
MARCH.....	723870.00	68099.00	48500	117000
APRIL.....	265470.00	10924.00	718	11600
MAY.....	267320.00	7418.00	617	8040
PERIOD.....	3639220.00	1226906.00	174875	1402440

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC 26...	1345	13400	7.5	74	2680	--	--	--
JAN 02...	1250	12000	9.0	38	1230	--	--	--
13...	0835	33700	10.5	563	51200	--	--	--
13...	0950	34000	10.5	509	46700	23	34	47
17...	1005	50200	10.0	154	20900	--	--	--
17...	1435	50700	10.0	111	15200	14	17	24
FEB 01...	1210	13000	8.5	41	1440	--	--	--
21...	1320	83300	9.0	261	58700	21	29	38
MAR 03...	1400	46900	8.5	49	6210	--	--	--
APR 01...	1145	9930	10.5	20	536	--	--	--

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 26...	--	--	41	46	57	87	100
JAN 02...	--	--	52	58	66	84	100
13...	--	--	76	85	93	99	100
13...	60	72	80	87	93	99	100
17...	--	--	41	48	64	87	100
17...	31	39	45	54	72	94	100
FEB 01...	--	--	59	63	72	95	100
21...	46	55	64	75	84	95	100
MAR 03...	--	--	46	56	76	96	100
APR 01...	--	--	36	50	80	96	100

SACRAMENTO RIVER BASIN

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
OCT						
01...	1200	5760	14.5	6	93	2.4
04...	1430	5680	15.0	5	77	2.2
12...	1600	5820	13.5	6	94	3.0
17...	0900	5030	13.5	6	81	2.6
23...	1605	5350	13.0	11	159	6.6
24...	0900	5080	13.0	--	--	1.0
29...	1700	4970	12.5	10	134	7.2
NOV						
02...	0700	4640	12.0	9	113	3.7
02...	1145	4700	12.0	6	76	3.1
02...	1600	4780	12.0	6	77	3.9
03...	0600	4740	12.0	6	77	3.4
03...	1100	4840	12.0	9	118	3.3
03...	1600	5090	12.0	6	82	3.4
04...	0600	6640	12.0	22	394	6.7
04...	1100	6210	11.5	16	268	6.3
04...	1600	5810	12.0	16	251	6.0
05...	0800	6230	12.0	14	235	5.3
05...	1300	6570	12.0	13	231	4.3
05...	1700	6280	12.0	13	220	4.5
06...	0840	5790	12.0	14	219	6.0
06...	1145	5720	12.0	14	216	5.7
06...	1245	5710	12.0	13	200	5.7
07...	1400	5710	12.0	14	216	4.8
08...	0630	5580	12.0	11	166	4.8
09...	0900	5130	11.5	6	83	3.4
10...	1400	4990	11.5	5	67	2.8
11...	0700	4900	11.0	8	106	2.7
18...	1630	8210	11.0	9	200	3.6
19...	0900	7370	10.5	10	199	3.4
20...	1500	6910	10.5	14	261	2.7
22...	0700	6620	10.5	9	161	2.5
22...	1200	6690	10.5	11	199	2.2
22...	1730	6760	10.0	11	201	2.0
23...	0700	9350	10.0	38	959	10
23...	1100	8970	9.5	26	630	10
23...	1545	8470	10.0	36	823	10
25...	0730	8990	10.0	48	1170	16
25...	1130	8820	10.0	37	881	16
25...	1610	8480	10.0	42	962	17
26...	1600	7680	9.5	23	477	6.8
27...	1845	7270	9.5	29	569	7.5
28...	0755	7240	9.0	--	--	3.0
28...	1800	7130	10.0	29	558	7.2
29...	1400	6970	10.5	11	207	3.6
30...	0700	6910	10.0	9	168	3.8
DEC						
01...	1400	6860	10.5	13	241	3.3
02...	1600	6840	11.0	14	259	2.7
03...	0900	6780	10.5	12	220	2.8
03...	1400	6810	11.0	10	184	2.9
03...	1530	6810	11.0	7	129	3.5
04...	1545	6660	10.5	10	180	3.1
05...	1600	6610	11.0	12	214	3.0
06...	1500	6620	11.0	5	89	2.5
07...	1420	6620	11.5	11	197	2.3
08...	1600	6520	11.0	11	194	2.2
09...	1400	6470	11.0	8	140	2.2
10...	1630	6420	10.5	4	69	2.4
11...	1500	6330	9.5	5	85	1.7
12...	1420	6330	9.0	4	68	1.9
13...	1500	6350	9.5	5	86	2.1
14...	1400	6280	10.0	7	119	2.0
15...	1345	6280	10.0	7	119	2.3
16...	0900	6310	9.0	8	136	2.7
17...	0800	6260	9.0	6	101	2.3
17...	0820	6260	9.0	--	--	2.0
18...	0700	6350	9.0	8	137	2.2
19...	0730	6350	8.0	12	206	2.9
19...	1000	5370	8.0	9	155	2.5
19...	1305	6370	8.0	6	103	2.2
20...	0800	6400	8.0	18	311	2.5
20...	1140	6420	8.0	6	104	2.5
20...	1500	6520	8.0	10	176	2.5
21...	0900	7320	9.0	7	138	3.8
22...	1200	7110	9.0	11	211	3.8
22...	1520	7020	9.0	14	265	3.8
24...	0730	48700	9.0	1030	135000	150
24...	1040	44900	9.0	858	104000	140
24...	1500	54200	--	773	113000	140

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
DEC						
26...	1145	14000	7.5	81	3060	30
26...	1200	13800	8.0	75	2790	32
26...	1345	13400	7.5	74	2680	27
26...	1530	12900	8.0	63	2190	28
27...	0900	10800	8.0	33	962	13
28...	1300	9820	8.0	23	610	6.5
30...	1130	13300	9.0	76	2730	16
JAN						
02...	0915	12300	8.5	47	1560	18
02...	1250	12000	9.0	38	1230	17
02...	1440	11900	9.5	36	1160	17
23...	0900	40000	9.5	--	--	1.0
30...	1420	14400	8.0	42	1630	26
31...	1530	14200	8.0	42	1610	26
FEB						
01...	1630	12800	9.0	22	760	24
02...	1800	11800	9.0	21	669	23
03...	1700	16200	9.5	21	919	22
04...	1530	12300	9.5	16	531	23
05...	1600	11500	9.5	26	807	23
06...	1700	11300	10.0	27	824	24
07...	1115	11000	8.5	42	1250	26
07...	1500	10900	9.0	26	765	24
08...	1420	11000	9.0	21	624	24
09...	0600	10900	8.5	24	706	23
10...	0930	10300	8.5	19	528	23
11...	1630	9190	9.0	23	571	23
12...	1530	9100	9.0	20	491	23
13...	1600	8820	9.0	16	381	22
14...	0800	8920	9.0	17	409	22
14...	1500	8870	9.0	17	407	23
14...	1730	8820	9.0	18	429	21
15...	0830	8950	9.0	18	435	22
15...	1200	9000	9.0	17	413	23
15...	1430	9050	9.0	17	415	23
20...	0815	93700	9.5	312	78900	100
20...	1400	84700	9.5	264	60400	100
21...	0835	92800	9.0	620	155000	145
21...	1310	83400	9.5	282	63500	85
21...	1315	83300	9.5	261	58700	80
21...	1400	81600	9.5	264	58200	85
21...	1630	77000	9.5	237	49300	70
22...	0600	68000	9.5	61	11200	40
22...	1030	67900	9.0	65	11900	37
22...	1500	75600	9.5	152	31000	50
23...	0900	67700	9.0	125	22800	45
23...	1200	66400	9.0	75	13400	38
23...	1530	65700	9.0	78	13800	35
24...	0700	63100	9.0	41	6990	25
24...	1300	62500	9.0	39	6580	24
24...	1730	62400	9.0	70	11800	27
28...	0700	73000	9.5	160	31500	36
28...	1200	74900	9.5	162	32800	34
28...	1700	68900	10.0	95	17700	39
29...	0700	52400	9.0	23	3250	19
29...	1230	51000	9.0	43	5920	22
29...	1500	50700	9.5	38	5200	22
MAR						
01...	0600	49100	9.0	24	3180	19
01...	1100	48700	8.5	42	5520	19
01...	1400	48400	9.0	24	3140	18
02...	0700	47700	8.5	22	2830	18
02...	1200	47700	9.0	20	2580	18
02...	1600	47500	9.0	30	3850	19
03...	0900	47000	8.5	55	6980	18
03...	1400	46900	8.5	49	6210	18
03...	1405	46900	8.5	50	6330	17
03...	1515	46900	8.5	58	7350	17
04...	0700	49300	9.0	45	5990	21
05...	0615	51200	9.0	52	7190	33
05...	1230	58700	9.0	50	7920	32
05...	1500	56600	9.0	54	8250	33
06...	0700	50400	9.0	47	6400	21
06...	1200	45900	9.0	54	6690	20
06...	1700	41900	9.0	57	6450	33
07...	1400	28100	9.0	50	3790	21
08...	1530	25700	9.0	48	3330	21
09...	0630	24700	9.0	33	2200	18
10...	1600	23700	10.0	26	1660	15
11...	0700	23100	9.5	25	1560	17

SACRAMENTO RIVER BASIN

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
MAR						
12...	1000	22400	10.0	17	1030	17
13...	1530	22200	9.5	18	1080	17
14...	1400	21700	9.5	21	1230	17
16...	0700	22600	8.5	24	1460	17
17...	1600	21500	9.5	19	1100	15
18...	1500	20300	9.5	18	987	13
19...	1400	17200	10.0	12	557	14
21...	1430	14600	10.0	13	512	14
22...	0700	12600	9.5	12	408	13
23...	1200	10500	10.0	14	397	12
24...	1600	9770	11.0	9	237	12
25...	1200	9560	10.0	8	206	11
26...	1400	9540	11.0	8	206	10
27...	1000	9280	10.5	7	175	11
28...	1130	9140	10.5	7	173	12
29...	1530	9020	12.0	6	146	12
30...	1400	8870	11.5	12	287	12
31...	0700	8990	11.0	22	534	12
APR						
01...	0840	9880	10.0	25	667	13
01...	1145	9930	10.5	20	536	12
01...	1150	9930	10.5	20	536	12
01...	1320	9980	11.0	22	593	12
02...	1200	9960	10.5	19	511	12
03...	1600	9750	11.0	15	395	12
04...	0830	9780	10.5	15	396	11
04...	0900	9780	10.5	15	396	12
04...	1500	9860	10.5	15	399	12
05...	1700	11100	11.5	11	330	11
06...	0700	10000	11.0	14	378	11
07...	1500	9190	11.0	22	546	12
08...	1730	8930	11.5	17	410	12
09...	0600	8840	12.0	10	239	4.0
10...	1700	8750	11.5	8	189	5.7
11...	1400	8660	12.5	10	234	5.0
12...	0900	8590	12.0	7	162	4.8
13...	1700	8420	13.0	14	318	4.4
14...	1530	8110	13.5	10	219	6.6
15...	1630	8290	13.5	12	269	5.2
16...	1400	8100	13.5	14	306	5.4
17...	1700	8110	13.5	20	438	12
19...	1600	8870	14.0	17	407	7.2
19...	1730	8820	14.5	19	452	5.4
20...	1200	8950	13.0	26	628	5.2
21...	1400	9680	11.5	19	497	6.2
22...	1700	9280	12.5	16	401	5.3
23...	1415	8840	12.5	15	358	7.2
24...	1600	8320	14.0	10	225	5.6
25...	1400	8280	13.5	8	179	4.7
26...	0815	8500	13.5	7	161	4.2
27...	1400	8160	14.0	4	88	4.2
28...	1600	8110	14.5	13	285	5.0
29...	1515	8400	14.5	7	159	5.8
30...	1400	8560	14.0	11	254	5.4
MAY						
01...	1230	8560	13.0	12	277	4.4
01...	1400	8560	13.5	9	208	4.9
01...	1600	8510	14.0	8	184	5.4
02...	1400	8610	13.5	8	186	5.5
03...	1900	9280	14.5	9	226	4.7
04...	0900	9290	13.0	10	251	5.6
05...	1700	9400	14.5	9	228	6.4
07...	1430	9330	13.5	10	252	3.8
09...	0630	9430	12.0	15	382	4.9
09...	0800	9590	12.0	16	414	7.4
12...	1715	8970	13.0	14	339	6.2
14...	1900	8740	14.5	9	212	5.6
16...	1400	7830	14.0	10	211	5.4
19...	1600	7640	15.5	9	186	6.4
21...	1500	8420	15.0	9	205	4.6
23...	1430	8350	13.0	9	203	4.2
26...	0900	8390	12.5	4	91	4.0
28...	0900	8280	13.0	--	--	5.0
28...	1200	8280	13.0	3	67	3.0
30...	1600	8130	14.5	4	88	4.0
JUN						
02...	1300	8470	13.5	4	91	3.0
03...	1115	8480	13.0	9	206	3.8
03...	1300	8480	13.5	7	160	4.6
04...	0700	8560	12.5	14	324	4.0

11377100 SACRAMENTO RIVER ABOVE BEND BRIDGE, NEAR RED BLUFF, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
JUN						
04...	1200	8560	12.0	8	185	5.0
04...	1600	8560	12.5	6	139	4.0
05...	0900	8790	12.0	16	380	5.0
05...	1300	8790	13.0	14	332	4.0
05...	1500	8790	13.5	13	309	5.0
09...	0700	10600	12.5	6	172	4.0
11...	1200	10800	13.0	21	612	3.0
13...	1000	11600	12.0	22	689	3.0
16...	1615	12500	14.0	28	945	4.0
18...	1630	13900	14.5	4	150	4.0
20...	1400	13800	13.5	4	149	4.0
23...	1815	12100	14.0	8	261	3.0
25...	0700	12100	12.5	5	163	3.0
25...	1010	12100	14.0	--	--	5.0
27...	0900	12000	12.5	10	324	3.0
JUL						
03...	1730	11300	10.0	20	610	3.0
09...	0700	11200	10.0	10	302	3.0
18...	1400	12200	11.0	9	296	3.0
23...	1000	12100	11.0	6	196	2.0
29...	0935	11600	15.0	--	--	2.0
30...	0800	11300	10.0	4	122	2.0
AUG						
02...	1500	11000	11.0	12	356	2.0
02...	1505	11000	12.0	8	238	2.0
06...	1045	10400	13.5	8	225	2.0
07...	1800	10500	12.0	6	170	2.0
21...	0700	9070	11.0	4	98	1.0
27...	0930	8310	14.5	--	--	3.0
29...	1100	8250	10.0	3	67	1.0
SEP						
04...	0900	7880	10.0	25	532	1.0
10...	0945	6910	15.0	9	168	2.0
10...	1500	6910	10.0	23	429	2.0
18...	1000	6470	11.0	80	1400	4.0
23...	1800	6590	10.0	10	178	3.0
26...	0810	6370	15.0	--	--	1.0
28...	1730	6400	10.0	7	121	2.0

SACRAMENTO RIVER BASIN

11378800 RED BANK CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°05'25", long 122°24'45", in NE¼SE¼ sec.22, T.26 N., R.5 W., Tehama County, 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.--21 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, 8,390 ft³/s (238 m³/s) Feb. 17, gage height, 10.20 ft (3.109 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	8.8	141	19	110	23	9.0	1.7			
2		0	8.0	77	19	101	21	8.6	1.4			
3		0	6.9	54	37	110	21	8.4	1.3			
4		0	6.0	45	88	94	29	8.2	1.9			
5		0	5.4	36	30	608	116	7.8	3.3			
6		0	4.9	30	25	267	42	7.5	3.1			
7		0	4.6	24	20	197	29	6.9	2.4			
8		0	4.2	21	18	157	26	7.1	2.0			
9		0	3.9	18	17	132	24	8.3	1.7			
10		0	3.5	16	16	115	22	8.9	1.4			
11		0	3.0	39	15	102	21	7.6	1.1			
12		0	3.0	537	14	88	19	7.3	3.9			
13		0	3.0	732	14	79	18	7.2	4.0			
14		0	3.0	635	13	88	17	6.8	3.4			
15		0	3.0	365	262	77	17	6.0	2.5			
16		28	3.0	281	1460	64	16	5.4	1.8			
17		138	3.0	211	2350	60	15	4.8	1.3			
18		25	3.0	148	1750	54	14	4.4	.80			
19		15	3.6	106	1350	49	14	4.1	.50			
20		12	3.8	85	433	46	17	3.6	.40			
21		9.7	5.4	70	829	43	22	3.0	.30			
22		15	6.9	57	488	39	16	2.5	.20			
23		42	558	49	257	36	14	2.3	.20			
24		21	692	44	190	34	14	2.7	.20			
25		18	129	39	155	36	13	2.6	.20			
26		26	34	34	113	34	13	2.7	.10			
27		19	14	32	172	31	12	2.4	.10			
28		15	7.1	28	280	28	11	2.2	.10			
29		12	4.6	25	137	26	11	2.1	.10			
30		10	601	22	---	24	9.4	2.0	.10			
31		---	580	20	---	24	---	1.8	---			---
TOTAL	0	405.7	2719.6	4021	10571	2953	656.4	164.2	41.50	0	0	0
MEAN	0	13.5	87.7	130	365	95.3	21.9	5.30	1.38	0	0	0
MAX	0	138	692	732	2350	608	116	9.0	4.0	0	0	0
MIN	0	0	3.0	16	13	24	9.4	1.8	.10	0	0	0
AC-FT	0	805	5390	7980	20970	5860	1300	326	82	0	0	0
CAL YR 1979	TOTAL	11909.80	MEAN 32.6	MAX 1700	MIN 0	AC-FT 23620						
WTR YR 1980	TOTAL	21532.40	MEAN 58.8	MAX 2350	MIN 0	AC-FT 42710						

SACRAMENTO RIVER BASIN

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11379000 ANTELOPE CREEK NEAR RED BLUFF, CA

LOCATION.--Lat 40°12'14", long 122°07'02", 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.--40 years, 150 ft³/s (4.248 m³/s), 108,700 acre-ft/yr (134 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. 24	1645	5,340 151	12.21 3.722	Feb. 17	2345	5,050 143	11.62 3.542
Dec. 25	0015	2,760 78.1	9.82 2.993	Feb. 19	1000	6,090 172	12.41 3.783
Jan. 12	0630	3,510 99.4	10.59 3.228	Feb. 21	0745	4,750 135	11.40 3.475
Jan. 13	1800	*6,670 189	12.81 3.904				

Minimum daily, 30 ft³/s (0.85 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	45	72	703	114	459	111	140	88	51	40	38
2	30	44	66	396	110	411	109	137	86	55	39	37
3	30	90	62	258	140	396	107	136	84	56	39	37
4	30	228	58	198	148	418	106	137	90	56	39	37
5	30	110	55	164	122	891	148	137	101	53	39	36
6	30	81	54	150	124	573	135	136	88	51	39	36
7	31	66	53	129	113	452	134	130	79	50	38	36
8	31	59	51	117	105	384	116	128	73	48	38	37
9	31	53	50	134	96	332	114	164	71	48	37	37
10	32	51	49	187	92	295	111	182	70	47	37	44
11	32	48	47	449	86	270	108	166	68	45	37	42
12	32	47	47	2440	84	242	104	149	77	44	37	40
13	32	46	47	3610	79	220	102	141	77	45	37	39
14	36	45	47	2290	79	216	102	157	81	45	37	41
15	37	45	46	1180	114	229	102	151	75	45	38	41
16	37	117	45	1310	594	204	102	144	68	44	38	40
17	34	760	45	960	2210	193	105	139	64	41	38	39
18	33	231	45	715	2550	196	107	136	64	41	38	44
19	43	129	45	522	3370	180	112	133	61	43	40	43
20	119	92	49	410	1770	169	130	131	59	43	38	41
21	56	74	87	342	2720	162	167	129	58	41	39	41
22	40	96	91	286	1170	154	146	127	56	41	38	40
23	38	201	462	246	798	147	138	123	64	43	38	39
24	39	171	3510	217	609	137	139	117	61	41	38	38
25	746	185	1710	198	491	135	137	111	58	40	38	38
26	234	383	534	184	413	133	137	104	59	40	37	38
27	87	174	280	172	400	127	138	100	58	40	37	38
28	64	121	180	156	1040	119	140	97	55	39	37	38
29	53	97	136	148	573	117	145	93	53	41	37	38
30	48	81	616	129	---	113	147	90	53	39	38	38
31	46	---	974	122	---	112	---	88	---	40	39	---
TOTAL	2191	3970	9613	18522	20314	8186	3699	4053	2099	1396	1179	1171
MEAN	70.7	132	310	597	700	264	123	131	70.0	45.0	38.0	39.0
MAX	746	760	3510	3610	3370	891	167	182	101	56	40	44
MIN	30	44	45	117	79	112	102	88	53	39	37	36
AC-FT	4350	7870	19070	36740	40290	16240	7340	8040	4160	2770	2340	2320
CAL YR 1979	TOTAL	50208	MEAN 138	MAX 3510	MIN 29	AC-FT 99590						
WTR YR 1980	TOTAL	76393	MEAN 209	MAX 3610	MIN 30	AC-FT 151500						

SACRAMENTO RIVER BASIN

11382000 THOMES CREEK AT PASKENTA, CA

LOCATION.--Lat 39°53'16", long 122°31'41", in SE4SW4 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).

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.--60 years, 287 ft³/s (8.128 m³/s), 207,900 acre-ft/yr (256 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 measurement of peak flow; 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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 25	1030	1,820 51.5	5.39 1.643	Feb. 18	0715	6,950 197	7.25 2.210
Jan. 13	1615	*19,300 547	10.10 3.078	Feb. 20	2215	5,540 157	6.74 2.054
Feb. 3	1115	2,050 58.1	5.11 1.558	Mar. 4	2400	1,920 54.4	5.07 1.545
Feb. 16	2015	5,410 153	6.69 2.039				

Minimum daily, 2.5 ft³/s (0.071 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	53	185	688	368	872	240	393	128	45	11	4.6
2	2.5	47	159	491	353	793	233	383	135	46	10	4.6
3	2.6	79	153	390	1070	760	230	383	125	46	9.6	4.6
4	2.7	88	138	334	819	768	262	388	128	46	9.2	4.4
5	2.7	83	124	344	589	1150	430	383	130	44	9.2	4.1
6	3.3	199	117	424	556	777	410	363	121	42	9.2	3.8
7	3.3	361	95	452	458	697	382	330	110	40	9.2	3.3
8	3.3	202	88	400	414	638	353	308	106	39	8.8	3.3
9	3.3	135	81	353	368	603	419	299	106	36	8.1	3.5
10	3.2	104	77	476	344	595	512	278	103	38	8.1	3.3
11	2.7	88	71	633	308	570	452	243	103	36	7.4	3.3
12	2.7	77	69	10200	282	558	447	236	106	35	7.4	4.4
13	3.0	70	66	14900	270	555	493	225	106	33	6.7	5.4
14	3.2	63	64	7290	262	636	537	214	99	32	6.4	6.0
15	3.9	59	60	3600	383	690	505	198	90	30	6.0	6.0
16	4.2	489	56	2370	1870	592	512	198	84	28	5.4	6.0
17	4.3	673	52	1780	3870	515	537	198	84	26	6.0	5.4
18	4.7	317	48	1400	5790	490	543	204	84	24	6.4	5.2
19	9.2	197	57	1080	4720	460	543	218	83	24	6.4	5.4
20	79	142	72	845	3120	445	675	236	81	22	6.0	5.4
21	71	116	114	728	2480	408	645	236	79	17	5.7	5.4
22	39	208	99	610	1830	380	537	228	72	16	5.7	5.4
23	247	427	324	537	1500	362	505	194	69	15	5.4	5.2
24	146	689	252	505	1370	350	530	176	63	14	5.4	5.2
25	820	696	144	493	1120	340	487	159	60	13	5.4	4.6
26	294	753	112	458	1070	322	452	145	56	12	5.2	4.4
27	154	428	97	430	1230	308	441	135	52	12	4.9	4.4
28	112	312	88	368	1290	288	481	125	46	12	4.9	4.4
29	80	304	85	383	1020	275	493	125	45	12	4.9	4.1
30	71	216	425	335	---	260	430	121	44	12	4.9	3.8
31	64	---	831	312	---	352	---	123	---	11	4.9	---
TOTAL	2245.2	7675	4403	53609	39124	16809	13716	7445	2698	858	213.8	138.9
MEAN	72.4	256	142	1729	1349	542	457	240	89.9	27.7	6.90	4.63
MAX	820	753	831	14900	5790	1150	675	393	135	46	11	6.0
MIN	2.5	47	48	312	262	260	230	121	44	11	4.9	3.3
AC-FT	4450	15220	8730	106300	77600	33340	27210	14770	5350	1700	424	276

CAL YR 1979	TOTAL	68793.51	MEAN	188	MAX	2060	MIN	.52	AC-FT	136500
WTR YR 1980	TOTAL	148934.90	MEAN	407	MAX	14900	MIN	2.5	AC-FT	295400

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA

LOCATION.--Lat 39°58'32", long 122°13'28", in SW¼SE¼ sec.32, T.25 N., R.3 W., Tehama County, Hydrologic Unit 18020103, on right bank 2.6 mi (4.2 km) west of Richfield and 7.0 mi (11.3 km) upstream from mouth.

DRAINAGE AREA.--284 mi² (736 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February to May 1977 (fragmentary) published as water-quality partial-record station, October 1977 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 291.55 ft (88.864 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Small diversions for irrigation above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,200 ft³/s (430 m³/s) Jan. 13, 1980, gage height 14.77 ft (4.502 m), from rating curve extended above 9,600 ft³/s (272 m³/s); no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,800 ft³/s (79.3 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. 30	1100	5,160 146	12.72 3.877	Feb. 19	0730	13,800 391	14.53 4.429
Jan. 13	1145	*15,200 430	14.77 4.502	Feb. 21	0100	8,950 253	13.74 4.188
Feb. 17	2030	12,100 343	14.25 4.343				

Minimum, no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	47	220	997	279	1100	300	377	94	9.8		
2	0	43	193	623	252	1020	292	356	100	9.5		
3	0	50	173	443	761	1000	290	328	101	9.8		
4	0	77	152	384	941	1050	331	322	101	5.6		
5	0	69	135	377	599	1590	522	331	114	7.4		
6	0	102	122	461	529	1460	486	326	109	7.3		
7	0	325	113	516	482	1280	424	299	101	6.9		
8	0	227	103	486	436	1120	365	272	93	3.9		
9	0	142	95	451	402	1000	350	243	88	3.0		
10	0	99	86	597	371	910	405	236	75	1.4		
11	0	83	76	683	345	812	435	194	55	.40		
12	0	70	69	8510	329	750	460	177	51	.21		
13	0	62	64	13500	309	708	498	167	51	.08		
14	0	55	63	7720	294	790	522	165	55	0		
15	0	52	59	4790	463	905	528	149	55	0		
16	0	239	54	3390	1990	825	524	149	49	0		
17	0	1000	52	2480	6390	728	525	148	45	0		
18	0	442	47	1720	8150	664	552	152	41	0		
19	0	265	47	1220	8020	612	575	165	33	0		
20	0	189	64	1060	3070	576	633	180	29	0		
21	0	146	104	922	3200	540	658	180	29	0		
22	0	161	123	797	2600	496	517	162	24	0		
23	50	559	696	667	2050	462	461	129	21	0		
24	145	566	1240	557	1740	440	472	136	17	0		
25	698	768	501	518	1480	430	445	131	15	0		
26	377	931	336	480	1210	420	412	121	14	0		
27	145	554	238	450	1490	396	428	100	14	0		
28	85	395	216	416	1750	379	429	93	13	0		
29	62	311	210	372	1270	360	450	93	12	0		
30	53	259	1360	324	---	341	413	94	11	0		
31	48	---	1390	299	---	318	---	98	---	0		---
TOTAL	1663	8288	8401	56210	51202	23482	13702	6073	1610	65.29	0	0
MEAN	53.6	276	271	1813	1766	757	457	196	53.7	2.11	0	0
MAX	698	1000	1390	13500	8150	1590	658	377	114	9.8	0	0
MIN	0	43	47	299	252	318	290	93	11	0	0	0
AC-FT	3300	16440	16660	111500	101600	46580	27180	12050	3190	130	0	0
CAL YR 1979	TOTAL	76835.91	MEAN 211	MAX 2440	MIN 0	AC-FT 152400						
WTR YR 1980	TOTAL	170696.29	MEAN 466	MAX 13500	MIN 0	AC-FT 338600						

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1977-80.

WATER TEMPERATURES: Water years 1978 to May 1980 (discontinued).

SEDIMENT RECORDS: Water years 1977 to May 1980, discontinued (water year 1977 periodic readings only).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1977 to May 1980 (storm season only), discontinued.

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

EXTREMES FOR PERIOD OF RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 8,790 mg/L Jan. 13, 1980; minimum daily mean, no flow on many days each year.

SEDIMENT DISCHARGE: Maximum daily, 323,000 tons (293,000 metric tons) Jan. 13, 1980; minimum daily, 0 ton (0 metric ton) on many days most years.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 8,790 mg/L Jan. 13; minimum daily mean, 1 mg/L Dec. 15, 16,

SEDIMENT DISCHARGE (storm season only): Maximum daily, 323,000 tons (293,000 metric tons) Jan. 13; minimum daily, 0.15 ton (0.14 metric ton) Dec. 16.

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1979 TO MAY 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	---	8.0	---	8.5	10.0	16.0				
2		---	---	6.0	---	10.5	9.0	20.5				
3			6.0	6.0	---	9.0	10.0	16.0				
4		11.5	---	7.0	11.0	10.0	9.5	14.5				
5		13.5	---	---	8.5	9.5	12.0	---				
6		16.0	12.0	8.0	---	9.5	15.0	---				
7		---	12.0	---	---	11.5	11.5	22.0				
8		15.0	---	9.0	---	9.0	15.5	---				
9		---	---	---	---	8.0	10.0	---				
10		---	11.0	---	---	8.5	9.5	16.5				
11		---	---	5.0	7.5	10.5	10.5	---				
12		13.0	9.0	9.5	7.0	7.0	17.5	---				
13		---	---	10.5	7.5	8.0	17.0	22.0				
14		12.0	---	11.0	9.0	9.0	16.0	---				
15		---	7.0	10.0	10.0	7.5	14.0	---				
16		---	---	9.0	10.0	7.0	13.0	17.0				
17		11.0	---	---	10.5	8.0	14.5	---				
18		10.0	9.0	8.0	10.5	8.0	14.0	---				
19		---	---	10.0	10.0	8.5	14.5	23.0				
20		---	7.0	5.0	10.0	10.0	12.0	---				
21		6.0	---	7.0	8.5	10.0	14.0	---				
22		---	---	---	9.0	9.0	11.5	14.0				
23		9.0	---	5.0	10.0	14.0	14.0	---				
24		---	9.0	7.0	12.0	9.5	12.5	---				
25		---	8.0	7.0	11.0	9.0	13.0	20.0				
26		7.0	7.0	7.0	13.0	9.0	16.0	---				
27		9.0	8.0	7.0	11.0	9.5	20.5	---				
28		---	---	4.0	12.0	10.0	20.0	17.0				
29		10.0	---	---	8.5	11.5	20.0	---				
30		---	7.0	---	---	13.5	14.0	---				
31		---	9.0	---	---	9.5	---	18.0				
MONTH		---	---	---	---	9.5	13.5	---				

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				47	2	.25	220	10	5.9
2				43	2	.23	193	8	4.2
3				50	8	1.2	173	5	2.3
4				77	25	5.2	152	5	2.1
5				69	17	3.2	135	4	1.5
6				102	34	11	122	3	.99
7				325	108	98	113	3	.92
8				227	39	24	103	3	.83
9				142	16	6.1	95	2	.51
10				99	8	2.1	86	2	.46
11				83	5	1.1	76	2	.41
12				70	4	.76	69	2	.37
13				62	4	.67	64	2	.35
14				55	3	.45	63	2	.34
15				52	3	.42	59	1	.16
16				239	54	103	54	1	.15
17				1000	338	1090	52	2	.28
18				442	80	95	47	3	.38
19				265	35	25	47	3	.38
20				189	12	6.1	64	2	.35
21				146	6	2.4	104	5	1.4
22				161	14	8.9	123	4	1.3
23				559	214	368	696	307	1630
24				566	170	415	1240	538	2000
25				768	163	393	501	324	444
26				931	293	831	336	32	29
27				554	124	185	238	8	5.1
28				395	76	81	216	8	4.7
29				311	42	35	210	8	4.5
30				259	21	15	1360	1280	9980
31				---	---	---	1390	812	3590
TOTAL				8288	---	3808.08	8401	---	17712.88
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	997	210	565	279	16	12	1100	259	769
2	623	104	175	252	13	8.8	1020	251	691
3	443	52	62	761	253	1010	1000	216	583
4	384	40	41	941	432	1150	1050	167	473
5	377	29	30	599	156	252	1590	1500	7980
6	461	32	40	529	94	134	1460	323	1270
7	516	26	36	482	53	69	1280	306	1060
8	486	21	28	436	31	36	1120	300	907
9	451	17	21	402	27	29	1000	296	799
10	597	34	55	371	28	28	910	244	600
11	683	41	80	345	29	27	812	192	421
12	8510	5960	150000	329	30	27	750	168	340
13	13500	8790	323000	309	29	24	708	151	289
14	7720	6650	139000	294	30	24	790	188	401
15	4790	3310	42800	463	150	419	905	246	601
16	3390	1600	14600	1990	1410	17700	825	202	450
17	2480	1250	8370	6390	4200	86600	728	163	320
18	1720	944	4380	8150	4010	90000	664	134	240
19	1220	600	1980	8020	4360	101000	612	106	175
20	1060	357	1020	3070	2420	20100	576	103	160
21	922	219	545	3200	2070	17900	540	84	122
22	797	148	318	2600	924	6490	496	69	92
23	667	136	245	2050	521	2880	462	56	70
24	557	106	159	1740	342	1610	440	50	59
25	518	89	124	1480	231	923	430	47	55
26	480	78	101	1210	298	974	420	44	50
27	450	63	77	1490	464	1870	396	39	42
28	416	49	55	1750	710	3490	379	36	37
29	372	34	34	1270	314	1080	360	31	30
30	324	25	22	---	---	---	341	28	26
31	299	20	16	---	---	---	318	23	20
TOTAL	56210	---	687979	51202	---	355866.8	23482	---	19132

SACRAMENTO RIVER BASIN

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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	300	21	17	377	24	24			
2	292	19	15	356	22	21			
3	290	19	15	328	22	19			
4	331	26	23	322	22	19			
5	522	74	104	331	23	21			
6	486	66	87	326	24	21			
7	424	44	50	299	24	19			
8	365	32	32	272	24	18			
9	350	30	28	243	23	15			
10	405	42	46	236	22	14			
11	435	48	56	194	20	10			
12	460	58	72	177	17	8.1			
13	498	68	91	167	15	6.8			
14	522	74	104	165	13	5.8			
15	528	76	108	149	11	4.4			
16	524	65	92	149	10	4.0			
17	525	76	108	148	10	4.0			
18	552	75	112	152	13	5.3			
19	575	75	116	165	15	6.7			
20	633	96	164	180	13	6.3			
21	658	127	226	180	11	5.3			
22	517	74	103	162	10	4.4			
23	461	62	77	129	9	3.1			
24	472	55	70	136	9	3.3			
25	445	39	47	131	8	2.8			
26	412	34	38	121	8	2.6			
27	428	35	40	100	7	1.9			
28	429	34	39	93	6	1.5			
29	450	32	39	93	5	1.3			
30	413	27	30	94	4	1.0			
31	---	---	---	98	4	1.1			
TOTAL	13702	---	2149	6073	---	280.7			
PERIOD	167358	---	1086928.46						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	8288.00	3808.08	2710	6520
DECEMBER ...	8401.00	17712.88	3290	21000
JANUARY 1980	56210.00	687979.00	33800	722000
FEBRUARY ...	51202.00	355866.80	33200	389000
MARCH	23482.00	19132.00	11400	30600
APRIL	13702.00	2149.00	4560	6700
MAY	6073.00	280.70	1060	1340
PERIOD.....	167358.00	1086928.46	90020	1177160

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	
NOV									
26...	1030	1030	7.0	384	1070	22	29	37	
JAN									
04...	0955	416	7.0	24	27	--	--	--	
12...	0920	8980	9.5	6910	168000	--	28	40	
13...	1245	14800	10.5	10300	412000	--	28	42	
14...	1245	7030	11.0	6070	115000	--	27	40	
18...	1220	1690	8.0	856	3910	--	39	53	
FEB									
04...	1420	876	11.0	336	795	36	49	64	
05...	1215	592	8.0	155	248	39	54	67	
17...	1050	3610	10.5	2500	24400	--	27	37	
18...	1215	9650	10.5	5650	147000	--	22	30	
20...	1500	2580	10.0	1490	10400	--	27	36	
26...	1330	1210	13.0	279	911	27	37	48	
MAR									
06...	1250	1040	9.5	255	716	--	--	--	
APR									
08...	1350	361	15.5	30	29	--	--	--	
		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									
26...	43	48	50	53	66	92	100	--	
JAN									
04...	--	--	52	55	61	85	100	--	
12...	53	64	72	80	91	98	99	100	
13...	49	71	83	91	97	99	100	--	
14...	54	70	81	90	97	98	99	100	
18...	67	78	85	90	96	99	100	--	
FEB									
04...	77	85	89	92	96	98	100	--	
05...	78	83	85	88	93	98	100	--	
17...	47	58	67	79	91	98	100	--	
18...	39	51	60	72	86	94	96	98	
20...	46	56	64	66	69	77	88	98	
26...	58	65	70	74	84	95	98	100	
MAR									
06...	--	--	52	56	69	88	96	100	
APR									
08...	--	--	63	65	73	87	100	--	

SACRAMENTO RIVER BASIN

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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
DEC								
06...	1140	12.0	1	126	--	0	2	22
06...	1141	12.0	1	126	--	0	1	19
06...	1142	12.0	1	126	--	0	1	15
06...	1143	12.0	1	126	--	0	1	11
06...	1144	12.0	1	126	--	0	3	29
JAN								
04...	1030	7.0	1	410	--	--	--	--
04...	1031	7.0	1	410	--	0	3	29
04...	1032	7.0	1	410	--	0	2	20
04...	1033	7.0	1	410	--	0	1	25
04...	1034	7.0	1	410	--	0	1	16
12...	1130	9.5	1	9570	2	5	11	25
12...	1131	9.5	1	9570	--	0	2	11
12...	1132	9.5	1	9570	--	0	2	6
12...	1133	9.5	1	9570	--	0	1	4
12...	1134	9.5	1	9570	--	0	2	11
14...	1300	11.0	1	6960	--	0	1	1
14...	1301	11.0	1	6960	--	--	--	--
14...	1302	11.0	1	6960	--	0	1	3
14...	1303	11.0	1	6960	--	0	2	8
14...	1304	11.0	1	6960	0	6	12	22
FEB								
05...	1100	8.5	1	607	--	0	1	6
05...	1101	8.5	1	607	--	--	0	1
05...	1102	8.5	1	607	--	--	--	--
05...	1103	8.5	1	607	0	1	3	3
05...	1104	8.5	1	607	--	--	--	--
05...	1105	8.5	1	607	0	1	3	5
05...	1106	8.5	1	607	0	1	2	3
18...	1245	10.5	1	9570	--	0	7	51
18...	1246	10.5	1	9570	--	0	3	10
18...	1247	10.5	1	9570	--	0	1	2
18...	1248	10.5	1	9570	--	0	1	1
18...	1249	10.5	1	9570	--	--	10.5	0
20...	1530	10.0	1	2580	--	0	3	14
20...	1531	10.0	1	2580	--	--	0	1
20...	1532	10.0	1	2580	--	--	0	5
20...	1533	10.0	1	2580	--	0	1	1
20...	1534	10.0	1	2580	--	0	2	2

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
DEC							
06...	40	52	59	68	76	100	--
06...	44	55	65	76	83	100	--
06...	25	45	60	70	77	100	--
06...	23	42	62	76	90	100	--
06...	36	47	58	77	100	--	--
JAN							
04...	--	0	1	4	16	58	100
04...	48	68	82	94	100	--	--
04...	42	66	83	94	100	--	--
04...	57	76	89	99	100	--	--
04...	44	70	90	100	--	--	--
12...	42	53	59	72	100	--	--
12...	18	26	35	48	60	74	100
12...	11	24	43	69	88	100	--
12...	7	12	20	38	64	100	--
12...	21	32	45	63	90	100	--
14...	2	8	28	63	81	100	--
14...	--	0	1	1	27	100	--
14...	10	16	30	57	97	100	--
14...	17	28	42	59	83	100	--
14...	44	72	94	100	--	--	--
FEB							
05...	21	29	31	33	36	41	100
05...	5	10	14	18	23	47	100
05...	--	--	0	1	6	38	100
05...	3	4	28	77	100	--	--
05...	0	5	24	50	67	80	100
05...	18	54	83	97	100	--	--
05...	6	12	22	36	44	100	--
18...	81	92	97	100	--	--	--
18...	26	42	54	66	76	100	--
18...	3	7	26	69	100	--	--
18...	1	2	10	35	64	100	--
18...	1	5	14	35	63	100	--
20...	21	25	30	36	44	66	100
20...	2	3	4	6	10	34	100
20...	15	25	37	54	76	100	--
20...	6	30	57	76	100	--	--
20...	3	4	13	33	65	100	--

11382090 THOMES CREEK AT RAWSON ROAD BRIDGE, NEAR RICHFIELD, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	NUMBER OF SAM- PLING POINTS	STREAM- FLOW, INSTAN- TANEOUS (CFS)	BED MAT. SIEVE DIAM. % FINER THAN .125 MM	BED MAT. SIEVE DIAM. % FINER THAN .250 MM	BED MAT. SIEVE DIAM. % FINER THAN .500 MM
MAR							
06...	1215	9.5	1	1050	--	--	--
06...	1216	9.5	1	1050	--	--	--
06...	1217	9.5	1	1050	--	--	0
06...	1218	9.5	1	1050	--	0	3
06...	1219	9.5	1	1050	0	1	2

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
MAR							
06...	0	1	14	51	83	100	--
06...	--	0	2	10	52	100	--
06...	3	9	24	44	82	100	--
06...	12	35	61	74	90	100	--
06...	4	5	8	13	28	52	100

SACRAMENTO RIVER BASIN

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.--62 years, 315 ft³/s (8.921 m³/s), 228,200 acre-ft/yr (281 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. 24	1645	4,340 123	8.32 2.536	Feb. 18	1400	7,290 206	9.97 3.039
Jan. 12	0445	5,270 149	8.91 2.716	Feb. 19	0800	9,000 255	10.77 3.283
Jan. 13	2015	*9,680 274	11.07 3.374	Feb. 21	0600	5,100 144	9.00 2.743

Minimum daily, 85 ft³/s (2.407 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	85	104	142	735	264	950	282	391	226	141	105	103
2	85	102	136	472	257	848	272	376	219	140	102	103
3	85	185	133	360	270	827	266	370	231	153	101	102
4	85	280	127	301	291	853	263	366	263	144	101	101
5	85	185	127	272	257	1320	385	361	279	137	101	101
6	85	158	124	269	254	995	379	357	233	135	101	101
7	87	133	122	254	242	846	343	344	212	133	99	101
8	87	121	120	240	229	754	325	335	201	131	99	101
9	87	116	118	286	221	682	314	430	195	129	98	101
10	86	112	116	402	216	630	321	477	190	129	99	101
11	85	109	113	777	209	597	308	422	186	127	99	102
12	85	106	109	4520	204	529	299	376	187	125	99	102
13	87	105	109	6820	199	497	310	362	195	124	98	102
14	91	103	110	5040	199	489	324	447	202	124	100	109
15	93	103	108	2980	261	537	330	391	188	122	101	107
16	92	131	108	2650	837	459	333	365	179	121	101	104
17	89	328	106	2210	3400	438	343	346	174	117	100	102
18	89	257	106	1660	6170	433	357	332	168	117	101	105
19	120	174	108	1160	6300	407	367	321	165	116	101	104
20	155	146	115	905	3420	394	405	312	162	115	100	103
21	136	133	153	746	3460	377	523	306	159	114	99	103
22	108	134	141	629	2320	360	443	302	157	112	99	102
23	108	168	373	539	1710	354	442	303	179	110	101	100
24	120	162	2720	482	1280	340	433	298	173	109	101	99
25	733	216	1190	443	1010	334	423	286	159	109	101	99
26	294	345	455	401	874	323	417	272	153	109	100	99
27	151	239	283	372	842	313	411	258	150	107	101	99
28	123	182	224	336	1590	299	412	245	146	107	101	99
29	114	160	194	319	1130	293	429	234	144	109	101	99
30	107	150	428	291	---	297	413	226	144	107	101	98
31	106	---	1270	277	---	285	---	229	---	105	104	---
TOTAL	3943	4947	9788	37148	37916	17060	10872	10440	5619	3778	3115	3052
MEAN	127	165	316	1198	1307	550	362	337	187	122	100	102
MAX	733	345	2720	6820	6300	1320	523	477	279	153	105	109
MIN	85	102	106	240	199	285	263	226	144	105	98	98
AC-FT	7820	9810	19410	73680	75210	33840	21560	20710	11150	7490	6180	6050

CAL YR 1979 TOTAL 87639 MEAN 240 MAX 2720 MIN 85 AC-FT 173800
WTR YR 1980 TOTAL 147678 MEAN 403 MAX 6820 MIN 85 AC-FT 292900

11383800 SACRAMENTO RIVER NEAR HAMILTON CITY, CA

LOCATION.--Lat 39°45'06", long 121°59'43", in NE¼NE¼ sec.20, R.1 W., T.22 N., Butte County, Hydrologic Unit 18020103; on left bank upstream end of Gianella Bridge on the Sacramento River, 1.3 mi (2.1 km) northeast of Hamilton City, and 2.4 mi (3.9 km) upstream from Pine Creek.

DRAINAGE AREA.--10,833 mi² (28,057 km²).

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

CHEMICAL ANALYSES: Water years 1951 to current year.

WATER TEMPERATURES: Water year 1977.

SEDIMENT RECORDS: Water years 1977-79.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1976 to June 1977.

SEDIMENT RECORDS: January 1977 to May 1979 (storm season record only for water years 1977, 1979).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN DEMAND, CHEMICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)
OCT 24...	1320	--	7.3	13.5	10.2	--	--	--	--	--
NOV 28...	1140	150	7.4	9.0	11.3	4	1.1	54	12	6.0
FEB 27...	1350	--	7.3	11.0	11.7	--	--	--	--	--
MAR 26...	1415	158	7.2	13.0	10.5	7	1.1	64	14	7.0
APR 22...	1245	--	7.5	13.0	10.7	--	--	--	--	--
MAY 28...	1400	137	7.5	17.0	10.3	7	1.3	50	12	5.0
JUN 25...	1445	125	7.4	16.5	10.5	7	1.5	46	10	5.0
JUL 29...	1325	--	7.5	18.0	10.4	--	--	--	--	--
AUG 27...	1350	--	7.5	18.5	9.7	--	--	--	--	--
SEP 29...	1115	--	7.5	17.5	9.9	--	--	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CaCO3)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, ORTHOPHOSPHATE DISSOL. (MG/L AS P)
OCT 24...	--	--	--	--	--	.10	.01	.30	.04	.02
NOV 28...	8.0	--	57	5.0	16	.20	.01	.50	.06	.02
FEB 27...	--	--	--	--	--	.10	.01	.30	.09	.01
MAR 26...	7.0	1.1	61	4.0	19	--	--	--	--	--
APR 22...	--	--	--	--	12	.10	--	.20	.03	.01
MAY 28...	7.0	1.2	55	4.0	10	.10	.01	.40	.04	.01
JUN 25...	6.0	1.2	49	3.0	11	.10	.02	.20	.04	.00
JUL 29...	--	--	--	--	--	.10	.04	.40	.03	.01
AUG 27...	--	--	--	--	--	.10	.02	.20	.05	.01
SEP 29...	--	--	--	--	4	.10	.03	.80	.03	.01

DATE	TIME	BORON, DIS-SOLVED (UG/L AS B)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)
NOV 28...	1140	100	3.8	.00
MAR 26...	1415	100	1.5	.00
MAY 28...	1400	100	1.4	.00
JUN 25...	1445	0	1.9	.00

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.

REVISÉD 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.--50 years, 145 ft³/s (4.106 m³/s), 105,100 acre-ft/yr (130 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.--Peak discharges above base of 1,600 ft³/s (45.3 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. 24	1900	1,850	52.4	6.24	1.902	Jan. 16	0945	1,750	49.6	5.98	1.823
Jan. 12	0545	*5,410	153	11.10	3.383	Feb. 19	1245	4,940	140	10.29	3.136
Jan. 13	1845	3,740	106	9.02	2.749						

Minimum daily, 19 ft³/s (0.54 m³/s) Oct. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	29	49	529	105	501	93	75	50	30	28	21
2	20	27	46	315	98	443	90	74	49	31	24	21
3	20	50	42	223	99	410	88	73	48	35	21	22
4	20	115	39	169	97	399	88	72	54	33	21	24
5	21	71	38	136	89	657	238	69	53	32	24	22
6	21	54	36	119	86	630	202	68	50	32	24	21
7	20	45	35	107	81	548	179	69	48	31	24	20
8	20	40	33	99	78	465	154	66	45	31	24	21
9	21	36	32	172	75	399	139	104	41	31	24	21
10	20	33	32	275	72	353	126	168	46	30	24	21
11	19	31	31	558	71	323	111	135	44	31	23	21
12	19	30	30	3560	69	286	103	104	45	30	23	21
13	20	29	30	2730	66	260	96	92	50	29	22	21
14	21	28	30	2000	66	260	92	91	57	30	24	21
15	22	28	30	1270	115	306	83	86	49	30	22	22
16	21	33	30	1570	537	266	82	81	44	29	22	22
17	21	91	29	1480	1970	242	80	76	41	28	23	21
18	21	78	29	1090	3710	234	78	71	38	28	23	22
19	39	65	30	714	4090	219	77	66	38	28	23	22
20	51	54	36	513	2420	201	82	64	37	28	22	21
21	46	47	62	409	2240	190	135	61	37	28	22	21
22	29	45	60	336	1650	178	112	60	36	27	22	21
23	27	53	104	283	1150	167	106	60	38	26	22	21
24	26	60	1170	243	809	153	100	60	38	25	22	21
25	290	85	787	218	583	148	94	59	36	24	22	21
26	121	128	372	194	483	141	90	58	35	25	21	21
27	57	100	220	175	436	132	86	57	35	28	21	21
28	43	76	150	157	770	120	83	55	35	27	21	21
29	35	63	112	143	589	114	80	53	33	25	21	21
30	31	55	142	125	---	99	78	50	32	28	21	21
31	30	---	846	112	---	94	---	50	---	26	21	---
TOTAL	1193	1679	4712	20024	22704	8938	3245	2327	1282	896	701	638
MEAN	38.5	56.0	152	646	783	288	108	75.1	42.7	28.9	22.6	21.3
MAX	290	128	1170	3560	4090	657	238	168	57	35	28	24
MIN	19	27	29	99	66	94	77	50	32	24	21	20
AC-FT	2370	3330	9350	39720	45030	17730	6440	4620	2540	1780	1390	1270
CAL YR 1979	TOTAL	37431	MEAN 103	MAX 1490	MIN 18	AC-FT 74240						
WTR YR 1980	TOTAL	68339	MEAN 187	MAX 4090	MIN 19	AC-FT 135600						

11384600 LITTLE STONY CREEK ABOVE EAST PARK RESERVOIR, NEAR LODOGA, CA

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

DRAINAGE AREA.--45.6 mi² (118.1 km²).

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 except those above 1,000 ft³/s (28.3 m³/s), which are fair. No known storage or diversions above station.

AVERAGE DISCHARGE.--14 years, 58.7 ft³/s (1.662 m³/s), 42,530 acre-ft/yr (52.4 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, and 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 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)
Jan. 12	0430	2,530 71.6	9.51 2.899	Feb. 17	2100	2,520 71.4	8.74 2.664
Jan. 13	1300	*3,630 103	10.40 3.170	Feb. 19	0630	3,220 91.2	9.80 2.987
Feb. 16	2130	1,490 42.2	6.95 2.118	Feb. 21	0430	1,530 43.3	7.02 2.140

Minimum daily, 0.25 ft³/s (0.007 m³/s) Sept. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	3.6	17	211	61	207	48	29	16	6.8	1.8	1.2
2	.97	4.4	16	140	58	191	46	29	16	7.0	1.7	.83
3	.95	33	15	106	58	185	45	28	15	7.3	1.6	.64
4	.99	24	14	86	53	173	57	27	18	6.9	1.5	.51
5	1.1	12	14	73	49	413	104	26	18	6.6	1.6	.41
6	.99	14	13	67	46	330	70	26	17	6.3	1.6	.36
7	1.1	16	13	64	44	268	61	25	16	6.2	1.7	.25
8	1.5	12	12	59	42	221	57	25	14	6.0	1.5	.32
9	2.3	9.6	12	62	40	190	56	29	14	5.6	1.4	.40
10	2.2	8.7	11	63	39	168	53	28	13	5.5	1.1	.41
11	1.7	7.7	11	248	39	150	51	27	13	5.2	.90	.41
12	1.7	6.8	15	1610	39	133	48	28	13	5.0	.70	.50
13	1.9	6.7	11	2500	39	122	47	27	14	5.0	.51	.41
14	2.2	6.3	11	1340	39	128	46	28	14	4.9	.63	.56
15	2.9	6.3	11	678	87	119	44	24	13	4.6	.76	.88
16	3.1	51	10	665	594	107	42	23	12	4.4	.84	1.4
17	3.0	60	10	473	1280	101	41	22	11	4.0	.94	1.3
18	3.0	25	10	351	1730	95	40	21	11	3.7	.74	1.4
19	5.0	18	12	258	1990	88	39	20	10	3.5	.68	1.4
20	7.4	14	16	206	1080	83	43	19	10	3.3	.68	1.4
21	7.7	12	26	174	1150	79	41	18	9.8	3.0	.88	1.4
22	6.5	32	20	151	745	74	39	18	9.3	2.8	1.2	1.2
23	14	41	31	132	492	70	38	18	9.2	2.6	1.1	1.0
24	11	27	389	119	339	67	36	19	9.1	2.7	1.0	.84
25	80	26	199	108	275	68	35	19	8.8	2.6	1.0	.80
26	15	35	108	98	235	63	34	19	8.6	2.5	.84	.74
27	8.2	27	64	90	227	59	33	19	8.2	2.3	.64	.69
28	6.2	23	46	84	285	56	32	18	7.8	2.2	.55	.78
29	5.1	21	39	77	231	53	32	17	7.4	2.1	.75	.80
30	4.4	19	297	70	---	51	30	17	7.0	1.9	.65	.69
31	4.1	---	392	65	---	50	---	17	---	1.9	1.2	---
TOTAL	207.20	602.1	1865	10428	11386	4162	1388	710	363.2	134.4	32.69	23.93
MEAN	6.68	20.1	60.2	336	393	134	46.3	22.9	12.1	4.34	1.05	.80
MAX	80	60	392	2500	1990	413	104	29	18	7.3	1.8	1.4
MIN	.95	3.6	10	59	39	50	30	17	7.0	1.9	.51	.25
AC-FT	411	1190	3700	20680	22580	8260	2750	1410	720	267	65	47

CAL YR 1979 TOTAL 11906.37 MEAN 32.6 MAX 392 MIN .58 AC-FT 23620
WTR YR 1980 TOTAL 31302.52 MEAN 85.5 MAX 2500 MIN .25 AC-FT 62090

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 Water and Power Resources Service).

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 Water and Power Resources Service.

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, 51,250 acre-ft (63.2 hm³) Apr. 6, elevation, 1,199.88 ft (365.723 m); minimum, 32,490 acre-ft (40.1 hm³) Sept. 29, elevation, 1,188.18 ft (362.157 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 Water and Power Resources Service).

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 Water and Power Resources Service.

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, 52,250 acre-ft (64.4 hm³) Apr. 7, elevation, 842.42 ft (256.770 m); minimum, 10,140 acre-ft (12.5 hm³) Sept. 3, elevation, 795.86 ft (242.578 m).

MONTHEND ELEVATION NGVD AND CONTENTS, AT 0800, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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.....	1,189.42	34,240	-690	807.56	17,140	-5,460
Oct. 31.....	1,190.10	35,220	+980	807.69	17,230	+90
Nov. 30.....	1,194.74	42,380	+7,160	816.10	23,700	+6,470
Dec. 31.....	1,198.80	49,310	+6,930	833.92	41,650	+17,950
CAL YR 1979....	--	--	+17,920	--	--	+29,290
Jan. 31.....	1,198.38	48,570	-740	833.24	40,860	-790
Feb. 29.....	1,198.64	49,030	+460	835.02	42,940	+2,080
Mar. 31.....	1,199.68	50,890	+1,860	842.02	51,720	+8,780
Apr. 30.....	1,199.80	51,110	+220	841.86	51,510	-210
May 31.....	1,199.64	50,820	-290	839.12	47,980	-3,530
June 30.....	1,199.24	50,100	-720	833.10	40,700	-7,280
July 31.....	1,198.22	48,280	-1,820	817.79	25,150	-15,550
Aug. 31.....	1,191.70	37,600	-10,680	796.00	10,210	-14,940
Sept. 30.....	1,188.18	32,490	-5,110	797.40	10,930	+720
WTR YR 1980....	--	--	-1,750	--	--	-6,210

11387990 SOUTH DIVERSION CANAL NEAR ORLAND, CA

LOCATION.--Lat 39°48'36", long 122°19'45", in SE¼NE¼ sec.32, T.23 N., R.4 W., Tehama County, 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 1,080 acre-ft (1.33 hm³).

AVERAGE DISCHARGE.--25 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	.60	1.0	1.0	1.5	.70	182	195	197	221	237	128
2	95	.70	1.0	1.0	1.6	.78	232	221	174	251	235	155
3	134	1.5	1.0	1.0	1.7	.80	232	250	187	242	196	171
4	132	.80	1.0	1.0	1.7	.80	244	237	189	200	166	186
5	159	.30	1.0	1.0	1.9	.80	173	218	142	191	175	213
6	172	.10	1.0	1.0	2.2	.90	113	204	87	178	210	229
7	129	.10	1.0	1.0	1.7	1.3	83	199	71	173	225	212
8	101	.40	1.0	1.0	1.7	1.3	93	180	36	179	219	193
9	98	1.1	1.0	1.1	1.7	1.3	74	124	60	192	242	154
10	89	1.3	1.0	1.1	1.7	1.3	52	110	127	167	230	123
11	91	1.5	1.0	1.3	1.3	1.3	51	92	167	166	211	141
12	95	3.2	1.0	1.2	1.3	1.8	63	99	180	187	223	158
13	75	1.3	1.0	.70	1.0	1.9	74	144	204	185	221	141
14	54	.40	1.0	.40	1.0	1.4	130	197	199	182	215	118
15	43	.40	1.0	.10	1.7	1.1	197	214	161	193	189	123
16	42	.80	1.0	.50	5.8	.90	243	222	160	229	174	120
17	41	1.2	1.0	.10	8.5	1.0	260	215	186	234	168	141
18	63	1.3	1.0	.10	.90	1.0	275	188	218	254	175	181
19	39	.70	1.1	.20	7.6	1.7	271	182	211	239	175	164
20	10	.70	.90	.10	.70	.80	258	185	184	189	193	153
21	2.1	.70	1.2	.10	.70	.48	196	206	173	117	230	152
22	2.7	.70	1.9	.40	.70	.70	150	192	150	193	232	144
23	1.3	.70	2.6	.60	.70	.70	129	177	140	198	202	144
24	1.3	.70	2.6	1.2	.70	44	91	179	132	216	171	143
25	.90	.70	2.2	1.5	.70	62	73	158	152	218	179	152
26	.90	.70	1.4	1.5	.70	62	97	131	165	206	217	157
27	.80	.60	1.3	1.5	.70	30	85	146	166	210	232	149
28	.80	.90	1.3	1.6	.70	1.7	86	183	166	234	184	130
29	.80	1.0	1.3	1.5	.70	1.7	143	220	166	191	117	124
30	.70	1.0	2.2	1.5	---	1.7	170	243	194	190	114	138
31	.70	---	1.4	1.5	---	95	---	238	---	229	130	---
TOTAL	1765.00	26.10	39.40	27.80	53.50	328.70	4520	5749	4744	6254	6087	4639
MEAN	56.9	.87	1.27	.90	1.84	10.4	151	185	158	202	196	155
MAX	172	3.2	2.6	1.6	8.5	95	275	250	218	254	242	229
MIN	.70	.10	.90	.10	.70	.48	51	92	36	117	114	118
AC-FT	3500	52	78	55	106	640	8970	11400	9410	12400	12070	9200
CAL YR 1979 TOTAL	32686.90			MEAN 89.6	MAX 269	MIN 0	AC-FT 64830					
WTR YR 1980 TOTAL	34227.50			MEAN 93.5	MAX 275	MIN .10	AC-FT 67890					

SACRAMENTO RIVER BASIN

11387995 BLACK BUTTE LAKE NEAR ORLAND, CA

LOCATION.--Lat 39°48'50", long 122°20'12", in SE&SW¼ 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. Capacity table revised Oct. 1, 1978. 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, 134,497 acre-ft (166 hm³) Feb. 19, elevation, 471.40 ft (143.683 m); minimum, 14,140 acre-ft (17.4 hm³) Oct. 19, elevation, 424.22 ft (129.302 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19831	15107	21689	43770	50313	59620	79310	91387	81120	62989	40435	30555
2	19475	15065	21798	47506	51392	59250	79531	90907	80673	61926	39572	30247
3	19050	15086	21894	50218	52633	58829	79721	90395	80291	61034	38841	29923
4	18594	15044	21962	52291	53892	58540	80228	89953	80037	60472	38140	29435
5	18015	15023	22004	54017	55019	61358	81472	89546	79880	69939	37585	28869
6	17437	15012	22017	55652	56033	60018	82694	89343	79753	59329	37094	28261
7	16952	15118	22045	56904	57058	59382	83928	89072	79721	58724	36588	27678
8	16476	15212	22072	57524	57913	60125	85139	88971	79690	58070	36124	27214
9	16076	15244	22072	58122	58750	60981	86262	88870	79595	57420	35741	26819
10	15727	15244	22045	58750	59593	60713	87460	88870	79216	56724	35456	26474
11	15404	15234	22045	60284	60258	59488	88230	88870	78744	56059	35134	26086
12	15202	15265	22031	60546	60686	59646	89546	88870	78275	55398	34721	25671
13	15065	15329	22017	111472	61115	60927	90464	88769	77837	54818	34328	25322
14	14929	15393	22004	127362	61466	62830	91181	88533	77371	54167	33958	24991
15	14762	15458	21976	123204	62935	64898	91626	88331	76967	53495	33646	24677
16	14536	15759	21949	113329	77340	66049	91867	87627	76504	52756	33335	24381
17	14515	16804	21921	101649	104630	67813	92039	87193	75981	52047	33062	24073
18	14322	17181	21880	87093	118247	69314	92108	86993	75245	51224	32773	23637
19	14140	17379	21880	70865	134497	70336	91867	86362	74241	50576	32432	23221
20	14241	17495	21962	55373	133214	71574	91729	85997	73275	49696	32164	22768
21	14443	17542	22045	42070	129617	72616	91661	85535	72377	49014	32058	22197
22	14721	17813	22128	35932	115398	73396	91661	85041	71544	48222	32075	21730
23	14960	18485	23869	36413	94223	74090	91764	84746	70689	47437	32236	21217
24	15023	18914	26630	38379	75981	74727	91867	84352	69780	46684	32414	20686
25	15297	19501	27952	40187	66842	75428	92108	84091	68908	45871	32575	20165
26	15276	20333	28605	42006	64175	75858	92246	83863	68014	45134	32557	19614
27	15287	20805	29018	43661	63787	76380	92349	83570	66984	44448	32093	19062
28	15329	21137	29351	45223	62252	77091	92383	83147	66021	43704	31722	18533
29	15287	21351	29586	46639	60472	77868	92108	82630	65065	42947	31493	18087
30	15234	21554	33317	47944	---	78556	91764	82146	64064	42155	31178	17565
31	15170	---	38359	49178	---	79059	---	81535	---	41289	30831	---
MAX	19831	21554	38359	127362	134497	79059	92383	91387	81120	69939	40435	30555
MIN	14140	15012	21689	35932	50313	58540	79310	81535	64064	41289	30831	17565
†	425.22	430.53	440.60	445.58	450.08	456.47	460.33	457.25	451.40	442.03	436.56	427.37
‡	-5021	+6384	+16805	+10819	+11294	+18587	+12705	-10229	-17471	-22775	-10458	-13266
††	462	185	212	344	314	922	1304	1864	2003	2138	1574	1063

CAL YR 1979 † +20451
WTR YR 1980 † -2626

† 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 good. Many diversions above station for irrigation. Flow regulated by Black Butte Lake (station 11387995), East Park Reservoir (station 11385100), usable capacity, 50,900 acre-ft (62.8 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, Wackerman Ranch since 1979, and for change in contents in and evaporation from Black Butte Lake since 1964).--25 years, 632 ft³/s (17.90 m³/s), 457,900 acre-ft/yr (565 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, 15,200 ft³/s (430 m³/s) Feb. 20, gage height, 10.00 ft (3.048 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Nov. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	81	51	51	55	53	2970	168	384	314	494	432	148
2	84	51	51	56	52	2570	161	421	290	502	424	124
3	100	54	49	56	53	2500	159	437	280	461	419	113
4	128	56	49	57	53	2270	168	438	274	368	426	122
5	124	58	49	58	54	3090	119	384	242	361	415	139
6	118	58	50	58	54	4130	90	291	210	391	396	150
7	137	54	50	58	54	3290	80	270	208	410	397	152
8	136	51	49	58	52	2010	56	246	210	411	414	127
9	114	50	49	65	50	1740	47	244	235	426	406	130
10	92	52	49	64	51	1970	46	236	267	439	367	134
11	78	53	49	66	46	2060	51	230	288	441	396	132
12	61	23	49	1650	44	1120	55	238	305	419	429	133
13	56	4.1	49	5300	44	628	73	237	310	399	419	145
14	54	1.9	49	8220	48	384	96	288	288	394	414	144
15	71	1.0	49	10600	50	272	136	316	270	404	418	122
16	90	26	49	11400	171	238	169	316	273	392	415	113
17	92	52	49	10600	3530	170	182	323	290	387	399	104
18	67	52	49	10400	10900	68	217	301	333	405	403	117
19	52	52	49	10400	13300	64	323	284	504	435	417	135
20	53	51	50	9400	13900	59	435	274	513	427	375	142
21	52	51	48	7620	14500	49	426	281	487	410	276	138
22	52	51	48	3940	15000	48	382	280	487	428	163	122
23	54	51	50	920	15000	47	348	270	496	441	152	123
24	54	51	51	259	12700	48	340	265	499	433	168	128
25	55	51	51	76	7570	93	318	263	502	430	173	117
26	53	52	51	68	4300	105	311	255	506	411	151	119
27	51	52	51	65	3090	115	340	249	503	386	139	131
28	51	52	51	57	4050	102	350	272	505	383	138	126
29	52	51	51	53	3760	98	367	302	505	414	143	119
30	51	51	52	53	---	99	388	306	503	436	159	121
31	51	---	53	53	---	133	---	316	---	441	170	---
TOTAL	2364	1364.0	1544	91785	122529	32540	6401	9217	10897	12979	10013	3870
MEAN	76.3	45.5	49.8	2961	4225	1050	213	297	363	419	323	129
MAX	137	58	53	11400	15000	4130	435	438	513	502	432	152
MIN	51	1.0	48	53	44	47	46	230	208	361	138	104
AC-FT	4690	2710	3060	182100	243000	64540	12700	18280	21610	25740	19860	7680

CAL YR 1979 TOTAL 70359.0 MEAN 193 MAX 1260 MIN 1.0 AC-FT 139600 MEAN ‡ 330 AC-FT ‡ 239100
WTR YR 1980 TOTAL 305503.0 MEAN 835 MAX 15000 MIN 1.0 AC-FT 606000 MEAN ‡ 943 AC-FT ‡ 684800

‡ Adjusted for diversions to South Diversion Canal near Orland, Wackerman Ranch, and for change in contents in and evaporation from Black Butte Lake.

SACRAMENTO RIVER BASIN

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, 26.0°C Sept. 12, 14; minimum recorded, 7.0°C on several days during December and January.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA

LOCATION.--Lat 39°27'28", long 121°59'35", in SE&NE¼ 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, 14,000 ft³/s (396 m³/s) Feb. 19, gage height, 81.75 ft (24.917 m). PERIOD OF RECORD (water years 1970-80): 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, 34,000 ft³/s (963 m³/s) Feb. 20. PERIOD OF RECORD (water years 1970-80): 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.--42 years (water years 1939-80), 13,210 ft³/s (374.1 m³/s), 9,571,000 acre-ft/yr (11.8 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-80), 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, 124,000 ft³/s (3,510 m³/s) Feb. 20, gage height, 93.08 ft (28.371 m); minimum daily, 4,640 ft³/s (131 m³/s) Oct. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5110	5220	8120	34800	17000	65800	10900	6500	6030	7530	7640	6000
2	5150	5210	7890	22900	15900	57900	10900	6440	6140	7830	7670	6010
3	5100	5300	7680	16800	14700	55700	10700	6460	6260	7840	7520	6010
4	5080	6380	7560	15000	16300	56300	10800	6820	6350	7880	7500	5840
5	5070	7220	7380	14200	15500	59500	11100	6960	6480	7820	7330	5880
6	5120	6800	7320	13500	14200	68400	12300	7040	6670	7810	7150	5780
7	5100	6460	7270	13200	13600	59400	11400	7010	6790	7760	6920	5660
8	5180	6470	7200	12800	13000	41800	10700	7020	7420	7770	7020	5680
9	5210	6130	7110	12100	12700	35500	10300	7040	7850	7770	7100	5680
10	5210	5740	7050	12300	12400	32700	10100	7990	8020	7710	7110	5550
11	5250	5560	6940	13300	11700	31700	9830	8630	7920	7700	7040	5460
12	5270	5430	6900	30200	10800	30100	9420	8220	8020	7630	6940	5530
13	5260	5330	6830	58300	10400	28200	9070	7730	8280	7650	6650	5420
14	5080	5290	6840	76700	10100	27200	8750	7560	8870	7670	6610	5360
15	4890	5240	6760	92000	10100	29200	8190	7430	9620	7620	6690	5610
16	4810	5290	6780	91400	12200	29800	7600	6960	9820	8100	6800	5700
17	4760	9440	6720	86900	36200	26900	7280	6430	9840	8470	6780	5700
18	4640	15100	6750	77100	72800	26000	6920	6170	10300	8550	6790	5760
19	4640	10200	6790	69600	108000	24500	6720	6070	10600	8440	6860	5930
20	5030	8460	6880	62600	121000	21500	7030	5970	10600	8500	6600	6190
21	5420	7820	7100	58200	121000	20000	7810	5980	10600	8540	6430	6180
22	5230	7520	8050	53900	118000	18500	8390	6180	9600	8520	6300	6230
23	5170	8230	8070	48100	103000	15800	8000	6340	9240	8520	6040	6330
24	5160	9990	30500	43100	91200	13800	7560	6280	9330	8510	5950	6220
25	5490	13400	66700	28400	79200	13000	7150	6340	9140	8470	5980	5940
26	13400	13300	50500	22200	73000	12700	7020	6450	9040	8440	5940	5960
27	9020	13100	22600	20400	68400	12300	6940	6330	8990	8380	5970	5960
28	6700	10300	15500	19400	69400	11800	6650	6290	8940	8370	5840	6040
29	5980	9140	13200	18600	76500	11400	6510	6170	8460	8410	5640	6040
30	5610	8490	13200	17900	---	11000	6480	6020	8140	7880	5690	6090
31	5370	---	29400	17400	---	10700	---	5970	---	7770	5850	---
TOTAL	173510	237560	407590	1173300	1348300	959100	262520	208800	253360	249860	206350	175740
MEAN	5597	7919	13150	37850	46490	30940	8751	6735	8445	8060	6656	5858
MAX	13400	15100	66700	92000	121000	68400	12300	8630	10600	8550	7670	6330
MIN	4640	5210	6720	12100	10100	10700	6480	5970	6030	7530	5640	5360
AC-FT	344200	471200	808500	2327000	2674000	1902000	520700	414200	502500	495600	409300	348600
CAL YR 1979 TOTAL	3423600			MEAN 9380	MAX 66700	MIN 4320	AC-FT 6791000					
WTR YR 1980 TOTAL	5655990			MEAN 15450	MAX 121000	MIN 4640	AC-FT 11220000					

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1955-67, 1969 to current year.

CHEMICAL ANALYSES: Water years 1955-66.

WATER TEMPERATURES: Water years 1955-58, 1960-67, 1969 to current year.

SEDIMENT RECORDS: Water years 1978 to May 1980 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1955 to June 1963.

WATER TEMPERATURES: May 1955 to September 1958, October 1959 to September 1967, July 1969 to current year.

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

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

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 CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 21.5°C May 20, 21; minimum recorded, 7.0°C Dec. 24, 25, 27, 28.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 1,310 mg/L Feb. 19, 20; minimum daily mean, 7 mg/L Dec. 19.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 428,000 tons (388,000 metric tons) Feb. 20; minimum daily, 128 tons (116 metric tons) Dec. 19.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				5220	26	366	8120	15	329
2				5210	25	352	7890	14	298
3				5300	24	343	7680	14	290
4				6380	47	810	7560	11	225
5				7220	40	780	7380	15	299
6				6800	27	496	7320	13	257
7				6460	20	349	7270	12	236
8				6470	18	314	7200	10	194
9				6130	20	331	7110	9	173
10				5740	14	217	7050	14	266
11				5560	10	150	6940	17	319
12				5430	9	132	6900	14	261
13				5330	9	130	6830	9	166
14				5290	11	157	6840	8	148
15				5240	16	226	6760	8	146
16				5290	24	343	6780	9	165
17				9440	228	6920	6720	9	163
18				15100	222	9420	6750	8	146
19				10200	49	1350	6790	7	128
20				8460	21	480	6880	8	149
21				7820	19	401	7100	8	153
22				7520	17	345	8050	8	174
23				8230	41	1020	8070	8	174
24				9990	160	4330	30500	206	23100
25				13400	131	4920	66700	509	91700
26				13300	119	4240	50500	409	55800
27				13100	99	3500	22600	258	15700
28				10300	77	2140	15500	410	17200
29				9140	41	1010	13200	556	19800
30				8490	24	550	13200	550	19600
31				---	---	---	29400	494	39200
TOTAL				237560	---	46122	407590	---	286959

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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	34800	270	25400	17000	44	2020	65800	384	68200
2	22900	76	4700	15900	40	1720	57900	264	41300
3	16800	61	2770	14700	48	1910	55700	180	27100
4	15000	57	2310	16300	56	2460	56300	196	29800
5	14200	43	1650	15500	56	2340	59500	130	20900
6	13500	36	1310	14200	57	2190	68400	348	64300
7	13200	36	1280	13600	55	2020	59400	258	41400
8	12800	35	1210	13000	50	1760	41800	226	25500
9	12100	34	1110	12700	35	1200	35500	234	22400
10	12300	34	1130	12400	30	1000	32700	240	21200
11	13300	44	1580	11700	20	632	31700	250	21400
12	30200	556	57700	10800	24	700	30100	180	14600
13	58300	875	138000	10400	40	1120	28200	139	10600
14	76700	890	184000	10100	80	2180	27200	124	9110
15	92000	780	194000	10100	70	1910	29200	124	9780
16	91400	450	111000	12200	60	1980	29800	139	11200
17	86900	360	84500	36200	90	8800	26900	137	9950
18	77100	344	71600	72800	461	99900	26000	102	7160
19	69600	270	50700	108000	1310	382000	24500	78	5160
20	62600	210	35500	121000	1310	428000	21500	69	4010
21	58200	200	31400	121000	673	220000	20000	78	4210
22	53900	200	29100	118000	367	117000	18500	94	4700
23	48100	200	26000	103000	364	101000	15800	93	3970
24	43100	190	22100	91200	370	91100	13800	64	2380
25	28400	145	11100	79200	367	78500	13000	46	1610
26	22200	100	5990	73000	364	71700	12700	35	1200
27	20400	90	4960	68400	267	49300	12300	31	1030
28	19400	80	4190	69400	282	52800	11800	23	733
29	18600	65	3260	76500	483	99800	11400	19	585
30	17900	50	2420	---	---	---	11000	19	564
31	17400	40	1880	---	---	---	10700	28	809
TOTAL	1173300	---	1113850	1348300	---	1827042	959100	---	486861
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	10900	50	1470	6500	17	298			
2	10900	28	824	6440	24	417			
3	10700	22	636	6460	32	558			
4	10800	24	700	6820	34	626			
5	11100	25	749	6960	36	677			
6	12300	23	764	7040	32	608			
7	11400	15	462	7010	28	530			
8	10700	9	260	7020	28	531			
9	10300	15	417	7040	29	551			
10	10100	17	464	7990	28	604			
11	9830	16	425	8630	27	629			
12	9420	15	382	8220	26	577			
13	9070	18	441	7730	25	522			
14	8750	22	520	7560	27	551			
15	8190	25	553	7430	29	582			
16	7600	29	595	6960	30	564			
17	7280	28	550	6430	30	521			
18	6920	27	504	6170	29	483			
19	6720	26	472	6070	27	443			
20	7030	25	475	5970	25	403			
21	7810	24	506	5980	22	355			
22	8390	23	521	6180	20	334			
23	8000	26	562	6340	18	308			
24	7560	28	572	6280	19	322			
25	7150	26	502	6340	20	342			
26	7020	25	474	6450	20	348			
27	6940	23	431	6330	21	359			
28	6650	22	395	6290	22	374			
29	6510	20	352	6170	23	383			
30	6480	19	332	6020	23	374			
31	---	---	---	5970	23	371			
TOTAL	262520	---	16310	208800	---	14545			
PERIOD	4597170		3791689						

SACRAMENTO RIVER BASIN

11389000 SACRAMENTO RIVER AT BUTTE CITY, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	237560.00	46122.00	456	46600
DECEMBER ...	407590.00	286959.00	2230	289000
JANUARY 1980	1173300.00	1113850.00	11800	1130000
FEBRUARY ...	1348300.00	1827042.00	16600	1840000
MARCH	959100.00	486861.00	8050	495000
APRIL	262520.00	16310.00	527	16800
MAY	208800.00	14545.00	265	14800
PERIOD	4597170.00	3791689.00	39928	3832200

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
DEC 27...	1530	19800	7.5	231	12300	16	22
JAN 24...	1500	43000	9.5	201	23300	17	22
FEB 20...	1340	122000	11.0	1270	418000	--	25
APR 01...	1445	11000	12.5	60	1780	--	--

DATE	TIME	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. 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
DEC 27...	29	38	49	61	75	90	100	
JAN 24...	31	42	55	68	81	96	100	
FEB 20...	34	42	47	51	95	98	100	
APR 01...	--	--	--	72	91	99	100	

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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
JUN 10...	1400	17.5	5	8020	0	1	5	9

DATE	TIME	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	BED MAT. SIEVE DIAM. % FINER THAN 128 MM
JUN 10...	9	11	18	37	57	67	79	100	

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).

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WSP 1345: 1952. 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 fair prior to Jan. 2 and good thereafter. 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.--40 years (water years 1941-80), 11,440 ft³/s (324.0 m³/s), 8,288,000 acre-ft/yr (10.2 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1941-80), 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, 45,800 ft³/s (1,300 m³/s) Feb. 21, gage height, 66.54 ft (20.281 m); minimum daily, 4,490 ft³/s (127 m³/s) Oct. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5190	5340	8740	25000	17400	39700	10900	6220	5600	7620	7240	5550
2	5220	5250	8450	36000	16800	38000	11100	6150	5620	7420	7240	5670
3	5200	5270	8200	19900	15700	37300	10800	6090	5820	7450	7180	5700
4	5070	5740	8010	16100	15600	37100	10800	6300	5860	7480	7010	5610
5	5060	7670	7780	14900	16800	37600	10900	6520	6060	7430	6940	5550
6	5100	7070	7660	14100	15200	38900	12000	6600	6220	7460	6770	5600
7	5110	6890	7580	13500	14500	38700	12000	6670	6340	7450	6440	5450
8	5120	6700	7480	13100	13900	35400	11200	6600	6760	7410	6460	5390
9	5200	6520	7390	12500	13500	32800	10700	6580	7330	7350	6520	5440
10	5240	6060	7280	12100	13200	31500	10400	7160	7670	7390	6620	5440
11	5240	5760	7150	13200	12700	30700	10100	8240	7540	7280	6540	5250
12	5260	5570	7030	18200	12000	29700	9710	8080	7480	7280	6470	5240
13	5250	5440	6950	35800	11300	28000	9340	7700	7740	7250	6250	5330
14	5120	5330	6850	39400	11000	26700	9020	7380	8030	7280	6070	5200
15	4840	5290	6830	42200	10800	26500	8490	7270	8720	7220	6080	5300
16	4760	5270	6790	42700	11400	29800	7900	7010	9240	7400	6220	5540
17	4650	6660	6790	42300	21400	27400	7350	6330	9300	7980	6280	5530
18	4570	13000	6780	41600	37500	25900	6960	5980	9480	8130	6230	5560
19	4490	12000	6790	40500	42300	24900	6680	5820	9980	8100	6290	5760
20	4670	9580	6860	39100	44500	22700	6660	5660	10100	8070	6230	6050
21	5190	8530	7080	38200	45400	20700	7350	5670	10100	8130	5970	6110
22	5220	8070	7720	37400	44900	19400	8140	5750	10100	8170	5810	6100
23	5060	7800	8420	36300	43800	17200	7990	5950	9400	8140	5700	6250
24	5070	9930	14700	35200	42600	14800	7660	5950	8780	8080	5440	6180
25	5270	11200	31000	31400	41500	13500	7050	5990	8820	8090	5500	5920
26	9380	14200	41500	24400	40400	13000	6870	6090	8800	8040	5420	5760
27	11600	13800	28500	21600	39500	12700	6830	6120	8660	7990	5440	5790
28	7970	11700	19200	20200	39200	12200	6520	6060	8500	7960	5420	5860
29	6620	10100	15100	19200	40400	11800	6290	5910	8350	7960	5140	5870
30	5940	9230	13200	18500	---	11400	6200	5740	7870	7740	5200	5870
31	5610	---	20800	17800	---	11000	---	5580	---	7360	5370	---
TOTAL	173290	240970	354610	832400	745200	797000	263910	199170	240270	238110	191490	169870
MEAN	5590	8032	11440	26850	25700	25710	8797	6425	8009	7681	6177	5662
MAX	11600	14200	41500	42700	45400	39700	12000	8240	10100	8170	7240	6250
MIN	4490	5250	6780	12100	10800	11000	6200	5580	5600	7220	5140	5200
AC-FT	343700	478000	703400	1651000	1478000	1581000	523500	395100	476600	472300	379800	336900
CAL YR 1979 TOTAL	3316700			MEAN 9087	MAX 41500	MIN 4200	AC-FT 6579000					
WTR YR 1980 TOTAL	4446290			MEAN 12150	MAX 45400	MIN 4490	AC-FT 8819000					

SACRAMENTO RIVER BASIN

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1959-66, 1972 to current year.

CHEMICAL ANALYSES: Water years 1959-66, 1972.

WATER TEMPERATURES: Water years 1977 to current year.

SEDIMENT RECORDS: Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to current year (storm season only).

SEDIMENT RECORDS: December 1972 to September 1976 (flood periods only), January 1977 to current year (storm season only).

REMARKS.--Prior to September 1976 total sediment discharge tabulated only on days of spill over Colusa Wier.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS (water years 1973, 1975-80): Maximum daily mean, 1,170 mg/L Jan. 14, 1980; minimum daily mean recorded, 10 mg/L Mar. 5, May 29-31, 1977, Nov. 27, 1978.

SEDIMENT DISCHARGE (water years 1973, 1975-80): Maximum daily, 124,000 tons (112,500 metric tons) Jan. 14, 1980; minimum daily recorded, 138 tons (125 metric tons) Mar. 5, 1977.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 1,170 mg/L Jan. 14; minimum daily mean, 31 mg/L Nov. 1.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 124,000 tons (112,500 metric tons) Jan. 14; minimum daily, 447 tons (406 metric tons) Nov. 1.

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1977 TO JULY 1978
(NOT PREVIOUSLY PUBLISHED)

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1977	154500.00	24866.00	3100	28000
DECEMBER ...	289840.00	419105.00	10200	429000
JANUARY 1978	800910.00	1172440.00	43700	1220000
FEBRUARY ...	688600.00	912150.00	36200	948000
MARCH	839700.00	716010.00	46000	762000
APRIL	588200.00	291630.00	27300	319000
MAY	329080.00	116970.00	10500	127000
JUNE	211140.00	68660.00	5090	73800
JULY	242700.00	63660.00	6250	69900
PERIOD.....	4144670.00	3785491.00	188340	3976700

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	12.0	9.5	---	---	---	---	---	---	---	---
2	---	---	---	10.0	9.0	---	14.0	19.0	---	---	---	---
3	---	---	11.0	10.0	---	11.0	12.0	---	---	---	---	---
4	---	---	---	10.0	10.0	11.0	13.5	21.0	---	---	---	---
5	---	---	12.0	10.5	---	10.5	---	19.0	---	---	---	---
6	---	13.0	10.0	11.0	11.5	11.0	13.0	19.5	---	---	---	---
7	---	14.0	---	11.5	---	11.5	---	---	---	---	---	---
8	---	---	---	10.5	10.5	12.5	13.5	19.0	---	---	---	---
9	---	14.5	---	11.0	---	13.0	---	---	---	---	---	---
10	---	---	---	11.0	11.0	13.0	15.0	16.0	---	---	---	---
11	---	14.0	10.0	---	---	12.5	---	---	---	---	---	---
12	---	---	---	11.0	10.0	---	16.5	16.0	---	---	---	---
13	---	14.0	10.0	11.5	---	12.0	---	---	---	---	---	---
14	---	---	---	---	11.0	---	16.5	17.0	---	---	---	---
15	---	13.0	---	---	---	12.0	---	---	---	---	---	---
16	---	---	---	10.5	11.0	---	---	18.5	---	---	---	---
17	---	13.0	---	11.0	---	11.0	---	---	---	---	---	---
18	---	---	---	10.0	12.0	---	18.0	20.0	---	---	---	---
19	---	10.0	---	---	12.0	12.0	---	---	---	---	---	---
20	---	---	---	10.0	11.0	---	17.5	22.0	---	---	---	---
21	---	10.0	---	10.0	11.0	12.0	---	---	---	---	---	---
22	---	---	---	10.0	11.0	---	15.0	20.0	---	---	---	---
23	---	10.0	---	10.0	11.0	12.5	---	---	---	---	---	---
24	15.0	---	---	10.0	11.0	---	15.0	18.0	---	---	---	---
25	---	10.0	---	10.0	11.0	12.5	---	---	---	---	---	---
26	---	---	8.5	---	11.5	---	16.5	18.0	---	---	---	---
27	---	---	8.0	9.0	12.0	13.5	---	---	---	---	---	---
28	---	---	8.0	---	11.5	---	19.5	17.5	---	---	---	---
29	---	9.5	---	8.5	---	14.0	---	---	---	---	---	---
30	---	---	---	---	---	---	18.5	19.0	---	---	---	---
31	---	---	10.5	7.5	---	13.0	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	---	---	---

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				5340	31	447	8740	136	3210
2				5250	33	468	8450	99	2260
3				5270	35	498	8200	74	1640
4				5740	37	573	8010	72	1560
5				7670	39	808	7780	70	1470
6				7070	87	1660	7660	43	889
7				6890	124	2310	7580	87	1780
8				6700	134	2420	7480	76	1530
9				6520	146	2570	7390	60	1200
10				6060	126	2060	7280	48	943
11				5760	109	1700	7150	60	1160
12				5570	90	1350	7030	62	1180
13				5440	72	1060	6950	70	1310
14				5330	81	1170	6850	78	1440
15				5290	87	1240	6830	78	1440
16				5270	63	896	6790	62	1140
17				6660	76	1370	6790	52	953
18				13000	165	5790	6780	62	1130
19				12000	235	7610	6790	72	1320
20				9580	213	5510	6860	60	1110
21				8530	143	3290	7080	48	918
22				8070	97	2110	7720	62	1290
23				7800	101	2130	8420	78	1770
24				9930	120	3220	14700	229	12700
25				11200	150	4540	31000	1010	98900
26				14200	159	6100	41500	440	49300
27				13800	169	6300	28500	265	20400
28				11700	178	5620	19200	230	11900
29				10100	184	5020	15100	214	8720
30				9230	165	4110	13200	218	7770
31				---	---	---	20800	504	29600
TOTAL				240970	---	83950	354610	---	271933

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

JANUARY					FEBRUARY			MARCH		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
1	25000	426	28800	17400	115	5400	39700	154	16500	
2	36000	183	17800	16800	114	5170	38000	154	15800	
3	19900	111	5960	15700	110	4660	37300	157	15800	
4	16100	87	3780	15600	130	5480	37100	146	14600	
5	14900	77	3100	16800	140	6350	37600	143	14500	
6	14100	73	2780	15200	152	6240	38900	185	19400	
7	13500	61	2220	14500	140	5480	38700	145	15200	
8	13100	64	2260	13900	126	4730	35400	219	20900	
9	12500	54	1820	13500	114	4160	32800	223	19700	
10	12100	52	1700	13200	102	3640	31500	163	13900	
11	13200	50	1780	12700	104	3570	30700	116	9620	
12	18200	130	6390	12000	116	3760	29700	112	8980	
13	35800	822	81000	11300	120	3660	28000	123	9300	
14	39400	1170	124000	11000	125	3710	26700	100	7210	
15	42200	860	98000	10800	114	3320	26500	108	7730	
16	42700	620	71500	11400	114	3510	29800	123	9900	
17	42300	372	42500	21400	596	38200	27400	131	9690	
18	41600	370	41600	37500	916	92700	25900	131	9160	
19	40500	370	40500	42300	647	73900	24900	131	8810	
20	39100	318	33600	44500	516	62000	22700	148	9070	
21	38200	274	28300	45400	362	44400	20700	173	9670	
22	37400	246	24800	44900	290	35200	19400	177	9270	
23	36300	216	21200	43800	231	27300	17200	179	8310	
24	35200	176	16700	42600	209	24000	14800	146	5830	
25	31400	220	18700	41500	216	24200	13500	125	4560	
26	24400	212	14000	40400	202	22000	13000	111	3900	
27	21600	186	10800	39500	181	19300	12700	106	3630	
28	20200	146	7960	39200	162	17100	12200	103	3390	
29	19200	130	6740	40400	154	16800	11800	102	3250	
30	18500	124	6190	---	---	---	11400	100	3080	
31	17800	114	5480	---	---	---	11000	99	2940	
TOTAL	832400	---	771960	745200	---	569940	797000	---	313600	

APRIL					MAY			JUNE	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	10900	97	2850	6220	83	1390			
2	11100	96	2880	6150	81	1350			
3	10800	96	2800	6090	79	1300			
4	10800	102	2970	6300	79	1340			
5	10900	109	3210	6520	92	1620			
6	12000	119	3860	6600	92	1640			
7	12000	112	3630	6670	90	1620			
8	11200	97	2930	6600	87	1550			
9	10700	97	2800	6580	89	1580			
10	10400	100	2810	7160	92	1780			
11	10100	102	2780	8240	104	2310			
12	9710	104	2730	8080	111	2420			
13	9340	96	2420	7700	101	2100			
14	9020	91	2220	7380	93	1850			
15	8490	96	2200	7270	89	1750			
16	7900	100	2130	7010	88	1670			
17	7350	103	2040	6330	97	1660			
18	6960	108	2030	5980	102	1650			
19	6680	99	1790	5820	94	1480			
20	6660	97	1740	5660	87	1330			
21	7350	108	2140	5670	84	1290			
22	8140	126	2770	5750	73	1130			
23	7990	112	2420	5950	79	1270			
24	7660	71	1470	5950	81	1300			
25	7050	66	1260	5990	77	1250			
26	6870	82	1520	6090	72	1180			
27	6830	84	1550	6120	65	1070			
28	6520	85	1500	6060	57	933			
29	6290	85	1440	5910	55	878			
30	6200	85	1420	5740	53	821			
31	---	---	---	5580	52	783			
TOTAL	263910	---	70310	199170	---	45295			

PERIOD 3433260 2126988

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	240970.00	83950.00	4620	88600
DECEMBER ...	354610.00	271933.00	9720	282000
JANUARY 1980	832400.00	771960.00	33100	805000
FEBRUARY ...	745200.00	569940.00	29500	599000
MARCH	797000.00	313600.00	31200	345000
APRIL	263910.00	70310.00	5280	75600
MAY	199170.00	45295.00	2880	48200
PERIOD	3433260.00	2126988.00	116300	2243400

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV 06...	1050	6600	13.0	76	1350	--	--	--
DEC 26...	1540	41500	8.5	340	38100	24	33	43
JAN 03...	1215	19400	9.0	133	6970	24	31	40
16...	1350	42900	10.5	638	73900	--	54	64

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV 06...	--	--	50	66	94	99	100
DEC 26...	55	68	80	90	99	100	--
JAN 03...	50	61	69	84	94	98	100
16...	74	79	83	89	96	100	--

SACRAMENTO RIVER BASIN

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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								
06...	1049	13.0	1	6600	--	0	28	96
06...	1050	13.0	1	6600	0	1	60	96
06...	1051	13.0	1	6600	--	0	16	90
06...	1052	13.0	1	6600	--	0	3	25
06...	1053	13.0	1	6600	0	2	4	6
DEC								
06...	1200	10.0	1	7680	0	1	20	91
06...	1201	10.0	1	7680	0	1	52	99
06...	1202	10.0	1	7680	--	0	5	73
06...	1203	10.0	1	7680	--	0	2	17
26...	1530	8.5	1	34200	--	0	7	60
26...	1531	8.5	1	34200	--	0	4	62
26...	1532	8.5	1	34200	--	0	2	26
26...	1533	8.5	1	34200	--	0	7	52
26...	1534	8.5	1	34200	--	0	3	6
JAN								
03...	1205	9.0	1	19900	0	1	46	96
03...	1206	9.0	1	19900	--	0	14	83
03...	1207	9.0	1	19900	--	0	3	59
03...	1208	9.0	1	19900	--	0	3	6
16...	1405	10.5	1	42500	0	1	17	65
16...	1406	10.5	1	42500	--	0	12	70
16...	1407	10.5	1	42500	--	0	2	57
16...	1408	10.5	1	42500	--	0	1	7
APR								
03...	1120	12.0	1	10800	--	0	2	3
03...	1121	12.0	1	10800	--	0	4	10
03...	1122	12.0	1	10800	--	0	7	45
03...	1123	12.0	1	10800	0	1	46	88
03...	1124	12.0	1	10800	0	1	38	70
MAY								
05...	1155	19.0	1	6520	1	10	78	100
05...	1156	19.0	1	6520	0	4	80	99
05...	1157	19.0	1	6520	--	0	14	68
05...	1158	19.0	1	6520	0	1	7	31
05...	1159	19.0	1	6520	1	3	12	22

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							
06...	99	100	--	--	--	--	--
06...	99	100	--	--	--	--	--
06...	99	100	--	--	--	--	--
06...	50	63	77	91	100	--	--
06...	6	6	8	17	26	26	100
DEC							
06...	95	96	98	100	--	--	--
06...	99	100	--	--	--	--	--
06...	94	98	99	100	--	--	--
06...	37	53	74	94	100	--	--
26...	90	95	98	100	--	--	--
26...	86	93	96	98	100	--	--
26...	59	71	80	88	95	100	--
26...	86	92	94	96	100	--	--
26...	10	14	22	41	69	100	--
JAN							
03...	97	97	98	98	100	--	--
03...	91	93	97	100	--	--	--
03...	93	96	97	98	100	--	--
03...	11	21	54	86	100	--	--
16...	72	75	81	92	96	100	--
16...	79	81	83	86	94	100	--
16...	88	93	97	100	--	--	--
16...	18	31	48	77	100	--	--
APR							
03...	3	4	10	37	55	100	--
03...	19	29	50	83	100	--	--
03...	73	80	86	90	96	100	--
03...	94	96	97	99	100	--	--
03...	73	76	81	88	98	100	--
MAY							
05...	--	--	--	--	--	--	--
05...	100	--	--	--	--	--	--
05...	83	90	96	100	--	--	--
05...	35	43	58	90	100	--	--
05...	24	28	44	63	82	100	--

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	240970.00	83950.00	4620	88600
DECEMBER ...	354610.00	271933.00	9720	282000
JANUARY 1980	832400.00	771960.00	33100	805000
FEBRUARY ...	745200.00	569940.00	29500	599000
MARCH	797000.00	313600.00	31200	345000
APRIL	263910.00	70310.00	5280	75600
MAY	199170.00	45295.00	2880	48200
PERIOD	3433260.00	2126988.00	116300	2243400

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV 06...	1050	6600	13.0	76	1350	--	--	--
DEC 26...	1540	41500	8.5	340	38100	24	33	43
JAN 03...	1215	19400	9.0	133	6970	24	31	40
16...	1350	42900	10.5	638	73900	--	54	64

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV 06...	--	--	50	66	94	99	100
DEC 26...	55	68	80	90	99	100	--
JAN 03...	50	61	69	84	94	98	100
16...	74	79	83	89	96	100	--

SACRAMENTO RIVER BASIN

11389500 SACRAMENTO RIVER AT COLUSA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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								
06...	1049	13.0	1	6600	--	0	28	96
06...	1050	13.0	1	6600	0	1	60	96
06...	1051	13.0	1	6600	--	0	16	90
06...	1052	13.0	1	6600	--	0	3	25
06...	1053	13.0	1	6600	0	2	4	6
DEC								
06...	1200	10.0	1	7680	0	1	20	91
06...	1201	10.0	1	7680	0	1	52	99
06...	1202	10.0	1	7680	--	0	5	73
06...	1203	10.0	1	7680	--	0	2	17
26...	1530	8.5	1	34200	--	0	7	60
26...	1531	8.5	1	34200	--	0	4	62
26...	1532	8.5	1	34200	--	0	2	26
26...	1533	8.5	1	34200	--	0	7	52
26...	1534	8.5	1	34200	--	0	3	6
JAN								
03...	1205	9.0	1	19900	0	1	46	96
03...	1206	9.0	1	19900	--	0	14	83
03...	1207	9.0	1	19900	--	0	3	59
03...	1208	9.0	1	19900	--	0	3	6
16...	1405	10.5	1	42500	0	1	17	65
16...	1406	10.5	1	42500	--	0	12	70
16...	1407	10.5	1	42500	--	0	2	57
16...	1408	10.5	1	42500	--	0	1	7
APR								
03...	1120	12.0	1	10800	--	0	2	3
03...	1121	12.0	1	10800	--	0	4	10
03...	1122	12.0	1	10800	--	0	7	45
03...	1123	12.0	1	10800	0	1	46	88
03...	1124	12.0	1	10800	0	1	38	70
MAY								
05...	1155	19.0	1	6520	1	10	78	100
05...	1156	19.0	1	6520	0	4	80	99
05...	1157	19.0	1	6520	--	0	14	68
05...	1158	19.0	1	6520	0	1	7	31
05...	1159	19.0	1	6520	1	3	12	22

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							
06...	99	100	--	--	--	--	--
06...	99	100	--	--	--	--	--
06...	99	100	--	--	--	--	--
06...	50	63	77	91	100	--	--
06...	6	6	8	17	26	26	100
DEC							
06...	95	96	98	100	--	--	--
06...	99	100	--	--	--	--	--
06...	94	98	99	100	--	--	--
06...	37	53	74	94	100	--	--
26...	90	95	98	100	--	--	--
26...	86	93	96	98	100	--	--
26...	59	71	80	88	95	100	--
26...	86	92	94	96	100	--	--
26...	10	14	22	41	69	100	--
JAN							
03...	97	97	98	98	100	--	--
03...	91	93	97	100	--	--	--
03...	93	96	97	98	100	--	--
03...	11	21	54	86	100	--	--
16...	72	75	81	92	96	100	--
16...	79	81	83	86	94	100	--
16...	88	93	97	100	--	--	--
16...	18	31	48	77	100	--	--
APR							
03...	3	4	10	37	55	100	--
03...	19	29	50	83	100	--	--
03...	73	80	86	90	96	100	--
03...	94	96	97	99	100	--	--
03...	73	76	81	88	98	100	--
MAY							
05...	--	--	--	--	--	--	--
05...	100	--	--	--	--	--	--
05...	83	90	96	100	--	--	--
05...	35	43	58	90	100	--	--
05...	24	28	44	63	82	100	--

11389950 LITTLE BUTTE CREEK AT MAGALIA, CA

LOCATION.--Lat 39°48'38", long 121°35'00", in NW¼NE¼ sec.36, T.23 N., R.3 E., Butte County, 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 Toadtown Canal when Paradise and Magalia Reservoirs are spilling. Diversion is made from Magalia Reservoir for the municipal supply of Paradise.

AVERAGE DISCHARGE (unadjusted).--12 years, 15.6 ft³/s (0.442 m³/s), 11,300 acre-ft/yr (13.9 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, 687 ft³/s (19.5 m³/s) Feb. 19, gage height, 5.62 ft (1.713 m); minimum daily, 0.02 ft³/s (0.001 m³/s) on many days during August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.18	.29	.35	.38	25	92	20	5.8	.60	.47	.11	.11
2	.18	.29	.33	.30	23	83	23	3.4	.60	.49	.10	.11
3	.18	.87	.33	.27	24	85	28	2.8	.63	.51	.09	.11
4	.18	.53	.33	.24	23	85	21	2.8	2.9	.51	.09	.11
5	.19	.35	.34	.23	22	125	75	2.1	8.1	.50	.08	.11
6	.19	.33	.35	.22	21	138	61	1.8	7.1	.47	.08	.12
7	.17	.33	.35	.22	20	106	48	1.5	4.3	.47	.07	.12
8	.18	.32	.35	.23	17	86	40	1.0	1.8	.47	.06	.14
9	.17	.33	.35	.45	15	81	31	13	.74	.47	.06	.16
10	.16	.35	.35	.29	15	76	26	33	.60	.46	.05	.19
11	.16	.35	.38	5.0	14	72	23	28	.58	.44	.05	.20
12	.16	.35	.38	4.7	14	67	19	21	.59	.44	.05	.20
13	.19	.35	.38	3.3	13	59	18	17	.61	.42	.05	.22
14	.16	.38	.38	127	16	62	16	15	.60	.41	.04	.25
15	.15	.38	.38	182	48	64	9.9	12	.60	.41	.02	.27
16	.15	.71	.37	239	141	54	5.5	9.1	.58	.41	.03	.27
17	.14	.57	.35	222	295	49	6.4	6.4	.56	.39	.03	.26
18	.16	.36	.35	164	397	47	8.0	2.5	.56	.35	.02	.26
19	.25	.33	.37	116	576	42	8.4	1.3	.56	.35	.02	.27
20	.27	.33	.56	88	385	40	14	.71	.56	.35	.02	.26
21	.16	.33	.39	73	335	39	28	.60	.54	.28	.02	.28
22	.15	.43	.33	63	257	35	24	.61	.51	.13	.02	.29
23	.16	.40	1.6	55	203	32	22	.62	.51	.13	.02	.28
24	.19	.57	5.8	48	157	30	20	.75	.51	.12	.02	.30
25	5.0	.56	.98	45	131	30	18	2.5	.52	.12	.02	.30
26	.32	.48	.40	41	112	29	16	3.4	.51	.11	.02	.30
27	.27	.40	.32	37	104	27	14	1.8	.47	.11	.02	.32
28	.27	.40	.27	33	154	25	11	1.0	.47	.11	.02	.34
29	.28	.38	.26	31	116	23	9.9	.67	.47	.11	.04	.38
30	.29	.36	.51	28	---	22	8.4	.60	.47	.10	.09	.38
31	.30	---	2.1	26	---	21	---	.60	---	.11	.10	---
TOTAL	10.96	12.41	20.29	1633.83	3673	1826	672.5	193.36	38.15	10.22	1.51	6.91
MEAN	.35	.41	.65	52.7	127	58.9	22.4	6.24	1.27	.33	.049	.23
MAX	5.0	.87	5.8	239	576	138	75	33	8.1	.51	.11	.38
MIN	.14	.29	.26	.22	13	21	5.5	.60	.47	.10	.02	.11
AC-FT	22	25	40	3240	7290	3620	1330	384	76	20	3.0	14
†	443	201	205	189	183	230	330	549	746	1110	1080	780
CAL YR 1979 TOTAL	3864.80			MEAN 10.6	MAX 162	MIN .14	AC-FT 7670					
WTR YR 1980 TOTAL	8099.14			MEAN 22.1	MAX 576	MIN .02	AC-FT 16060					

† Diversion, in acre-feet, from Magalia Reservoir, furnished by Paradise Irrigation District.

SACRAMENTO RIVER BASIN

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).--50 years, 405 ft³/s (11.47 m³/s), 293,400 acre-ft/yr (362 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.--Peak discharges above base of 2,700 ft³/s (76.5 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 12	0915	8,350 236	8.95 2.728
Jan. 13	2300	8,750 248	9.25 2.819
Feb. 19	1245	*9,100 258	9.75 2.972

Minimum daily, 67 ft³/s (1.90 m³/s) Oct. 4, 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	136	189	851	493	1190	473	530	371	233	164	164
2	69	130	178	589	468	1090	460	517	366	234	167	156
3	68	223	171	489	461	1110	459	509	365	247	164	133
4	67	350	162	411	482	1240	452	504	369	245	163	99
5	67	265	156	371	442	1490	771	503	370	241	164	96
6	69	230	153	358	428	1430	646	495	355	227	164	138
7	69	198	152	345	407	1200	599	485	337	217	166	164
8	70	177	150	343	391	1030	570	492	328	211	169	159
9	73	160	145	513	380	925	550	616	315	205	168	157
10	72	143	143	683	373	870	538	656	306	208	168	159
11	71	134	138	708	369	819	521	582	304	201	167	161
12	71	130	133	6020	357	751	503	543	301	192	165	160
13	71	126	137	5840	355	712	498	525	307	189	161	161
14	77	124	144	5500	359	768	493	512	309	187	160	169
15	83	123	159	3540	503	874	487	487	298	179	165	128
16	81	129	157	3250	1270	745	485	470	294	179	168	85
17	92	309	148	3130	3510	695	480	460	286	174	166	81
18	94	246	159	2400	6220	670	486	449	280	170	163	82
19	189	200	166	1710	7550	630	498	448	277	170	163	82
20	261	168	181	1320	4640	612	608	453	273	166	162	83
21	216	158	259	1080	3960	604	658	456	259	162	163	80
22	136	155	230	930	2950	591	587	451	259	163	166	79
23	124	182	299	817	2270	574	573	441	267	162	166	77
24	116	187	1740	731	1810	566	575	439	266	164	165	78
25	747	277	1040	670	1520	552	567	414	258	162	164	80
26	446	416	566	628	1320	544	560	401	256	162	162	77
27	253	330	384	605	1300	521	555	390	248	161	159	77
28	209	264	296	593	1790	501	549	373	232	162	154	74
29	184	226	258	576	1380	488	536	369	231	163	157	76
30	174	205	303	548	---	483	536	361	230	160	161	75
31	154	---	1230	506	---	467	---	362	---	158	164	---
TOTAL	4542	6101	9726	46055	47758	24742	16273	14693	8917	5854	5078	3390
MEAN	147	203	314	1486	1647	798	542	474	297	189	164	113
MAX	747	416	1740	6020	7550	1490	771	656	371	247	169	169
MIN	67	123	133	343	355	467	452	361	230	158	154	74
AC-FT	9010	12100	19290	91350	94730	49080	32280	29140	17690	11610	10070	6720
‡	2280	4260	4580	7200	6650	7160	7040	7280	6950	5080	5270	3050
CAL YR 1979 TOTAL	117331			MEAN 321	MAX 2530	MIN 67	AC-FT 232700					
WTR YR 1980 TOTAL	193129			MEAN 528	MAX 7550	MIN 67	AC-FT 383100					

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

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 excellent. Natural flow of stream affected by storage reservoirs, power development, bypassing for flood control, diversions for irrigation, and return flow from irrigated areas.

AVERAGE DISCHARGE.--42 years (water years 1939-80), 10,090 ft³/s (285.7 m³/s), 7,310,000 acre-ft/yr (9.01 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1939-80), 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, 28,600 ft³/s (810 m³/s) Feb. 22, gage height, 49.71 ft (15.152 m); minimum daily, 4,310 ft³/s (122 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5080	5370	8650	24000	17700	26700	11600	4820	5390	6740	6400	5340
2	5040	5160	8300	24200	17100	26300	11700	4540	5190	6490	6300	5540
3	5050	5150	8060	21500	16200	26100	11600	4380	5320	6520	6320	5690
4	4950	5360	7800	17700	15500	26100	11400	4440	5440	6570	6170	5760
5	4910	6750	7560	16000	16600	26100	11600	4790	5680	6610	6070	5700
6	4930	7230	7420	15100	15800	26300	12100	4980	5800	6620	5920	5800
7	4980	7030	7250	14500	14800	26400	12700	5090	5960	6670	5680	5800
8	5000	6710	7210	14100	14300	25900	12100	5100	6200	6610	5520	5720
9	5050	6590	7130	13700	13900	25400	11600	5110	6740	6540	5640	5770
10	5060	6250	6990	13200	13600	25100	11100	5530	7050	6560	5770	5840
11	5060	5840	6820	13700	13200	24900	10900	6690	6880	6480	5790	5770
12	5130	5610	6720	15300	12800	24700	10600	7250	6670	6410	5740	5760
13	5120	5460	6640	24800	11900	24300	10100	7080	6710	6420	5630	5900
14	4970	5320	6550	26500	11500	24000	9560	6760	6910	6470	5420	5930
15	4690	5230	6530	27700	11300	23800	8990	6590	7530	6450	5430	5920
16	4610	5170	6480	28000	11400	24400	8290	6420	8210	6430	5560	6170
17	4500	5540	6490	27800	15900	24100	7440	5930	8460	6960	5700	6260
18	4380	10500	6470	27600	25400	23600	6840	5510	8450	7270	5700	6330
19	4330	12600	6510	27300	26900	23300	6290	5280	8800	7290	5700	6480
20	4310	10300	6560	26900	28000	22400	5980	5120	8970	7250	5780	6710
21	4770	8860	6720	26600	28500	20800	6350	5020	8990	7320	5650	6890
22	5080	8150	7210	26300	28500	19500	6980	5110	8920	7350	5520	6860
23	4930	7810	8010	26100	28300	17900	7210	5360	8060	7290	5490	6860
24	4870	8680	10300	25800	27900	15800	6910	5540	7650	7230	5290	6810
25	5030	9770	24000	25300	27400	14400	6310	5740	7770	7220	5210	6590
26	6720	12600	26000	23900	27100	13800	5950	5890	7580	7190	5150	6320
27	11600	12800	24700	22400	26800	13400	5780	6040	7520	7120	5070	6270
28	9240	12000	21200	21000	26600	13000	5620	6130	7450	7060	5110	6270
29	7230	10300	17300	19900	26700	12500	5170	6030	7390	7060	5000	6290
30	6240	9280	14900	19000	---	12200	4960	5840	7000	7030	4950	6230
31	5750	---	17500	18200	---	11900	---	5590	---	6540	5060	---
TOTAL	168610	233420	319980	674100	571600	665100	263730	173700	214690	211770	173740	183580
MEAN	5439	7781	10320	21750	19710	21450	8791	5603	7156	6831	5605	6119
MAX	11600	12800	26000	28000	28500	26700	12700	7250	8990	7350	6400	6890
MIN	4310	5150	6470	13200	11300	11900	4960	4380	5190	6410	4950	5340
AC-FT	334400	463000	634700	1337000	1134000	1319000	523100	344500	425800	420000	344600	364100
CAL YR 1979 TOTAL	3085200	MEAN	8453	MAX	26000	MIN	4080	AC-FT	6119000			
WTR YR 1980 TOTAL	3854020	MEAN	10530	MAX	28500	MIN	4310	AC-FT	7644000			

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 May 20, 21; minimum recorded, 7.0°C Dec. 28, 29.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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.

REMARKS.--Records of discharge given for Sacramento River at Knights Landing (station 11391000).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 25...	1045	5780	--	7.5	15.0	9.8	--	--	--
NOV 29...	1020	11400	--	7.3	9.5	11.0	--	--	--
DEC 18...	1145	7000	--	7.8	9.0	11.5	--	--	--
JAN 24...	1145	26600	--	7.5	10.0	10.8	--	--	--
FEB 28...	1250	27100	--	7.6	12.0	10.7	--	--	--
APR 23...	1110	7330	183	7.7	15.0	9.4	68	14	8.0
MAY 29...	1520	7310	--	7.5	20.0	9.1	--	--	--
JUN 26...	1235	7130	--	7.6	20.0	9.3	--	--	--
JUL 30...	1035	7520	162	7.6	22.5	8.4	59	12	7.0
AUG 28...	1235	6760	--	7.5	22.0	8.5	--	--	--
SEP 29...	1515	6790	--	7.7	20.0	9.2	--	--	--

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
OCT 25...	--	--	--	--	15	.20	.30	.05	.02
NOV 29...	--	--	--	--	26	.20	.50	.07	.02
DEC 18...	--	--	--	--	10	.20	.20	.05	.02
JAN 24...	--	--	--	--	127	.10	.50	.14	.02
FEB 28...	--	--	--	--	140	.20	.40	.16	.03
APR 23...	10	1.2	69	6.0	56	.20	.20	.07	.02
MAY 29...	--	--	--	--	42	.10	.40	.07	.02
JUN 26...	--	--	--	--	62	.10	.30	.07	.00
JUL 30...	10	1.2	62	5.0	--	.10	.40	.05	.02
AUG 28...	--	--	--	--	--	.10	.40	.06	.02
SEP 29...	--	--	--	--	22	.10	.40	.05	.02

DATE	TIME	BORON, DIS- SOLVED (UG/L AS B)
APR 23...	1110	100
JUL 30...	1035	0

SACRAMENTO RIVER BASIN

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 current year.

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.--15 years, 22.2 ft³/s (0.629 m³/s), 16,080 acre-ft/yr (19.8 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)
Dec. 24	2130	1,450 41.1	7.75 2.362	Jan. 16	1530	1,530 43.3	6.91 2.106
Dec. 26	0230	1,330 37.7	7.52 2.292	Feb. 19	Unknown	*4,150 118	10.50 3.200
Dec. 30	1500	2,180 61.7	8.93 2.722	Feb. 21	0500	2,520 71.4	8.85 2.697
Jan. 12	1215	908 25.7	6.58 2.006	Mar. 5	0945	834 23.6	6.18 1.884
Jan. 13	1430	1,170 33.1	7.18 2.189				

Minimum daily, 0.33 ft³/s (0.009 m³/s) Dec. 19

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	1.1	2.3	145	7.4	56	2.7	1.2	13	4.0	3.9	6.5
2	4.0	1.0	1.7	69	6.8	45	2.8	1.6	9.9	4.6	2.2	4.6
3	2.6	1.1	1.2	46	7.9	55	6.7	2.5	5.6	6.1	6.4	3.2
4	5.7	1.2	.97	32	7.1	73	17	2.7	3.8	7.8	11	8.0
5	3.9	1.4	.81	25	6.4	308	30	8.1	7.5	6.6	8.6	8.7
6	2.8	1.4	.71	23	5.8	115	27	16	17	7.2	10	8.0
7	2.3	1.3	.63	20	5.3	57	19	7.5	15	13	6.2	6.2
8	5.6	1.4	.56	17	4.7	41	12	9.2	7.8	9.2	4.6	10
9	4.2	1.5	.65	14	4.3	32	12	23	3.5	6.3	3.9	12
10	2.6	1.4	.91	15	3.9	25	14	19	2.6	5.4	3.9	7.2
11	4.6	.90	1.2	20	3.5	20	6.1	19	1.5	5.2	2.7	6.5
12	4.7	.70	1.4	387	3.1	18	4.0	21	1.5	7.7	7.9	6.0
13	3.3	.57	1.2	525	10	17	3.1	11	3.6	9.1	7.9	6.8
14	4.3	.47	.90	315	12	15	2.0	6.2	8.5	11	15	7.1
15	5.3	.36	.77	214	11	13	2.5	5.9	15	15	11	6.3
16	7.2	1.7	.62	400	30	9.5	2.3	5.2	21	9.5	9.8	4.7
17	4.3	36	.50	196	119	7.7	2.7	4.1	16	7.7	10	3.4
18	2.9	23	.38	87	555	6.9	3.6	2.9	11	5.4	7.3	3.7
19	2.0	9.4	.33	50	2590	5.7	5.2	5.4	6.2	7.3	7.2	3.0
20	1.4	5.3	.44	36	307	4.3	5.5	8.9	2.4	9.3	9.0	17
21	3.5	3.4	1.1	30	1130	4.1	9.5	4.7	1.8	14	5.7	11
22	2.5	3.0	1.1	26	351	4.4	17	3.0	5.9	9.0	4.4	11
23	2.1	19	9.3	22	165	4.1	14	2.4	7.9	6.3	5.3	10
24	1.7	21	1020	19	89	3.8	18	6.5	7.4	5.8	3.9	7.2
25	2.1	10	522	17	69	3.8	19	12	6.7	5.8	2.5	8.1
26	1.7	6.1	588	15	58	6.7	9.0	20	10	4.4	6.2	8.1
27	1.4	3.9	109	13	54	9.0	8.2	20	8.9	4.5	8.9	5.7
28	1.6	2.9	59	12	466	6.2	11	21	10	6.2	10	8.1
29	1.5	2.7	43	10	98	4.7	4.7	9.9	9.0	8.1	8.0	7.0
30	1.4	2.4	647	9.3	---	3.6	2.5	11	7.7	7.3	6.2	4.8
31	1.2	---	345	8.3	---	2.9	---	14	---	4.2	6.0	---
TOTAL	97.5	165.60	3362.68	2817.6	6180.2	977.4	293.1	304.9	247.7	233.0	215.6	219.9
MEAN	3.15	5.52	108	90.9	213	31.5	9.77	9.84	8.26	7.52	6.95	7.33
MAX	7.2	36	1020	525	2590	308	30	23	21	15	15	17
MIN	1.2	.36	.33	8.3	3.1	2.9	2.0	1.2	1.5	4.0	2.2	3.0
AC-FT	193	328	6670	5590	12260	1940	581	605	491	462	428	436

CAL YR 1979 TOTAL 9113.45 MEAN 25.0 MAX 1020 MIN 0 AC-FT 18080
WTR YR 1980 TOTAL 15115.18 MEAN 41.3 MAX 2590 MIN .33 AC-FT 29980

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 Water and Power Resources Service and reviewed by Geological Survey.

AVERAGE DISCHARGE.--21 years (water years 1959-64, 1966-80), 6.90 ft³/s, (0.195 m³/s), 5,000 acre-ft/yr (6.16 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, 4,460 ft³/s (126 m³/s) Feb. 20, gage height, 15.71 ft (4.788 m) from floodmarks; no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			.02	7.4	1.6	31	4.3	1.5	.43			
2			.03	4.1	1.5	36	4.1	1.4	.34			
3			.05	3.1	1.5	56	3.9	1.3	.27			
4			.05	2.6	1.4	30	5.2	1.3	.38			
5			.04	2.2	1.2	195	10	1.2	.51			
6			.03	1.9	1.1	53	6.8	1.1	.40			
7			.03	1.7	.84	38	5.6	1.0	.30			
8			.02	1.5	.73	33	5.6	1.1	.27			
9			.02	2.0	.68	30	5.2	1.1	.27			
10			.02	1.5	.68	28	4.3	1.1	.21			
11			.02	17	.73	25	3.8	1.1	.19			
12			0	313	.68	22	3.4	1.1	.19			
13			0	373	.68	21	3.4	1.1	.27			
14			0	138	.68	20	3.3	1.1	.27			
15			0	51	5.5	18	3.1	1.0	.17			
16			0	238	387	16	3.1	.99	.11			
17			.01	50	1010	15	3.0	.80	.09			
18			.02	28	418	14	2.8	.71	.06			
19			.01	18	969	12	2.8	.63	.05			
20			.02	13	590	11	2.8	.59	.04			
21			.01	9.8	592	10	3.0	.55	.04			
22			0	7.7	185	8.9	2.9	.51	.04			
23			.13	6.1	89	8.0	2.8	.55	.02			
24			110	5.3	67	7.4	2.6	.51	.02			
25			23	4.9	58	11	2.5	.55	.01			
26			5.8	4.2	47	9.0	2.3	.51	0			
27			1.7	3.6	56	7.0	2.0	.47	0			
28			.84	3.2	63	5.6	2.0	.40	0			
29			.59	2.7	36	5.2	1.9	.40	0			
30			145	2.0	---	4.9	1.7	.37	0			
31		---	20	1.7	---	4.6	---	.43	---			---
TOTAL	0	0	307.46	1318.2	4586.50	785.6	110.2	26.47	4.95	0	0	0
MEAN	0	0	9.92	42.5	158	25.3	3.67	.85	.17	0	0	0
MAX	0	0	145	373	1010	195	10	1.5	.51	0	0	0
MIN	0	0	0	1.5	.68	4.6	1.7	.37	0	0	0	0
AC-FT	0	0	610	2610	9100	1560	219	53	9.8	0	0	0
CAL YR 1979	TOTAL	1466.45	MEAN	4.02	MAX	380	MIN	0	AC-FT	2910		
WTR YR 1980	TOTAL	7139.38	MEAN	19.5	MAX	1010	MIN	0	AC-FT	14160		

SACRAMENTO RIVER BASIN

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA

LOCATION.--Lat 38°48'11", long 121°42'55", in NW¼NE¼ sec.14, T.11 N., R.2 E., Sutter County, Hydrologic Unit 18020104, on left bank 1,000 ft (305 m) downstream from State Highway 24 bridge at Knights Landing, 13.1 mi (21.1 km) upstream from Feather River, and at mile 34.0 (54.7 km) upstream from Sacramento.

DRAINAGE AREA.--14,535 mi² (37,646 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1921 to October 1939 (low-water periods only), June 1940 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

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

GAGE.--Water-stage recorder. Datum of gage is 2.93 ft (0.893 m) below National Geodetic Vertical Datum of 1929. April 1921 to Dec. 9, 1930, in fender pier of railroad bridge at same datum. Water-stage recorder for station at Verona was used as auxiliary gage for this station January 1941 to June 1945. Since Aug. 16, 1945, auxiliary water-stage recorder 6.0 mi (9.7 km) downstream from base gage.

REMARKS.--Records good. Natural flow of stream affected by storage reservoirs, power developments, bypassing for flood control, diversions for irrigation, and considerable return flow from irrigated areas.

AVERAGE DISCHARGE.--40 years (water years 1941-80), 10,790 ft³/s (305.6 m³/s), 7,817,000 acre-ft/yr (9.64 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1940-80), 30,800 ft³/s (872 m³/s) Jan. 26, 1970, gage height, 40.86 ft (12.454 m); maximum gage height, 41.83 ft (12.750 m) Feb. 8, 1942, backwater from Feather River and Sutter Bypass; minimum discharge recorded, 250 ft³/s (7.08 m³/s) July 23, 1931, gage height, 7.80 ft (2.377 m).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 29,400 ft³/s (833 m³/s) Jan. 16; minimum daily, 4,510 ft³/s (128 m³/s) May 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5800	6000	9310	24800	17900	26700	11600	5110	6380	6480	6900	7420
2	5730	5810	8880	26200	17400	26400	11700	4760	6090	6480	6930	7520
3	5690	5860	8540	23100	16400	26300	11600	4510	6010	6400	7050	7660
4	5600	6130	8340	18300	15300	26400	11500	4570	6000	6710	6960	7740
5	5560	7060	8200	16500	16500	26300	11800	4930	6400	6820	6770	7730
6	5670	8040	7990	16000	16600	26300	12000	5300	6970	6960	6880	7690
7	5690	7790	7780	15500	15300	26700	13000	5500	7230	6920	6880	7890
8	5740	7540	7610	14400	14800	26200	12500	5700	7220	6720	6660	7730
9	5710	7390	7550	14600	14300	25400	11800	6240	7130	6750	6570	7660
10	5740	7040	7540	13800	14000	25200	11200	6950	7340	6710	7010	7770
11	5720	6620	7390	14000	13700	25000	11000	8320	6980	6840	6850	7800
12	5730	6390	7270	14500	13100	24800	10500	9160	6400	6730	6930	7710
13	5740	6260	7200	24000	12700	24400	10100	8860	6350	6870	6940	7790
14	5590	6140	7110	25900	12300	24100	9540	8540	6670	6730	6690	7840
15	5480	6090	7110	28300	11400	23800	8670	8320	7300	6850	6580	7660
16	5400	6090	7020	29400	10200	24900	8450	8010	7890	6600	6640	7690
17	5190	6410	7060	28900	16200	25200	7830	7560	8150	7040	6890	7790
18	5100	9870	7000	28900	24100	24600	7040	7070	8040	7520	6940	7860
19	5090	14800	7110	28600	26100	24500	6550	6660	8180	7400	6910	7870
20	4970	12500	7140	28100	27500	23800	5950	6420	8400	7470	7010	7940
21	5330	10400	7190	27800	29000	21900	6110	6290	8420	7450	6970	8090
22	5780	9310	7530	27400	29100	19900	6890	6270	8650	7620	6870	7770
23	5670	8760	8300	27000	29200	18700	7330	6440	7720	7480	6860	7600
24	5540	9380	9560	26600	28800	16600	6840	6770	7030	7590	6820	7540
25	5780	10900	23700	26200	28300	15000	6660	7200	7280	7570	6650	7230
26	6370	13400	28000	24500	27800	14000	6060	7470	7130	7460	6720	6950
27	11400	14100	26500	22900	27600	13600	5990	7460	7030	7630	6710	6820
28	10400	13300	22100	21400	27100	13300	5810	7420	6960	7460	6760	6830
29	8100	11400	17400	20200	26900	12800	5460	7310	7030	7340	6810	6790
30	6980	10100	15300	19300	---	12500	5240	6970	6730	7520	6790	6730
31	6360	---	17100	18600	---	12100	---	6570	---	7210	7110	---
TOTAL	188650	260880	335830	695700	579600	677400	266720	208660	215110	219330	212060	227110
MEAN	6085	8696	10830	22440	19990	21850	8891	6731	7170	7075	6841	7570
MAX	11400	14800	28000	29400	29200	26700	13000	9160	8650	7630	7110	8090
MIN	4970	5810	7000	13800	10200	12100	5240	4510	6000	6400	6570	6730
AC-FT	374200	517500	666100	1380000	1150000	1344000	529000	413900	426700	435000	420600	450500
CAL YR 1979 TOTAL	3320510			9097	MAX 28000	MIN 4840	AC-FT 6586000					
WTR YR 1980 TOTAL	4087050			MEAN 11170	MAX 29400	MIN 4510	AC-FT 8107000					

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-60, 1978-80.

CHEMICAL ANALYSES: Water years 1951-60.

WATER TEMPERATURES: Water years 1951-60, 1978 to May 1980 (discontinued).

SEDIMENT RECORDS: Water years 1978 to May 1980 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1951 to May 1957, December 1958 to May 1960, November 1977 to May 1980 (storm season only), discontinued.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,030 mg/L Feb. 19, 1980; minimum daily mean, 19 mg/L Dec. 19, 20, 1980.

SEDIMENT DISCHARGE: Maximum daily, 71,300 tons (64,700 metric tons) Feb. 19, 1980; minimum daily, 262 tons (238 metric tons) Dec. 10, 1977.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 1,030 mg/L Feb. 19; minimum daily mean, 19 mg/L Dec. 19, 20.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 71,300 tons (64,700 metric tons) Feb. 19; minimum daily, 365 tons (332 metric tons) Dec. 19.

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1977 TO JULY 1978
(NOT PREVIOUSLY PUBLISHED)

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1977	167650.00	26469.00	3510	30000
DECEMBER ...	296260.00	279200.00	11600	291000
JANUARY 1978	670280.00	771850.00	43000	815000
FEBRUARY ...	598100.00	438860.00	37300	476000
MARCH	679600.00	385110.00	42900	428000
APRIL	639700.00	292760.00	39000	332000
MAY	324280.00	98600.00	11500	110000
JUNE	169960.00	33406.00	3580	37000
JULY	200150.00	28034.00	4650	32700
PERIOD	3745980.00	2354289.00	197040	2551700

SACRAMENTO RIVER BASIN

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA--Continued

TEMPERATURE (DEG. C) OF WATER, NOVEMBER 1979 TO MAY 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		11.0	10.0	10.0	---	11.5	14.0	---				
2		11.0	---	9.0	9.0	11.0	13.0	---				
3		12.0	10.0	9.5	9.0	12.0	13.0	---				
4		11.0	---	---	10.0	12.0	13.0	---				
5		12.0	11.0	9.0	9.0	11.0	13.0	---				
6		12.0	---	10.0	10.0	10.5	13.0	19.5				
7		12.0	10.0	10.0	8.0	10.0	12.0	19.0				
8		13.0	---	10.0	9.0	10.0	12.0	19.0				
9		12.0	10.0	10.0	9.0	10.0	13.0	19.0				
10		---	---	9.0	9.0	10.5	13.0	21.0				
11		11.0	10.0	9.0	---	12.0	14.0	18.0				
12		---	---	12.0	---	11.5	14.0	19.0				
13		11.0	---	11.0	9.0	11.0	14.0	18.0				
14		---	---	10.5	10.0	12.0	16.0	18.0				
15		12.0	---	11.0	10.0	11.0	15.0	---				
16		---	---	12.0	9.0	---	16.0	20.0				
17		12.0	---	11.5	10.0	11.0	15.0	21.0				
18		---	---	10.0	12.0	11.0	18.0	20.0				
19		11.0	---	9.5	12.0	12.0	17.0	21.0				
20		11.0	---	10.0	11.0	---	17.0	---				
21		11.0	---	10.0	11.0	---	---	24.0				
22		---	---	9.0	12.0	12.0	10.0	23.0				
23		---	---	10.0	12.0	---	---	25.0				
24		---	---	9.5	11.0	11.0	---	24.0				
25		11.0	---	10.0	12.0	14.0	---	---				
26		---	9.0	9.0	12.0	13.0	---	---				
27		10.0	7.5	9.0	12.0	12.0	---	18.0				
28		---	7.5	9.0	12.0	13.0	---	19.0				
29		10.0	8.0	8.0	11.0	13.0	---	---				
30		---	8.0	8.0	---	13.0	---	---				
31		---	9.0	9.0	---	---	---	20.0				
MONTH		---	---	10.0	10.5	11.5	---	---				

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				6000	56	907	9310	54	1360
2				5810	47	737	8880	44	1050
3				5860	45	712	8540	46	1060
4				6130	42	695	8340	44	991
5				7060	45	858	8200	40	886
6				8040	64	1390	7990	35	755
7				7790	54	1140	7780	34	714
8				7540	50	1020	7610	34	699
9				7390	47	938	7550	35	713
10				7040	45	855	7540	37	753
11				6620	44	786	7390	39	778
12				6390	40	690	7270	32	628
13				6260	35	592	7200	26	505
14				6140	32	530	7110	24	461
15				6090	30	493	7110	22	422
16				6090	30	493	7020	21	398
17				6410	34	588	7060	20	381
18				9870	114	3340	7000	20	378
19				14800	197	7870	7110	19	365
20				12500	133	4550	7140	19	366
21				10400	88	2470	7190	24	466
22				9310	76	1910	7530	44	895
23				8760	72	1700	8300	60	1340
24				9380	71	1800	9560	176	4540
25				10900	74	2180	23700	667	44500
26				13400	104	3760	28000	638	48100
27				14100	145	5500	26500	394	28200
28				13300	111	3990	22100	232	13800
29				11400	86	2650	17400	162	7610
30				10100	68	1850	15300	120	4960
31				---	---	---	17100	124	5730
TOTAL				260880	---	56994	335830	---	173804

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA--Continued
 SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY) NOVEMBER 1979 TO MAY 1980

JANUARY				FEBRUARY				MARCH	
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	24800	347	23200	17900	120	5800	26700	222	16000
2	26200	497	35100	17400	106	4980	26400	183	13000
3	23100	236	15000	16400	134	5930	26300	189	13400
4	18300	110	5440	15300	120	4960	26400	170	12100
5	16500	104	4630	16500	160	7130	26300	160	11400
6	16000	100	4320	16600	224	10000	26300	162	11500
7	15500	75	3140	15300	190	7850	26700	200	14400
8	14400	73	2840	14800	164	6550	26200	189	13400
9	14600	63	2480	14300	144	5560	25400	254	17400
10	13800	70	2610	14000	131	4950	25200	240	16300
11	14000	80	3020	13700	131	4850	25000	180	12200
12	14500	143	5600	13100	128	4530	24800	163	10900
13	24000	262	17000	12700	125	4290	24400	166	10900
14	25900	677	47300	12300	118	3920	24100	166	10800
15	28300	858	65500	11400	111	3420	23800	140	9000
16	29400	668	53000	10200	106	2920	24900	200	13400
17	28900	487	38000	16200	260	10100	25200	269	18300
18	28900	321	25000	24100	902	59100	24600	236	15700
19	28600	288	22200	26100	1030	71300	24500	204	13500
20	28100	288	21900	27500	713	52900	23800	172	11100
21	27800	262	19700	29000	589	46100	21900	164	9700
22	27400	224	16600	29100	407	32000	19900	180	9670
23	27000	211	15400	29200	341	26900	18700	204	10300
24	26600	191	13700	28800	269	20900	16600	217	9730
25	26200	165	11700	28300	234	17900	15000	189	7650
26	24500	192	12700	27800	227	17000	14000	149	5630
27	22900	213	13200	27600	214	15900	13600	131	4810
28	21400	157	9070	27100	202	14800	13300	140	5030
29	20200	132	7200	26900	206	15000	12800	134	4630
30	19300	124	6460	---	---	---	12500	142	4790
31	18600	128	6430	---	---	---	12100	136	4440
TOTAL	695700	---	529440	579600	---	487540	677400	---	341080

APRIL				MAY			JUNE		
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	11600	160	5010	5110	64	883			
2	11700	162	5120	4760	66	848			
3	11600	148	4640	4510	61	743			
4	11500	116	3600	4570	50	617			
5	11800	120	3820	4930	57	759			
6	12000	116	3760	5300	55	787			
7	13000	138	4840	5500	96	1430			
8	12500	138	4660	5700	104	1600			
9	11800	111	3540	6240	65	1100			
10	11200	107	3240	6950	72	1350			
11	11000	127	3770	8320	114	2560			
12	10500	123	3490	9160	114	2820			
13	10100	118	3220	8860	110	2630			
14	9540	90	2320	8540	95	2190			
15	8670	62	1450	8320	140	3140			
16	8450	69	1570	8010	86	1860			
17	7830	95	2010	7560	58	1180			
18	7040	82	1560	7070	62	1180			
19	6550	98	1730	6660	64	1150			
20	5950	86	1380	6420	54	936			
21	6110	68	1120	6290	90	1530			
22	6890	88	1640	6270	113	1910			
23	7330	95	1880	6440	66	1150			
24	6840	75	1390	6770	56	1020			
25	6660	66	1190	7200	55	1070			
26	6060	62	1010	7470	55	1110			
27	5990	60	970	7460	60	1210			
28	5810	50	784	7420	66	1320			
29	5460	65	958	7310	54	1070			
30	5240	66	934	6970	55	1040			
31	---	---	---	6570	56	993			
TOTAL	266720	---	76606	208660	---	43186			

PERIOD 3024790 1708650

SACRAMENTO RIVER BASIN

11391000 SACRAMENTO RIVER AT KNIGHTS LANDING, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	260880.00	56994.00	6720	63700
DECEMBER ...	335830.00	173804.00	10500	184000
JANUARY 1980	695700.00	529440.00	29500	559000
FEBRUARY ...	579600.00	487540.00	23600	511000
MARCH	677400.00	341080.00	28400	369000
APRIL	266720.00	76606.00	6920	83500
MAY	208660.00	43186.00	4420	47600
PERIOD	3024790.00	1708650.00	110060	1817600

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV								
08...	1030	7500	13.0	59	1200	--	--	--
DEC								
03...	1205	8590	10.0	49	1140	--	--	--
JAN								
02...	1435	26200	9.0	531	37600	22	30	39
24...	1000	26900	9.5	183	13300	--	--	--
FEB								
06...	1350	16500	9.5	243	10800	18	25	32
21...	1240	29100	12.0	596	46800	--	59	72

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV							
08...	--	--	78	93	99	99	100
DEC							
03...	--	--	63	86	98	100	--
JAN							
02...	49	59	67	77	94	100	--
24...	--	--	89	96	100	--	--
FEB							
06...	41	50	59	71	90	99	100
21...	82	87	90	94	99	100	--

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 September 1980.

REMARKS.--Records of discharge given for Sacramento River at Knights Landing (station 11391000).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT											
17...	0830	5190	178	7.7	9.2	--	--	66	13	8.0	11
NOV											
21...	1010	10400	211	7.4	10.6	--	--	66	13	8.0	16
DEC											
21...	0915	7190	202	7.7	11.1	--	--	68	14	8.0	14
JAN											
22...	1415	27400	160	7.4	10.8	--	--	57	13	6.0	8.0
FEB											
20...	1445	27500	--	7.4	9.6	--	--	--	--	--	--
MAR											
19...	1015	24500	162	7.4	10.6	7	.8	62	13	7.0	9.0
APR											
16...	1000	8450	209	7.5	9.0	--	--	77	16	9.0	13
MAY											
21...	1300	6290	297	7.7	7.6	14	1.3	90	18	11	26
JUN											
18...	1410	8040	184	7.6	8.4	9	.7	62	13	7.0	13
JUL											
16...	0900	6600	197	7.6	8.5	7	.5	68	14	8.0	14
AUG											
20...	0740	7010	226	7.7	7.9	10	.4	78	15	10	17
SEP											
17...	1245	7790	--	7.8	8.8	6	.6	--	--	--	--

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT											
17...	1.4	69	9.0	6.0	113	--	--	--	--	--	--
NOV											
21...	1.7	66	22	10	130	--	.30	.02	.50	.12	.04
DEC											
21...	1.4	74	14	7.0	142	--	--	--	--	--	--
JAN											
22...	1.3	55	7.0	4.0	104	--	.10	.00	.40	.15	.01
FEB											
20...	--	--	--	--	--	--	--	--	--	--	--
MAR											
19...	1.1	60	11	4.0	110	100	.30	.00	.20	.11	.02
APR											
16...	1.2	79	13	7.0	134	--	.20	.00	.20	.08	.02
MAY											
21...	1.6	93	34	12	176	96	.20	.02	.40	.12	.04
JUN											
18...	1.1	65	14	6.0	121	50	.10	.04	.20	.08	.04
JUL											
16...	1.1	70	17	6.0	123	18	1.1	.02	.20	.05	.02
AUG											
20...	1.0	89	12	8.0	140	31	.05	.01	.20	.07	.02
SEP											
17...	--	--	--	--	--	24	--	--	.20	--	--

SACRAMENTO RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 17...	0830	--	--	100	--	--	--
NOV 21...	1010	--	--	100	--	--	--
DEC 21...	0915	--	--	100	--	--	--
JAN 22...	1415	--	--	0	--	--	--
MAR 19...	1015	--	--	100	--	--	--
APR 16...	1000	--	--	100	--	--	--
MAY 21...	1300	--	--	100	--	--	--
JUN 18...	1410	--	--	100	--	--	--
JUL 16...	0900	--	--	100	--	--	--
AUG 20...	0740	--	--	100	--	--	--
SEP 17...	1245	0	0	--	0	0	10

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 17...	--	--	--	--	--	--	--
NOV 21...	--	--	--	--	--	--	--
DEC 21...	--	--	--	--	--	--	--
JAN 22...	--	--	--	--	--	--	--
MAR 19...	--	--	--	--	--	1.6	.00
APR 16...	--	--	--	--	--	--	--
MAY 21...	--	--	--	--	--	3.0	.00
JUN 18...	--	--	--	--	--	3.1	.00
JUL 16...	--	--	--	--	--	2.4	.00
AUG 20...	--	--	--	--	--	2.5	.00
SEP 17...	40	0	10	.0	10	3.0	.00

11391050 SUTTER BYPASS NEAR NICOLAUS, CA

LOCATION.--Lat 38°57'59", long 121°40'16", in NE¼NE¼ sec.19, T.13 N., R.3 E., Sutter County, Hydrologic Unit 18020106, on left-bank end of Sutter Causeway Bridge on State Highway 113, 3.7 mi (6.0 km) southwest of Tudor, and 6.6 mi (10.6 km) northwest of Nicolaus.

PERIOD OF RECORD.--

WATER TEMPERATURES: December 1979 to March 1980 (discontinued).

SEDIMENT RECORDS: December 1979 to March 1980 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1979 to March 1980 (discontinued).

SEDIMENT RECORDS: December 1979 to March 1980 (discontinued).

EXTREMES FOR PERIOD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 567 mg/L Feb. 20; minimum daily mean, 20 mg/L Mar. 31.

SEDIMENT DISCHARGE: Maximum daily, 140,000 tons (127,000 metric tons) Feb. 21; minimum daily, 34 tons (31 metric tons) Mar. 31.

TEMPERATURE (DEG. C) OF WATER, DECEMBER 1979 TO MARCH 1980

ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	10.0	---	13.5						
2			---	10.0	9.0	13.0						
3			---	9.0	---	13.0						
4			---	10.0	9.0	13.0						
5			---	10.0	10.0	13.0						
6			---	11.0	9.0	12.0						
7			---	10.0	9.0	11.0						
8			---	11.0	9.0	---						
9			---	---	9.0	11.5						
10			---	---	10.0	---						
11			---	9.0	---	---						
12			---	---	---	---						
13			---	13.0	9.0	---						
14			---	12.5	---	---						
15			---	12.5	---	---						
16			---	13.0	---	---						
17			---	13.0	---	---						
18			---	12.0	12.0	---						
19			---	10.0	12.0	---						
20			---	9.0	12.0	---						
21			---	10.0	11.5	---						
22			---	9.5	---	---						
23			---	10.0	12.0	---						
24			---	10.0	12.0	---						
25			---	9.0	13.0	---						
26			---	9.0	14.0	---						
27			7.5	9.0	14.0	---						
28			8.0	9.0	13.0	---						
29			7.0	9.0	13.0	---						
30			8.0	8.0	---	---						
31			9.0	---	---	---						
MONTH			---	10.5	---	---						

SACRAMENTO RIVER BASIN

11391050 SUTTER BYPASS NEAR NICOLAUS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), DECEMBER 1979 TO MARCH 1980

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							---	---	---
2							---	---	---
3							---	---	---
4							---	---	---
5							---	---	---
6							---	---	---
7							---	---	---
8							---	---	---
9							---	---	---
10							---	---	---
11							---	---	---
12							---	---	---
13							---	---	---
14							---	---	---
15							---	---	---
16							---	---	---
17							---	---	---
18							---	---	---
19							---	---	---
20							---	---	---
21							---	---	---
22							---	---	---
23							---	---	---
24							---	---	---
25							780	106	229
26							3470	160	1430
27							14600	106	4180
28							14100	72	2740
29							9640	55	1430
30							7230	39	761
31							5270	41	583
TOTAL							---	---	---
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	4560	47	579	2840	67	514	54100	82	12000
2	7030	46	873	2750	69	512	51000	68	9350
3	5170	38	530	2630	73	518	44700	60	7240
4	3550	37	355	2520	76	517	39600	47	5030
5	2940	34	270	2380	81	521	37700	46	4680
6	2840	30	230	2250	77	468	39100	55	5800
7	2670	28	202	2080	73	410	43400	57	6680
8	2470	43	287	1830	70	346	42300	62	7080
9	2260	41	250	1610	73	317	32000	62	5350
10	1950	39	205	1430	70	270	21500	53	3080
11	708	37	71	1290	72	251	14800	45	1810
12	850	96	220	1150	71	220	11100	38	1140
13	1270	156	535	627	74	125	9080	39	953
14	9100	155	4110	594	71	114	7110	42	796
15	33500	381	36000	585	68	107	5100	45	619
16	57700	438	67400	604	70	114	4380	50	591
17	71300	450	86400	942	94	239	4500	50	607
18	72200	420	81900	2590	174	1220	3020	46	372
19	65300	373	65800	19700	397	23700	1820	42	207
20	57600	264	41100	67400	567	99300	1720	40	186
21	48400	147	19200	106000	489	140000	1640	38	168
22	41300	115	12800	123000	370	122000	1570	36	153
23	35900	114	11100	122000	281	92400	1500	34	138
24	29800	100	8050	108000	220	64200	1400	32	121
25	25800	72	5020	92900	164	41100	1250	30	101
26	17500	52	2460	79400	169	36200	1090	28	82
27	10900	49	1440	67600	113	20600	930	26	65
28	7710	50	1040	58600	99	15700	822	24	53
29	5250	55	780	53700	90	13000	726	22	43
30	3600	62	603	---	---	---	667	21	38
31	2920	65	512	---	---	---	638	20	34
TOTAL	634048	---	450322	929002	---	674983	480263	---	74567
PERIOD	2098403	---	1211225						

11391050 SUTTER BYPASS NEAR NICOLAUS, CA--Continued

SUMMARY OF WATER AND SEDIMENT DISCHARGE, DECEMBER 1979 TO MARCH 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
JANUARY 1980	634048.00	450322.00	0	450000
FEBRUARY ...	929002.00	674983.00	0	675000
MARCH	480263.00	74567.00	0	74600

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
DEC							
27...	1615	17100	8.0	100	4620	69	83
28...	1440	13500	7.5	64	2330	81	97
JAN							
16...	1230	59600	11.5	440	70800	--	84
17...	1400	72700	12.0	372	73000	--	78
22...	1235	41200	9.5	102	11300	70	86
24...	1310	30600	9.5	76	6280	--	--
28...	1155	7730	9.0	53	1110	--	--
FEB							
21...	1255	108000	11.5	442	129000	--	72
23...	1445	122000	11.5	281	92600	--	76
25...	1315	92500	13.5	160	40000	65	81
MAR							
03...	1500	44000	13.0	64	7600	--	--
06...	1225	39100	12.0	56	5910	--	--
09...	1230	32000	11.5	60	5180	--	--

DATE	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	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM
DEC						
27...	92	96	98	99	100	--
28...	99	99	99	100	--	--
JAN						
16...	94	98	99	100	--	--
17...	89	95	98	100	--	--
22...	94	99	100	--	--	--
24...	--	--	--	100	--	--
28...	--	--	--	99	100	--
FEB						
21...	86	95	98	99	100	--
23...	89	95	99	100	--	--
25...	90	97	99	99	99	100
MAR						
03...	--	--	--	100	--	--
06...	--	--	--	100	--	--
09...	--	--	--	100	--	--

11391050 SUTTER BYPASS NEAR NICOLAUS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (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
JAN							
15...	1330	11.5	1	35500	70	77	86
15...	1331	11.5	1	35500	58	62	69
15...	1332	11.5	1	35500	58	70	92
15...	1333	11.5	1	35500	89	97	99
15...	1334	11.5	1	35500	74	78	81
15...	1335	11.5	1	35500	98	99	99

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
JAN						
15...	93	95	97	100	--	--
15...	80	85	87	89	100	--
15...	99	100	--	--	--	--
15...	100	--	--	--	--	--
15...	83	84	85	85	86	100
15...	100	--	--	--	--	--

RESERVOIRS IN FEATHER RIVER BASIN, CA

11391370 FRENCHMAN LAKE.--Lat 39°53'36", long 120°11'17", in NW¼NE¼ sec.33, T.24 N., R.16 E., Plumas County, Hydrologic Unit 18020123, on left bank 200 ft (61 m) upstream from Frenchman Dam on Little Last Chance Creek, 5.4 mi (8.7 km) upstream from the confluence with Middle Fork Feather River, and 7.1 mi (11.4 km) north of Chilcote. DRAINAGE AREA, 81.1 mi² (210.0 km²). PERIOD OF RECORD, October 1966 to current year in reports of Geological Survey. November 1961 to September 1966 published in reports of California Department of Water Resources. GAGE, water-stage recorder in visitor center structure upstream from Frenchman Dam. Datum of gage is National Geodetic Vertical Datum of 1929.

Reservoir is formed by rockfill dam completed in 1961. Capacity, 53,626 acre-ft (66.1 hm³), between elevations 5,517 ft (1,681.6 m), invert of intake and 5,588 ft (1,703.2 m), crest of spillway. Dead storage, 1,851 acre-ft (2.28 hm³). Records, including extremes, represent total contents at 2400 hours. Records of contents furnished by California Department of Water Resources, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD 1966 TO CURRENT YEAR.--Maximum contents, 59,093 acre-ft (72.9 hm³) May 22, 1967, elevation, 5,590.28 ft (1,703.917 m); minimum, 7,715 acre-ft (9.51 hm³) Sept. 29, 30, 1977, elevation, 5,538.87 ft (1,688.248 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 39,135 acre-ft (48.3 hm³) June 10, elevation, 5,576.53 ft (1,699.726 m); minimum, 13,095 acre-ft (16.1 hm³) Nov. 22, 23, elevation, 5,548.98 ft (1,691.329 m).

11391490 LAKE DAVIS.--Lat 39°53'03", long 120°28'31", in NW¼SW¼ sec.1, T.23 N., R.13 E., Plumas County, Hydrologic Unit 18020123, in control house on left abutment of Grizzly Valley Dam on Big Grizzly Creek, 5.3 mi (8.5 km) north of Portola. DRAINAGE AREA, 44.0 mi² (114.0 km²). PERIOD OF RECORD, November 1966 to current year. GAGE, water-stage recorder in control house on Grizzly Valley Dam. Datum of gage is National Geodetic Vertical Datum of 1929.

Reservoir is formed by earth- and rockfill dam completed in 1967. Capacity, 84,040 acre-ft (104 hm³) between elevations, 5,700 ft (1,737.4 m), top of low-level intake and 5,775 ft (1,760.2 m), crest of spillway. Dead storage, 108 acre-ft (133,000 m³). Records, including extremes, represent total contents at 2400 hours. Records of contents furnished by California Department of Water Resources, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 92,818 acre-ft (114 hm³) May 13, 14, 1969, elevation, 5,777.05 ft (1,760.845 m); minimum since reservoir first filled, 33,267 acre-ft (41.0 hm³) Nov. 19, 20, 1977, elevation, 5,759.00 ft (1,755.343 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 78,336 acre-ft (96.6 hm³) June 5, elevation, 5,773.47 ft (1,759.754 m); minimum, 46,758 acre-ft (57.7 hm³) Dec. 18, elevation, 5,764.14 ft (1,756.910 m).

11401120 ANTELOPE LAKE.--Lat 40°10'48", long 120°36'25", in SE¼SE¼ sec.22, T.27 N., R.12 E., Plumas County, Hydrologic Unit 18020122, on right bank at spillway of Antelope Dam on Indian Creek, 1.3 mi (2.1 km) south of Boulder Creek Guard Station, 12.3 mi (19.8 km) northeast of Genesee, and 14.3 mi (23.0 km) northeast of Taylorsville. DRAINAGE AREA, 68.6 mi² (177.7 km²). PERIOD OF RECORD, October 1966 to current year in reports of Geological Survey, November 1963 to September 1966 published in reports of California Department of Water Resources. GAGE, water-stage recorder in control house at top of Antelope Dam. Datum of gage is National Geodetic Vertical Datum of 1929.

Reservoir is formed by a rockfill dam. Storage began November 1963. Capacity, 22,566 acre-ft (27.8 hm³) between elevations 4,950 ft (1,508.8 m), lip of intake tower and 5,002 ft (1,524.6 m), crest of spillway. Records, including extremes, represent contents at 2400 hours. Records of contents furnished by California Department of Water Resources, not rounded to Geological Survey standards.

EXTREMES FOR PERIOD 1966 TO CURRENT YEAR.--Maximum contents, 25,010 acre-ft (30.8 hm³) Jan. 23, 1970, elevation, 5,004.55 ft (1,525.387 m); minimum since reservoir first filled, 372 acre-ft (0.46 hm³) Oct. 12, 13, 1976, elevation, 4,951.10 ft (1,509.095 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 23,819 acre-ft (29.4 hm³) Apr. 29, elevation, 5,003.33 ft (1,525.015 m); minimum, 17,823 acre-ft (22.0 hm³) Dec. 20, elevation, 4,996.56 ft (1,522.951 m).

MONTHEND ELEVATION NGVD AND CONTENTS, AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)	Elevation (feet)	Contents (acre- feet)	Change in contents (acre- feet)
	11391370	FRENCHMAN LAKE		1391490	LAKE DAVIS		11401120	ANTELOPE LAKE	
Sept. 30.....	5549.26	13275	--	5764.43	47602	--	4997.98	18997	--
Oct. 31.....	5549.09	13165	-110	5764.34	47339	-263	4997.40	18512	-485
Nov. 30.....	5549.01	13114	-51	5764.25	47077	-262	4996.94	18133	-379
Dec. 31.....	5549.46	13404	+290	5764.76	48573	+1496	4996.79	18010	-123
CAL YR 1979....	--	--	-5687	--	--	-7337	--	--	+2892
Jan. 31.....	5557.33	19197	+5793	5767.40	56744	+8171	5002.35	22890	+4880
Feb. 29.....	5563.01	24221	+5024	5769.70	64473	+7729	5002.66	23182	+292
Mar. 31.....	5567.29	28466	+4245	5770.64	67793	+3320	5002.56	23088	-94
Apr. 30.....	5573.05	34858	+6392	5772.54	74782	+6989	5003.30	23790	+702
May 31.....	5576.00	38463	+3605	5773.33	77795	+3013	5002.84	23352	-438
June 30.....	5575.60	37961	-502	5773.04	76682	-1113	5002.15	22704	-648
July 31.....	5572.96	34752	-3209	5772.32	73954	-2728	5001.03	21674	-1030
Aug. 31.....	5569.27	30569	-4183	5771.48	70837	-3117	4999.23	20068	-1606
Sept. 30.....	5567.36	28539	-2030	5770.87	68620	-2217	4997.75	18804	-1264
WTR YR 1980....	--	--	+15264	--	--	+21018	--	--	-193

a Estimated.

LOCATION.--Lat 39°53'36", long 120°11'17", in SW¼NE¼ sec.33, T.24 N., R.16 E., Plumas County, Hydrologic Unit 18020123, Plumas National Forest, in valve house at toe of Frenchman Dam, 7.1 mi (11.4 km) northwest of Chilcoot.

PERIOD OF RECORD.--October 1958 to current year. Prior to October 1969, published as Little Last Chance Creek near Chilcoot.

REMARKS.--Flow regulated by Frenchman Reservoir beginning Nov. 7, 1961, usable capacity, 53,626 acre-ft (66.1 hm³). Records since October 1967 are combined flow of release from Frenchman Dam and flow over spillway.

AVERAGE DISCHARGE (unadjusted).--22 years, 26.3 ft³/s (0.745 m³/s), 19,050 acre-ft/yr (23.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 784 ft³/s (22.2 m³/s) Feb. 8, 1960, gage height, 5.56 ft (1.695 m), previous site and datum, from rating curve extended above 310 ft³/s (8.78 m³/s); no flow Oct. 23, 1959, July 24-27, 29, Aug. 4, 1961. Maximum discharge since construction of Frenchman Dam in 1961, 544 ft³/s (15.4 m³/s) May 23, 1967; no flow at times in 1973, 1976-77.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 120 ft³/s (3.40 m³/s) Aug. 14-16, gage height, 3.46 ft (1.055 m); minimum daily, 0.40 ft³/s (0.011 m³/s) Oct. 9, 10.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	2.2	1.6	1.9	2.2	2.3	2.3	36	12	24	55	28
2	1.4	2.0	1.6	1.9	2.2	2.3	2.3	30	17	23	45	21
3	1.5	2.0	1.6	1.9	2.2	2.3	2.3	30	17	18	41	20
4	1.4	2.0	1.6	1.9	2.2	2.3	2.3	25	9.1	18	38	20
5	1.4	2.0	1.6	1.9	2.2	2.3	2.3	22	5.0	18	33	20
6	1.4	2.0	1.6	1.9	2.2	2.3	2.3	18	7.0	18	33	20
7	.90	2.0	1.6	1.9	2.2	2.3	2.3	16	9.3	18	44	20
8	.50	2.0	1.6	1.9	2.2	2.3	2.3	33	9.6	43	49	24
9	.40	2.0	1.6	1.9	2.2	2.3	2.3	37	6.8	51	49	28
10	.40	2.0	1.6	1.9	2.2	2.3	2.3	33	5.9	51	49	32
11	1.3	2.0	1.6	1.9	2.2	2.3	2.3	33	42	51	86	32
12	2.4	1.9	1.6	1.9	2.2	2.3	2.3	29	53	61	99	32
13	2.4	1.8	1.6	2.0	2.2	2.3	2.3	24	53	68	99	32
14	2.4	1.8	1.6	2.2	2.2	2.3	2.3	16	53	70	114	32
15	2.4	1.8	1.6	2.2	2.2	2.3	2.3	8.5	53	65	120	42
16	2.3	1.8	1.8	2.2	2.2	2.3	2.3	3.4	53	62	114	45
17	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	53	50	80	45
18	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	47	44	60	45
19	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	44	44	55	45
20	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	30	44	55	45
21	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	22	47	55	45
22	2.3	1.8	1.8	2.2	2.2	2.3	2.3	2.3	22	51	51	31
23	2.4	1.8	1.8	2.2	2.2	2.3	2.3	2.3	21	51	49	22
24	2.4	1.8	1.8	2.2	2.2	2.3	2.3	2.3	24	44	43	16
25	2.4	1.6	1.9	2.2	2.3	2.3	2.3	2.3	22	36	40	14
26	2.4	1.6	1.9	2.2	2.3	2.3	2.3	2.3	20	35	35	14
27	2.4	1.6	1.9	2.2	2.3	2.3	2.3	26	20	35	30	14
28	2.4	1.6	1.9	2.2	2.3	2.3	39	51	20	53	30	14
29	2.4	1.6	1.9	2.2	2.3	2.3	54	57	20	59	30	14
30	2.4	1.6	1.9	2.2	---	2.3	54	47	23	59	30	14
31	2.4	---	1.9	2.2	---	2.3	---	28	---	57	30	---
TOTAL	59.00	55.3	53.5	64.4	64.3	71.3	209.1	625.9	793.7	1367	1741	826
MEAN	1.90	1.84	1.73	2.08	2.22	2.30	6.97	20.2	26.5	44.1	56.2	27.5
MAX	2.4	2.2	1.9	2.2	2.3	2.3	54	57	53	70	120	45
MIN	.40	1.6	1.6	1.9	2.2	2.3	2.3	2.3	5.0	18	30	14
AC-FT	117	110	106	128	128	141	415	1240	1570	2710	3450	1640
CAL YR 1979	TOTAL	4974.30	MEAN	13.6	MAX	138	MIN	40	AC-FT	9870		
WTR YR 1980	TOTAL	5930.50	MEAN	16.2	MAX	180	MIN	40	AC-FT	11760		

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DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	4.7	4.3	8.3	8.0	9.9	7.2	44	45	32	13	8.7
2		4.6	4.3	5.1	7.7	9.7	7.1	47	46	39	13	8.4
3	3.7	4.8	4.6	4.6	8.6	9.6	6.8	49	44	34	12	8.2
4	3.7	5.0	4.6	4.3	8.8	9.4	6.8	47	43	31	12	8.1
5	3.7	4.9	4.6	4.2	8.4	9.2	7.1	47	41	29	12	7.9
6	3.7	4.7	4.4	4.0	8.5	9.0	6.8	44	41	28	12	7.9
7	3.7	4.6	4.3	4.0	8.0	8.5	6.6	40	44	27	11	8.0
8	4.3	4.4	4.3	3.9	7.6	8.4	6.8	37	46	25	11	8.3
9	4.0	4.3	4.3	3.8	7.5	8.3	7.7	35	48	24	11	7.9
10	3.9	4.4	4.3	3.7	7.3	8.2	8.0	32	49	23	10	8.1
11	3.7	4.3	4.2	5.7	7.1	8.0	8.2	30	47	22	11	7.9
12	3.7	4.3	4.1	59	7.2	7.8	8.7	29	44	21	10	7.8
13	3.7	4.3	4.0	145	7.1	7.6	11	29	41	21	10	7.6
14	4.4	4.3	3.9	80	7.2	7.6	14	30	41	21	10	7.6
15	6.3	4.1	3.8	40	7.4	7.6	14	32	42	19	10	7.6
16	4.4	3.8	3.5	29	8.4	7.3	15	34	42	18	10	7.5
17	4.0	4.9	3.3	24	20	7.3	19	36	42	17	9.9	7.2
18	4.1	4.6	3.3	18	36	7.5	22	37	42	17	9.7	7.4
19	10	3.9	3.2	15	20	7.2	29	41	41	17	9.5	7.5
20	7.3	3.8	3.2	14	15	7.2	26	46	40	16	9.3	7.2
21	5.1	3.8	3.3	12	13	7.2	21	50	39	16	9.2	7.2
22	4.6	3.9	3.4	11	12	7.2	23	53	38	15	9.2	7.2
23	4.8	4.2	3.4	10	11	6.9	26	49	37	15	9.2	7.1
24	4.8	6.8	3.5	9.6	11	6.8	29	42	36	15	9.5	6.8
25	15	6.2	3.6	9.4	11	6.7	32	39	35	14	9.6	6.8
26	7.0	6.2	3.9	9.0	11	6.7	35	38	34	14	9.0	6.8
27	5.7	4.7	3.9	9.1	11	6.8	37	38	32	14	8.5	6.8
28	5.3	4.5	3.9	9.0	11	6.8	39	39	32	14	8.3	6.8
29	5.1	4.3	3.9	8.6	10	7.0	39	39	32	14	8.3	6.7
30	5.1	4.3	6.5	8.3	---	7.5	42	41	31	14	8.3	6.4
31	5.0	---	10	8.1	---	7.2	---	47	---	13	8.8	---
TOTAL	156.6	137.6	129.8	579.7	316.8	242.1	560.8	1241	1215	639	314.3	225.4
MEAN	5.05	4.59	4.19	18.7	10.9	7.81	18.7	40.0	40.5	20.6	10.1	7.51
MAX	15	6.8	10	145	36	9.9	42	53	49	39	13	8.7
MIN	3.4	3.8	3.2	3.7	7.1	6.7	6.6	29	31	13	8.3	6.4
AC-FT	311	273	257	1150	628	480	1110	2460	2410	1270	623	447
CAL YR 1979	TOTAL	2998.0		MEAN	8.21	MAX	33	MIN	3.2	AC-FT	5950	
WTR YR 1980	TOTAL	5758.1		MEAN	15.7	MAX	145	MIN	3.2	AC-FT	11420	

SACRAMENTO RIVER BASIN

11391500 BIG GRIZZLY CREEK AT GRIZZLY VALLEY DAM, NEAR PORTOLA, CA

LOCATION.--Lat 39°53'00", long 120°28'29", in NW¼SW¼ sec.1, T.23 N., R.13 E., Plumas County, Hydrologic Unit 18020123, at Grizzly Valley Dam on Big Grizzly Creek, 5.3 mi (8.5 km) north of Portola.

DRAINAGE AREA.--44.0 mi² (114.0 km²).

PERIOD OF RECORD.--October 1925 to September 1932, October 1950 to September 1953, June 1954 to September 1967, October 1968 to current year. Prior to October 1952, published as Grizzly Creek near Portola, October 1952 to September 1953, June 1954 to September 1967, published as Big Grizzly Creek near Portola.

REVISED RECORDS.--WSP 1315-A: 1930(M). WSP 1931: Drainage area at former site.

GAGE.--Water-stage recorder and Cipolletti weir. Altitude of gage is 5,700 ft (1,740 m), from topographic map. Supplementary water-stage recorder in control house on Grizzly Valley Dam and concrete spillway. Prior to October 1968 at site 1.4 mi (2.3 km) downstream at different datum.

REMARKS.--Flow regulated by Lake Davis (station 11391490) completed in December 1966. Diversions for irrigation of about 400 acres (162 hm²) above station and domestic water supply via Grizzly Valley pipeline.

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

AVERAGE DISCHARGE (prior to regulation by Lake Davis).--22 years (water years 1926-32, 1951-53, 1955-66), 38.2 ft³/s (1.082 m³/s), 27,680 acre-ft/yr (34.1 hm³/yr); 13 years (water years 1967, 1969-80), 27.4 ft³/s (0.776 m³/s) 19,850 acre-ft/yr (24.5 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,080 ft³/s (116 m³/s) Feb. 1, 1963, gage height, 8.03 ft (2.448 m) site and datum then in use, from rating curve extended above 600 ft³/s (17 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 9.54 ft (2.908 m) former site and datum, Mar. 26, 1928; no flow Jan. 22 or 23, 1962. Maximum discharge since construction of Grizzly Valley Dam in 1966, 253 ft³/s (7.16 m³/s) May 13, 1969 (includes flow through spillway); no flow many days in September and October 1969.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 14 ft³/s (0.40 m³/s) Mar. 18 to Sept. 30; minimum daily, 3.9 ft³/s (0.11 m³/s) Oct. 24-31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.8	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
2	6.5	4.5	4.1	4.1	4.1	4.3	14	14	14	14	14	14
3	6.5	4.5	4.1	4.1	4.1	4.3	14	14	14	14	14	14
4	6.5	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
5	6.5	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
6	6.5	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
7	6.8	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
8	6.8	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
9	6.8	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
10	6.8	4.5	4.1	4.1	4.1	4.3	14	14	14	14	14	14
11	6.8	4.5	4.1	4.1	4.3	4.3	14	14	14	14	14	14
12	6.8	4.5	4.1	4.1	4.3	4.3	14	14	14	14	14	14
13	6.8	4.5	4.1	4.1	4.3	4.3	14	14	14	14	14	14
14	6.8	4.5	4.1	4.1	4.3	4.3	14	14	14	14	14	14
15	6.8	4.5	4.1	4.1	4.3	4.3	14	14	14	14	14	14
16	6.8	4.3	4.1	4.1	4.3	4.3	14	14	14	14	14	14
17	6.8	4.3	4.1	4.1	4.3	10	14	14	14	14	14	14
18	6.8	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
19	5.8	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
20	4.1	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
21	4.1	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
22	4.1	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
23	4.1	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
24	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
25	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
26	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
27	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
28	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
29	3.9	4.3	4.1	4.1	4.3	14	14	14	14	14	14	14
30	3.9	4.3	4.1	4.1	---	14	14	14	14	14	14	14
31	3.9	---	4.1	4.1	---	14	---	14	---	14	14	---
TOTAL	174.3	130.6	127.1	127.1	122.7	274.8	420	434	420	434	434	420
MEAN	5.62	4.35	4.10	4.10	4.23	8.86	14.0	14.0	14.0	14.0	14.0	14.0
MAX	6.8	4.5	4.1	4.1	4.3	14	14	14	14	14	14	14
MIN	3.9	4.3	4.1	4.1	4.1	4.3	14	14	14	14	14	14
AC-FT	346	259	252	252	243	545	833	861	833	861	861	833
‡	29	5.0	6.0	4.0	23	1.0	1.0	29	45	74	61	41

CAL YR 1979 TOTAL 7810.2 MEAN 21.4 MAX 161 MIN 3.9 AC-FT 15490
WTR YR 1980 TOTAL 3518.6 MEAN 9.61 MAX 14 MIN 3.9 AC-FT 6980

‡ Diversions, in acre-feet, to Grizzly Valley pipeline.

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, on right bank 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).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1968 September 1976, October 1977 to current year. November 1955 to September 1968 in bulletins of California Department of Water Resources.

REVISED RECORDS.--WDR CA-78-4: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 4,860 ft (1,481 m), from topographic map.

REMARKS.--Flow partly regulated by Frenchman Lake and Lake Davis (stations 11391370, 11391490).

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

AVERAGE DISCHARGE.--11 years (1969-76, 1978-80), 225 ft³/s (6,372 m³/s), 163,000 acre-ft/yr (201 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,640 ft³/s (216 m³/s) Jan. 21, 1969, gage height, 10.18 ft (3.103 m); minimum daily, 3.1 ft³/s (0.088 m³/s) Sept. 11, 12, 1969, Oct. 1-4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,690 ft³/s (161 m³/s) Jan. 14, gage height, 9.42 ft (2.871 m); minimum daily, 8.2 ft³/s (0.23 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	21	35	92	101	534	152	272	114	51	28	11
2	8.4	22	34	141	118	508	159	272	138	56	27	11
3	8.6	22	33	197	126	543	163	265	143	57	25	11
4	8.8	22	33	250	149	677	168	256	154	57	25	10
5	9.0	22	33	227	161	809	178	239	163	58	23	10
6	9.2	22	33	175	154	1070	200	225	159	61	21	11
7	9.4	22	31	159	134	1050	225	216	156	64	20	11
8	9.6	22	30	149	116	837	239	211	149	65	19	12
9	9.8	22	31	143	105	667	227	198	143	65	18	12
10	10	22	28	141	101	539	203	182	132	64	16	12
11	10	22	27	138	97	442	185	208	120	62	16	14
12	10	22	23	391	94	410	170	239	108	61	16	11
13	11	23	23	3430	90	376	170	278	101	56	16	12
14	12	23	22	5470	89	344	170	310	96	54	14	13
15	12	23	23	4170	116	313	173	313	94	54	14	13
16	13	23	23	2370	187	284	180	287	84	53	16	12
17	14	24	23	1440	450	256	198	259	84	52	14	13
18	15	24	24	1110	1110	262	214	230	97	49	13	15
19	16	24	27	525	3330	275	233	198	94	46	12	16
20	15	23	29	422	4100	281	262	173	82	45	12	16
21	14	23	31	504	2800	287	294	156	76	43	13	16
22	15	23	32	438	1840	303	320	138	77	41	13	16
23	15	23	33	351	1480	313	369	130	70	40	13	16
24	16	24	44	284	1050	294	391	124	64	38	12	17
25	16	27	43	250	765	259	369	120	62	37	11	18
26	17	32	44	219	598	227	340	114	61	34	10	18
27	17	33	45	193	512	206	320	108	60	33	11	18
28	18	33	42	173	495	185	294	108	57	30	10	18
29	19	34	45	126	517	170	281	112	56	29	10	17
30	19	35	47	108	---	161	268	97	54	28	10	17
31	20	---	67	108	---	152	---	65	---	29	11	---
TOTAL	405.0	737	1038	23894	20985	13034	7115	6103	3048	1512	489	417
MEAN	13.1	24.6	33.5	771	724	420	237	197	102	48.8	15.8	13.9
MAX	20	35	67	5470	4100	1070	391	313	163	65	28	18
MIN	8.2	21	22	92	89	152	152	65	54	28	10	10
AC-FT	803	1460	2060	47390	41620	25850	14110	12110	6050	3000	970	827
CAL YR 1979 TOTAL	25856.8			MEAN 70.8	MAX 871	MIN 4.3	AC-FT 51290					
WTR YR 1980 TOTAL	78777.0			MEAN 215	MAX 5470	MIN 8.2	AC-FT 156300					

SACRAMENTO RIVER BASIN

11392100 MIDDLE FORK FEATHER RIVER NEAR PORTOLA, CA

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to September 1980.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
NOV 29...	1430	34	133	7.6	11.7	--	--	49	13	4.0	8.0
JAN 24...	1500	284	125	7.3	10.1	--	--	44	11	4.0	8.0
MAY 29...	1510	112	115	7.4	8.2	24	1.2	46	12	4.0	6.0
JUL 24...	1045	38	--	7.3	6.3	--	--	49	13	4.0	6.0
SEP 25...	1140	18	122	7.9	8.3	--	--	46	12	4.0	6.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
NOV 29...	2.6	59	.0	2.0	113	--	.30	.01	.30	.03	.00
JAN 24...	2.2	53	2.0	2.0	98	--	.01	.01	.60	.03	.00
MAY 29...	1.2	54	1.0	1.0	90	14	.00	.00	.60	.04	.00
JUL 24...	1.4	59	2.0	2.0	60	--	.00	.00	.70	.05	.00
SEP 25...	1.6	54	.0	2.0	79	--	.00	.00	.60	.04	.00

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
NOV 29...	1430	--	--	0	--	--	--
JAN 24...	1500	--	--	100	--	--	--
MAY 29...	1510	0	0	0	0	0	0
JUL 24...	1045	0	0	100	0	0	10
SEP 25...	1140	0	0	0	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
NOV 29...	--	--	--	--	--	--	--
JAN 24...	--	--	--	--	--	--	--
MAY 29...	160	0	10	.0	0	8.4	.00
JUL 24...	110	0	40	.0	0	--	--
SEP 25...	50	0	20	.0	10	--	--

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, 24.5°C on several days during July and August; minimum recorded, 0.0°C on several days during November to January.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

11392500 MIDDLE FORK FEATHER RIVER NEAR CLIO, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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 Clío 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.--29 years, 1,391 ft³/s (39.39 m³/s), 1,008,000 acre-ft/yr (1.24 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.--Peak discharges above base of 7,000 ft³/s (198 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Jan. 13	1430	*49,700	1,410	19.52	5.950
Feb. 19	0900	20,200	572	13.83	4.215

Minimum daily 138 ft³/s (3.91 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	280	456	2960	1360	3630	1360	2860	1550	782	310	207
2	141	266	431	1750	1300	3430	1330	2800	1720	865	304	207
3	140	393	411	1370	1340	3560	1310	2860	1640	940	297	207
4	138	495	389	1200	1400	3580	1300	2980	1560	827	293	205
5	141	490	380	1130	1360	3880	1670	3000	1620	765	287	203
6	141	393	366	1070	1350	3910	1860	2870	1440	722	284	199
7	141	347	358	1010	1290	3760	1800	2710	1370	694	276	196
8	141	324	349	989	1240	3390	1700	2620	1370	672	272	197
9	146	310	339	1590	1180	3020	1680	2760	1380	645	265	204
10	148	299	331	2270	1140	2740	1680	2440	1390	635	262	207
11	148	289	321	2590	1120	2570	1670	2140	1360	610	253	208
12	148	281	298	20600	1090	2330	1650	2000	1310	588	245	211
13	148	274	300	36900	1060	2180	1760	1990	1240	571	241	209
14	150	270	296	24200	1130	2220	1970	2040	1180	544	237	228
15	165	265	293	16000	1700	2260	2070	2070	1130	528	237	222
16	173	268	285	12300	3510	2020	2110	2070	1140	510	237	217
17	173	480	282	9440	8520	1930	2350	2110	1150	492	237	209
18	168	413	276	6980	18000	1900	2650	2120	1140	481	234	209
19	490	346	292	5250	17500	1830	2770	2180	1130	465	237	209
20	837	312	334	4080	13300	1830	3240	2310	1110	453	229	209
21	480	294	421	3470	10300	1780	3380	2350	1050	436	226	209
22	312	296	374	3070	7790	1730	2790	2370	1010	424	224	207
23	262	328	383	2620	6340	1690	2590	2220	972	406	222	206
24	246	417	913	2340	5320	1650	2730	1890	940	391	223	202
25	1930	715	930	2140	4440	1600	2730	1680	909	377	224	197
26	1150	1430	660	1960	3930	1530	2810	1540	887	363	221	193
27	531	853	546	1830	3730	1470	2940	1450	854	355	212	188
28	388	630	481	1720	4500	1420	3090	1400	813	343	209	188
29	324	539	453	1590	4010	1400	3180	1410	795	334	207	188
30	294	488	597	1460	---	1420	3200	1420	796	329	207	188
31	290	---	3300	1400	---	1380	---	1540	---	319	207	---
TOTAL	10225	12785	15845	177279	130250	73040	67370	68200	35956	16866	7619	6129
MEAN	330	426	511	5719	4491	2356	2246	2200	1199	544	246	204
MAX	1930	1430	3300	36900	18000	3910	3380	3000	1720	940	310	228
MIN	138	265	276	989	1060	1380	1300	1400	795	319	207	188
AC-FT	20280	25360	31430	351600	258400	144900	133600	135300	71320	33450	15110	12160
CAL YR 1979 TOTAL	333735			914	4060	136	AC-FT	662000				
WTR YR 1980 TOTAL	621564			1698	36900	138	AC-FT	1233000				

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, 24.0°C Aug. 3, 1966, July 17, 18, 1972, July 26, 27, 1976, Aug. 3, 4, 1977; minimum recorded, 0.0°C Jan. 31, Feb. 1, 1975.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 22.0°C Aug. 7-9, 18; minimum recorded, 2.5°C on several days during December and January.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

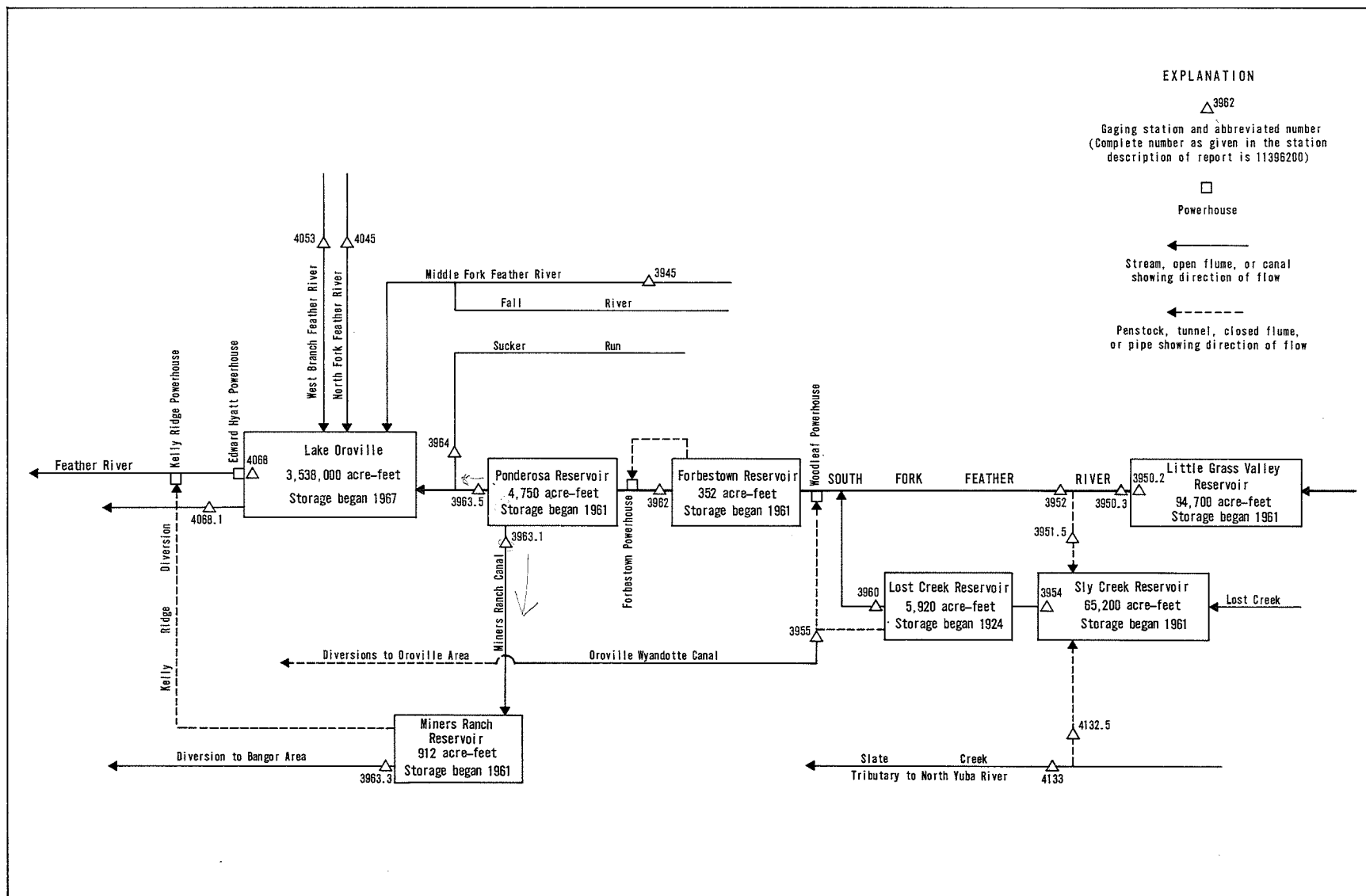


FIGURE 5. — Schematic diagram showing diversions and storage in South Fork Feather River basin.

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, 89,200 acre-ft (110 hm³) May 21-27, elevation, 5,043.6 ft (1,537.29 m); minimum, 49,600 acre-ft (61.2 hm³) Oct. 16, 17, elevation, 5,014.5 ft (1,528.42 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50200	50800	52400	55200	75500	75900	75300	87100	88700	83600	75700	65900
2	50000	50800	52600	55400	75500	76000	75500	87300	88500	83500	75500	65500
3	49900	50800	52600	55700	75500	76200	75600	87400	88500	83200	75200	65200
4	49900	51000	52700	55800	75500	76000	75700	87600	88400	82900	74900	64900
5	49900	51100	52700	55900	75500	76000	76000	87900	88400	82800	74600	64600
6	49800	51100	52700	56000	75500	76000	76300	87900	88200	82500	74300	64200
7	49800	51200	52800	56100	75300	76000	76500	88100	88200	82300	74000	63900
8	49800	51200	52800	56400	75300	75900	76800	88200	88100	82000	73700	63600
9	49800	51200	52800	56900	75300	75700	76900	88400	87900	81700	73400	63300
10	49800	51200	52800	57200	75300	75600	77200	88400	87700	81400	73100	62900
11	49700	51200	52800	58900	75300	75600	77400	88400	87600	81300	72800	62600
12	49700	51200	52800	65200	75300	75600	77500	88400	87400	81000	72500	62300
13	49700	51200	52800	74900	75300	75600	77800	88400	87300	80700	72200	61900
14	49700	51200	52800	77900	75500	75600	78100	88400	87100	80600	71800	61600
15	49700	51200	52800	78200	75900	75600	78400	88500	87100	80300	71500	61200
16	49600	51200	52800	78400	76500	75600	78800	88500	87000	80000	71400	61000
17	49600	51300	52900	77900	77900	75500	79200	88700	86800	79700	71100	60600
18	49700	51400	52900	77400	79500	75500	79700	88700	86600	79500	70600	60200
19	50000	51400	52900	76900	79400	75500	80300	88900	86300	79200	70200	59900
20	50200	51500	53000	76600	78500	75500	81000	89000	86200	79000	69900	59500
21	50200	51500	53100	76500	77800	75500	81700	89200	86000	78700	69500	59300
22	50200	51500	53100	76300	77200	75500	82200	89200	85700	78400	69200	58900
23	50200	51500	53400	76000	76800	75500	82800	89200	85500	78200	68800	58600
24	50200	51600	53700	75900	76500	75300	83200	89200	85200	77900	68500	58200
25	50800	51800	53800	75900	76300	75300	83800	89200	84900	77600	68200	57800
26	50800	52000	53800	75700	76200	75300	84400	89200	84700	77400	67800	57600
27	50800	52200	53800	75700	76200	75300	85100	89200	84600	77100	67600	57200
28	50800	52300	53800	75600	76200	75300	85700	89000	84300	76800	67200	56800
29	50800	52300	53800	75600	76000	75300	86300	88900	84100	76500	66800	56700
30	50800	52400	54200	75500	---	75300	87000	88900	83800	76200	66500	56700
31	50800	---	55000	75500	---	75300	---	88700	---	75900	66200	---
MAX	50800	52400	55000	78400	79500	76200	87000	89200	88700	83600	75700	65900
MIN	49600	50800	52400	55200	75300	75300	75300	87100	83800	75900	66200	56700
†	5015.6	5017.0	5019.2	5034.5	5034.9	5034.4	5042.2	5043.3	5040.2	5034.8	5027.9	5020.6
‡	+100	+1600	+2600	+20500	+500	-700	+11700	+1700	-4900	-7900	-9700	-9500

CAL YR 1979 † +4800

WTR YR 1980 † +6000

† Elevation, in feet NGVD, 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. 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).--26 years, 95.6 ft³/s (2.707 m³/s), 69,260 acre-ft/yr (85.4 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, 1,850 ft³/s (52.4 m³/s) Feb. 19, gage height, 12.05 ft (3.673 m); minimum daily, 4.1 ft³/s (0.12 m³/s) on several days during November.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	8.4	4.4	9.4	95	208	38	216	145	127	125	158
2	114	8.4	4.4	8.0	90	200	7.7	217	145	127	125	158
3	8.2	5.9	4.3	7.6	89	202	7.6	217	145	127	125	158
4	8.4	4.2	4.3	7.4	91	203	7.6	217	145	127	125	157
5	15	4.2	4.3	7.3	86	209	7.8	217	133	127	125	158
6	9.6	4.2	4.2	7.1	83	205	7.9	216	132	127	125	157
7	9.5	4.1	4.2	7.1	82	179	7.9	217	132	127	124	157
8	9.5	4.1	4.2	7.4	75	153	7.9	216	132	127	124	157
9	9.5	4.1	4.2	9.8	71	135	7.9	217	132	127	124	157
10	9.2	4.1	6.8	9.0	70	121	7.9	216	132	127	124	157
11	9.2	4.1	6.9	15	69	114	7.8	216	132	126	124	157
12	9.2	4.1	6.9	50	67	109	7.8	217	132	127	124	156
13	8.9	4.1	6.9	56	65	102	8.0	183	132	127	124	156
14	8.9	4.1	6.9	351	76	108	8.2	144	132	126	124	156
15	8.7	4.1	6.9	1050	123	117	8.2	145	131	126	124	156
16	8.4	4.1	6.9	1100	236	106	8.4	145	132	126	123	156
17	8.0	4.6	6.9	1080	546	97	8.8	145	131	126	123	155
18	7.8	4.3	6.9	881	1320	95	9.0	145	130	126	160	155
19	8.1	4.2	6.9	631	1720	83	9.2	146	131	126	192	155
20	7.6	4.1	6.9	477	1280	79	10	146	130	126	167	155
21	7.3	4.1	6.9	376	1040	78	9.5	146	129	126	160	155
22	7.1	4.1	6.9	304	736	74	8.8	145	129	126	160	155
23	7.3	4.1	6.9	258	509	67	8.8	145	129	126	160	154
24	7.4	4.8	6.9	230	379	65	9.1	144	129	126	160	154
25	13	5.5	6.8	210	309	62	9.1	144	129	125	159	154
26	8.5	6.5	6.6	180	260	60	9.3	145	128	125	159	154
27	8.4	4.9	6.6	157	232	59	9.4	144	128	125	159	154
28	8.4	4.6	6.6	145	246	58	9.5	144	128	125	159	153
29	8.4	4.5	6.6	125	225	56	9.7	144	128	125	159	68
30	8.4	4.4	6.9	112	---	60	101	145	128	125	158	9.5
31	8.4	---	16	101	---	59	---	145	---	125	158	---
TOTAL	616.3	141.0	198.0	7969.1	10270	3523	377.8	5389	3971	3911	4382	4441.5
MEAN	19.9	4.70	6.39	257	354	114	12.6	174	132	126	141	148
MAX	246	8.4	16	1100	1720	209	101	217	145	127	192	158
MIN	7.1	4.1	4.2	7.1	65	56	7.6	144	128	125	123	9.5
AC-FT	1220	280	393	15810	20370	6990	749	10690	7880	7760	8690	8810

CAL YR 1979 TOTAL 27495.8 MEAN 75.3 MAX 373 MIN 2.5 AC-FT 54540 MEAN ‡ 82.0 AC-FT ‡ 59340
WTR YR 1980 TOTAL 45189.7 MEAN 123 MAX 1720 MIN 4.1 AC-FT 89630 MEAN ‡ 132 AC-FT ‡ 95630

‡ Adjusted for change in contents in Little Grass Valley Reservoir.

11395200 SOUTH FORK FEATHER RIVER BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°38'51", long 121°07'04", in NE¼SE¼ sec.30, T.21 N., R.8 E., Plumas County, 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.

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).--20 years, 150 ft³/s (4.248 m³/s), 108,700 acre-ft/yr (134 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, 2,850 ft³/s (80.7 m³/s) Feb. 19, gage height, 9.25 ft (2.819 m); minimum daily, 2.1 ft³/s (0.059 m³/s) on several days during March.

REVISIONS.--The maximum discharge for the water year 1976 has been revised to 274 ft³/s (7.76 m³/s) Oct. 6, 1976, gage height, 4.60 ft (1.402 m) superseding figures published in the report for 1976.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.8	7.8	2.5	2.8	2.8	4.9	5.2	9.3	10	10	11	11
2	7.5	7.8	2.5	2.7	2.8	2.4	5.2	9.3	10	11	11	11
3	7.3	10	2.5	2.5	2.8	2.5	5.2	9.3	10	11	11	11
4	7.3	13	2.5	2.5	2.8	2.4	5.2	9.3	10	11	11	11
5	7.3	13	2.5	2.5	2.7	2.7	5.4	9.3	10	11	11	11
6	7.3	13	2.5	2.5	2.7	2.7	5.4	9.3	10	11	11	11
7	7.5	12	2.5	2.4	2.7	2.7	5.4	9.3	10	11	11	11
8	7.5	7.1	2.4	2.4	2.5	2.7	5.2	9.3	10	11	11	11
9	7.5	2.4	2.4	2.7	2.5	2.7	5.2	9.3	10	11	11	11
10	7.5	2.4	2.2	2.7	2.5	2.7	5.2	9.0	10	11	11	11
11	7.5	2.4	2.2	3.0	2.5	3.0	5.4	9.0	10	11	11	11
12	7.5	2.4	2.2	944	2.5	2.1	5.4	9.0	10	11	11	11
13	7.5	2.4	2.2	1710	2.4	2.1	5.4	9.0	10	11	11	11
14	7.5	2.4	2.2	1170	2.5	2.1	5.2	9.0	11	11	11	11
15	7.5	2.4	2.2	1570	2.7	2.1	5.2	9.0	11	11	11	11
16	7.5	2.4	2.2	1670	3.3	2.1	5.2	11	11	11	11	11
17	7.5	2.5	2.2	1460	489	2.1	5.2	12	11	11	11	11
18	7.5	2.5	2.2	1170	1900	3.4	5.2	12	11	11	11	11
19	7.8	2.5	2.4	896	2370	5.6	5.2	12	11	11	11	11
20	7.8	2.5	2.4	690	1460	5.6	5.2	12	11	11	11	11
21	7.5	2.5	2.5	549	988	5.6	5.2	12	11	10	11	11
22	7.5	2.5	2.4	447	661	5.6	5.2	12	11	10	11	11
23	7.5	2.5	2.4	365	440	5.6	5.2	10	11	10	11	11
24	7.5	2.5	2.7	313	300	5.6	7.3	10	11	10	11	11
25	8.3	2.8	2.7	275	221	5.4	9.1	10	11	10	11	11
26	7.8	2.7	2.5	82	105	5.2	9.1	10	10	10	11	11
27	7.5	2.5	2.4	3.1	2.9	5.2	9.3	10	10	10	11	11
28	7.5	2.5	2.2	3.1	36	5.2	9.3	10	10	11	11	11
29	7.8	2.5	2.2	3.0	14	5.2	9.3	10	10	11	11	11
30	7.8	2.5	2.7	3.0	---	5.2	9.3	10	10	11	11	10
31	7.8	---	3.0	3.0	---	5.2	---	10	---	11	11	---
TOTAL	234.6	138.4	74.6	13354.9	9029.6	117.6	183.5	310.7	312	333	341	329
MEAN	7.57	4.61	2.41	431	311	3.79	6.12	10.0	10.4	10.7	11.0	11.0
MAX	8.3	13	3.0	1710	2370	5.6	9.3	12	11	11	11	11
MIN	7.3	2.4	2.2	2.4	2.4	2.1	5.2	9.0	10	10	11	10
AC-FT	465	275	148	26490	17910	233	364	616	619	661	676	653
MEAN ‡	36.4	32.3	35.5	549	553	192	89.9	221	150	136	146	153
AC-FT ‡	2240	1920	2180	33770	31820	11800	5350	13590	8920	8410	8970	9100
†	1780	1650	2030	7280	13910	11570	4990	12970	8300	7750	8290	8450
CAL YR 1979 TOTAL	2533.9		MEAN 6.94	MAX 67	MIN 2.2	AC-FT 5030	MEAN ‡ 126	AC-FT ‡ 91310				
WTR YR 1980 TOTAL	24758.9		MEAN 67.6	MAX 2370	MIN 2.1	AC-FT 49110	MEAN ‡ 190	AC-FT ‡ 138100				

‡ Adjusted for diversion to South Fork tunnel.

† Diversion, in acre-feet, from South Fork Feather River to South Fork diversion tunnel.

SACRAMENTO RIVER BASIN

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); 19 years (water years 1962-80), 21.4 ft³/s (0.606 m³/s), 15,500 acre-ft/yr (19.1 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, 1,840 ft³/s (52.1 m³/s) Feb. 19, gage height, 5.63 ft (1.716 m); minimum daily, 0.62 ft³/s (0.018 m³/s) Oct. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.98	.70	1.1	29	.89	189	.85	1.2	.98	.98	.76	.80
2	.98	.70	1.0	45	.89	154	.85	1.2	.98	1.0	.76	.80
3	.98	.98	1.0	38	.89	139	.85	1.2	.98	1.0	.76	.80
4	.98	.82	1.0	32	1.7	123	.85	1.2	.98	1.0	.76	.80
5	.98	.78	1.0	29	22	152	1.0	1.2	.98	1.0	.76	.80
6	1.0	.74	1.0	27	80	116	1.0	1.2	.98	1.0	.76	.80
7	1.0	.70	1.0	26	.89	90	2.2	1.2	.98	1.0	.76	.80
8	1.2	.70	1.0	25	.89	64	18	1.2	.98	.98	.76	.80
9	1.2	.70	1.0	48	.89	14	16	1.2	.98	.98	.76	.80
10	1.2	.70	1.0	50	.89	1.0	13	1.3	.98	.93	.76	.80
11	1.2	.70	1.0	97	.89	1.0	10	1.1	.98	.93	.76	.80
12	1.2	.70	1.0	367	.89	.93	8.7	1.1	.98	.93	.72	.80
13	1.2	.70	1.0	405	.89	11	7.4	1.0	1.1	.93	.72	.85
14	1.2	.70	.98	244	.93	353	6.5	1.1	1.2	.93	.72	.85
15	1.2	.70	.98	596	1.2	353	5.7	1.4	1.2	.93	.76	.89
16	.90	.74	.98	1070	1.6	374	5.3	1.3	1.2	.93	.76	.89
17	.90	.82	.98	972	3.2	386	4.9	1.2	1.2	.93	.76	.89
18	.90	.74	.98	729	185	290	4.5	1.2	1.1	.93	.76	.89
19	1.1	.70	1.1	526	1530	140	4.1	1.2	1.1	.93	.76	.89
20	.98	.70	1.2	400	1550	111	3.8	1.2	1.1	.89	.80	.89
21	.90	.70	1.2	328	1480	111	3.5	1.2	1.1	.85	.80	.89
22	.90	.78	1.0	279	1110	111	3.5	1.2	1.0	.85	.80	.89
23	.90	.74	1.5	187	543	113	3.3	1.0	1.0	.85	.85	.89
24	.90	.86	4.1	1.2	290	105	3.3	1.0	1.0	.85	.89	.89
25	2.0	1.1	2.5	1.1	196	.85	3.1	.98	1.0	.85	.89	.89
26	.62	1.5	1.5	1.0	118	.85	3.1	.98	.98	.80	.89	.93
27	.62	1.2	1.2	.98	176	.85	3.1	.98	.98	.80	.85	.98
28	.66	1.2	1.0	.98	273	.85	3.0	1.0	.98	.80	.85	1.0
29	.66	1.1	.98	.98	244	.85	2.3	1.0	.98	.80	.80	.93
30	.66	1.1	1.5	.98	---	.85	1.2	.98	.98	.80	.80	.89
31	.66	---	4.1	.93	---	.85	---	.98	---	.80	.80	---
TOTAL	30.76	25.00	40.88	6557.15	7814.53	3507.88	144.90	35.20	30.96	28.18	24.34	25.82
MEAN	.99	.83	1.32	212	269	113	4.83	1.14	1.03	.91	.79	.86
MAX	2.0	1.5	4.1	1070	1550	386	18	1.4	1.2	1.0	.89	1.0
MIN	.62	.70	.98	.93	.89	.85	.85	.98	.98	.80	.72	.80
AC-FT	61	50	81	13010	15500	6960	287	70	61	56	48	51
‡	23440	0	0	5980	19990	23470	24180	25290	26050	27050	27040	26040

CAL YR 1979 TOTAL 636.98 MEAN 1.75 MAX 31 MIN .62 AC-FT 1260
WTR YR 1980 TOTAL 18265.60 MEAN 49.9 MAX 1550 MIN .62 AC-FT 36230

‡ Diversion, in acre-feet, to Woodleaf powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396200 SOUTH FORK FEATHER RIVER BELOW FORBESTOWN DAM, CA

LOCATION.--Lat 39°33'05", long 121°12'30", in SE4NE4 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. 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.--18 years, 56.6 ft³/s (1.603 m³/s), 41,010 acre-ft/yr (50.6 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, 5,110 ft³/s (145 m³/s) Feb. 19, gage height, 12.58 ft (3.834 m); minimum daily, 1.3 ft³/s (0.04 m³/s) Mar. 15-17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	9.1	25	3.1	3.5	289	1.7	11	12	13	12	12
2	8.5	10	24	3.1	3.5	225	1.8	11	12	13	12	12
3	8.5	3.9	23	3.1	3.4	230	1.8	11	12	13	12	12
4	8.5	3.8	22	3.0	3.4	246	1.8	11	12	13	12	12
5	8.5	3.9	22	15	3.4	299	1.8	11	12	13	12	12
6	8.5	3.9	21	3.6	3.4	279	1.8	11	12	13	12	12
7	8.5	3.8	13	3.1	3.4	189	1.8	11	12	13	12	12
8	8.5	3.8	3.2	3.1	3.4	131	4.8	11	12	13	12	12
9	8.5	4.0	3.1	3.2	3.4	69	8.7	11	12	13	12	12
10	8.5	4.1	3.2	3.2	3.4	78	8.7	11	12	13	12	12
11	8.5	4.1	3.3	3.3	3.4	87	8.6	11	12	13	12	12
12	8.5	8.2	3.2	1510	3.4	74	8.7	11	12	13	12	12
13	8.5	14	3.2	2510	3.4	55	8.7	11	12	13	12	12
14	8.5	3.9	3.2	1390	4.6	49	8.9	11	12	13	12	12
15	8.7	4.1	3.3	1800	47	1.3	8.9	11	12	13	12	12
16	8.8	4.1	3.3	2540	126	1.3	8.9	11	12	13	12	12
17	8.9	4.2	3.4	2270	781	1.3	8.9	11	12	13	12	12
18	8.9	4.2	3.3	1560	2520	27	8.9	11	12	12	12	12
19	9.0	4.2	3.2	1030	4380	48	8.9	11	12	12	12	12
20	9.0	4.2	3.4	674	3260	1.7	8.9	11	12	12	12	12
21	8.9	4.2	3.4	414	2780	1.7	8.9	11	12	12	12	12
22	8.9	4.3	3.4	262	1860	1.7	8.9	11	12	12	12	12
23	8.9	4.2	3.5	157	1300	1.7	8.9	11	12	12	12	12
24	8.9	4.3	4.2	250	873	16	10	12	12	12	12	12
25	9.5	4.2	3.4	174	646	1.7	11	12	12	12	12	12
26	9.2	15	3.5	84	381	1.7	11	12	12	12	12	12
27	9.2	47	3.3	3.5	281	1.7	11	12	12	12	12	12
28	9.1	35	3.4	38	465	1.7	11	12	13	12	12	12
29	8.9	29	3.4	23	389	1.7	11	12	13	12	12	12
30	9.1	27	3.5	8.0	---	1.7	11	12	13	12	12	12
31	9.0	---	10	3.5	---	1.7	---	12	---	12	12	---
TOTAL	271.9	279.7	237.3	16747.8	20138.0	2413.6	225.7	349	363	389	372	360
MEAN	8.77	9.32	7.65	540	694	77.9	7.52	11.3	12.1	12.5	12.0	12.0
MAX	9.5	47	25	2540	4380	299	11	12	13	13	12	12
MIN	8.5	3.8	3.1	3.0	3.4	1.3	1.7	11	12	12	12	12
AC-FT	539	555	471	33220	39940	4790	448	692	720	772	738	714
†	23840	1130	1270	25190	28230	34640	27850	26850	26860	27380	26960	25730
CAL YR 1979 TOTAL		2760.0	MEAN	7.56	MAX	47	MIN	3.1	AC-FT	5470		
WTR YR 1980 TOTAL		42147.0	MEAN	115	MAX	4380	MIN	1.3	AC-FT	83600		

† Diversions, in acre-feet, to Forbestown powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396310 MINERS RANCH CANAL BELOW PONDEROSA DAM, NEAR FORBESTOWN, CA

LOCATION.--Lat 39°33'00", long 121°18'20", in SE¼NW¼ sec.33, T.20 N., R.6 E., Butte County, 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.--18 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	279	24	21	258	260	242	265	263	263	281	284	281
2	280	0	21	258	246	243	267	263	263	276	281	282
3	280	47	22	254	156	247	269	263	272	273	283	282
4	280	105	28	243	114	252	257	263	274	273	284	280
5	280	106	31	143	178	252	243	260	274	273	285	279
6	280	105	31	93	190	253	250	93	274	277	285	280
7	280	105	32	97	222	253	256	77	274	280	282	280
8	280	104	71	151	248	253	262	89	274	280	279	280
9	280	50	30	160	265	253	271	238	274	280	276	279
10	279	0	45	157	265	254	271	264	94	279	279	279
11	276	0	0	167	265	254	266	280	186	280	284	278
12	276	0	22	243	267	254	254	279	290	279	285	277
13	276	0	78	240	267	254	249	279	290	279	283	277
14	276	0	0	217	266	254	257	279	290	280	283	277
15	276	1.4	0	228	264	254	262	274	290	279	283	278
16	276	2.3	0	248	264	254	262	266	272	282	283	278
17	60	3.1	24	273	256	255	259	265	290	285	283	277
18	279	4.2	85	279	249	12	257	266	292	285	284	277
19	278	11	85	271	241	159	259	266	292	285	286	276
20	256	20	22	270	239	266	261	266	292	285	283	271
21	273	20	0	266	239	265	257	271	292	286	280	270
22	277	20	0	268	237	266	256	275	292	255	281	274
23	275	21	47	268	237	266	257	275	290	263	282	275
24	277	21	208	254	236	266	257	275	287	283	283	275
25	278	22	222	242	248	265	257	275	288	283	283	275
26	278	66	222	242	261	264	257	274	288	283	283	275
27	279	98	223	242	261	264	260	274	288	283	282	275
28	159	48	217	243	255	264	263	274	278	284	281	275
29	177	20	63	250	242	264	263	274	278	286	282	275
30	278	21	88	262	---	264	263	275	282	286	282	70
31	270	---	192	262	---	265	---	269	---	286	282	---
TOTAL	8148	1045.0	2130	7049	6938	7631	7787	7804	8183	8669	8756	8107
MEAN	263	34.8	68.7	227	239	246	260	252	273	280	282	270
MAX	280	106	223	279	267	266	271	280	292	286	286	282
MIN	60	0	0	93	114	12	243	77	94	255	276	70
AC-FT	16160	2070	4220	13980	13760	15140	15450	15480	16230	17190	17370	16080
†	14610	1410	3380	12920	12960	14490	14380	13660	14090	14620	14720	14270
CAL YR 1979 TOTAL	55381.00			MEAN 152	MAX 288	MIN 0	AC-FT 109800					
WTR YR 1980 TOTAL	82247.00			MEAN 225	MAX 292	MIN 0	AC-FT 163100					

Diversion, in acre-feet, to Kelly Ridge powerplant, furnished by Oroville-Wyandotte Irrigation District.

11396330 BANGOR CANAL BELOW MINERS RANCH RESERVOIR, NEAR OROVILLE, CA

LOCATION.--Lat 39°30'15", long 121°27'16", in NE¼SW¼ sec.18, T.19 N., R.5 E., Butte County, 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 excellent. 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.--17 years, 15.6 ft³/s (0.442 m³/s), 11,300 acre-ft/yr (13.9 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	7.5	7.5	7.2	7.6	8.1	8.8	11	19	20	23	20
2	20	7.7	7.5	7.3	7.7	7.8	11	11	19	20	23	20
3	20	7.5	7.4	7.5	7.5	7.8	11	11	19	21	23	21
4	20	7.9	6.8	7.4	7.5	7.8	11	13	18	22	23	20
5	19	7.9	7.5	7.2	7.5	7.8	11	15	17	22	23	20
6	19	8.1	8.4	7.0	7.4	7.5	11	14	18	22	23	20
7	19	8.0	8.6	7.3	6.9	7.5	11	15	18	22	23	20
8	19	7.8	7.8	7.4	6.7	7.6	11	16	18	22	23	20
9	18	7.4	7.1	7.2	6.7	7.7	11	16	18	22	23	20
10	17	7.5	7.3	7.4	7.0	7.8	8.1	15	19	22	23	20
11	17	7.3	7.5	7.5	7.1	7.8	6.2	15	18	22	23	20
12	17	7.3	7.3	7.5	7.2	7.5	6.4	15	18	22	23	19
13	17	7.0	7.5	7.4	7.5	7.5	6.7	15	18	22	23	18
14	17	6.8	7.8	7.2	7.5	7.5	6.7	16	18	22	23	18
15	17	7.4	7.7	6.9	7.7	7.5	6.7	16	18	22	23	18
16	17	7.8	7.5	7.2	7.8	7.5	7.9	16	17	22	23	17
17	16	7.6	7.4	7.3	8.2	7.5	8.6	16	17	22	23	16
18	14	7.5	7.1	7.5	8.4	6.6	8.5	16	18	22	23	16
19	15	7.3	7.3	7.5	8.4	4.2	8.4	15	19	22	23	16
20	14	7.4	7.3	7.5	8.4	4.7	8.5	16	21	22	23	15
21	12	7.5	7.2	7.8	8.3	5.3	8.4	17	21	22	23	15
22	12	7.6	7.1	7.8	8.1	5.6	8.4	17	20	22	23	15
23	13	7.8	7.0	7.8	8.0	6.1	8.4	17	20	22	24	15
24	13	7.8	7.5	8.1	7.8	6.1	8.3	17	20	22	25	15
25	9.2	7.4	7.3	8.0	7.8	5.7	8.3	17	20	22	23	15
26	6.6	7.3	7.0	7.8	7.8	5.2	8.2	17	20	22	22	15
27	7.5	8.2	7.1	7.8	8.1	5.4	9.6	17	20	22	21	15
28	7.5	7.8	7.6	7.6	8.1	5.4	11	17	20	23	21	15
29	7.0	7.2	7.7	7.5	8.1	5.6	11	18	19	23	21	15
30	7.0	7.5	7.1	7.5	---	5.4	11	19	19	23	21	14
31	7.1	---	7.3	7.5	---	6.4	---	19	---	23	21	---
TOTAL	453.9	226.8	230.2	231.6	222.8	207.9	272.1	485	564	681	705	523
MEAN	14.6	7.56	7.43	7.47	7.68	6.71	9.07	15.6	18.8	22.0	22.7	17.4
MAX	20	8.2	8.6	8.1	8.4	8.1	11	19	21	23	25	21
MIN	6.6	6.8	6.8	6.9	6.7	4.2	6.2	11	17	20	21	14
AC-FT	900	450	457	459	442	412	540	962	1120	1350	1400	1040

CAL YR 1979 TOTAL 5484.9 MEAN 15.0 MAX 32 MIN 5.5 AC-FT 10880
WTR YR 1980 TOTAL 4803.3 MEAN 13.1 MAX 25 MIN 4.2 AC-FT 9530

SACRAMENTO RIVER BASIN

11396350 SOUTH FORK FEATHER RIVER AT PONDEROSA DAM, CA

LOCATION.--Lat 39°32'52", long 121°18'11", in NW¼SE¼ sec.33, T.20 N., R.6 E., Butte County, 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 good. Records are combined flow through sluice gate and flow over spillway. Flow regulated by several reservoirs and diversions. Water is imported from North Yuba River basin through Slate Creek tunnel (station 11413250). Miners Ranch Canal (station 11396310) diverts at Ponderosa Dam for power development and irrigation; diversion began in October 1962. See schematic diagram of South Fork Feather River basin.

AVERAGE DISCHARGE (adjusted for diversion to Miners Ranch Canal).--18 years, 448 ft³/s (12.69 m³/s), 324,600 acre-ft/yr (400 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,000 ft³/s (312 m³/s) Dec. 22, 1964, gage height, 11.52 ft (3.51 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, 7,690 ft³/s (218 m³/s) Feb. 19; no flow for many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	39	0	60	154	836	237	232	210	205	169	182
2	0	0	0	2.0	0	766	237	228	223	214	182	182
3	0	0	0	0	0	724	232	228	241	218	178	178
4	0	0	0	0	0	766	237	228	228	218	178	182
5	0	0	0	0	0	794	340	228	232	205	187	187
6	93	0	0	0	0	836	340	394	228	210	192	196
7	59	0	0	0	31	738	335	422	214	200	192	187
8	63	0	0	0	361	664	290	411	205	200	192	187
9	151	0	0	0	350	568	270	300	205	200	192	192
10	128	0	0	0	350	544	265	290	360	200	187	192
11	255	0	0	0	350	562	214	237	345	200	182	192
12	218	0	0	2200	330	556	270	223	178	200	178	192
13	275	0	0	3370	260	508	275	219	174	200	178	187
14	250	0	0	2600	361	335	250	210	174	192	178	187
15	260	0	0	2560	460	422	265	201	178	200	178	182
16	265	0	0	3450	635	394	280	219	204	192	178	182
17	460	0	0	3180	1460	394	285	219	178	182	178	178
18	285	0	0	2280	3370	632	285	214	178	178	178	174
19	345	0	0	1640	6210	632	270	210	174	174	178	174
20	366	0	0	1200	4630	438	270	201	174	169	178	178
21	325	0	0	925	4140	433	280	92	174	169	182	182
22	295	0	0	710	2860	427	270	114	174	210	182	178
23	295	0	0	583	2120	422	260	178	174	214	182	174
24	290	0	169	720	1570	389	260	183	174	174	182	169
25	438	0	232	645	1240	290	255	183	196	182	187	169
26	200	0	0	296	955	265	250	178	196	178	187	169
27	0	0	0	22	794	260	241	178	196	178	187	164
28	0	0	0	427	1020	250	232	178	200	178	187	169
29	0	0	0	405	970	241	228	178	205	178	182	169
30	0	0	0	405	---	237	232	187	205	178	178	144
31	68	---	15	334	---	237	---	210	---	169	178	---
TOTAL	5384	39	416	28014.0	34981	15560	7955	6973	6197	5965	5647	5378
MEAN	174	1.30	13.4	904	1206	502	265	225	207	192	182	179
MAX	460	39	232	3450	6210	836	340	422	360	218	192	196
MIN	0	0	0	0	0	237	214	92	174	169	169	144
AC-FT	10680	77	825	55570	69380	30860	15780	13830	12290	11830	11200	10670
MEAN ‡	436	36.1	82	1130	1450	748	525	477	479	472	465	450
AC-FT ‡	26840	2150	5040	69550	83140	46000	31230	29310	28520	29020	28570	26750
CAL YR 1979 TOTAL	80186.60			MEAN 220	MAX 872	MIN 0	AC-FT 159100	MEAN ‡ 371	AC-FT ‡ 268900			
WTR YR 1980 TOTAL	122509.00			MEAN 335	MAX 6210	MIN 0	AC-FT 243000	MEAN ‡ 559	AC-FT ‡ 406100			

‡ Adjusted for diversion to Miners Ranch Canal.

SACRAMENTO RIVER BASIN

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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.--15 years, 24.5 ft³/s (0.694 m³/s), 17,550 acre-ft/yr (21.6 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.--Peak discharges above base of 300 ft³/s (8.50 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. 12	0700	760 21.5	4.91 1.497	Feb. 19	1300	788 22.3	4.97 1.515
Jan. 13	1800	*932 26.4	5.29 1.612	Feb. 21	0830	575 16.3	4.44 1.353
Jan. 16	1330	341 9.66	3.74 1.140				

Minimum daily, 3.4 ft³/s (0.096 m³/s) Oct. 5, 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	6.2	8.6	51	23	66	30	20	17	11	5.7	4.7
2	3.7	6.1	8.2	31	23	64	29	19	16	14	5.4	4.6
3	3.6	13	8.0	24	23	75	28	19	16	14	5.5	4.5
4	3.5	16	7.8	20	22	78	29	19	18	12	5.5	4.1
5	3.4	9.5	7.5	18	21	101	55	18	17	11	5.5	4.0
6	3.4	8.1	7.2	17	21	106	48	18	16	11	5.4	3.8
7	3.5	7.5	7.2	16	20	89	42	18	16	10	5.4	3.8
8	3.5	7.1	7.0	15	20	77	35	18	15	10	5.3	3.9
9	3.7	7.0	7.0	18	19	69	33	30	15	10	5.2	3.9
10	3.6	6.7	7.0	19	19	62	31	28	15	10	5.1	3.9
11	3.5	6.5	6.9	63	18	59	29	23	15	10	4.9	4.0
12	3.5	6.5	6.7	388	18	54	28	23	15	9.9	4.8	3.9
13	3.6	6.5	6.7	410	18	51	27	22	15	9.8	4.8	4.0
14	3.6	6.5	6.7	185	29	59	26	21	14	9.6	4.9	4.9
15	3.8	6.3	6.7	123	60	60	26	20	14	9.4	5.1	4.9
16	3.8	6.6	6.7	221	87	50	25	19	13	8.9	5.1	4.7
17	3.7	15	6.7	151	250	47	24	19	13	8.6	5.1	4.6
18	3.8	9.5	6.5	100	287	45	24	18	13	8.5	5.0	4.7
19	12	8.1	7.5	72	519	42	24	18	13	8.3	5.0	4.7
20	8.8	7.5	9.9	56	249	41	28	18	12	8.2	5.0	4.6
21	6.7	7.3	14	48	396	40	27	17	12	8.1	5.1	4.7
22	4.7	7.9	10	41	206	38	25	17	12	7.8	5.1	4.4
23	4.4	11	17	37	143	36	24	18	12	7.2	5.1	4.2
24	4.3	16	144	34	110	35	24	19	12	7.1	5.1	4.2
25	49	22	97	32	90	35	23	18	12	5.8	4.9	4.1
26	12	27	36	30	78	34	23	18	12	5.8	4.7	4.1
27	7.9	14	23	28	76	33	22	17	12	6.0	4.5	4.0
28	7.0	11	18	27	107	32	21	17	12	5.7	4.5	4.1
29	6.6	9.5	15	26	75	31	21	17	11	6.0	4.5	4.1
30	6.3	8.9	32	25	---	31	21	17	11	5.8	4.4	4.1
31	6.4	---	114	24	---	30	---	17	---	5.7	4.6	---
TOTAL	201.0	300.8	666.5	2350	3027	1670	852	600	416	275.2	156.2	128.2
MEAN	6.48	10.0	21.5	75.8	104	53.9	28.4	19.4	13.9	8.88	5.04	4.27
MAX	49	27	144	410	519	106	55	30	18	14	5.7	4.9
MIN	3.4	6.1	6.5	15	18	30	21	17	11	5.7	4.4	3.8
AC-FT	399	597	1320	4660	6000	3310	1690	1190	825	546	310	254

CAL YR 1979 TOTAL 6512.5 MEAN 17.8 MAX 183 MIN 3.4 AC-FT 12920
WTR YR 1980 TOTAL 10642.9 MEAN 29.1 MAX 519 MIN 3.4 AC-FT 21110

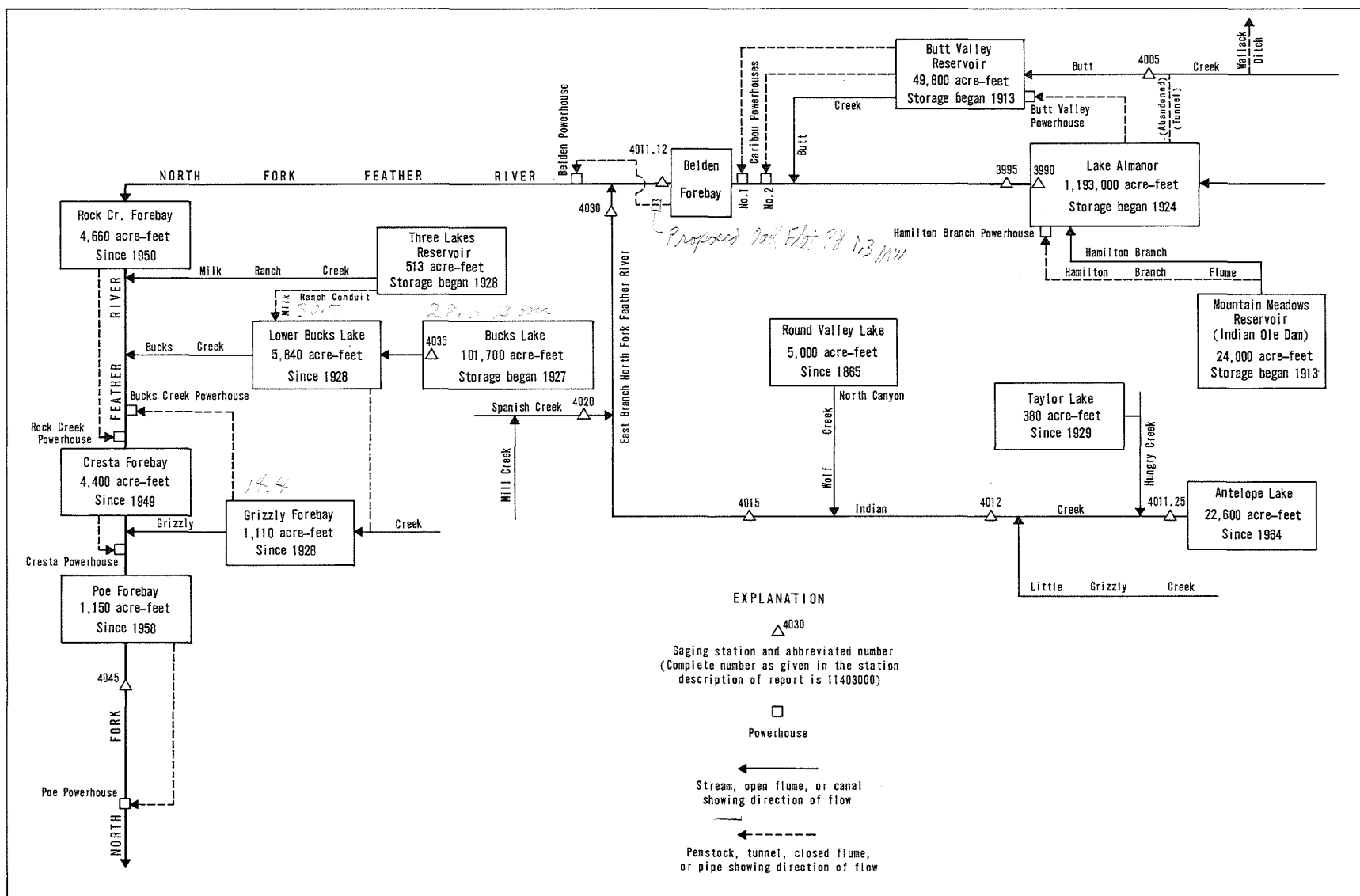


FIGURE 6. — Schematic diagram showing diversions and storage in North Fork Feather River basin.

11399000 LAKE ALMANOR AT PRATTVILLE, CA

LOCATION.--Lat 40°12'50", long 121°09'40", in SW¼NE¼ sec.11, T.27 N., R.7 E., Plumas County, 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, 1,035,000 acre-ft (1.28 km³) July 12-14, gage height, 4,489.94 ft (1,368.534 m); minimum observed, 615,200 acre-ft (759 hm³) Jan. 8, 9, gage height, 4,472.37 ft (1,363.178 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	686060	664440	644420	626170	706570	784000	838860	905220	983020	1030760	1013790	984820
2	684270	663330	643540	624440	707930	786590	839830	908210	985330	1034160	1011450	985330
3	682250	663330	641580	622500	710200	789900	841030	910950	988160	1033640	1009630	985850
4	680020	664440	639610	620780	711570	792740	843690	914440	991000	1034160	1008340	985080
5	678010	663330	638520	619270	711790	796290	846110	917430	992810	1033900	1006520	984820
6	676670	663110	635910	617770	711340	798420	848780	920930	994350	1033640	1004190	985590
7	677340	662670	633090	615840	712470	801040	849750	923190	995900	1033900	1002110	984820
8	677110	661120	632440	615200	712930	802940	851690	925690	997710	1034160	999780	983020
9	677780	660460	632870	615200	714290	805080	853140	930460	999520	1034160	997200	981480
10	675770	660240	632010	615840	715430	806580	854840	932720	1001080	1034430	994610	980190
11	673990	660900	629410	617770	715660	808650	854600	934990	1002630	1034430	992810	978910
12	671320	659360	626810	625080	716570	810320	855330	936750	1004190	1034690	990480	977120
13	668210	657150	624440	634180	716110	812220	857280	939770	1006000	1034690	988670	978400
14	665330	656930	620990	639180	715890	814370	858980	942290	1007560	1034690	988670	979170
15	662230	655830	618200	665550	718390	815810	860680	944570	1009370	1033110	989200	977880
16	660220	656270	616490	672430	722040	817240	862880	946840	1011190	1031540	988420	977880
17	659360	657590	617130	678450	727990	818920	865070	949120	1012490	1030230	988160	976600
18	658910	657590	618200	682920	735800	820590	867030	951900	1014310	1031280	986880	974300
19	659140	655610	619270	685610	747560	822030	869470	954180	1015870	1032330	987650	973290
20	660240	653630	620780	688080	749410	823710	873390	956970	1017440	1033380	988160	972760
21	661120	651650	622710	690550	756610	824670	876080	960020	1018740	1033380	988680	970970
22	659580	652090	623580	692800	761030	826590	879520	962310	1020300	1031540	989200	969950
23	659580	653190	627240	694600	764290	827790	882220	965620	1021870	1029450	989200	968930
24	659140	653190	630920	696850	767330	829230	884690	967660	1022910	1027880	988680	967660
25	665770	652970	634610	698660	769900	829950	887400	969190	1024220	1026310	986360	966380
26	667990	651870	638520	700240	772480	830430	890360	971230	1025260	1024740	985590	965360
27	668880	650110	632660	701590	775530	832110	893320	972760	1027360	1022910	983790	964600
28	669990	647920	630270	703180	778820	832840	896540	974810	1028400	1021090	983530	964090
29	668210	645510	627890	703180	781170	834760	900260	976600	1029450	1019260	983790	962810
30	666210	644850	627890	703860	---	835970	902490	978400	1030280	1017180	984300	962310
31	666210	---	627890	705210	---	837170	---	980960	---	1015350	984300	---
MAX	686060	664440	644420	705210	781170	837170	902490	980960	1030280	1034690	1013790	985850
MIN	658910	644850	616490	615200	706570	784000	838860	905220	983020	1015350	983530	962310
†	4474.71	4473.74	4472.96	4476.45	4479.74	4482.09	4484.76	4487.87	4489.77	4489.20	4488.00	4487.14
‡	-20800	-21400	-17000	+77300	+76000	+56000	+65300	+78500	+49300	-14900	-31000	-22000

CAL YR 1979 ‡ -143700

WTR YR 1980 ‡ +275300

† Elevation, in feet, at end of month.

‡ Change in contents, in acre-feet, rounded to Geological Survey standards.

SACRAMENTO RIVER BASIN

11399500 NORTH FORK FEATHER RIVER NEAR PRATTVILLE, CA

LOCATION.--Lat 40°10'10", long 121°05'29", in NE4SW4 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).--75 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, 47 ft³/s (1.33 m³/s) Jan. 19-21; minimum daily, 34 ft³/s (0.96 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	36	34	40	37	37	36	39	35	36	37	36
2	35	36	34	40	37	37	36	40	35	37	37	36
3	34	36	34	40	37	37	36	39	35	37	37	35
4	34	36	34	39	37	37	36	39	35	37	37	36
5	34	36	37	39	37	37	37	40	35	37	37	35
6	34	36	37	39	37	38	37	40	35	37	37	35
7	34	36	37	39	37	38	37	40	35	37	37	36
8	34	36	36	37	37	38	37	40	35	36	37	36
9	34	36	36	37	37	38	37	40	35	36	37	36
10	34	36	36	37	37	38	37	40	35	36	37	36
11	35	36	36	38	37	38	37	40	35	36	37	36
12	35	36	36	40	37	38	37	40	36	36	37	36
13	35	35	36	43	38	38	37	40	36	36	37	36
14	35	35	35	45	38	38	37	40	36	36	36	36
15	34	35	36	45	37	38	38	39	36	36	36	36
16	34	35	35	46	38	38	38	38	35	36	36	36
17	34	35	35	46	39	37	38	38	35	36	36	36
18	34	35	38	46	41	35	38	39	35	36	36	36
19	34	35	39	47	42	35	38	39	35	36	36	36
20	34	35	39	47	41	36	38	39	36	36	36	36
21	34	35	39	47	41	36	38	39	36	36	35	36
22	34	35	39	43	41	35	38	36	36	36	35	36
23	34	35	39	37	42	35	39	34	36	36	35	36
24	34	35	40	37	42	35	39	34	36	36	35	36
25	35	35	41	37	42	36	39	34	36	35	35	36
26	34	35	41	37	42	36	39	35	36	35	35	36
27	34	35	41	38	42	36	39	35	36	35	35	36
28	35	34	41	38	43	36	39	35	36	35	35	36
29	35	34	40	38	40	36	39	35	36	35	35	36
30	36	34	40	38	---	36	39	35	36	35	36	36
31	36	---	40	38	---	36	---	35	---	35	36	---
TOTAL	1067	1059	1161	1258	1133	1139	1130	1176	1065	1115	1120	1077
MEAN	34.4	35.3	37.5	40.6	39.1	36.7	37.7	37.9	35.5	36.0	36.1	35.9
MAX	36	36	41	47	43	38	39	40	36	37	37	36
MIN	34	34	34	37	37	35	36	34	35	35	35	35
AC-FT	2120	2100	2300	2500	2250	2260	2240	2330	2110	2210	2220	2140
MEAN ‡	862	908	942	499	242	74.3	80.7	48.2	50.9	890	823	758
AC-FT ‡	52990	54010	57950	30700	13900	4570	4800	2960	3030	54730	50610	45130

CAL YR 1979 TOTAL 14082 MEAN 38.6 MAX 58 MIN 18 AC-FT 27930 MEAN ‡ 841 AC-FT ‡ 609000
WTR YR 1980 TOTAL 13500 MEAN 36.9 MAX 47 MIN 34 AC-FT 26780 MEAN ‡ 517 AC-FT ‡ 375400

‡ Adjusted for diversion through Butt Valley powerhouse and leakage from Butt Valley tunnel No. 1.

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.

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.

REMARKS.--No regulation above station. Howell-Bunger valve in conduit from Lake Almanor to Butt Valley powerhouse is opened for short periods several times a year causing sharp peaks. Wallack ditch, above station, diverts several cubic feet per second during each irrigation season into Yellow Creek basin. Leakage from Almanor-Butt Creek tunnel No. 1 was 6,180 acre-ft (7.62 hm³) during the current year. See schematic diagram of North Fork Feather River basin.

AVERAGE DISCHARGE (natural flow of Butt Creek, adjusted for leakage from Almanor-Butt Creek tunnel No. 1)--44 years (including records Prattville for water years 1960-64), 82.6 ft³/s (2.339 m³/s), 59,840 acre-ft/yr (73.8 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, 1,810 ft³/s (51.3 m³/s) Jan. 13, gage height, 4.00 ft (1.219 m); minimum daily, 35 ft³/s (0.99 m³/s) Oct. 9, 10.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	45	51	93	73	159	106	245	115	61	50	49
2	36	45	51	69	70	154	102	239	116	70	49	49
3	36	45	51	61	80	161	100	240	127	69	49	49
4	37	55	50	59	87	165	100	242	127	64	49	50
5	37	53	50	58	80	149	133	241	118	62	49	49
6	37	50	50	59	81	142	146	233	108	62	49	51
7	38	48	50	56	77	133	129	220	103	60	50	54
8	36	46	49	55	74	120	121	212	100	60	50	51
9	35	46	49	58	72	116	130	252	98	60	50	50
10	35	45	49	69	72	116	140	220	97	60	50	50
11	36	45	46	67	71	119	143	190	95	59	50	50
12	36	45	47	477	69	109	148	179	94	59	49	50
13	36	44	49	1310	68	107	164	174	96	59	49	50
14	37	44	48	849	69	110	180	179	94	58	49	50
15	38	44	48	516	78	121	183	170	89	58	49	50
16	40	45	47	339	114	106	192	166	87	57	49	50
17	40	62	47	310	229	105	209	163	86	56	49	50
18	41	53	48	237	682	104	222	162	85	53	49	51
19	59	48	48	189	605	101	236	165	79	53	49	50
20	66	46	49	158	375	105	281	166	72	53	49	53
21	51	45	50	133	283	103	282	169	71	53	48	53
22	45	47	47	118	234	101	250	169	70	52	49	52
23	48	47	45	108	202	108	255	166	73	52	49	52
24	47	57	38	101	182	105	258	150	67	51	49	52
25	143	67	42	96	162	103	250	141	65	51	49	52
26	74	87	47	90	154	99	251	131	65	51	49	52
27	55	59	49	85	157	103	255	124	64	51	48	51
28	50	55	49	79	194	101	266	119	63	51	48	51
29	47	53	49	80	176	105	274	116	63	51	48	50
30	47	51	50	78	---	113	263	114	62	50	48	50
31	47	---	72	75	---	108	---	120	---	50	49	---
TOTAL	1446	1530	1515	6132	4870	3651	5769	5577	2649	1756	1520	1521
MEAN	46.6	51.0	48.9	198	168	118	192	180	88.3	56.6	49.0	50.7
MAX	143	87	72	1310	682	165	282	252	127	70	50	54
MIN	35	44	38	55	68	99	100	114	62	50	48	49
AC-FT	2870	3030	3010	12160	9660	7240	11440	11060	5250	3480	3010	3020
CAL YR 1979	TOTAL	26736	MEAN	73.2	MAX	242	MIN	34	AC-FT	53030		
WTR YR 1980	TOTAL	37936	MEAN	104	MAX	1310	MIN	35	AC-FT	75250		

SACRAMENTO RIVER BASIN

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).--11 years, 1,109 ft³/s (31.41 m³/s), 803,500 acre-ft/yr (991 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, 2,870 ft³/s (81.3 m³/s) Jan. 14, gage height, 8.70 ft (2.652 m); minimum daily, 55 ft³/s (1.56 m³/s) Mar. 30 to Apr. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	75	73	60	60	65	55	147	147	139	142	146
2	74	74	74	60	60	64	56	147	146	139	141	92
3	73	74	74	60	60	65	60	144	146	138	141	63
4	73	73	73	60	60	65	61	142	144	137	141	62
5	73	74	73	61	61	65	100	144	143	140	141	63
6	72	73	73	62	61	64	154	145	144	138	140	63
7	72	72	73	63	61	64	123	145	144	137	143	63
8	72	72	73	63	61	62	123	143	143	142	145	63
9	73	73	73	63	61	63	131	145	143	145	145	63
10	73	72	73	61	62	65	127	144	144	146	145	62
11	74	71	74	63	62	67	107	145	145	145	145	62
12	74	73	73	242	63	66	70	146	144	146	144	62
13	73	73	74	302	65	65	65	146	143	146	143	64
14	73	74	73	1250	64	64	62	144	144	145	145	64
15	73	74	72	1060	63	62	62	145	144	145	143	64
16	73	74	72	76	60	60	62	145	144	145	143	65
17	72	74	71	61	63	60	61	144	141	145	142	64
18	73	74	70	62	63	61	61	147	141	144	143	63
19	74	74	62	63	65	62	60	146	141	146	145	65
20	73	73	62	63	65	62	62	145	140	146	145	67
21	72	74	62	63	66	62	63	143	141	147	143	68
22	73	73	62	62	66	62	62	145	142	147	143	69
23	73	72	61	62	63	61	59	145	142	142	145	71
24	74	72	61	63	63	61	60	143	143	142	144	72
25	75	73	61	60	61	61	118	145	142	143	143	67
26	74	73	61	62	64	61	145	145	144	139	142	61
27	73	73	61	62	63	61	147	144	148	139	145	61
28	73	74	61	63	62	60	147	144	142	144	144	62
29	74	73	61	61	65	60	145	142	140	143	147	63
30	74	73	61	61	---	55	147	138	140	143	144	62
31	74	---	61	61	---	55	---	144	---	142	147	---
TOTAL	2270	2196	2108	4535	1813	1930	2755	4477	4295	4425	4449	2036
MEAN	73.2	73.2	68.0	146	62.5	62.3	91.8	144	143	143	144	67.9
MAX	75	75	74	1250	66	67	154	147	148	147	147	146
MIN	72	71	61	60	60	55	55	138	140	137	140	61
AC-FT	4500	4360	4180	9000	3600	3830	5460	8880	8520	8780	8820	4040
MEAN ‡	997	1026	1303	788	602	493	296	331	261	995	888	872
AC-FT ‡	61330	61030	80140	48450	34620	30330	17600	20350	15540	61160	54580	51870
CAL YR 1979 TOTAL	41666											
MEAN 114												
MAX 1860												
MIN 59												
AC-FT 82640												
MEAN ‡ 1020												
WTR YR 1980 TOTAL	37289											
MEAN 102												
MAX 1250												
MIN 55												
AC-FT 73960												
MEAN ‡ 740												
AC-FT ‡ 537000												

‡ Adjusted for diversion through Belden powerhouse.

11401125 INDIAN CREEK NEAR BOULDER CREEK GUARD STATION, NEAR TAYLORSVILLE, CA

LOCATION.--Lat 40°10'47", long 120°36'27", in SE $\frac{1}{4}$ SE $\frac{1}{4}$ sec.22, T.27 N., R.12 E., Plumas County, Hydrologic Unit 18020122, on left bank 150 ft (46 m) downstream from Antelope Dam, 1.8 mi (2.9 km) upstream from Cold Stream, 1.3 mi (2.1 km) south of Boulder Creek Guard Station, 12.3 mi (19.8 km) northeast of Genesee, and 14.3 mi (23.0 km) northeast of Taylorsville.

DRAINAGE AREA.--68.6 mi² (177.7 km²).

PERIOD OF RECORD.--October 1965 to current year. June 1961 to September 1965 in reports of California Department of Water Resources. (DISCONTINUED)

GAGE.--Water-stage recorder and steel-lipped concrete control. Supplementary water-stage recorder on dam and concrete spillway. Altitude of gage is 4,930 ft (1,502 m), from topographic map. October 1965 to September 1968, at site 0.9 mi (1.4 km) downstream at different datum.

REMARKS.--Flow regulated since Nov. 25, 1963 by Antelope Lake, capacity, 22,500 acre-ft (27.7 hm³). See schematic diagram of North Fork Feather River basin. Records since October 1968 are combined flow of release from Antelope Dam and flow over spillway.

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

AVERAGE DISCHARGE.--15 years, 47.9 ft³/s (1.357 m³/s), 34,700 acre-ft/yr (42.8 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 828 ft³/s (23.4 m³/s) May 24, 1967, gage height, 6.31 ft (1.923 m) previous site and datum, and Jan. 24, 1970 (includes flow over spillway); no flow for several months in 1971-72, 1977 (caused by draining of Antelope Lake).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 245 ft³/s (6.94 m³/s) Apr. 28, 30; minimum daily, 5.0 ft³/s (0.14 m³/s) on several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	10	10	33	88	69	239	114	20	19	21
2	10	10	10	10	31	90	70	224	109	27	19	21
3	10	10	10	10	31	96	69	224	107	29	19	21
4	10	10	10	10	30	100	67	233	112	28	19	21
5	10	10	10	10	31	100	72	239	112	25	19	11
6	10	10	10	10	33	98	82	230	105	24	19	5.0
7	10	10	10	10	34	92	82	218	92	22	19	5.0
8	10	10	10	10	34	82	76	206	96	21	19	5.0
9	10	10	10	10	34	76	74	203	70	20	19	5.0
10	10	10	10	10	34	74	72	203	68	20	19	5.0
11	10	10	10	10	34	76	74	197	64	20	19	5.0
12	10	10	10	10	34	78	74	177	61	20	19	13
13	10	10	10	10	34	74	80	175	64	20	19	21
14	10	10	10	10	34	72	94	169	62	20	19	21
15	10	10	10	12	36	72	113	164	59	20	19	21
16	10	10	10	46	42	72	133	148	55	20	19	21
17	10	10	10	75	64	71	148	143	52	20	19	21
18	10	10	10	94	142	74	179	135	47	20	19	21
19	10	10	10	82	197	71	201	128	46	20	19	21
20	10	10	10	78	188	69	228	126	42	20	19	21
21	10	10	10	67	157	72	238	118	39	19	21	21
22	10	10	10	60	129	69	230	118	39	19	21	21
23	10	10	10	59	108	67	233	123	41	19	21	21
24	10	10	10	54	93	67	242	121	44	19	21	21
25	10	10	10	49	84	65	239	112	40	19	21	21
26	10	10	10	46	77	65	239	105	36	19	21	21
27	10	10	10	44	76	64	239	98	28	19	21	21
28	10	10	10	42	79	64	245	94	26	19	21	21
29	10	10	10	41	82	62	242	98	25	19	21	21
30	10	10	10	38	---	64	245	100	25	19	21	21
31	10	---	10	37	---	65	---	109	---	19	21	---
TOTAL	310	300	310	1064	2015	2349	4449	4977	1880	645	611	516.0
MEAN	10.0	10.0	10.0	34.3	69.5	75.8	148	161	62.7	20.8	19.7	17.2
MAX	10	10	10	94	197	100	245	239	114	29	21	21
MIN	10	10	10	10	30	62	67	94	25	19	19	5.0
AC-FT	615	595	615	2110	4000	4660	8820	9870	3730	1280	1210	1020
CAL YR 1979 TOTAL	3883.0			MEAN 10.6	MAX 20	MIN 5.0	AC-FT 7700					
WTR YR 1980 TOTAL	19426.0			MEAN 53.1	MAX 245	MIN 5.0	AC-FT 38530					

SACRAMENTO RIVER BASIN

11401200 INDIAN CREEK NEAR TAYLORSVILLE, CA

LOCATION.--Lat 40°02'53", long 120°49'01", in SE¼NW¼ sec.12, T.25 N., R.10 E., Plumas County, Hydrologic Unit 18020122, on right bank 0.3 mi (0.5 km) upstream from Montgomery Creek, and 2.3 mi (3.7 km) southeast of Taylorsville.

DRAINAGE AREA.--526 mi² (1,362 km²).

PERIOD OF RECORD.--May 1957 to September 1973, October 1974 to September 1976, October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 3,564.15 ft (1,086.353 m), National Geodetic Vertical Datum of 1929. Prior to Oct. 22, 1963, at site 1.0 mi (1.6 km) downstream at different datum.

REMARKS.--Flow partly regulated by Antelope Lake (station 11401120) and storage in Taylor Lake since 1929, capacity, 380 acre-ft (46,900 m³). Some diversions for irrigation upstream. See schematic diagram of North Fork Feather River basin.

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

AVERAGE DISCHARGE.--20 years, (1958-73, 1975, 1976, 1979-80) 351 ft³/s (9.940 m³/s), 254,300 acre-ft/yr (314 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,200 ft³/s (855 m³/s) Feb. 1, 1963, gage height, 10.65 ft (3.246 m) site and datum then in use, from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurements at gage heights 10.3 ft (3.14 m) and 10.65 ft (3.246 m); minimum daily, 13 ft³/s (0.37 m³/s) Aug. 2-4, 1961.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 23, 1955, reached a stage of 11.5 ft (3.50 m) from floodmarks, site and datum then in use (discharge unknown).

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge 7,000 ft³/s (198 m³/s) Jan. 14; minimum daily, 33 ft³/s (0.93 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	54	54	260	253	1020	434	930	472	120	56	45
2	33	53	55	220	258	1050	423	871	514	126	56	45
3	33	53	54	180	265	1250	417	871	609	133	55	45
4	33	56	53	155	286	1300	395	900	545	126	55	44
5	33	56	53	140	286	1300	448	888	558	118	53	44
6	33	55	50	130	291	1120	542	838	493	113	50	42
7	33	53	49	120	274	1020	502	797	440	108	50	39
8	33	52	50	110	267	849	463	757	397	103	50	38
9	34	52	50	111	253	812	463	739	373	102	49	37
10	35	52	50	148	246	797	490	736	357	98	48	38
11	35	52	48	174	240	771	511	704	331	97	47	40
12	35	50	44	2900	233	694	523	669	311	92	48	37
13	35	49	50	4500	220	659	596	629	301	88	49	41
14	36	49	48	7000	231	622	714	656	296	83	52	47
15	40	48	47	3300	298	599	790	629	284	79	52	53
16	40	47	47	1910	475	539	827	606	267	78	52	52
17	40	50	48	1580	1240	529	912	583	240	76	49	50
18	40	49	49	1170	3280	551	1080	567	242	73	48	49
19	48	48	52	801	3890	532	1160	567	253	72	47	48
20	88	46	48	711	3190	517	1250	577	263	69	47	50
21	69	43	54	629	2140	520	1240	583	274	68	46	50
22	60	49	53	554	1760	542	1130	577	286	65	47	49
23	55	48	50	490	1340	532	1150	561	289	64	47	49
24	53	54	86	454	1200	475	1130	526	244	61	46	52
25	94	71	78	428	1030	454	1080	478	201	58	46	52
26	102	91	58	378	1000	434	1050	443	161	56	46	50
27	73	73	55	349	1080	437	1050	403	148	56	45	50
28	64	64	58	331	1350	406	1070	378	144	58	45	50
29	60	59	64	274	1180	400	1070	370	140	56	45	50
30	58	58	79	240	---	434	1040	362	135	56	45	50
31	56	---	242	256	---	425	---	463	---	56	45	---
TOTAL	1514	1634	1876	30003	28056	21590	23950	19658	9568	2606	1516	1386
MEAN	48.8	54.5	60.5	968	967	696	798	634	319	84.1	48.9	46.2
MAX	102	91	242	7000	3890	1300	1250	930	609	133	56	53
MIN	33	43	44	110	220	400	395	362	135	56	45	37
AC-FT	3000	3240	3720	59510	55650	42820	47500	38990	18980	5170	3010	2750
CAL YR 1979	TOTAL	48587	MEAN 133	MAX	594	MIN 25	AC-FT	96370				
WTR YR 1980	TOTAL	143357	MEAN 392	MAX	7000	MIN 33	AC-FT	284300				

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 March and April, which are fair. Natural flow affected by storage in Round Valley Reservoir since 1865, capacity 5,000 acre-ft (6.2 km³), 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.--59 years (water years 1907-9, 1912-17, 1931-80), 541 ft³/s (15.32 m³/s), 392,000 acre-ft/yr (483 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)
Jan. 14	0700	*17,300 490	15.65 4.770
Feb. 20	1130	2,220 62.9	6.78 2.067
Apr. 21	0100	1,840 52.1	6.33 1.929

Minimum daily, 12 ft³/s (0.34 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	80	88	785	412	1750	630	1350	638	106	30	30
2	16	79	88	552	440	1650	630	1260	649	114	33	29
3	12	85	86	401	434	1780	630	1250	788	151	29	28
4	21	99	85	315	436	1980	620	1280	741	135	29	26
5	18	94	84	266	408	2020	950	1250	775	125	29	27
6	22	83	83	255	387	2060	1100	1200	686	123	29	18
7	20	81	82	253	363	1810	1000	1110	611	109	27	19
8	18	80	82	274	354	1590	910	1050	540	89	27	20
9	23	81	81	369	344	1430	870	1100	484	84	28	21
10	21	80	81	473	332	1250	860	1090	425	80	28	21
11	22	73	76	527	318	1280	860	1000	370	74	28	20
12	23	73	72	3800	358	1190	940	920	343	76	37	20
13	25	74	75	8090	521	1080	1000	900	341	72	32	23
14	29	79	77	14100	1020	1030	1100	933	342	70	31	40
15	38	78	76	7970	1760	1000	1220	874	316	65	35	38
16	43	76	74	5070	3500	893	1280	839	298	59	35	51
17	32	85	72	3640	6800	864	1380	794	284	57	33	47
18	31	85	69	2540	8000	887	1530	752	258	62	31	46
19	43	81	77	1650	9000	860	1600	736	233	56	29	46
20	100	76	79	1350	5200	830	1720	739	205	55	32	49
21	108	72	90	1140	3750	800	1810	741	186	56	32	48
22	81	78	91	985	2900	770	1550	743	176	46	33	49
23	72	87	87	851	2400	750	1320	739	176	42	34	46
24	67	88	148	768	2000	710	1300	696	166	35	34	46
25	237	97	168	718	1800	700	1300	637	177	34	34	46
26	246	120	140	646	1700	670	1300	590	144	36	29	47
27	134	116	120	590	2000	650	1330	520	131	33	31	46
28	104	99	113	549	2100	640	1400	473	128	28	27	50
29	88	93	115	472	2250	640	1490	479	119	31	25	49
30	83	90	154	395	---	650	1430	441	119	34	29	46
31	82	---	663	405	---	640	---	599	---	30	29	---
TOTAL	1880	2562	3476	60199	61287	34854	35060	27085	10849	2167	949	1092
MEAN	60.6	85.4	112	1942	2113	1124	1169	874	362	69.9	30.6	36.4
MAX	246	120	663	14100	9000	2060	1810	1350	788	151	37	51
MIN	12	72	69	253	318	640	620	441	119	28	25	18
AC-FT	3730	5080	6890	119400	121600	69130	69540	53720	21520	4300	1880	2170
CAL YR 1979 TOTAL	76159.9	MEAN 209	MAX 1470	MIN 6.0	AC-FT 151100							
WTR YR 1980 TOTAL	241460.0	MEAN 660	MAX 14100	MIN 12	AC-FT 478900							

SACRAMENTO RIVER BASIN

11402000 SPANISH CREEK ABOVE BLACKHAWK CREEK, AT KEDDIE, CA

LOCATION.--Lat 40°00'11", long 120°57'12", in SE&NE4 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 good. 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.--47 years, 266 ft³/s (7.533 m³/s), 192,700 acre-ft/yr (238 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. 31	1400	1,820 51.5	5.31 1.618
Jan. 13	1900	*12,700 360	12.29 3.746
Feb. 19	1230	7,280 206	9.55 2.911

Minimum daily, 23 ft³/s (0.65 m³/s) Aug. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	61	77	687	196	767	251	472	218	84	38	30
2	24	59	74	351	188	683	239	463	249	110	37	29
3	28	65	71	248	189	725	231	464	241	125	35	29
4	30	88	68	204	194	790	226	473	243	101	32	29
5	28	76	66	180	188	994	333	461	268	90	35	29
6	28	69	66	172	187	942	459	438	220	85	34	29
7	27	66	65	172	182	798	413	417	202	81	35	32
8	30	63	64	168	175	670	353	399	193	77	39	33
9	31	60	63	294	167	592	336	413	188	74	37	32
10	27	59	62	497	163	551	332	407	184	68	37	34
11	30	57	60	524	159	532	331	356	179	59	35	37
12	29	56	57	5810	153	474	324	338	173	63	34	35
13	28	56	59	9610	149	432	359	323	173	62	34	34
14	31	56	58	5360	178	444	428	347	167	60	34	44
15	36	55	58	2840	334	510	438	339	153	56	37	46
16	35	55	57	2060	1120	427	438	323	151	55	37	41
17	35	83	57	1730	3000	396	485	319	144	53	38	38
18	35	82	57	1260	6440	404	538	317	138	50	36	40
19	43	70	59	857	6050	359	538	321	123	39	33	39
20	81	66	64	648	3250	346	608	332	118	40	29	40
21	70	62	88	532	2390	348	616	330	114	42	25	39
22	51	63	81	447	1800	323	501	321	110	42	24	34
23	48	71	80	383	1340	308	467	308	104	41	28	35
24	46	71	228	339	1040	298	494	270	92	42	29	36
25	423	86	235	309	849	290	478	250	95	39	29	36
26	190	163	162	282	766	275	484	232	97	38	27	34
27	102	128	121	263	776	266	498	216	97	36	26	34
28	80	102	107	250	1220	257	536	199	91	34	26	34
29	69	89	100	229	950	254	538	184	88	34	23	38
30	65	82	177	210	---	265	530	190	89	38	25	38
31	64	---	1170	203	---	259	---	230	---	38	27	---
TOTAL	1868	2219	3811	37119	33793	14979	12802	10452	4702	1856	995	1058
MEAN	60.3	74.0	123	1197	1165	483	427	337	157	59.9	32.1	35.3
MAX	423	163	1170	9610	6440	994	616	473	268	125	39	46
MIN	24	55	57	168	149	254	226	184	88	34	23	29
AC-FT	3710	4400	7560	73630	67030	29710	25390	20730	9330	3680	1970	2100
CAL YR 1979 TOTAL	66253			MEAN 182	MAX 1660	MIN 14	AC-FT 131400					
WTR YR 1980 TOTAL	125654			MEAN 343	MAX 9610	MIN 23	AC-FT 249200					

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.--23 years (water years 1951-61, 1969-80), 1,023 ft³/s (28.97 m³/s), 741,200 acre-ft/yr (914 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, 26,800 ft³/s (759 m³/s) Jan. 14, gage height, 13.88 ft (4.231 m); minimum daily, 69 ft³/s (1.95 m³/s) Oct. 1, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	187	232	1950	846	2580	1010	1950	932	242	96	85
2	74	183	228	1240	816	2420	990	1850	931	216	93	88
3	71	200	223	921	811	2580	957	1830	1050	180	94	84
4	69	228	218	735	871	2790	948	1860	1040	176	89	83
5	80	227	215	631	858	3080	1130	1870	1090	175	89	81
6	76	209	212	586	853	3080	1480	1770	979	169	90	82
7	79	196	211	586	830	2690	1460	1690	868	164	89	74
8	83	191	208	583	791	2340	1270	1620	798	154	89	77
9	83	185	207	793	753	2130	1240	1630	725	148	93	80
10	93	183	206	1230	729	1990	1270	1680	682	144	92	81
11	93	178	202	1130	720	1920	1280	1560	609	143	90	85
12	96	173	193	10600	693	1770	1300	1500	578	131	88	85
13	98	171	190	18800	681	1630	1390	1440	558	129	96	86
14	102	175	197	21000	908	1560	1640	1500	565	124	91	108
15	115	175	196	12100	980	1640	1800	1450	530	118	93	124
16	125	179	193	8020	2100	1470	1840	1410	515	118	102	124
17	125	215	191	6320	5810	1370	1980	1360	495	117	100	128
18	116	220	188	4700	12600	1400	2220	1310	464	117	98	123
19	146	202	197	3140	15400	1340	2290	1230	437	117	93	121
20	195	189	210	2500	11600	1260	2470	1170	384	116	88	123
21	247	180	239	2130	8130	1280	2590	1170	352	116	87	126
22	204	179	255	1860	6190	1280	2270	1150	338	116	84	123
23	182	202	247	1620	4520	1230	2280	1120	326	116	84	118
24	172	213	481	1470	3400	1160	2230	1030	320	114	91	116
25	661	248	608	1370	2770	1110	2160	967	307	106	92	117
26	774	334	479	1260	2520	1060	2120	894	297	102	89	117
27	361	340	362	1160	2520	1030	2100	806	269	102	80	115
28	250	259	322	1090	3290	996	2170	744	270	98	82	117
29	214	233	301	1010	3110	976	2160	727	255	90	77	120
30	198	240	371	877	---	1010	2130	694	253	94	73	121
31	192	---	1790	857	---	1020	---	829	---	100	79	---
TOTAL	5443	6294	9572	112269	96100	53192	52175	41811	17217	4152	2771	3112
MEAN	176	210	309	3622	3314	1716	1739	1349	574	134	89.4	104
MAX	774	340	1790	21000	15400	3080	2590	1950	1090	242	102	128
MIN	69	171	188	583	681	976	948	694	253	90	73	74
AC-FT	10800	12480	18990	222700	190600	105500	103500	82930	34150	8240	5500	6170
CAL YR 1979 TOTAL	180279		MEAN	494	MAX	3590	MIN 39	AC-FT	357600			
WTR YR 1980 TOTAL	404108		MEAN	1104	MAX	21000	MIN 69	AC-FT	801500			

SACRAMENTO RIVER BASIN

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, 104,300 acre-ft (129 hm³) June 22, elevation, 5,156.30 ft (1,571.640 m); minimum, 33,620 acre-ft (41.5 hm³) Dec. 31, elevation, 5,110.90 ft (1,557.802 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55930	48681	41684	33620	58478	76059	76886	85989	96861	103209	95433	84448
2	55483	48398	41617	34733	58328	76390	76556	86678	97400	103209	95076	83937
3	55188	48398	41580	34733	58630	76886	76225	87367	97759	103209	94720	83597
4	54597	48117	41265	34733	58934	77217	76059	88059	98297	103392	94366	83087
5	54155	47638	40889	34609	59389	77548	76390	88752	98478	102843	94189	82917
6	53861	47558	40626	34609	59845	77881	76721	89446	99020	102843	93658	82408
7	53714	47278	40362	34609	59845	78048	76556	90144	99382	102659	93304	82071
8	53861	46999	40230	34733	59845	78547	76225	90843	99743	102293	92950	81733
9	53714	46582	40230	34733	60150	79047	76059	91719	100105	101926	92598	81395
10	53714	46582	40098	36744	60150	79213	76255	92071	100469	101744	92247	81058
11	53422	46582	39707	37507	60104	79716	76059	92774	100833	101562	91895	80721
12	53130	46720	39316	41950	60304	79883	76225	93127	101744	101198	91544	80554
13	52545	46443	38924	49388	60457	80051	76556	93481	101744	101198	91192	79883
14	52256	46166	38665	51823	60917	80386	76721	93658	102109	100833	90843	79716
15	51823	45749	38279	53130	61685	80218	77217	93835	102293	100469	90319	79381
16	51389	45472	37893	54597	62613	80051	77383	94189	102659	100287	90144	79213
17	50814	45335	37507	56824	64952	79548	77881	94543	102843	100105	89795	78880
18	50386	45061	37126	56377	68594	79716	78048	94720	103026	99924	89273	78547
19	50528	44619	36744	56824	70679	79381	78547	94898	103209	99563	89273	78214
20	50386	44375	36490	57274	71325	79716	79883	95433	103576	99201	88752	77881
21	50243	43966	36363	57726	71811	79883	80218	95789	104128	98839	88406	77548
22	49957	43696	35985	58177	72621	80051	80889	96324	104128	98659	88406	77217
23	49530	43291	35734	58630	73110	79716	81508	96502	103944	98478	87885	76886
24	49105	43156	35403	58934	73763	79381	81395	96682	103944	98118	87540	76556
25	50671	42886	35107	59238	73763	79047	81902	96682	103944	97759	87195	75894
26	50671	42886	34733	59541	74089	78714	82408	96861	103759	97579	86678	75566
27	50671	42618	34485	59389	74580	78547	83087	96682	103944	97220	85989	75237
28	50243	42351	34238	59238	75073	78381	83427	96502	103576	96861	85818	75073
29	49671	41617	33990	59086	75566	78214	84277	96682	103576	96502	85647	74416
30	49388	41684	33742	58934	---	77715	85475	96502	103576	96146	85475	73926
31	48964	---	33620	58782	---	77052	---	96324	---	95789	84962	---
MAX	55930	48681	41684	59541	75566	80386	85475	96861	104128	103392	95433	84448
MIN	48964	41617	33620	33620	58328	76059	76059	85989	96861	95789	84962	73926
†	5122.5	5117.2	5110.9	5129.2	5139.8	5140.7	5145.7	5151.9	5155.9	5151.6	5145.4	5138.8
‡	-7260	-7280	-8060	+25200	+16800	+1490	+8420	+10800	+7250	-7790	-10800	-11000

CAL YR 1979 † -15500

WTR YR 1980 ‡ +17700

† Elevation, in feet NGVD, 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 fair to 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 eight 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).--70 years, 2,954 ft³/s (83.66 m³/s), 2,140,000 acre-ft/yr (2.64 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, 45,300 ft³/s (1,283 m³/s) Jan. 13, gage height, 28.56 ft (8.705 m); minimum daily, 37 ft³/s (1.05 m³/s) Sept. 26, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	54	60	643	82	1970	90	77	65	59	52	46
2	50	56	58	103	72	1210	90	77	66	61	51	45
3	50	65	58	91	71	1630	86	76	66	57	52	45
4	50	66	56	85	70	1740	90	75	68	56	51	44
5	51	59	52	80	68	2350	141	74	65	54	50	44
6	50	56	54	78	66	2900	122	73	63	53	50	44
7	50	54	55	76	64	1950	110	72	64	55	50	44
8	52	52	56	75	63	1230	102	70	62	57	50	43
9	49	52	56	104	62	629	99	108	60	54	50	43
10	51	55	56	87	62	475	98	84	61	57	49	43
11	50	52	54	372	61	205	94	80	60	58	50	43
12	51	52	55	22400	62	143	93	79	62	57	49	43
13	50	53	54	37500	62	133	93	77	63	56	48	43
14	50	52	55	29800	67	130	91	76	63	56	48	44
15	50	51	55	16500	105	157	73	77	62	56	48	43
16	51	56	54	11800	309	157	86	74	61	55	48	42
17	50	69	54	8420	8530	138	85	72	60	54	47	42
18	50	62	53	5340	18200	133	86	69	59	56	45	41
19	68	57	54	2730	22600	129	84	69	59	56	46	41
20	61	56	61	1180	15400	124	87	68	60	54	47	39
21	57	56	65	440	10900	120	565	67	58	55	46	39
22	50	60	60	150	7910	118	303	70	60	52	47	40
23	50	61	71	112	5390	129	169	72	60	51	48	40
24	50	63	216	106	3400	110	126	68	60	51	46	40
25	2850	73	160	99	2210	105	81	66	60	52	46	40
26	271	81	98	96	1670	103	80	67	60	52	45	37
27	56	66	78	93	1940	101	77	68	59	53	45	38
28	55	63	72	86	3160	98	77	66	57	52	46	39
29	53	60	66	80	2520	98	209	67	58	51	46	39
30	52	58	75	78	---	95	321	67	59	52	45	37
31	53	---	452	75	---	93	---	67	---	52	45	---
TOTAL	4631	1770	2523	138879	105176	18703	3908	2272	1840	1694	1486	1251
MEAN	149	59.0	81.4	4480	3627	603	130	73.3	61.3	54.6	47.9	41.7
MAX	2850	81	452	37500	22600	2900	565	108	68	61	52	46
MIN	49	51	52	75	61	93	73	66	57	51	45	37
AC-FT	9190	3510	5000	275500	208600	37100	7750	4510	3650	3360	2950	2480
MEAN †	1774	1847	2158	7704	6754	4043	3368	3056	1684	1708	1394	1345
AC-FT †	109100	109900	132700	473700	388500	248600	200400	187900	100200	105000	85690	80040
CAL YR 1979 TOTAL	35182											
WTR YR 1980 TOTAL	284133											
MEAN 96.4												
MAX 2850												
MIN 49												
AC-FT 69780												
MEAN † 2232												
AC-FT † 1616000												
MEAN † 3061												
AC-FT † 2222000												

† 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, 25.0°C Aug. 4-9, 1978; minimum recorded, 0.5°C Jan. 4, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 23.0°C on several days during July and August; minimum recorded, 4.0°C Dec. 27-29, Jan. 30.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11404500 NORTH FORK FEATHER RIVER AT PULGA, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA

LOCATION.--Lat 39°47'12", long 121°33'42", in SE¼SE¼ sec.6, T.22 N., R.4 E., Butte County, 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).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WSP 2131: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,370 ft (418 m), from topographic map. Prior to June 1, 1970, on left bank at same datum.

REMARKS.--Records good. Dewey, Miners, and Hendricks Canals divert from headwaters of West Branch Feather River into Butte Creek basin for power development at 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.--23 years, 302 ft³/s (8.553 m³/s), 218,800 acre-ft/yr (270 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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 25	1100	4,100 116	10.83 3.301	Jan. 16	0900	4,590 130	11.31 3.447
Dec. 31	1130	2,090 59.2	8.56 2.609	Feb. 18	0200	9,580 271	15.65 4.770
Jan. 12	0600	10,900 309	16.71 5.093	Feb. 19	0900	9,000 255	15.18 4.627
Jan. 13	1700	*12,600 357	18.01 5.489				

Minimum daily, 0.75 ft³/s (0.021 m³/s) Sept. 11, 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	7.0	48	884	295	960	185	497	219	18	2.2	1.3
2	3.3	4.8	43	455	269	866	171	501	206	14	3.1	1.3
3	2.9	76	39	304	289	861	161	510	215	82	2.0	1.1
4	2.6	133	33	231	320	835	169	529	217	70	1.9	1.8
5	2.5	108	29	188	267	970	625	529	209	55	1.7	6.1
6	2.6	66	27	169	264	905	489	496	177	45	1.9	2.3
7	2.8	43	28	150	239	770	412	453	169	35	1.9	1.0
8	3.0	32	27	130	213	669	377	436	172	25	1.9	.80
9	4.7	25	23	480	188	593	378	594	128	20	1.8	.80
10	3.9	20	21	635	168	545	377	544	125	15	1.8	.76
11	3.3	16	17	1390	160	524	372	437	150	14	1.7	.75
12	3.4	13	14	8160	149	470	349	402	172	11	1.6	.75
13	2.4	10	14	9690	139	429	383	394	155	9.8	1.6	1.0
14	2.2	8.4	13	6220	158	542	407	417	163	9.5	1.5	1.9
15	2.4	6.8	12	3720	561	677	384	412	94	9.0	1.5	2.5
16	1.8	8.0	11	3960	1700	511	395	362	107	8.3	1.6	12
17	1.3	123	10	3080	5020	458	446	383	124	6.9	1.7	12
18	1.3	65	8.8	2060	7630	424	476	399	122	6.7	1.6	12
19	75	35	10	1510	6910	376	467	427	117	6.7	1.7	12
20	148	29	29	1180	3820	356	595	438	105	5.7	1.5	12
21	43	19	59	980	3020	329	665	447	90	4.7	1.4	12
22	7.0	19	34	846	2280	304	477	453	87	3.8	1.3	10
23	4.1	33	87	731	1720	284	437	412	70	3.1	1.3	9.4
24	8.8	77	1100	658	1500	266	562	318	65	2.8	1.3	8.4
25	1520	184	628	606	1240	251	514	276	58	3.2	1.2	8.0
26	297	439	253	542	1110	234	462	246	55	11	1.2	5.8
27	73	144	130	484	1030	221	510	224	40	2.8	1.1	7.0
28	34	81	84	442	1480	208	556	215	35	2.4	.97	7.0
29	23	65	65	393	1130	201	575	144	28	2.3	.97	7.0
30	16	54	111	345	---	216	571	142	20	2.8	.97	6.8
31	12	---	1420	323	---	196	---	165	---	3.7	1.3	---
TOTAL	2311.1	1944.0	4427.8	50946	43269	15451	12947	12202	3694	509.2	49.21	165.56
MEAN	74.6	64.8	143	1643	1492	498	432	394	123	16.4	1.59	5.52
MAX	1520	439	1420	9690	7630	970	665	594	219	82	3.1	12
MIN	1.3	4.8	8.8	130	139	196	161	142	20	2.3	.97	.75
AC-FT	4580	3860	8780	101100	85820	30650	25680	24200	7330	1010	98	328
CAL YR 1979 TOTAL	69592.54			MEAN 191	MAX 2070	MIN .97	AC-FT 138000					
WTR YR 1980 TOTAL	147915.87			MEAN 404	MAX 9690	MIN .75	AC-FT 293400					

11405300 WEST BRANCH FEATHER RIVER NEAR PARADISE, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1962 to June 1980 (discontinued).

INSTRUMENTATION.--Temperature recorder from October 1962 to June 1980.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 36.0°C June 21, 1977; minimum recorded, 0.0°C Dec. 24, 26-29, 1976, Dec. 30, 1978.

EXTREMES FOR PERIOD.--

WATER TEMPERATURES: Maximum recorded, 20.5°C Oct. 5; minimum recorded, 2.5°C Jan. 30.

TEMPERATURE (DEG. C) OF WATER, OCTOBER 1979 TO JUNE 1980

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

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

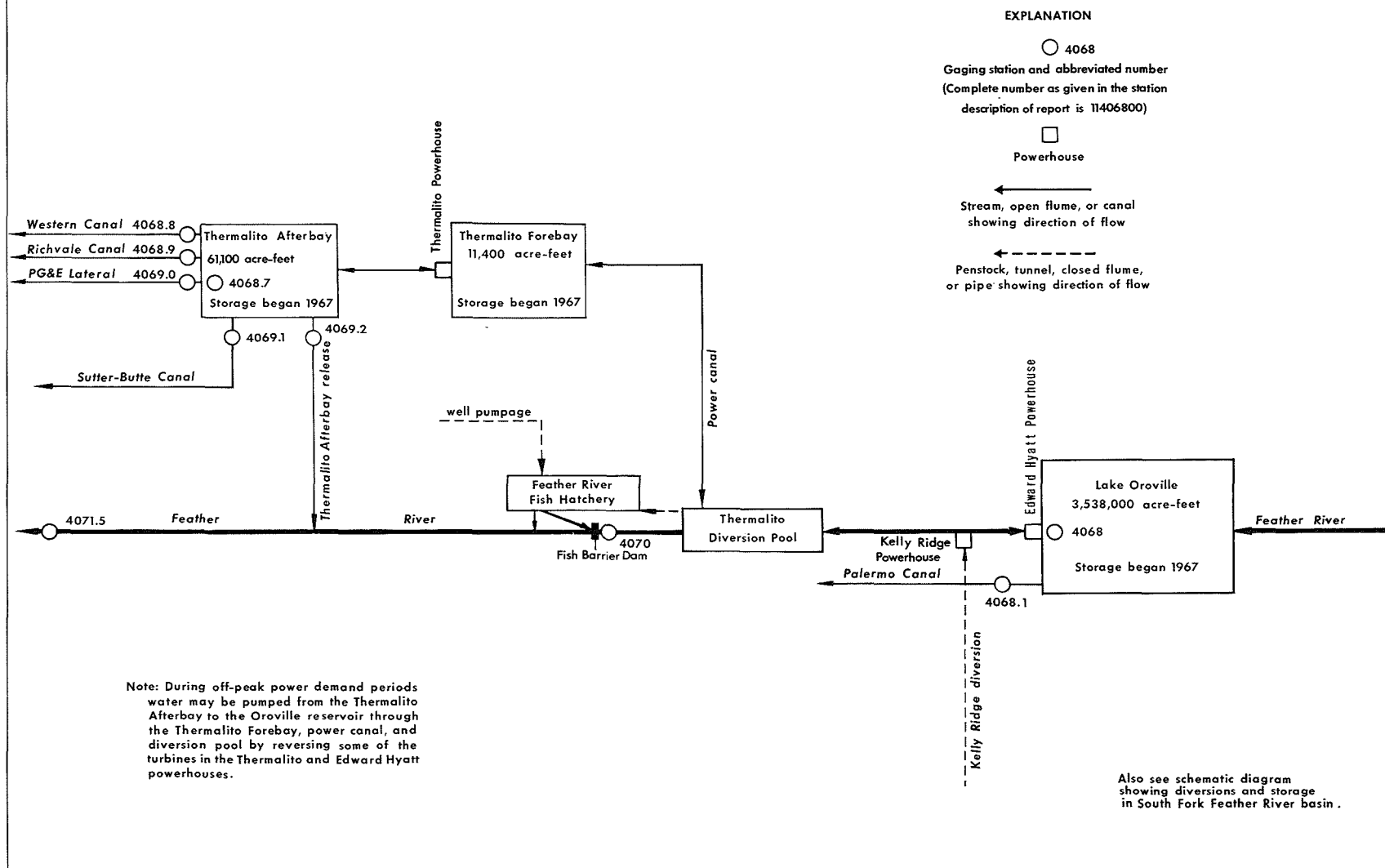


FIGURE 7.--Schematic diagram showing diversions and storage from Feather River at Lake Oroville.

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, 3,362,945 acre-ft (4.15 km³) June 6, gage height 888.75 ft (270.891 m); minimum, 2,611,211 acre-ft (3.22 km³) Sept. 30, gage height, 834.93 ft (254.487 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2664784	2700906	2748971	2832564	2733015	2865625	2897584	3188270	3351679	3106579	2876523	2656383
2	2667113	2698036	2748046	2833509	2731041	2864808	2900602	3192085	3354873	3099384	2871615	2650063
3	2666336	2701559	2746065	2837290	2730252	2864944	2903896	3200756	3356548	3094067	2863313	2641823
4	2666595	2706914	2742897	2841615	2728937	2865081	2909118	3208559	3359288	3088757	2850958	2639509
5	2665042	2705607	2742501	2848112	2727754	2870525	2918616	3213867	3362336	3083166	2844321	2633088
6	2668149	2705215	2742370	2848925	2732620	2875023	2928274	3221397	3362945	3079300	2832834	2634115
7	2666984	2706392	2747914	2847164	2735121	2876114	2936432	3228644	3359136	3073436	2823937	2630394
8	2662455	2709268	2745801	2846758	2740128	2872978	2945716	3236049	3355787	3067009	2818286	2626422
9	2659870	2711231	2743821	2851907	2746989	2867802	2955159	3244657	3352287	3059166	2809689	2629241
10	2657674	2710576	2739600	2861002	2751879	2861274	2962673	3251051	3346968	3052049	2801111	2629113
11	2660387	2710053	2738678	2871206	2755716	2853534	2968945	3258197	3339530	3045369	2792551	2627190
12	2661033	2705085	2736965	2985016	2761544	2844456	2980958	3263565	3329228	3038842	2786677	2625063
13	2662326	2708353	2737228	3101110	2768310	2834454	2990621	3270134	3314873	3034732	2780279	2624373
14	2666078	2709399	2739600	3113642	2776685	2826766	3000025	3275216	3306433	3026382	2774157	2621942
15	2666078	2709399	2742238	3054610	2781078	2827035	3010013	3279256	3293350	3021577	2763002	2621430
16	2665172	2710576	2744745	3007478	2787878	2828248	3017625	3282551	3282401	3016778	2753995	2621430
17	2665560	2713325	2743821	2956410	2825149	2828653	3028503	3287197	3273123	3009731	2749632	2618106
18	2666207	2714504	2742370	2902661	2901700	2827709	3041111	3292299	3261626	2997356	2739469	2618489
19	2668149	2712670	2740391	2849603	2965459	2826631	3052049	3298909	3251497	2987537	2734199	2618895
20	2670999	2712539	2742106	2831080	2956967	2828653	3065296	3305680	3241093	2980398	2724208	2619640
21	2670999	2714504	2748178	2825284	2939340	2828788	3076725	3310651	3224354	2971177	2718566	2621174
22	2670999	2717910	2746065	2816000	2917100	2838236	3086462	3315175	3212539	2965599	2708222	2621686
23	2670480	2719090	2748971	2805130	2902661	2842833	3100103	3319251	3200756	2955715	2699993	2620535
24	2670221	2721583	2763798	2890548	2892240	2848925	3114652	3323330	3191204	2945854	2698036	2617467
25	2689828	2726572	2776019	2781078	2880754	2852178	3124185	3327715	3178159	2933803	2694255	2616956
26	2696732	2731436	2775620	2769904	2870934	2861681	3134174	3336194	3163984	2928412	2688657	2620407
27	2698688	2733146	2779480	2758629	2867122	2869572	3148690	3339530	3148981	2921925	2683327	2618489
28	2696993	2737360	2792277	2749103	2869572	2876523	3155384	3341350	3138234	2910906	2677614	2619512
29	2698297	2741446	2786677	2742370	2867802	2882939	3167925	3343323	3128236	2902386	2671517	2611594
30	2699079	2747121	2792284	2738282	---	2888955	3174648	3343475	3117827	2896076	2665172	2611211
31	2700906	---	2813985	2735516	---	2889319	---	3344234	---	2885126	2660516	---
MAX	2700906	2747121	2813985	3113642	2965459	2893199	3174648	3344234	3362945	3106579	2876523	2656383
MIN	2657674	2698036	2736965	2735516	2727754	2826631	2897584	3188270	3117827	2885126	2660516	2611211
†	841.88	845.40	850.42	844.52	854.40	856.26	876.14	887.52	872.23	855.67	838.77	834.93
‡	+28741	+46215	+66864	-78469	+132286	+25397	+281449	+169586	-226407	-232701	-224610	-49305
††	4202	2095	1711	1118	1299	2870	4191	6294	8108	10266	9336	7115

CAL YR 1979 ‡ +160957

WTR YR 1980 ‡ -60954

† 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.--15 years, 11.8 ft³/s (0.334 m³/s) 8,550 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	3.4	3.3	1.1	1.4	1.4	1.1	13	16	21	23	19
2	19	3.4	3.3	1.1	1.4	1.4	1.1	13	16	21	23	19
3	17	3.3	3.3	1.0	1.4	1.4	1.2	13	16	21	23	19
4	17	3.4	3.3	1.0	1.4	1.4	1.2	13	16	21	23	19
5	17	3.4	3.3	1.0	1.4	1.4	1.2	13	16	21	23	19
6	17	3.4	3.3	1.0	1.4	1.4	1.2	13	16	21	23	19
7	16	3.4	3.3	1.0	1.4	1.4	1.1	15	16	21	23	19
8	16	3.4	3.3	1.0	1.4	1.4	1.1	17	16	21	22	20
9	16	3.4	3.3	1.0	1.4	1.4	3.3	19	16	21	21	21
10	15	3.4	3.3	1.0	1.4	1.4	4.4	19	16	21	21	21
11	15	3.4	3.3	1.0	1.4	1.4	4.4	19	16	21	21	21
12	15	3.4	3.3	1.0	1.4	1.4	4.4	19	16	21	21	21
13	15	3.3	3.3	1.1	1.4	1.4	5.2	17	16	21	21	21
14	15	3.3	3.3	1.1	1.4	1.4	6.5	15	17	21	21	21
15	15	3.3	3.3	.43	1.4	1.5	7.7	15	18	21	21	20
16	15	3.3	3.3	.12	1.4	1.4	8.4	15	19	21	21	19
17	14	3.3	3.3	1.0	1.4	3.4	9.7	15	20	21	21	19
18	12	3.3	3.3	1.5	1.4	4.3	11	15	21	21	21	19
19	12	3.3	3.3	1.5	1.5	4.3	13	16	22	21	21	19
20	12	3.3	3.3	1.5	1.4	4.3	14	18	23	21	21	19
21	10	3.3	3.3	1.4	1.5	4.3	14	18	23	21	21	19
22	9.4	3.3	3.3	1.4	1.4	4.3	14	19	23	21	21	19
23	8.3	3.3	3.3	1.4	1.4	4.3	12	19	23	21	21	19
24	7.0	3.3	2.2	1.4	1.4	4.4	12	19	23	21	20	19
25	4.1	3.3	1.1	1.4	1.4	4.4	13	19	23	21	19	19
26	3.4	3.3	1.1	1.4	1.4	4.4	13	19	23	21	19	19
27	3.4	3.3	1.1	1.4	1.4	4.4	13	19	23	21	19	19
28	3.4	3.3	1.0	1.4	1.4	4.4	13	19	22	21	19	19
29	3.4	3.3	1.0	1.4	1.4	4.4	13	19	21	21	19	19
30	3.3	3.3	1.1	1.4	---	4.4	13	18	21	22	19	19
31	3.4	---	1.1	1.4	---	2.2	---	16	---	23	19	---
TOTAL	369.1	100.1	85.6	35.85	40.8	84.7	231.2	516	573	654	651	584
MEAN	11.9	3.34	2.76	1.16	1.41	2.73	7.71	16.6	19.1	21.1	21.0	19.5
MAX	20	3.4	3.3	1.5	1.5	4.4	14	19	23	23	23	21
MIN	3.3	3.3	1.0	.12	1.4	1.4	1.1	13	16	21	19	19
AC-FT	732	199	170	71	81	168	459	1020	1140	1300	1290	1160
CAL YR 1979	TOTAL	3294.01	MEAN	9.02	MAX	22	MIN	0	AC-FT	6530		
WTR YR 1980	TOTAL	3925.35	MEAN	10.7	MAX	23	MIN	.12	AC-FT	7790		

11406870 THERMALITO AFTERBAY NEAR OROVILLE, CA

LOCATION.--Lat 39°27'30", long 121°38'17", in NE¼SE¼ sec.33, T.19 N., R.3 E., Butte County, 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, 25,621 acre-ft (31.6 hm³) June 27, gage height, 127.93 ft (38.993 m); minimum, 14,483 acre-ft (17.9 hm³) Sept. 15, gage height, 123.71 ft (37.707 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24998	18269	16910	17381	20252	23401	17481	14922	17033	21141	23803	16299
2	21332	21060	16518	23316	19879	24208	17656	19220	17656	20386	19404	17207
3	21060	20386	16984	23316	17833	24470	18495	18675	18010	22664	17656	19404
4	20439	17556	20439	21387	18443	23659	17606	19588	18137	22608	20439	18598
5	21634	20306	20816	17732	21250	23458	17883	22551	18188	23659	19456	22216
6	18188	21332	22077	17306	19325	23458	18856	22748	18188	20439	22805	18010
7	16299	21634	16689	19694	21196	22272	19588	22664	19773	21387	23602	18010
8	18264	19456	17581	21497	20172	21060	18546	20627	19456	21827	21387	20066
9	18598	17656	16689	22748	17331	20306	17732	19694	19826	23060	21442	15747
10	19456	17833	19509	21772	16348	19826	18315	21005	20493	23861	22216	14529
11	16689	17083	19773	24939	17581	20012	20493	19038	19773	25562	23202	15462
12	17431	22467	21827	23401	18010	20951	18010	19038	20762	23516	23116	16689
13	18727	20172	22805	23401	18778	23060	16179	17207	23861	22411	20951	15297
14	16469	18908	21497	23717	19325	25294	17207	17656	23060	25353	18443	14806
15	16984	18908	19826	23918	22748	25413	18188	19038	24616	23861	19959	14483
16	17732	19038	18341	23602	22748	23717	21141	20493	24675	22946	21005	14922
17	17581	18675	18960	23516	23003	22805	20199	21387	23316	22748	18778	18546
18	17083	18315	22077	23602	22861	22551	19220	20870	23316	24121	20951	18598
19	16518	22021	24324	24121	24005	22021	19325	20386	21579	22805	18727	17306
20	16348	23861	25502	23659	23401	21689	17782	19273	22021	19325	20762	16396
21	16518	23116	20306	23659	23060	21882	20252	20493	25502	19220	18908	14969
22	17306	20681	19273	23458	22861	17959	22077	21060	24881	17381	21799	14529
23	17556	19456	19694	23659	22748	18086	19456	22608	24266	18443	22467	16130
24	17606	18546	20439	24208	22355	17833	17581	23060	21060	19879	19404	18598
25	17083	18727	17083	25146	22861	21689	18856	22664	21497	23202	18675	18675
26	16348	20573	22946	22861	22861	20119	19404	17481	23516	20573	19456	15132
27	15890	23060	21497	23116	24063	19090	16227	16984	25621	19694	19273	16348
28	16689	23259	21579	24208	24324	19588	17606	17606	24529	21689	18960	14644
29	17157	22805	19273	23401	24881	17909	15062	18188	20252	21799	19325	22077
30	18010	19588	19325	22077	---	16910	18598	20816	18856	19377	19273	23116
31	16984	---	18188	21060	---	17257	---	22636	---	22861	18598	---
MAX	24998	23861	25502	25146	24881	25413	22077	23060	25621	25562	23803	23116
MIN	15890	17083	16518	17306	16348	16910	15062	14922	17033	17381	17656	14483
†	124.76	125.78	125.24	126.33	127.68	124.87	125.40	126.90	125.50	126.98	125.40	127.07
‡	-1026	+2604	-1400	+2872	+3821	-7624	+1341	+4038	-3780	+4005	-4263	+4518
††	774	394	305	262	135	749	872	1407	1640	1958	1784	1389

CAL YR 1979 ‡ -7794

WTR YR 1980 ‡ +5106

† 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.--12 years, 308 ft³/s (8.723 m³/s), 223,100 acre-ft/yr (275 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 1,170 ft³/s (33.1 m³/s) Apr. 24, 27, 28, 1977; no flow for several months most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	247	139				0	904	475	1010	870	506
2	137	248	138				0	890	489	1000	867	493
3	137	248	138				0	942	492	1000	876	431
4	196	111	143				0	983	495	998	867	367
5	243	94	142				0	923	495	975	892	316
6	239	98	140				0	1090	493	960	889	294
7	239	97	164				0	1080	492	951	891	295
8	242	144	192				0	1100	493	952	897	244
9	243	198	194				0	1100	543	950	905	197
10	244	200	193				0	1030	633	948	903	168
11	242	198	194				0	996	693	950	909	148
12	241	199	194				0	962	723	945	888	147
13	242	200	194				0	945	759	932	886	118
14	241	199	194				57	945	772	933	886	98
15	243	200	191				87	942	770	933	878	75
16	237	198	191				117	945	788	918	840	74
17	238	198	194				137	916	833	908	818	74
18	237	199	195				154	900	888	910	819	75
19	240	166	196				230	900	912	909	818	73
20	240	141	196				352	900	912	910	801	74
21	240	141	151				400	818	910	914	772	75
22	239	142	90				402	724	909	900	728	77
23	242	140	66				400	672	910	898	654	96
24	241	140	0				435	590	895	913	639	121
25	141	141	0				510	514	894	910	639	121
26	91	140	0				615	470	894	910	638	144
27	87	140	0				707	436	906	922	627	170
28	87	139	0				800	442	947	922	610	170
29	90	138	0				926	439	965	921	585	171
30	91	138	0				972	438	984	902	562	171
31	185	---	0		---	---	---	441	---	888	520	---
TOTAL	6196	4982	3829	0	0	0	7301	25377	22364	28992	24374	5583
MEAN	200	166	124	0	0	0	243	819	745	935	786	186
MAX	244	248	196	0	0	0	972	1100	984	1010	909	506
MIN	87	94	0	0	0	0	0	436	475	888	520	73
AC-FT	12290	9880	7590	0	0	0	14480	50340	44360	57510	48350	11070
CAL YR 1979 TOTAL	129844.00			MEAN 356	MAX 993	MIN 0	AC-FT 257500					
WTR YR 1980 TOTAL	128998.00			MEAN 352	MAX 1100	MIN 0	AC-FT 255900					

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.--12 years, 118 ft³/s (3.342 m³/s) 85,490 acre-ft/yr (105 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							0	346	208	420	343	229
2							0	356	188	413	346	238
3							0	391	186	408	344	238
4							0	407	178	402	344	223
5							0	428	178	402	358	213
6							0	434	177	404	359	190
7							0	428	194	403	361	176
8							0	443	229	394	359	158
9							0	421	244	393	359	110
10							0	382	282	391	359	112
11							0	382	310	385	359	133
12							0	382	312	385	361	108
13							0	381	349	384	360	70
14							0	362	369	378	360	67
15							0	324	369	374	360	58
16								74	301	367	373	50
17								148	300	386	369	46
18								211	301	396	364	42
19								224	302	405	364	35
20								220	293	410	357	32
21							197	260	410	354	340	32
22							176	242	410	356	340	32
23							176	201	421	354	325	32
24							177	175	436	354	297	32
25							177	172	436	354	288	32
26							238	171	436	355	280	32
27							305	180	429	355	264	32
28							312	179	425	355	252	32
29							315	178	426	354	251	32
30							340	200	425	350	240	17
31		---			---		---	209	425	345	229	---
TOTAL	0	0	0	0	0	0	3290	9531	9991	11649	10180	2833
MEAN	0	0	0	0	0	0	110	307	333	376	328	94.4
MAX	0	0	0	0	0	0	340	443	436	420	361	238
MIN	0	0	0	0	0	0	0	171	177	345	229	17
AC-FT	0	0	0	0	0	0	6530	18900	19820	23110	20190	5620
CAL YR 1979	TOTAL	47849.40	MEAN 131	MAX 466	MIN 0	AC-FT	94910					
WTR YR 1980	TOTAL	47474.00	MEAN 130	MAX 443	MIN 0	AC-FT	94160					

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.--12 years, 4.90 ft³/s (0.139 m³/s), 3,550 acre-ft/yr (4.38 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0						0	23	12	15	16	2.6
2	1.3						0	31	12	16	16	1.9
3	.52						0	32	11	15	16	2.1
4	0						0	27	11	16	16	2.1
5	0						0	22	11	16	17	1.4
6	0						0	19	11	16	18	1.2
7	0						0	14	11	16	16	1.2
8	0						0	10	13	16	15	1.2
9	0						0	8.3	17	16	15	1.2
10	0						0	8.1	19	16	15	1.0
11	0						0	8.3	18	16	15	1.0
12	1.4						0	9.2	16	17	15	1.0
13	.87						0	11	15	16	15	1.6
14	0						0	12	16	16	15	1.3
15	0						0	12	17	16	15	1.0
16	0						0	13	18	16	15	1.0
17	0						0	12	19	16	14	.39
18	0						9.4	14	19	16	13	0
19	0						15	15	18	16	13	0
20	0						24	14	18	17	11	0
21	0						30	15	17	16	8.3	0
22	0						28	16	17	16	6.8	0
23	0						24	15	17	16	6.0	0
24	0						20	13	17	16	6.2	0
25	0						19	13	17	16	7.0	1.4
26	0						18	13	17	16	6.4	.91
27	0						18	13	17	16	5.8	0
28	0						21	13	17	17	5.2	0
29	0						23	13	17	16	4.6	0
30	0				---		23	13	16	16	3.9	0
31	0	---			---		---	13	---	16	3.4	---
TOTAL	4.09	0	0	0	0	0	272.4	464.9	471	497	364.6	25.50
MEAN	.13	0	0	0	0	0	9.08	15.0	15.7	16.0	11.8	.85
MAX	1.4	0	0	0	0	0	30	32	19	17	18	2.6
MIN	0	0	0	0	0	0	0	8.1	11	15	3.4	0
AC-FT	8.1	0	0	0	0	0	540	922	934	986	723	51
CAL YR 1979	TOTAL	2028.09	MEAN 5.56	MAX 33	MIN 0	AC-FT 4020						
WTR YR 1980	TOTAL	2099.49	MEAN 5.74	MAX 32	MIN 0	AC-FT 4160						

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.--12 years, 654 ft³/s (18.52 m³/s), 473,800 acre-ft/yr (584 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	421	54				0	443	1860	1290	1520	1530	1160
2	416	55				0	548	1880	1320	1570	1530	1160
3	436	54				0	623	1900	1330	1580	1540	1170
4	432	51				0	623	1890	1320	1540	1510	1110
5	427	.22				0	498	1890	1320	1540	1500	1080
6	426	0				0	406	1790	1370	1540	1520	1050
7	427	0				0	365	1740	1390	1550	1530	1040
8	401	0				0	388	1800	1390	1560	1520	1010
9	381	0				0	406	1780	1380	1560	1510	958
10	379	0				0	414	1750	1410	1560	1490	926
11	377	0				0	448	1710	1420	1560	1500	844
12	378	0				0	534	1570	1440	1580	1470	812
13	381	0				0	585	1480	1450	1530	1460	812
14	378	0				0	667	1450	1430	1550	1480	787
15	381	0				0	764	1440	1420	1570	1490	729
16	380	0				0	867	1420	1430	1580	1480	673
17	379	0				0	1030	1430	1450	1570	1460	629
18	379	0				0	1250	1430	1450	1570	1490	592
19	381	0				0	1400	1400	1450	1580	1470	563
20	381	0				0	1430	1380	1460	1590	1460	524
21	382	0				0	1400	1350	1460	1570	1440	488
22	375	0				0	1410	1340	1440	1570	1440	459
23	359	0				0	1430	1320	1440	1560	1440	450
24	358	0				0	1450	1290	1460	1540	1420	448
25	329	0				65	1570	1280	1470	1550	1420	440
26	308	0				147	1620	1270	1470	1540	1370	418
27	207	0				130	1690	1280	1470	1540	1350	413
28	28	0				130	1780	1300	1460	1530	1350	413
29	27	0				129	1840	1300	1440	1520	1320	424
30	25	0				129	1890	1300	1440	1530	1240	395
31	25	---			---	224	---	1300	---	1540	1190	---
TOTAL	10364	214.22	0	0	0	954	29769	47320	42470	48190	44920	21977
MEAN	334	7.14	0	0	0	30.8	992	1526	1416	1555	1449	733
MAX	436	55	0	0	0	224	1890	1900	1470	1590	1540	1170
MIN	25	0	0	0	0	0	365	1270	1290	1520	1190	395
AC-FT	20560	425	0	0	0	1890	59050	93860	84240	95580	89100	43590
CAL YR 1979 TOTAL	252723.22		MEAN 692	MAX 1870	MIN 0	AC-FT 501300						
WTR YR 1980 TOTAL	246178.22		MEAN 673	MAX 1900	MIN 0	AC-FT 488300						

SACRAMENTO RIVER BASIN

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.--12 years, 3,951 ft³/s (111.9 m³/s), 2,862,000 acre-ft/yr (3.53 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, 18,000 ft³/s (510 m³/s) Jan. 16; minimum daily, 799 ft³/s (22.6 m³/s) Apr. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1710	1320	1800	2020	6420	14600	2110	807	1010	3640	3860	1830
2	1530	1330	1820	2560	5630	12800	2110	822	993	3310	3830	1860
3	1540	1330	2340	3270	5610	13300	2120	822	1010	2690	3850	1850
4	1540	1320	2350	3320	4880	14000	2100	910	1030	2360	3860	1620
5	1430	1330	2350	3310	3880	14000	1880	928	1010	2360	3840	1450
6	1400	1340	2320	3320	2870	14000	1730	915	1770	2350	3870	1330
7	1390	1330	2290	3320	2120	14000	1520	910	2660	2350	3820	1330
8	1400	1330	2300	3320	2120	14000	1510	917	3310	2340	3320	1340
9	1400	1330	2290	3330	1900	14000	1320	909	3300	2360	3340	1330
10	1400	1330	2300	3310	1730	13800	1120	922	4130	2350	3330	1320
11	1390	1330	2300	4770	1530	13300	927	906	4850	2330	3330	1340
12	1390	1330	2290	12700	1340	12700	809	905	5350	2280	2830	1310
13	1400	1300	2300	17600	1340	12300	820	902	5330	2300	2810	1270
14	1390	1300	2300	17500	1340	11400	821	905	5180	2400	2790	1280
15	1400	1300	2290	16700	2840	9330	811	913	5330	2820	2830	1270
16	1400	1290	2290	18000	10300	8320	820	924	5270	2840	2830	1270
17	1390	1300	2300	17100	16500	7630	814	926	5270	2920	2290	1290
18	1380	1290	2300	17200	16500	7640	817	932	5260	3680	2320	1280
19	1400	1300	2290	17400	16700	7640	815	933	5320	3840	2300	1260
20	1380	1300	2300	16700	16600	6300	811	929	5320	3860	2330	1250
21	1380	1290	2290	14600	16800	5640	808	918	5340	3860	2310	1270
22	1390	1290	2290	14700	16900	4650	802	922	5330	3860	2330	1270
23	1390	1290	1900	14600	17000	3740	831	914	5320	3870	2310	1280
24	1390	1290	1810	14400	17000	3630	805	915	5320	3870	1850	1290
25	1390	1290	1810	13400	17000	2610	811	991	5320	3870	1850	1290
26	1380	1820	1820	12300	16700	2570	811	993	5330	3860	1850	1270
27	1390	1810	1810	11400	15500	2580	811	935	5340	3850	1840	1270
28	1390	1810	1810	10400	15500	2590	819	1030	4940	3870	1840	1280
29	1330	1810	1800	9390	15500	2590	799	1030	4270	3860	1830	1290
30	1320	1810	1810	8360	---	2590	805	1010	4380	3850	1840	1280
31	1320	---	1810	7420	---	2570	---	1030	---	3870	1840	---
TOTAL	43730	41840	66080	317720	270050	270820	33887	28725	123593	97870	85270	40870
MEAN	1411	1395	2132	10250	9312	8736	1130	927	4120	3157	2751	1362
MAX	1710	1820	2350	18000	17000	14600	2120	1030	5350	3870	3870	1860
MIN	1320	1290	1800	2020	1340	2570	799	807	993	2280	1830	1250
AC-FT	86740	82990	131100	630200	535600	537200	67210	56980	245100	194100	169100	81070
CAL YR 1979 TOTAL		923304		MEAN 2530	MAX 15100	MIN 713	AC-FT 1831000					
WTR YR 1980 TOTAL		1420455		MEAN 3881	MAX 18000	MIN 799	AC-FT 2817000					

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, 24.0°C May 20; minimum recorded, 6.5°C Jan. 30.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SACRAMENTO RIVER BASIN

11406920 THERMALITO AFTERBAY RELEASE TO FEATHER RIVER NEAR OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11407000 FEATHER RIVER AT OROVILLE, CA

LOCATION.--Lat 39°31'18", long 121°32'48", in Boga Fernandez Grant, T.19 N., R.4 E., Butte County, 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).--79 years, 5,877 ft³/s (166.4 m³/s), 4,258,000 acre-ft/yr (5.25 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--River only, maximum discharge observed, 230,000 ft³/s (6,510 m³/s) Mar. 19, 1907, elevation, 167.5 ft (51.05 m) above mean sea level; minimum daily, 89 ft³/s (2.52 m³/s) Sept. 19, 1972.

Combined flow (since construction of Oroville Dam), maximum discharge, 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, 69,500 ft³/s (1,970 m³/s) Jan. 15, gage height, 16.95 ft (5.166 m); minimum daily, 276 ft³/s (7.82 m³/s) Jan. 24.

Combined flow, maximum discharge, 69,600 ft³/s (1,970 m³/s) Jan. 15; minimum daily, 380 ft³/s (10.8 m³/s) Jan. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	404	402	404	400	415	406	399	406	410	414	407
2	402	410	412	408	395	420	412	395	408	412	415	411
3	405	409	422	408	394	415	414	402	407	411	415	412
4	428	409	417	408	384	408	415	400	411	409	416	404
5	427	412	408	403	391	414	409	399	410	410	416	405
6	421	411	407	405	398	395	404	395	409	409	415	404
7	424	410	406	406	397	396	400	397	410	409	416	404
8	420	408	405	406	401	405	403	397	411	408	415	406
9	421	404	405	408	407	410	406	394	410	410	413	404
10	417	405	407	416	407	411	404	396	410	409	410	403
11	415	406	402	414	407	409	403	395	408	411	410	407
12	415	407	405	16100	404	408	404	395	411	408	411	406
13	416	402	406	47000	400	414	406	396	412	409	409	404
14	415	399	403	59700	395	416	408	396	410	412	407	406
15	416	408	401	64700	407	414	410	399	413	410	408	406
16	415	414	402	54700	426	410	409	406	415	408	410	404
17	412	407	401	44400	434	412	407	406	414	412	410	403
18	412	403	402	34800	10900	409	408	407	410	415	409	401
19	411	410	405	27200	29300	408	411	406	414	412	407	401
20	404	411	409	6040	40200	410	406	400	413	414	409	404
21	405	410	405	398	35700	405	404	403	414	414	406	405
22	410	420	404	387	26100	404	403	404	414	412	410	404
23	410	420	410	382	15100	405	404	401	415	415	407	404
24	410	420	428	380	7630	405	403	400	422	414	407	404
25	414	419	421	385	5120	406	401	401	420	410	408	404
26	411	421	409	394	3170	402	400	400	420	415	407	402
27	407	419	410	403	419	407	390	403	414	412	405	400
28	402	414	408	399	420	408	393	404	408	416	405	403
29	398	405	410	395	418	409	395	402	407	412	404	402
30	398	393	409	397	---	405	408	404	401	414	407	399
31	400	---	413	400	---	407	---	405	---	417	407	---
TOTAL	12768	12290	12654	363446	181324	12662	12146	12407	12347	12759	12708	12129
MEAN	412	410	408	11720	6253	408	405	400	412	412	410	404
MAX	428	421	428	64700	40200	420	415	407	422	417	416	412
MIN	398	393	401	380	384	395	390	394	401	408	404	399
AC-FT	25330	24380	25100	720900	359700	25120	24090	24610	24490	25310	25210	24060
MEAN ‡	2918	2795	3833	20770	17980	9540	7757	6979	3393	2979	2252	2220
AC-FT ‡	179400	166300	235700	1277000	1034000	586600	461600	429100	201900	183200	138500	132100

CAL YR 1979 TOTAL 149103 MEAN 409 MAX 561 MIN 375 AC-FT 295700 MEAN ‡ 6543 AC-FT ‡ 4737000
WTR YR 1980 TOTAL 669640 MEAN 1830 MAX 64700 MIN 380 AC-FT 1328000 MEAN ‡ 6922 AC-FT ‡ 5025000

‡ Adjusted for diversion 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 1969-80.--

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, 16.0°C July 16-18; minimum recorded, 7.0°C Feb. 18, 19.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11407000 FEATHER RIVER AT OROVILLE, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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.

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.--16 years, 4,874 ft³/s (138.0 m³/s), 3,531,000 acre-ft/yr (4.35 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) revised, 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 52.25 ft (15.926 m) present datum, discharge unknown.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 90,100 ft³/s (2,550 m³/s) Jan. 15, gage height 94.45 ft (28.788 m); minimum daily, 1,130 ft³/s (32.0 m³/s) Apr. 30.

REVISIONS.--The maximum stages for some water years have been revised, as shown in the following table. They supersede figures published in the 1965, 1967-68 reports.

Water year	Date	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
1965	Dec. 23, 1964	151,000	4,280	100.43	30.611
1967	Jan. 30, 1967	45,600	1,290	88.70	27.036
1968	Feb. 13, 1968	5,420	153	77.24	23.543

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1960	1630	2130	2280	7620	15000	2520	1150	1240	3820	3740	2110
2	1770	1640	2150	2690	6720	13000	2480	1150	1220	3370	3640	2140
3	1780	1680	2490	3430	6600	13200	2480	1160	1250	2830	3690	2160
4	1790	1670	2600	3560	5990	13800	2470	1230	1270	2400	3710	1970
5	1720	1650	2590	3540	4940	13900	2320	1280	1250	2390	3700	1800
6	1690	1660	2580	3550	3900	14000	2120	1270	1820	2380	3730	1680
7	1670	1650	2540	3540	3010	13900	1910	1250	2680	2360	3730	1650
8	1690	1660	2540	3530	2890	13800	1880	1260	3440	2350	3270	1650
9	1690	1640	2550	3530	2730	13800	1740	1270	3470	2340	3280	1660
10	1690	1650	2540	3490	2530	13600	1510	1250	4210	2330	3290	1640
11	1690	1650	2550	4540	2330	13200	1310	1240	4930	2320	3300	1650
12	1680	1650	2570	18800	2130	12500	1200	1230	5480	2260	2930	1640
13	1700	1650	2570	60400	2060	12300	1180	1230	5920	2260	2870	1600
14	1700	1630	2580	74200	2060	11500	1190	1210	5710	2320	2870	1610
15	1710	1620	2570	87600	3080	9830	1170	1220	5880	2730	2910	1580
16	1700	1630	2560	84000	9370	8790	1170	1230	5790	2750	2930	1570
17	1690	1640	2570	71600	16600	8050	1170	1220	5960	2790	2520	1610
18	1710	1670	2570	59300	22300	7990	1160	1230	5850	3520	2520	1600
19	1720	1640	2580	52200	41500	7970	1160	1230	5860	3740	2520	1560
20	1700	1620	2600	31800	56900	6930	1170	1220	5800	3760	2540	1550
21	1680	1620	2600	17600	57200	6040	1140	1220	5800	3740	2530	1580
22	1700	1620	2570	16700	48400	5200	1150	1200	5760	3730	2530	1590
23	1700	1640	2320	16200	37400	4300	1180	1170	5720	3710	2530	1610
24	1690	1650	2290	15700	28000	4050	1160	1170	5740	3710	2160	1620
25	1810	1640	2220	14600	23100	3180	1150	1230	5680	3700	2110	1620
26	1700	1640	2150	13600	21400	2990	1150	1250	5620	3700	2100	1610
27	1700	1750	2140	12600	16200	2960	1150	1190	5630	3670	2080	1590
28	1690	2110	2120	11600	15800	2960	1160	1260	5630	3680	2100	1610
29	1630	2120	2120	10600	15600	2970	1150	1270	4940	3670	2100	1630
30	1620	2120	2160	9610	---	2920	1130	1250	4500	3690	2110	1620
31	1620	---	2180	8650	---	2900	---	1250	---	3730	2110	---
TOTAL	52990	50840	75300	725040	468360	277530	44830	37990	134050	95750	88150	50510
MEAN	1709	1695	2429	23390	16150	8953	1494	1225	4468	3089	2844	1684
MAX	1960	2120	2600	87600	57200	15000	2520	1280	5960	3820	3740	2160
MIN	1620	1620	2120	2280	2060	2900	1130	1150	1220	2260	2080	1550
AC-FT	105100	100800	149400	1438000	929000	550500	88920	75350	265900	189900	174800	100200
CAL YR 1979 TOTAL	1034190			2833	15500	1050	AC-FT	2051000				
WTR YR 1980 TOTAL	2101340			5741	87600	1130	AC-FT	4168000				

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to September 1980.

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, 38 mg/L Jan. 15; minimum daily mean, 3 mg/L Dec. 12.

SEDIMENT DISCHARGE: Maximum daily, 8,990 tons (8,160 metric tons) Jan. 15; minimum daily, 16 tons (15 metric tons) Apr. 14, 15.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 29...	1040	1600	88	7.3	10.4	--	--	36	8.0	4.0	3.0
DEC 27...	1100	2170	102	7.3	11.2	2	.9	39	9.0	4.0	4.0
FEB 27...	1320	16200	--	7.2	11.5	--	--	--	--	--	--
APR 22...	1125	1150	96	7.2	9.5	5	1.2	40	8.0	5.0	4.0
MAY 29...	1200	1270	83	7.6	9.5	5	1.0	36	8.0	4.0	3.0
JUN 24...	1050	5590	85	7.6	10.3	8	1.0	32	8.0	3.0	3.0
JUL 23...	1045	3800	79	7.3	9.7	--	--	32	8.0	3.0	3.0
SEP 24...	1025	1670	84	7.3	8.8	4	.8	36	8.0	4.0	3.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT 29...	.8	38	3.0	1.0	56	--	.10	.01	.20	.02	.02
DEC 27...	.9	44	3.0	1.0	72	8	.20	.00	.20	.03	.01
FEB 27...	--	--	--	--	--	--	--	--	--	--	--
APR 22...	.8	40	--	2.0	54	13	.40	.00	.20	.04	.02
MAY 29...	.7	35	3.0	1.0	56	12	.10	.01	.20	.04	.00
JUN 24...	.7	35	--	1.0	54	7	.04	.00	.20	.02	.00
JUL 23...	.7	34	2.0	1.0	53	--	.10	.00	.10	.02	.00
SEP 24...	.7	36	1.0	1.0	56	6	.10	.01	.20	.03	.01

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 29...	1040	--	--	0	--	--	--
DEC 27...	1100	0	0	0	0	0	10
FEB 27...	1320	0	0	--	0	0	0
APR 22...	1125	--	--	--	--	--	--
MAY 29...	1200	--	--	0	--	--	--
JUN 24...	1050	0	0	--	0	0	0
JUL 23...	1045	0	0	0	0	0	0
SEP 24...	1025	0	0	0	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 29...	--	--	--	--	--	--	--
DEC 27...	10	0	0	.0	0	2.5	.00
FEB 27...	20	0	0	.0	10	--	--
APR 22...	--	--	--	--	--	1.2	.00
MAY 29...	--	--	--	--	--	2.3	.00
JUN 24...	290	0	0	.0	0	2.0	.00
JUL 23...	0	0	0	.0	0	--	--
SEP 24...	50	0	0	.0	0	2.6	.00

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

[illegible]

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	1960	6	32	1630	9	40	2130	7	40
2	1770	7	33	1640	9	40	2150	7	41
3	1780	8	38	1680	8	36	2490	8	54
4	1790	7	34	1670	8	36	2600	8	56
5	1720	6	28	1650	8	36	2590	11	77
6	1690	7	32	1660	9	40	2580	14	98
7	1670	9	41	1650	8	36	2540	11	75
8	1690	9	41	1660	8	36	2540	8	55
9	1690	10	46	1640	8	35	2550	6	41
10	1690	8	37	1650	9	40	2540	5	34
11	1690	7	32	1650	9	40	2550	4	28
12	1680	9	41	1650	10	45	2570	3	21
13	1700	11	50	1650	11	49	2570	4	28
14	1700	9	41	1630	12	53	2580	4	28
15	1710	8	37	1620	10	44	2570	4	28
16	1700	9	41	1630	8	35	2560	5	35
17	1690	11	50	1640	9	40	2570	5	35
18	1710	11	51	1670	10	45	2570	6	42
19	1720	12	56	1640	8	35	2580	6	42
20	1700	10	46	1620	7	31	2600	5	35
21	1680	8	36	1620	7	31	2600	5	35
22	1700	9	41	1620	8	35	2570	5	35
23	1700	10	46	1640	9	40	2320	6	38
24	1690	11	50	1650	11	49	2290	7	43
25	1810	12	59	1640	11	49	2220	6	36
26	1700	10	46	1640	11	49	2150	6	35
27	1700	9	41	1750	7	33	2140	6	35
28	1690	10	46	2110	8	46	2120	7	40
29	1630	12	53	2120	7	40	2120	7	40
30	1620	11	48	2120	6	34	2160	6	35
31	1620	10	44	---	---	---	2180	6	35
TOTAL	52990	---	1317	50840	---	1198	75300	---	1300
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	2280	8	49	7620	10	206	15000	14	567
2	2690	11	80	6720	9	163	13000	14	491
3	3430	9	83	6600	9	160	13200	18	642
4	3560	7	67	5990	8	129	13800	22	820
5	3540	8	76	4940	12	160	13900	19	713
6	3550	10	96	3900	10	105	14000	17	643
7	3540	9	86	3010	8	65	13900	14	525
8	3530	9	86	2890	8	62	13800	12	447
9	3530	9	86	2730	8	59	13800	12	447
10	3490	10	94	2530	8	55	13600	13	477
11	4540	21	257	2330	8	50	13200	11	392
12	18800	32	1620	2130	8	46	12500	10	337
13	60400	34	5540	2060	8	44	12300	9	299
14	74200	36	7210	2060	8	44	11500	7	217
15	87600	38	8990	3080	8	67	9830	7	186
16	84000	31	7030	9370	17	430	8790	7	166
17	71600	30	5800	16600	27	1210	8050	8	174
18	59300	28	4480	22300	24	1450	7990	9	194
19	52200	26	3660	41500	21	2350	7970	8	172
20	31800	25	2150	56900	17	2610	6930	7	131
21	17600	24	1140	57200	36	5560	6040	8	130
22	16700	24	1080	48400	33	4310	5200	9	126
23	16200	22	962	37400	16	1620	4300	9	104
24	15700	21	890	28000	17	1290	4050	9	98
25	14600	17	670	23100	19	1190	3180	8	69
26	13600	14	514	21400	21	1210	2990	7	57
27	12600	12	408	16200	23	1010	2960	5	40
28	11600	10	313	15800	19	811	2960	4	32
29	10600	11	315	15600	15	632	2970	5	40
30	9610	13	337	---	---	---	2920	7	55
31	8650	12	280	---	---	---	2900	19	149
TOTAL	725040	---	54449	468360	---	27098	277530	---	8940

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	2520	31	211	1150	7	22	1240	26	87
2	2480	19	127	1150	7	22	1220	26	86
3	2480	7	47	1160	7	22	1250	22	74
4	2470	7	47	1230	8	27	1270	19	65
5	2320	6	38	1280	8	28	1250	16	54
6	2120	6	34	1270	8	27	1820	16	79
7	1910	6	31	1250	25	84	2680	17	123
8	1880	9	46	1260	28	95	3440	19	176
9	1740	13	61	1270	31	106	3470	21	197
10	1510	12	49	1250	27	91	4210	22	250
11	1310	12	42	1240	23	77	4930	24	319
12	1200	9	29	1230	19	63	5480	20	296
13	1180	6	19	1230	16	53	5920	17	272
14	1190	5	16	1210	20	65	5710	17	262
15	1170	5	16	1220	24	79	5880	17	270
16	1170	19	60	1230	29	96	5790	14	219
17	1170	33	104	1220	35	115	5960	12	193
18	1160	18	56	1230	29	96	5850	14	221
19	1160	6	19	1230	24	80	5860	16	253
20	1170	10	32	1220	24	79	5800	16	251
21	1140	14	43	1220	24	79	5800	17	266
22	1150	18	56	1200	24	78	5760	14	218
23	1180	22	70	1170	24	76	5720	12	185
24	1160	18	56	1170	25	79	5740	13	201
25	1150	14	43	1230	25	83	5680	14	215
26	1150	10	31	1250	21	71	5620	13	197
27	1150	6	19	1190	17	55	5630	13	198
28	1160	6	19	1260	22	75	5630	13	198
29	1150	6	19	1270	28	96	4940	13	173
30	1130	6	18	1250	27	91	4500	13	158
31	---	---	---	1250	26	88	---	---	---
TOTAL	44830	---	1458	37990	---	2198	134050	---	5756
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	3820	13	134	3740	11	111	2110	23	131
2	3370	12	109	3640	11	108	2140	9	52
3	2830	12	92	3690	17	169	2160	9	52
4	2400	13	84	3710	24	240	1970	10	53
5	2390	14	90	3700	8	80	1800	11	53
6	2380	13	84	3730	11	111	1680	12	54
7	2360	13	83	3730	10	101	1650	10	45
8	2350	13	82	3270	10	88	1650	9	40
9	2340	14	88	3280	9	80	1660	10	45
10	2330	16	101	3290	9	80	1640	11	49
11	2320	18	113	3300	11	98	1650	12	53
12	2260	18	110	2930	13	103	1640	13	58
13	2260	19	116	2870	9	70	1600	11	48
14	2320	15	94	2870	6	46	1610	9	39
15	2730	12	88	2910	7	55	1580	9	38
16	2750	20	148	2930	9	71	1570	9	38
17	2790	28	211	2520	8	54	1610	9	39
18	3520	21	200	2520	8	54	1600	9	39
19	3740	14	141	2520	9	61	1560	9	38
20	3760	20	203	2540	10	69	1550	8	33
21	3740	23	232	2530	9	61	1580	8	34
22	3730	26	262	2530	9	61	1590	8	34
23	3710	29	290	2530	8	55	1610	8	35
24	3710	21	210	2160	8	47	1620	8	35
25	3700	14	140	2110	11	63	1620	8	35
26	3700	13	130	2100	14	79	1610	7	30
27	3670	13	129	2080	11	62	1590	7	30
28	3680	12	119	2100	8	45	1610	7	30
29	3670	12	119	2100	11	62	1630	7	31
30	3690	12	120	2110	15	85	1620	7	31
31	3730	12	121	2110	19	108	---	---	---
TOTAL	95750	---	4243	88150	---	2577	50510	---	1322
PERIOD	2101340		111856						

11407150 FEATHER RIVER NEAR GRIDLEY, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. 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
JUN 26...	1055	5620	17.5	13	197	96	98	99	100

11407300 NORTH HONCUT CREEK NEAR BANGOR, CA

LOCATION.--Lat 39°20'32", long 121°29'25", in NW¼SE¼ sec.11, T.17 N., R.4 E., Butte County, 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.--19 years, 49.9 ft³/s (1.413 m³/s), 36,150 acre-ft/yr (44.6 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, 5,380 ft³/s (152 m³/s) Jan. 12, gage height, 10.88 ft (3.316 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	.10	8.9	153	23	74	13	5.1	2.1			
2	0	0	7.9	78	23	74	13	4.6	2.1			
3	0	.20	7.2	56	23	282	13	4.4	1.9			
4	0	9.7	6.7	46	23	240	13	4.1	1.9			
5	0	8.9	6.3	39	22	319	19	3.8	2.2			
6	0	4.2	6.0	35	22	446	19	3.9	2.0			
7	0	2.5	6.2	31	21	184	15	3.8	1.8			
8	0	1.9	6.5	28	20	127	13	3.7	1.7			
9	0	1.5	6.7	36	20	98	12	5.0	1.5			
10	0	1.2	6.7	48	19	81	12	6.2	1.3			
11	0	1.1	7.0	225	19	68	11	6.7	1.1			
12	0	1.3	7.8	2410	19	58	9.6	6.1	1.0			
13	0	1.4	8.5	1060	19	50	9.0	5.7	1.2			
14	0	1.3	9.5	568	49	50	8.6	5.4	1.3			
15	0	1.2	10	294	409	88	8.2	4.9	1.2			
16	0	1.7	11	1370	417	55	7.9	4.8	1.2			
17	0	31	12	707	1350	45	7.8	4.5	1.2			
18	0	23	12	465	681	39	7.7	3.9	1.2			
19	0	15	14	184	2020	31	7.2	3.5	1.1			
20	0	10	19	119	509	26	6.7	3.2	1.1			
21	0	7.2	43	88	1720	24	8.2	2.7	1.0			
22	0	6.3	41	71	411	22	8.1	2.4	1.0			
23	0	15	41	58	216	20	7.4	2.2	1.1			
24	0	17	993	51	132	19	7.3	2.0	1.1			
25	0	16	518	45	96	19	7.1	2.5	1.0			
26	10	35	107	40	75	19	6.7	3.4	1.0			
27	4.4	24	61	35	65	18	6.3	3.2	1.0			
28	1.7	16	43	32	167	17	5.9	3.0	.80			
29	.90	13	35	29	94	15	5.6	3.0	.40			
30	.40	10	221	26	---	15	5.4	3.0	.10			
31	.20	---	459	24	---	14	---	2.1	---			---
TOTAL	17.60	276.70	2741.9	8451	8684	2637	293.7	122.8	38.60	0	0	0
MEAN	.57	9.22	88.4	273	299	85.1	9.79	3.96	1.29	0	0	0
MAX	0	35	993	2410	2020	446	19	6.7	2.2	0	0	0
MIN	0	0	6.0	24	19	14	5.4	2.0	.10	0	0	0
AC-FT	35	549	5440	16760	17220	5230	583	244	77	0	0	0
CAL YR 1979 TOTAL	17546.40			MEAN 48.1	MAX 1410	MIN 0	AC-FT 34800					
WTR YR 1980 TOTAL	23263.30			MEAN 63.6	MAX 2410	MIN 0	AC-FT 46140					

SACRAMENTO RIVER BASIN

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 good. Some small diversions upstream for irrigation.

AVERAGE DISCHARGE.--30 years, 35.4 ft³/s (1.002 m³/s), 25,650 acre-ft/yr (31.6 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.--Peak discharges above base of 1,400 ft³/s (39.6 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. 24	1900	1,660 47.0	7.35 2.240	Feb. 17	1830	1,940 54.9	7.66 2.335
Jan. 12	0630	*3,880 110	9.42 2.871	Feb. 19	1000	2,580 73.1	8.31 2.533
Jan. 13	1900	1,960 55.5	7.69 2.344	Feb. 21	0700	3,120 88.4	8.80 2.682
Jan. 16	1230	1,700 48.1	7.39 2.252				

Minimum daily, 0.42 ft³/s (0.012 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.42	2.6	3.7	89	14	63	17	8.9	4.7	2.7	1.5	1.2
2	.67	2.6	3.3	43	13	65	17	8.8	4.7	3.4	1.2	1.2
3	.61	10	3.1	27	13	179	16	8.6	4.7	4.6	1.7	1.2
4	.63	23	3.1	22	13	157	17	8.2	5.8	3.9	2.1	1.1
5	.62	7.8	3.0	18	12	200	44	7.8	7.3	3.9	1.9	.87
6	.56	4.8	2.9	16	12	210	27	7.9	6.3	4.0	1.4	.69
7	.56	3.6	2.8	14	12	114	22	7.4	5.9	4.2	1.2	.64
8	.87	3.2	2.7	13	11	87	18	7.3	5.8	3.4	1.0	.62
9	1.4	3.0	2.6	24	10	71	16	11	5.5	3.2	.89	.85
10	1.5	3.1	2.7	40	11	61	16	17	5.3	3.1	1.0	.85
11	1.2	3.0	2.7	291	10	53	15	12	4.7	3.3	1.2	.74
12	.93	2.9	3.4	1510	10	45	13	9.3	5.0	3.1	1.4	.66
13	.87	2.6	3.6	710	10	41	13	9.2	5.9	3.3	1.2	.52
14	1.2	2.3	3.4	261	55	57	14	9.2	6.1	3.0	1.5	.65
15	1.8	1.8	3.3	160	236	72	14	8.7	5.9	2.7	1.5	.90
16	1.9	2.0	3.3	648	208	44	13	7.7	5.5	2.6	1.2	.85
17	1.5	39	2.6	367	831	38	13	7.2	5.1	2.8	1.8	.63
18	1.1	14	2.5	217	494	37	13	7.0	4.3	2.5	2.2	.56
19	4.7	8.5	3.0	108	1260	32	12	6.3	4.0	1.8	2.1	.54
20	5.2	4.8	4.5	74	440	29	18	5.6	3.6	1.8	1.9	.62
21	4.6	3.7	16	56	1270	28	20	5.4	3.3	2.1	1.7	.87
22	2.9	3.7	8.2	44	369	26	15	5.1	3.4	1.8	1.3	.91
23	2.4	8.8	27	36	195	24	14	5.3	3.8	1.8	.93	.83
24	2.2	13	657	30	127	23	13	6.2	3.8	1.8	1.6	.85
25	69	61	259	26	94	23	13	6.5	3.5	1.7	1.2	.86
26	15	70	60	23	76	23	12	5.9	3.5	1.3	1.1	1.0
27	4.8	14	30	21	73	21	12	5.5	3.2	1.1	1.0	1.1
28	3.3	7.8	20	20	133	19	12	5.0	2.8	1.2	1.3	.99
29	2.8	5.8	15	18	73	18	11	4.9	2.7	1.3	1.1	.71
30	2.6	4.7	105	16	---	17	10	4.9	2.8	1.1	1.1	.67
31	2.6	---	320	15	---	16	---	4.6	---	1.2	1.2	---
TOTAL	140.44	337.1	1579.4	4957	6085	1893	480	234.4	138.9	79.7	43.42	24.68
MEAN	4.53	11.2	50.9	160	210	61.1	16.0	7.56	4.63	2.57	1.40	.62
MAX	69	70	657	1510	1270	210	44	17	7.3	4.6	2.2	1.2
MIN	.42	1.8	2.5	13	10	16	10	4.6	2.7	1.1	.89	.52
AC-FT	279	669	3130	9830	12070	3750	952	465	276	158	86	49
CAL YR 1979	TOTAL	11335.46	MEAN	31.1	MAX	726	MIN	0	AC-FT	22480		
WTR YR 1980	TOTAL	15993.04	MEAN	43.7	MAX	1510	MIN	.42	AC-FT	31720		

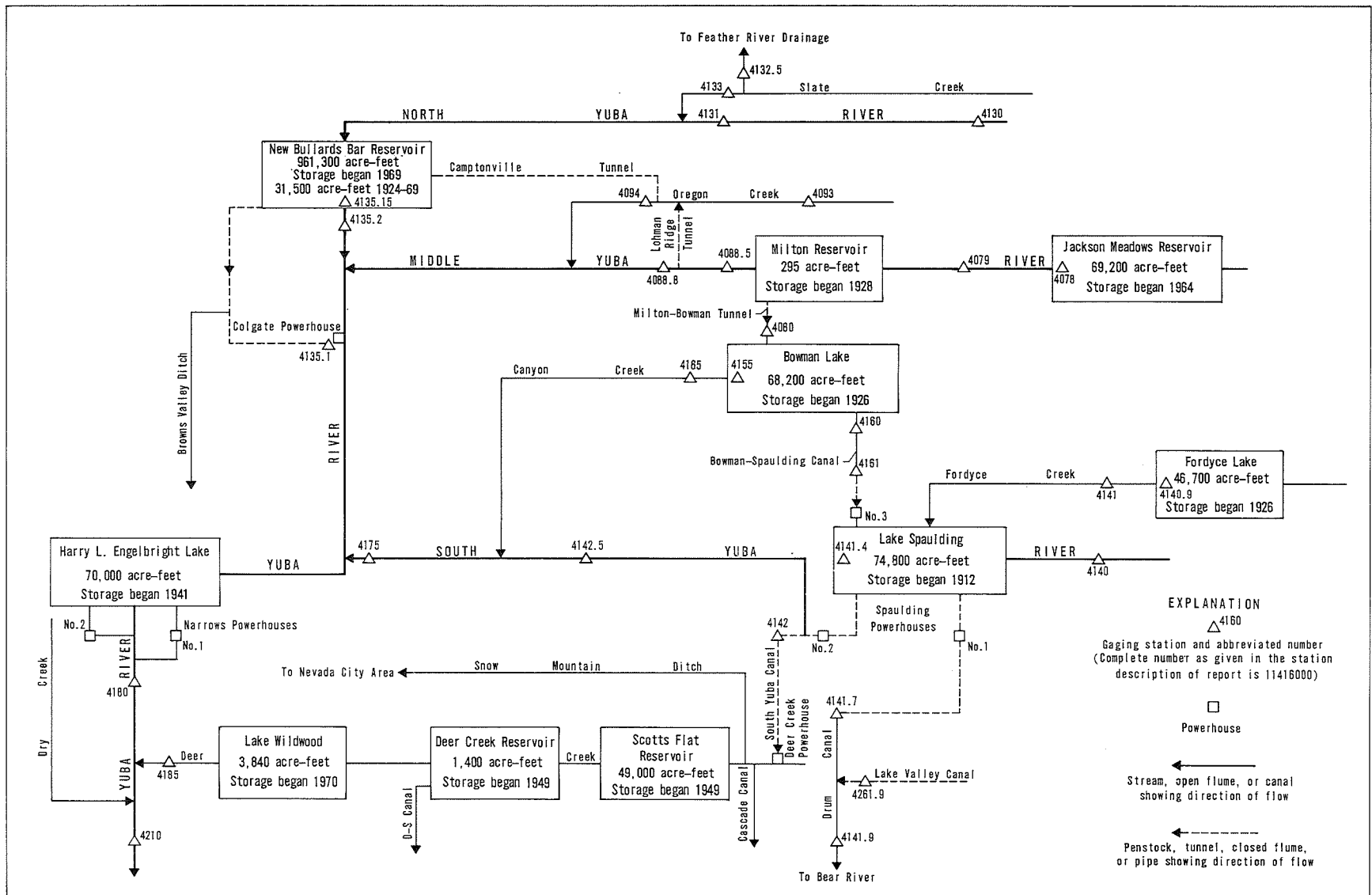


FIGURE 8. — Schematic diagram showing diversions and storage in Yuba River basin.

SACRAMENTO 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, 70,900 acre-ft (87.4 hm³) May 21, elevation, 6,037.6 ft (1,840.260 m); minimum, 25,000 acre-ft (30.8 hm³) Dec. 12-19, elevation, 5,986.2 ft (1,824.594 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54200	47400	30600	26300	49200	54600	54400	55600	69700	70000	66300	65800
2	54200	46700	30100	26300	49300	54600	54400	56300	69700	70200	66300	65600
3	54200	46300	29500	26500	49500	54700	54400	57600	69600	70200	66300	65200
4	54200	45700	29000	26600	49700	54600	54400	59100	69500	70000	66300	64900
5	54200	45200	28500	26600	49800	54700	54500	60400	69700	69900	66200	64500
6	54100	44700	27900	26600	50000	54600	54500	61800	70000	69900	66200	64200
7	54100	44000	27300	26700	50200	54600	54500	63200	70300	69800	66200	63800
8	54100	43500	26800	26800	50300	54500	54400	64300	70500	69800	66200	63400
9	54100	42900	26300	27000	50300	54500	54400	65500	70500	69700	66200	63000
10	54100	42300	25700	27000	50500	54500	54500	66300	70600	69700	66200	62600
11	54100	41700	25200	27300	50600	54500	54500	66800	70500	69700	66200	62200
12	54000	41100	25000	30600	50700	54500	54500	67400	70500	69600	66200	61800
13	54000	40600	25000	39000	50900	54500	54600	68000	70400	69600	66100	61400
14	54000	40000	25000	42300	51100	54500	54700	68700	70300	69600	66100	61200
15	54100	39400	25000	43500	51300	54500	54700	69400	70400	69600	66100	61000
16	54100	38800	25000	44600	51700	54500	54800	69800	70500	69600	66100	60800
17	54100	38200	25000	45400	52700	54500	55000	70000	70500	69600	66100	60500
18	54100	37700	25000	45900	54600	54500	55200	70300	70500	69600	66000	60000
19	54200	37100	25000	46300	55100	54400	55300	70500	70500	69500	66000	59600
20	53800	36500	25100	46700	55100	54400	55400	70800	70400	69500	66000	59200
21	53200	35900	25100	47000	55000	54400	55300	70900	70400	69500	66000	58800
22	52700	35300	25100	47300	55000	54400	55200	70700	70300	69400	66000	58500
23	52200	34800	25200	47600	54900	54400	55200	70400	70200	68900	65900	58200
24	51700	34300	25400	47800	54800	54400	55300	69900	70200	68400	65900	57700
25	51300	33800	25400	47900	54700	54400	55300	69700	70200	67900	65900	57100
26	50800	33300	25500	48200	54700	54400	55400	69500	70200	67500	65900	56500
27	50300	32800	25500	48400	54800	54400	55600	69400	70000	67000	65900	56000
28	49600	32200	25500	48600	54800	54400	55600	69400	70000	66500	65900	55600
29	49000	31700	25600	48800	54700	54400	55800	69400	70000	66300	65800	55200
30	48500	31100	25700	48900	---	54400	55700	69400	70000	66300	65800	54800
31	47900	---	26100	49000	---	54400	---	69600	---	66300	65800	---
MAX	54200	47400	30600	49000	55100	54700	55800	70900	70600	70200	66300	65800
MIN	47900	31100	25000	26300	49200	54400	54400	55600	69500	66300	65800	54800
†	6014.4	5994.7	5987.8	6015.6	6021.6	6021.3	6022.6	6036.4	6036.8	6033.2	6032.7	6021.7
‡	-6400	-16800	-5000	+22900	+5700	-300	+1300	+13900	+400	-3700	-500	-11000

CAL YR 1979 † -700
WTR YR 1980 ‡ +500

† 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 SE¼NW¼ 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).--16 years, 110 ft³/s (3.115 m³/s), 79,700 acre-ft/yr (98.3 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 790 ft³/s (22.4 m³/s) May 22, gage height, 5.81 ft (1.771 m); minimum daily, 3.7 ft³/s (0.10 m³/s) Dec. 27-29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	17	272	275	11	6.5	134	76	534	362	198	5.4	5.3	
2	13	272	273	8.0	6.5	131	79	249	379	221	5.3	86	
3	9.1	272	272	6.5	6.7	133	76	27	362	233	5.3	171	
4	6.9	272	272	5.9	6.7	133	72	27	344	209	5.3	184	
5	6.5	270	272	5.7	6.5	144	95	26	252	184	5.3	173	
6	6.1	277	272	5.7	6.5	140	108	26	146	161	5.3	168	
7	6.1	285	272	5.7	6.5	120	97	26	238	146	5.3	186	
8	6.1	287	269	5.3	6.5	106	85	26	305	136	5.3	205	
9	6.3	287	269	5.5	6.2	97	80	25	351	123	5.3	193	
10	6.1	284	269	5.7	6.1	92	80	25	386	113	5.3	186	
11	6.1	284	266	9.5	6.1	94	80	23	393	105	5.3	203	
12	6.1	284	134	81	6.1	90	85	24	372	99	5.3	196	
13	5.9	287	5.0	128	6.1	87	102	24	344	91	5.3	156	
14	5.6	290	4.9	50	6.2	84	138	25	305	87	5.3	121	
15	6.1	290	4.9	29	7.3	88	171	26	299	80	5.3	121	
16	6.1	290	4.7	24	11	82	200	230	314	72	5.3	117	
17	5.9	290	4.4	22	28	78	246	403	338	66	5.3	182	
18	6.3	289	4.1	17	61	80	311	452	344	60	5.3	231	
19	135	287	4.0	14	248	77	365	500	334	51	5.3	210	
20	260	284	4.0	12	299	79	425	603	321	46	5.3	196	
21	257	284	4.0	12	284	86	484	724	305	42	5.3	179	
22	257	284	4.0	11	248	78	400	734	280	126	5.3	171	
23	255	284	4.3	9.8	213	76	341	616	260	244	5.3	164	
24	264	284	4.9	9.2	181	70	372	488	241	244	5.3	225	
25	276	284	4.5	9.1	161	68	400	411	230	244	5.3	314	
26	275	284	4.0	8.5	150	67	437	354	220	242	5.3	286	
27	273	281	3.7	8.1	144	66	476	321	206	241	5.3	254	
28	272	281	3.7	8.0	160	63	534	308	199	241	5.3	218	
29	272	281	3.7	7.4	145	64	560	302	198	141	5.3	182	
30	272	276	5.3	7.0	---	70	581	305	198	5.8	5.3	212	
31	272	---	14	6.5	---	73	---	331	---	5.7	5.3	---	
TOTAL	3471.3	8476	3207.1	548.1	2429.5	2850	7556	8195	8826	4257.5	164.4	5495.3	
MEAN	112	283	103	17.7	83.8	91.9	252	264	294	137	5.30	183	
MAX	276	290	275	128	299	144	581	734	393	244	5.4	314	
MIN	5.6	270	3.7	5.3	6.1	63	72	23	146	5.7	5.3	5.3	
AC-FT	6890	16810	6360	1090	4820	5650	14990	16250	17510	8440	326	10900	
CAL YR 1979 TOTAL	27059.5	MEAN	74.1	MAX	290	MIN	3.7	AC-FT	53670	MEAN ‡	73.2	AC-FT ‡	52970
WTR YR 1980 TOTAL	55476.2	MEAN	152	MAX	734	MIN	3.7	AC-FT	110000	MEAN ‡	152	AC-FT ‡	110500

‡ 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.--52 years, 72.7 ft³/s (2.059 m³/s), 52,670 acre-ft/yr (64.9 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	281	285	35	6.5	9.9	8.5	14	11	125	7.0	4.7
2	11	281	284	21	6.5	9.7	8.5	14	11	126	6.7	4.0
3	8.5	282	282	17	6.6	9.7	8.5	14	10	125	6.2	149
4	6.7	282	281	15	6.7	9.7	8.5	14	11	125	6.2	175
5	5.4	280	279	13	6.7	9.6	8.5	14	10	124	6.2	167
6	4.8	281	278	13	6.7	9.4	8.5	13	10	123	5.4	161
7	4.4	291	276	12	7.0	9.4	8.4	13	10	123	5.0	172
8	4.4	291	275	12	7.4	9.2	8.5	13	9.9	138	5.0	204
9	4.3	290	274	15	7.6	9.1	8.5	12	10	145	4.7	189
10	4.2	290	273	16	7.9	9.1	8.5	12	10	115	4.5	179
11	4.0	289	270	19	8.2	9.1	8.5	11	9.9	92	4.5	203
12	3.9	288	199	213	8.2	8.9	8.6	11	9.7	86	4.5	196
13	3.9	290	13	285	8.2	9.1	9.0	11	9.5	78	4.3	160
14	4.6	298	7.5	227	8.3	8.8	9.5	11	9.2	72	4.3	108
15	6.4	298	6.4	95	9.2	8.8	9.8	11	9.1	67	4.5	105
16	4.9	298	5.9	74	11	8.7	10	11	9.3	61	4.5	102
17	4.4	300	5.6	66	16	8.8	11	12	11	56	4.5	149
18	4.8	298	5.3	46	21	8.8	12	12	13	51	4.5	228
19	100	296	5.3	34	16	8.8	13	13	12	44	4.5	200
20	272	294	5.5	29	14	8.8	13	13	12	40	4.5	167
21	269	293	6.2	26	12	8.6	13	13	12	36	4.3	174
22	267	293	5.3	24	12	8.5	12	13	11	81	4.3	165
23	267	292	6.1	22	11	8.5	12	12	11	249	4.5	158
24	269	294	9.4	20	11	8.5	13	12	28	250	4.7	184
25	292	296	8.2	19	11	8.5	13	11	52	252	4.7	309
26	291	301	6.3	18	10	8.5	14	11	86	252	4.7	291
27	287	293	5.9	17	10	8.5	14	10	125	252	4.7	254
28	285	290	5.7	17	10	8.5	14	10	125	252	4.7	213
29	284	288	5.7	15	10	8.3	15	10	125	197	4.7	182
30	284	287	9.6	14	---	8.5	14	10	124	15	4.7	178
31	283	---	31	11	---	8.5	---	11	---	8.2	4.7	---
TOTAL	3555.6	8725	3409.9	1460	286.7	276.8	323.3	372	906.6	3760.2	152.2	5186.7
MEAN	115	291	110	47.1	9.89	8.93	10.8	12.0	30.2	121	4.91	173
MAX	292	301	285	285	21	9.9	15	14	125	252	7.0	309
MIN	3.9	280	5.3	11	6.5	8.3	8.4	10	9.1	8.2	4.3	4.7
AC-FT	7050	17310	6760	2900	569	549	641	738	1800	7460	302	10290
CAL YR 1979	TOTAL	29781.2	MEAN	81.6	MAX	301	MIN	3.7	AC-FT	59070		
WTR YR 1980	TOTAL	28415.0	MEAN	77.6	MAX	309	MIN	3.9	AC-FT	56360		

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 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), and other small diversions above station. See schematic diagram of Yuba River basin.

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 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, 15,500 ft³/s (439 m³/s) Jan. 13, gage height, 16.00 ft (4.877 m); minimum daily, 27 ft³/s (0.76 m³/s) Oct. 2-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	53	109	1000	260	917	373	1200	735	210	57	42
2	27	52	100	523	248	866	370	1050	762	239	56	41
3	27	71	93	374	248	907	358	644	719	269	54	40
4	27	140	87	293	251	954	350	673	712	238	54	39
5	27	120	83	253	239	1060	475	673	710	203	54	38
6	28	86	80	235	235	1050	554	642	409	174	52	38
7	29	75	77	231	228	936	497	608	464	149	52	38
8	32	68	75	231	221	818	447	583	576	132	51	38
9	33	64	73	548	211	731	437	631	648	116	50	39
10	33	61	71	776	205	679	443	612	712	108	50	39
11	32	58	68	894	199	658	443	501	744	102	51	39
12	32	56	66	7130	193	617	440	470	709	97	49	38
13	32	55	66	10700	189	570	500	493	659	95	48	37
14	40	54	64	5160	239	566	591	538	599	92	47	37
15	49	52	63	2990	610	609	626	586	567	90	48	37
16	45	52	62	2770	1030	546	662	618	569	86	48	36
17	39	82	60	2250	2190	518	767	950	604	84	49	36
18	39	112	59	1490	3920	520	905	1020	611	82	48	36
19	148	86	61	1060	4190	479	988	1090	605	80	48	36
20	168	73	68	830	2910	467	1130	1230	574	78	45	36
21	104	67	103	677	2540	464	1220	1370	540	76	44	35
22	67	66	89	576	1990	442	994	1420	500	74	44	34
23	57	84	118	495	1560	425	859	1300	462	72	44	34
24	52	159	511	438	1260	409	902	1070	432	70	44	33
25	172	346	440	403	1070	396	947	889	372	69	44	32
26	157	529	214	370	965	382	1010	760	356	66	44	31
27	83	249	156	354	926	370	1090	674	244	65	44	31
28	68	172	131	340	1190	361	1190	630	222	64	43	31
29	61	140	117	308	1030	358	1260	612	215	64	43	31
30	57	122	220	283	---	379	1310	615	213	62	42	30
31	55	---	1430	273	---	379	---	676	---	60	42	---
TOTAL	1848	3404	5014	44255	30547	18833	22138	24828	16244	3466	1489	1082
MEAN	59.6	113	162	1428	1053	608	738	801	541	112	48.0	36.1
MAX	172	529	1430	10700	4190	1060	1310	1420	762	269	57	42
MIN	27	52	59	231	189	358	350	470	213	60	42	30
AC-FT	3670	6750	9950	87780	60590	37360	43910	49250	32220	6870	2950	2150

CAL YR 1979 TOTAL 80640 MEAN 221 MAX 1580 MIN 27 AC-FT 159900
WTR YR 1980 TOTAL 173148 MEAN 473 MAX 10700 MIN 27 AC-FT 343400

NOTE.--No gage-height record Aug. 21 to Sept. 30.

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 Bullards Bar Reservoir via Camptonville tunnel. Other small diversions above station. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE.--12 years, 127 ft³/s (3.597 m³/s), 92,010 acre-ft/yr (113 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, 14,800 ft³/s (419 m³/s) Jan. 13, gage height, 23.01 ft (7.013 m); minimum daily, 18 ft³/s (0.51 m³/s) on several days during January and February.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	28	29	293	18	351	31	371	57	25	31	36
2	28	28	29	36	18	275	31	264	57	25	31	36
3	28	29	29	34	18	292	31	48	58	25	30	36
4	28	29	29	32	18	357	31	49	57	25	30	36
5	28	29	29	32	18	478	32	70	57	25	30	36
6	28	28	29	31	19	476	33	95	54	25	30	36
7	28	28	29	31	25	357	33	66	54	25	29	36
8	28	28	29	31	51	217	33	48	52	25	40	36
9	28	28	29	68	18	122	33	48	50	25	42	36
10	29	28	29	92	18	73	33	49	51	25	36	36
11	29	28	29	249	18	52	33	48	51	25	36	36
12	29	28	29	7820	18	25	33	48	51	25	32	36
13	29	28	29	10900	18	23	33	48	51	25	29	36
14	29	28	29	5220	18	23	37	48	50	25	29	36
15	29	28	29	2830	32	32	43	48	50	25	29	36
16	29	28	29	2420	305	39	45	49	34	25	29	36
17	29	28	29	1890	1460	38	45	73	25	25	30	36
18	29	29	29	1060	3350	37	52	133	25	25	30	36
19	31	29	29	629	4000	37	122	223	26	27	30	36
20	32	29	29	438	2420	37	282	369	27	29	30	36
21	28	29	29	285	1890	37	410	501	27	30	30	36
22	24	29	29	174	1380	37	164	532	27	33	30	36
23	24	29	29	91	985	37	50	454	27	33	30	36
24	24	30	34	42	697	37	55	210	26	28	30	36
25	25	32	34	22	540	37	95	73	26	32	30	36
26	25	34	31	18	431	37	163	67	26	34	30	36
27	24	31	30	18	379	37	255	66	25	32	30	36
28	25	30	30	18	629	36	378	62	25	31	30	36
29	27	30	29	18	478	33	438	57	25	31	30	36
30	27	29	30	18	---	31	481	56	25	31	30	33
31	28	---	741	18	---	31	---	56	---	31	36	---
TOTAL	858	869	1626	34858	19269	3731	3535	4329	1196	852	969	1077
MEAN	27.7	29.0	52.5	1124	664	120	118	140	39.9	27.5	31.3	35.9
MAX	32	34	741	10900	4000	478	481	532	58	34	42	36
MIN	24	28	29	18	18	23	31	48	25	25	29	33
AC-FT	1700	1720	3230	69140	38220	7400	7010	8590	2370	1690	1920	2140
†	2310	5660	7660	26890	28070	33470	41030	45290	32880	5830	1310	210
CAL YR 1979 TOTAL	14578											
MEAN	39.9											
MAX	878											
MIN	24											
AC-FT	28920											
WTR YR 1980 TOTAL	73169											
MEAN	200											
MAX	10900											
MIN	18											
AC-FT	145100											

† 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.--13 years, 68.6 ft³/s (1.943 m³/s), 49,700 acre-ft/yr (61.3 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)
Dec. 31	1530	831 23.5	6.48 1.975
Jan. 13	1900	*3,830 108	10.83 3.301
Feb. 19	1100	1,720 48.7	8.19 2.496

Minimum daily, 1.6 ft³/s (0.045 m³/s) Oct. 3-5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	5.3	22	297	74	241	64	54	29	11	4.3	2.1
2	1.7	4.8	20	175	68	222	61	50	27	15	4.2	2.1
3	1.6	11	17	126	66	249	59	48	27	15	4.0	2.0
4	1.6	48	16	97	65	283	58	45	33	12	3.9	2.0
5	1.6	33	14	82	65	313	92	43	33	11	3.7	2.0
6	1.8	19	13	73	64	301	116	41	27	11	3.6	2.0
7	1.8	13	12	70	61	266	109	39	25	10	3.5	1.9
8	2.0	11	12	67	58	235	97	37	24	9.9	3.3	1.9
9	2.3	9.2	11	183	54	209	96	63	22	9.6	3.2	1.9
10	2.3	8.0	10	286	50	190	92	82	21	9.2	3.1	1.9
11	2.1	7.2	9.5	395	48	176	88	70	20	8.7	3.0	1.9
12	2.1	6.6	9.1	2520	48	157	84	68	20	8.4	2.9	1.9
13	2.1	6.2	8.7	2680	47	143	82	69	20	8.2	2.8	1.9
14	2.9	5.8	8.3	1520	90	149	84	69	19	8.1	2.7	1.9
15	3.8	5.5	8.0	877	180	190	85	66	18	7.9	2.7	1.9
16	3.5	5.5	8.9	1020	326	157	85	63	17	7.4	2.6	1.8
17	2.5	14	11	766	539	144	85	60	17	7.1	2.5	1.8
18	2.7	17	10	510	861	140	89	56	16	6.9	2.5	1.8
19	28	13	12	330	1280	126	89	52	15	6.6	2.4	1.8
20	28	11	15	250	819	118	94	49	15	6.4	2.4	1.8
21	20	9.8	28	200	699	111	92	45	14	6.3	2.3	1.8
22	8.8	9.7	23	175	551	103	84	43	14	6.0	2.3	1.8
23	6.0	14	26	155	456	96	76	41	14	5.7	2.3	1.8
24	4.7	44	171	140	369	91	71	41	13	5.5	2.2	1.8
25	53	79	190	125	306	87	68	39	13	5.3	2.2	1.8
26	26	162	78	118	263	82	66	37	13	5.1	2.2	1.8
27	12	69	52	108	244	77	64	35	12	4.9	2.2	1.8
28	8.8	45	40	100	338	73	63	33	12	4.9	2.2	1.8
29	7.2	33	34	92	280	69	61	31	12	4.9	2.2	1.8
30	6.1	27	76	85	---	67	58	30	12	4.5	2.1	1.8
31	5.7	---	488	80	---	65	---	31	---	4.4	2.1	---
TOTAL	254.4	746.6	1453.5	13702	8369	4930	2412	1530	574	246.9	87.6	56.3
MEAN	8.21	24.9	46.9	442	289	159	80.4	49.4	19.1	7.96	2.83	1.88
MAX	53	162	488	2680	1280	313	116	82	33	15	4.3	2.1
MIN	1.6	4.8	8.0	67	47	65	58	30	12	4.4	2.1	1.8
AC-FT	505	1480	2880	27180	16600	9780	4780	3030	1140	490	174	112
CAL YR 1979 TOTAL	20258.0			MEAN 55.5	MAX 488	MIN 1.3	AC-FT 40180					
WTR YR 1980 TOTAL	34362.3			MEAN 93.9	MAX 2680	MIN 1.6	AC-FT 68160					

SACRAMENTO RIVER BASIN

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 fair except those for August and September, which are poor. 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.--12 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, 4,860 ft³/s (138 m³/s) Jan. 13, 1980, gage height, 9.12 ft (2.780 m); maximum gage height, 9.80 ft (2.987 m) Jan. 12, 1980; minimum daily discharge, 0.34 ft³/s (0.010 m³/s) Sept. 18, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,860 ft³/s (138 m³/s) Jan. 13, gage height, 9.12 ft (2.780 m); maximum gage height, 9.80 ft (2.987 m) Jan. 12; minimum daily discharge, 3.5 ft³/s (0.099 m³/s) on several days during October and September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	6.3	8.1	27	7.5	43	9.5	14	15	11	8.3	6.9
2	3.5	6.3	8.1	12	11	37	9.5	14	15	11	8.2	6.9
3	3.5	6.6	7.3	11	14	30	9.5	14	15	11	8.2	6.6
4	3.5	8.6	6.8	10	14	30	15	14	15	11	8.1	5.4
5	3.5	8.7	7.7	8.6	14	30	23	15	15	9.5	8.2	6.9
6	3.5	8.1	8.6	7.0	14	30	17	15	14	7.8	8.4	7.5
7	3.7	7.9	8.6	6.9	15	30	15	14	12	7.8	6.7	6.9
8	3.8	7.9	8.6	6.8	14	29	17	14	12	7.7	4.4	6.9
9	4.5	7.8	8.5	8.6	14	29	17	15	12	7.5	5.2	7.3
10	5.0	7.7	8.4	11	14	29	17	15	12	7.5	5.4	7.4
11	4.3	7.7	8.4	132	27	29	17	14	12	7.5	9.3	7.3
12	3.8	7.7	8.4	2730	17	29	14	14	12	8.5	7.9	7.2
13	3.8	6.9	8.4	3270	16	28	9.8	14	12	9.2	7.1	6.2
14	6.0	6.3	8.4	1230	15	28	14	15	12	9.2	4.6	6.0
15	8.2	6.3	8.4	253	19	22	15	15	12	9.2	4.6	7.3
16	9.2	6.3	8.3	610	22	12	16	15	9.4	9.2	8.4	6.4
17	8.6	6.7	8.2	215	188	10	16	15	6.9	9.0	12	5.4
18	7.9	7.0	8.1	14	464	10	17	15	7.5	8.9	11	5.9
19	12	6.8	8.3	15	1060	9.8	13	15	7.8	8.0	12	7.0
20	13	6.8	8.5	20	448	9.8	11	15	7.8	7.2	14	7.2
21	7.5	6.9	9.3	24	393	9.8	13	15	8.7	8.3	15	6.8
22	4.2	6.8	9.1	15	270	9.8	13	15	9.1	9.8	16	6.3
23	4.0	8.1	9.1	6.4	136	9.8	13	15	8.5	9.6	13	5.6
24	4.0	9.1	14	7.5	56	9.8	13	15	8.3	9.8	11	4.9
25	4.7	11	14	8.0	44	9.8	14	15	8.2	9.7	11	4.3
26	4.5	12	11	7.8	43	9.8	14	15	8.1	9.5	11	4.0
27	4.0	10	9.4	7.8	43	9.8	14	14	7.8	9.5	11	3.7
28	5.1	9.3	9.0	7.8	50	9.8	14	15	9.2	9.4	11	3.6
29	6.7	8.8	8.9	7.8	43	9.8	14	15	11	9.5	11	3.5
30	6.3	8.5	9.8	7.5	---	9.5	14	14	11	8.6	9.4	4.0
31	6.3	---	216	7.5	---	9.5	---	15	---	8.3	6.9	---
TOTAL	172.2	234.9	483.7	8705.0	3485.5	611.8	428.3	454	326.3	279.7	288.3	181.3
MEAN	5.55	7.83	15.6	281	120	19.7	14.3	14.6	10.9	9.02	9.30	6.04
MAX	13	12	216	3270	1060	43	23	15	15	11	16	7.5
MIN	3.5	6.3	6.8	6.4	7.5	9.5	9.5	14	6.9	7.2	4.4	3.5
AC-FT	342	466	959	17270	6910	1210	850	901	647	555	572	360
‡	2610	7060	10340	44000	42160	44630	46230	48220	33670	5900	958	0
CAL YR 1979 TOTAL	3521.0			MEAN 9.65	MAX 281	MIN 3.1	AC-FT 6980					
WTR YR 1980 TOTAL	15651.0			MEAN 42.8	MAX 3270	MIN 3.5	AC-FT 31040					

‡ Camptonville tunnel diversion, in acre-feet, to New Bullards Bar Reservoir.

11413000 NORTH YUBA RIVER BELOW GOODYEARS BAR, CA

LOCATION.--Lat 39°31'30", long 120°56'13", in NE&SW4 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.--50 years, 750 ft³/s (21.24 m³/s), 543,400 acre-ft/yr (670 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.--Peak discharges above base of 3,200 ft³/s (90.6 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 31	1630	3,480	98.6	Feb. 19	1030	8,160	231
Jan. 13	1730	*28,600	810	May 21	2200	3,300	93.5

Minimum daily, 122 ft³/s (3.46 m³/s) Oct. 4-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	126	186	288	1680	867	1780	839	2270	1760	799	267	195
2	124	179	273	943	830	1720	820	2330	1800	954	259	192
3	123	225	260	715	853	1740	795	2530	1610	864	254	188
4	122	296	248	611	871	1780	783	2730	1510	766	251	186
5	122	279	240	555	823	1900	1020	2750	1410	704	248	183
6	122	238	232	530	815	1890	1120	2700	1290	652	244	181
7	123	224	229	531	786	1820	1100	2600	1320	614	241	180
8	130	211	225	526	757	1700	1080	2480	1420	587	238	186
9	137	204	220	1040	730	1540	1040	2390	1520	557	234	182
10	127	195	217	1410	716	1440	1030	2080	1580	530	230	184
11	124	189	202	1570	695	1390	1030	1780	1570	505	226	186
12	124	184	196	15000	678	1290	1020	1640	1490	483	223	178
13	124	180	201	26500	662	1230	1130	1670	1350	463	220	175
14	137	176	197	12400	746	1220	1360	1750	1230	450	219	177
15	180	173	192	6950	1290	1300	1400	1850	1270	431	219	177
16	160	173	188	5680	2070	1180	1450	1890	1360	413	219	172
17	140	258	184	4980	4000	1140	1650	1970	1400	396	218	169
18	142	245	182	3560	7490	1170	1910	2070	1400	383	213	171
19	517	209	187	2740	7100	1090	2010	2330	1370	367	212	173
20	647	192	203	2260	4650	1060	2240	2650	1300	356	210	170
21	300	184	258	1970	3770	1040	2230	2800	1240	345	205	167
22	231	191	222	1750	3140	991	1780	2800	1150	333	203	163
23	210	216	281	1580	2840	958	1640	2510	1070	320	202	159
24	201	296	658	1450	2450	930	1850	1980	1030	313	202	156
25	730	596	601	1360	2070	905	1880	1710	986	304	200	153
26	512	984	391	1230	1910	875	2020	1530	941	295	202	152
27	278	538	307	1170	1840	854	2170	1440	870	288	204	150
28	232	408	270	1120	2080	837	2350	1410	840	285	199	149
29	209	345	253	1020	1910	833	2510	1420	830	286	198	148
30	197	310	449	941	---	877	2570	1490	802	276	199	144
31	195	---	2280	913	---	860	---	1650	---	272	198	---
TOTAL	6846	8284	10334	104685	59439	39340	45827	65200	38719	14591	6857	5146
MEAN	221	276	333	3377	2050	1269	1528	2103	1291	471	221	172
MAX	730	984	2280	26500	7490	1900	2570	2800	1800	954	267	195
MIN	122	173	182	526	662	833	783	1410	802	272	198	144
AC-FT	13580	16430	20500	207600	117900	78030	90900	129300	76800	28940	13600	10210

CAL YR 1979 TOTAL 217959 MEAN 597 MAX 2870 AC-FT 432300
WTR YR 1980 TOTAL 405268 MEAN 1107 MAX 26500 MIN 122 AC-FT 803800

NOTE.--No gage-height record Jan. 12-14.

SACRAMENTO RIVER BASIN

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.--12 years, 1,182 ft³/s (33.47 m³/s), 856,400 acre-ft/yr (1.06 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)
Dec. 31	1530	7,720 219	11.69 3.563
Jan. 13	1900	*43,600 1,230	22.12 6.742
Feb. 19	1100	14,400 408	13.94 4.249

Minimum daily, 140 ft³/s (3.96 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	270	480	3360	987	2780	1140	2850	1970	977	333	215
2	147	256	446	1900	940	2680	1130	2880	2030	1120	312	215
3	140	350	423	1390	958	2780	1090	3030	1800	1070	306	212
4	140	595	396	1140	973	2880	1080	3250	1750	953	296	209
5	140	561	377	1000	916	3030	1640	3310	1740	880	289	206
6	140	429	362	938	908	2910	1780	3190	1550	821	284	203
7	140	377	351	936	868	2710	1660	3040	1540	777	279	201
8	144	342	343	930	828	2460	1510	2930	1640	748	277	203
9	161	318	333	2060	789	2220	1480	2980	1740	715	267	206
10	152	301	323	2990	770	2070	1480	2550	1820	685	260	203
11	147	285	304	3340	742	2030	1480	2140	1830	651	260	206
12	145	274	284	28200	697	1910	1470	1970	1740	621	254	206
13	145	264	295	39700	688	1740	1630	2030	1580	601	253	200
14	153	256	290	18700	809	1800	2000	2130	1430	579	250	200
15	193	250	280	10400	1760	1990	2000	2260	1450	559	248	200
16	200	248	273	8810	3160	1770	2060	2290	1540	532	250	200
17	168	407	269	7200	6370	1680	2340	2370	1610	511	246	195
18	166	412	261	5040	12500	1700	2740	2490	1600	489	246	194
19	812	337	267	3870	12200	1570	2890	2740	1570	474	243	195
20	1160	299	298	3150	8230	1550	3220	3040	1490	458	243	197
21	525	280	429	2660	6720	1480	3080	3210	1430	445	237	195
22	349	282	377	2370	5490	1400	2450	3240	1340	427	234	194
23	302	338	406	2000	4730	1380	2200	2880	1250	409	232	188
24	282	459	1540	1790	3990	1350	2470	2270	1220	398	232	184
25	1600	1070	1570	1650	3390	1310	2460	1940	1170	385	233	181
26	971	2160	820	1500	3050	1240	2650	1710	1130	373	227	180
27	474	1050	602	1400	2930	1210	2840	1610	1060	357	223	180
28	374	732	505	1320	3540	1180	3090	1570	1030	352	213	178
29	325	602	456	1190	3090	1180	3180	1580	1010	356	212	178
30	295	529	808	1090	---	1240	3240	1660	986	349	212	176
31	285	---	4970	1050	---	1190	---	1850	---	345	213	---
TOTAL	10524	14333	19138	163074	93023	58420	63480	76990	45046	18417	7864	5900
MEAN	339	478	617	5260	3208	1885	2116	2484	1502	594	254	197
MAX	1600	2160	4970	39700	12500	3030	3240	3310	2030	1120	333	215
MIN	140	248	261	930	688	1180	1080	1570	986	345	212	176
AC-FT	20870	28430	37960	323500	184500	115900	125900	152700	89350	36530	15600	11700
CAL YR 1979	TOTAL	340157	MEAN	932	MAX	4970	MIN	140	AC-FT	674700		
WTR YR 1980	TOTAL	576209	MEAN	1574	MAX	39700	MIN	140	AC-FT	1143000		

SACRAMENTO RIVER BASIN

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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.--14 years, 96.4 ft³/s (2.730 m³/s), 69,840 acre-ft/yr (86.1 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	32	54	217	0		0	391	157	40	5.1	
2	0	31	48	233	0		0	396	165	55	4.1	
3	0	55	43	197	0		0	399	148	56	3.1	
4	0	85	40	160	0		0	419	166	43	3.2	
5	0	95	38	143	0		0	409	160	37	2.6	
6	0	55	36	132	0		0	379	132	33	3.3	
7	0	40	35	136	0		0	349	121	31	2.5	
8	0	31	31	218	0		47	327	120	29	2.0	
9	0	31	31	688	0		0	350	119	27	1.1	
10	0	30	30	727	0		0	293	117	26	.70	
11	0	30	26	565	0		0	251	115	24	.34	
12	0	30	28	105	0		0	247	106	23	.17	
13	0	29	29	0	58		0	251	95	21	.10	
14	0	28	27	0	123		0	260	85	20	.11	
15	0	28	25	0	87		0	260	82	19	.08	
16	0	28	25	0	0		0	268	85	18	0	
17	0	70	23	0	0		0	284	87	17	0	
18	0	38	22	0	0		0	288	84	16	0	
19	0	29	24	0	0		0	304	83	15	0	
20	0	24	31	0	0		0	312	76	14	0	
21	0	21	39	0	0		.08	315	69	13	0	
22	8.3	21	32	0	0		5.0	302	64	12	0	
23	22	21	31	0	0		0	271	59	11	0	
24	22	112	42	0	0		0	224	55	10	0	
25	356	310	53	0	0		.50	191	53	9.7	0	
26	140	694	50	0	0		0	166	50	8.7	0	
27	64	249	44	0	0		0	150	45	8.0	0	
28	48	117	40	0	0		203	141	43	7.6	0	
29	41	77	38	0	0		503	137	42	7.3	0	
30	37	63	330	0	---		465	135	41	6.4	0	
31	34	---	492	0	---		---	161	---	5.7	0	---
TOTAL	772.3	2504	1837	3521	268	0	1223.58	8630	2824	663.4	28.50	0
MEAN	24.9	83.5	59.3	114	9.24	0	40.8	278	94.1	21.4	.92	0
MAX	356	694	492	727	123	0	503	419	166	56	5.1	0
MIN	0	21	22	0	0	0	0	135	41	5.7	0	0
AC-FT	1530	4970	3640	6980	532	0	2430	17120	5600	1320	57	0
CAL YR 1979	TOTAL	50306.38	MEAN	138	MAX	846	MIN	0	AC-FT	99780		
WTR YR 1980	TOTAL	22271.78	MEAN	60.9	MAX	727	MIN	0	AC-FT	44180		

11413300 SLATE CREEK BELOW DIVERSION DAM, NEAR STRAWBERRY VALLEY, CA

LOCATION.--Lat 39°36'52", long 121°03'04", in SE4SW4 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 Fenny 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).--20 years, 206 ft³/s (5.834 m³/s), 149,200 acre-ft/yr (184 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, 10,700 ft³/s (303 m³/s) Jan. 13, gage height, 13.89 ft (4.234 m); minimum daily, 6.9 ft³/s (0.195 m³/s) Oct. 4.

Combined flow, maximum discharge, 10,700 ft³/s (303 m³/s) Jan. 13; minimum daily, 6.9 ft³/s (0.195 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	10	9.1	349	149	486	164	42	15	14	14	13
2	7.1	9.8	9.1	85	141	440	157	42	15	14	14	13
3	7.0	10	9.1	27	152	466	150	42	15	14	14	13
4	6.9	10	9.1	17	147	457	155	42	15	14	14	12
5	7.0	9.8	8.7	9.4	136	480	271	42	15	14	14	12
6	7.0	9.4	8.4	9.4	137	424	303	42	15	14	14	12
7	7.1	9.7	8.6	9.4	130	373	269	41	15	14	14	12
8	8.7	9.5	8.4	9.4	122	335	211	41	15	14	14	12
9	10	9.1	8.4	33	114	312	271	41	15	14	14	12
10	9.2	9.1	8.4	31	109	299	298	41	16	14	14	12
11	8.4	9.1	8.4	363	104	292	283	41	15	14	14	13
12	8.3	9.2	8.4	7040	98	260	281	41	14	14	14	12
13	8.6	9.4	8.4	9060	57	240	320	41	14	14	14	12
14	11	9.4	8.4	4280	7.6	266	360	41	14	14	14	12
15	17	9.4	8.4	2500	214	310	358	41	14	14	14	12
16	14	9.2	8.4	2000	839	267	363	29	14	14	15	12
17	12	9.4	8.4	1590	2300	255	424	15	14	14	15	12
18	15	9.4	8.4	1010	5300	241	456	15	14	14	15	12
19	149	9.4	8.4	721	3770	225	472	15	14	14	14	12
20	125	9.4	8.5	559	1910	224	543	15	14	14	14	12
21	58	9.4	8.4	452	1300	207	563	15	14	14	14	11
22	29	9.4	8.4	383	951	194	410	15	14	14	14	11
23	13	9.4	8.6	330	780	192	372	15	14	14	15	11
24	12	9.5	9.4	294	654	188	388	15	14	14	15	11
25	51	9.6	8.9	269	552	182	384	15	14	14	14	11
26	10	11	8.4	242	494	170	406	15	14	14	14	11
27	9.4	9.1	8.4	224	487	166	423	15	14	14	13	11
28	9.6	9.1	8.4	206	653	165	259	15	14	14	13	10
29	11	9.1	8.4	186	570	171	39	15	14	14	13	10
30	11	9.1	8.9	169	---	184	42	15	14	14	13	10
31	11	---	608	160	---	173	---	15	---	14	13	---
TOTAL	670.5	284.4	865.6	32617.6	22377.6	8644	9395	875	432	434	434	351
MEAN	21.6	9.48	27.9	1052	772	279	313	28.2	14.4	14.0	14.0	11.7
MAX	149	11	608	9060	5300	486	563	42	16	14	15	13
MIN	6.9	9.1	8.4	9.4	7.6	165	39	15	14	14	13	10
AC-FT	1330	564	1720	64700	44390	17150	18630	1740	857	861	861	696
MEAN ‡	46.5	92.9	87.2	1170	781	279	354	307	109	35.5	14.9	11.7
AC-FT ‡	2860	5530	5360	71680	44920	17150	21060	18860	6460	2180	918	696

CAL YR 1979 TOTAL 33622.4 MEAN 92.1 MAX 9060 MIN 6.6 AC-FT 66690 MEAN ‡ 174 AC-FT ‡ 126200
WTR YR 1980 TOTAL 77380.7 MEAN 211 MAX 9060 MIN 6.9 AC-FT 153500 MEAN ‡ 272 AC-FT ‡ 197700

‡ 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 NE¼ 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.--14 years, 1,323 ft³/s (37.47 m³/s) 958,500 acre-ft/yr (1.18 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 most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2460	1690	1660	157	3480	3520	3490	3480	1820	3230	3400	3190
2	2570	1900	1550	1920	3480	3520	3490	3450	1900	2950	2950	3090
3	2500	857	1670	2320	3470	3520	3490	2110	2740	2740	3040	3150
4	2360	2100	1520	2300	3470	3520	3490	2620	2030	2240	3110	2880
5	2180	1670	2150	2000	3460	3520	3480	2100	2010	2130	2740	2760
6	1850	1700	1950	2320	3470	3530	3490	1490	2350	2590	3370	3110
7	2090	1520	1450	2250	3460	3530	3490	1460	2120	2570	3370	3140
8	1980	1710	1130	2360	3450	3520	3470	1450	1910	3380	3330	3010
9	2270	1880	1410	2200	3450	3530	3480	1440	2250	3250	3340	3040
10	2440	1750	1960	1920	3450	3530	3470	1390	2000	3330	3330	2970
11	2590	1840	1550	1570	3450	3520	3450	1190	1520	3270	2690	3080
12	2310	1670	2530	383	3450	3530	3470	2470	1900	3020	3220	3100
13	2740	1300	1940	1260	3450	3550	3470	2530	2430	3180	3100	3090
14	1780	1690	1720	460	3440	3510	3470	2650	1740	3230	3050	2920
15	1660	1750	1770	1890	3410	3530	3500	2090	2300	3160	3200	3040
16	1280	1780	1980	3300	3450	3530	3470	2920	2720	3170	2980	2910
17	1770	2010	2400	3460	3430	3520	3480	2550	2970	3030	3200	3030
18	1760	1420	2190	3470	3470	3530	3480	2670	2460	3370	2990	3030
19	1430	2250	1860	3500	3410	3520	3470	2810	2120	3380	3070	3080
20	1400	1490	2380	3500	3540	3520	3470	2480	2310	3380	3200	2900
21	1650	1380	1960	3490	3550	3520	3490	2490	2110	3130	3190	2850
22	1890	999	1640	3490	3150	3520	3470	1600	2030	2990	3130	2960
23	1610	2180	1940	3500	2730	3520	3480	2580	2380	3260	3010	3010
24	2070	1480	336	3500	3180	3520	3480	2670	2610	3190	2740	3030
25	1380	1340	472	3500	3530	3500	3480	2460	3320	3010	2790	2930
26	1600	1370	1820	3500	3530	3510	3480	2080	3200	2940	3100	2810
27	1390	1600	2800	3480	3560	3510	3340	2620	2680	3100	2950	2920
28	2210	1760	3040	3490	3520	3500	3480	3280	2100	1690	3170	2910
29	1720	1550	2410	3480	3510	3500	3490	2360	2180	2490	3140	2970
30	1730	1380	525	3480	---	3500	3490	1930	2650	3500	3150	2930
31	2030	---	76	3480	---	3490	---	2510	---	2830	3180	---
TOTAL	60700	49016	53789	80930	99400	109090	104250	71930	68860	92730	96230	89840
MEAN	1958	1634	1735	2611	3428	3519	3475	2320	2295	2991	3104	2995
MAX	2740	2250	3040	3500	3560	3550	3500	3480	3320	3500	3400	3190
MIN	1280	857	76	157	2730	3490	3340	1190	1520	1690	2690	2760
AC-FT	120400	97220	106700	160500	197200	216400	206800	142700	136600	183900	190900	178200
CAL YR 1979 TOTAL	503733.0			MEAN 1380	MAX 3640	MIN 0	AC-FT 999200					
WTR YR 1980 TOTAL	976765			MEAN 2669	MAX 3560	MIN 76	AC-FT 1937000					

SACRAMENTO RIVER BASIN

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, 228,289 acre-ft (281 hm³) Nov. 20, 1977, elevation, 1,729.03 ft (527.008 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 837,732 acre-ft (1.03 km³) June 14, elevation, 1,928.00 ft (587.654 m); minimum, 339,226 acre-ft (418 hm³) Sept. 30, elevation, 1,780.30 ft (542.635 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	619447	530518	473926	434396	754726	794900	773411	766833	827897	813375	675495	504034
2	614778	527291	471797	436245	751667	793823	770428	767617	829892	810295	670752	498267
3	610310	527226	469675	435262	748739	795469	767163	770965	829493	807947	665466	492353
4	606040	524789	467708	433558	745575	798344	764278	773452	830979	806029	660208	486978
5	602319	523169	464393	432263	742097	801905	763537	777357	832065	804030	655424	482039
6	598788	520905	461691	430095	738789	804914	762961	781777	831370	801141	649513	476061
7	595096	518874	459297	427875	735412	807179	761646	786380	831456	797879	643489	470129
8	591347	516461	457805	425592	731684	808501	759759	790580	832065	793106	637608	464693
9	587230	513736	456019	426590	727889	809312	758001	795807	832500	788478	631652	458999
10	582969	510861	452810	430797	723908	809483	756074	799784	833676	783658	625585	453347
11	578224	507996	449742	437519	720099	809825	754113	802839	835854	778649	620888	447740
12	574097	505268	445860	512138	715987	809483	752156	803562	837033	774282	615209	441881
13	568963	503401	442757	618152	712046	808800	750649	803689	836858	769311	609775	436071
14	565896	500657	440133	676826	708630	808715	749734	804243	837732	764566	604266	430596
15	563178	497733	437230	704989	708590	808885	749470	806029	837295	759841	598647	424738
16	560875	494945	433905	729086	714606	808160	748820	806072	836335	754930	593077	419212
17	557600	492447	429736	746791	731084	807307	749064	807818	835113	750161	587752	413453
18	554941	490610	425735	758201	768071	806412	750446	809184	834677	745170	582370	407606
19	555176	486978	422721	764360	804625	804965	752075	810722	835113	739515	576846	401948
20	555613	484782	419015	768278	824910	803477	754521	813856	834677	733887	571150	396206
21	553798	482685	416396	770428	836858	801736	756769	817108	834677	728687	565352	390246
22	550984	481546	413956	771587	832587	799699	757383	822318	834459	724186	559590	385145
23	548712	578202	411386	771794	820378	797625	757465	824693	833371	718358	554067	379292
24	545182	476947	416959	771380	812219	795343	758201	825991	831848	713621	549279	373236
25	547278	477742	421757	770552	806455	792853	758980	826770	828591	708512	544219	367762
26	546779	480809	421050	769145	801778	790327	760087	827724	825558	703973	538528	362342
27	545182	480348	417240	767658	799022	787554	761461	827290	822965	698559	533169	356594
28	541898	478783	412474	765761	798175	784704	763249	825558	821240	696346	527487	350907
29	539220	477283	408965	763332	796060	781902	764648	825385	819516	692360	521616	344909
30	536584	476030	410355	760661	---	779148	766215	826121	816936	686580	515787	339226
31	533267	---	424028	757874	---	776359	---	826303	---	681596	509969	---
MAX	619447	578202	473926	771794	836858	809825	773411	827724	837732	813375	675495	504034
MIN	533267	476030	408965	425592	708590	776359	748820	766833	816936	681596	509969	339226
†	1848.03	1829.94	1812.30	1909.12	1918.30	1913.60	1911.15	1925.37	1923.20	1889.85	1840.82	1780.30
‡	-90653	-57237	-52002	+333846	+38186	-19701	-10144	+60088	-9367	-135340	-171627	-170743

CAL YR 1979 † -21363

WTR YR 1980 ‡ -284694

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

‡ Change in contents, in acre-feet.

11413520 NORTH YUBA RIVER BELOW NEW BULLARDS BAR DAM, NEAR NORTH SAN JUAN, CA

LOCATION.--Lat 39°22'48", long 121°08'19", in SW¼NE¼ sec.36, T.18 N., R.7 E., Yuba County, 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).--11 years (water years 1970-80), 155 ft³/s (4,390 m³/s), 112,300 acre-ft/yr (138 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, 16,500 ft³/s (467 m³/s) Feb. 22, gage height, 19.69 ft (6.002 m); minimum daily, 3.0 ft³/s (0.085 m³/s) June 22-24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	4.8	4.4	7.7	5.7	1850	3.3	3.5	4.7	3.8	5.1	8.7
2	5.7	4.8	4.4	6.1	5.7	1070	3.7	3.5	4.7	5.4	5.0	8.9
3	5.7	4.8	4.4	5.5	5.7	466	3.8	3.3	4.8	6.1	4.8	8.7
4	5.5	4.6	4.3	5.2	5.6	11	3.9	3.2	5.0	6.3	5.0	8.3
5	5.6	4.6	4.3	5.1	5.6	9.3	5.4	3.2	4.8	6.4	7.2	8.3
6	5.9	4.4	4.3	4.8	5.5	8.7	5.1	3.2	4.4	6.1	7.9	8.5
7	5.9	4.1	4.3	4.8	5.4	7.2	4.6	3.2	4.0	5.7	8.1	8.3
8	5.7	4.0	4.3	4.8	5.2	7.9	4.3	3.2	3.9	5.4	8.1	8.3
9	5.7	3.9	4.3	6.1	5.2	8.2	4.2	4.3	3.8	5.2	8.6	8.3
10	5.7	3.9	4.3	6.3	5.2	8.1	4.2	4.3	3.8	5.2	9.1	8.3
11	5.7	3.9	4.3	7.5	5.2	7.5	4.1	3.6	3.7	5.2	9.2	8.1
12	5.5	3.9	4.3	22	5.2	7.0	4.1	3.3	3.6	5.3	9.0	7.9
13	5.5	3.9	4.3	18	5.2	6.8	3.9	3.2	3.5	5.2	9.0	7.5
14	5.5	3.9	4.3	13	6.5	7.2	3.9	3.2	3.4	5.2	9.0	7.5
15	5.5	3.9	4.3	10	7.9	7.0	3.9	3.3	3.4	5.0	9.0	7.5
16	5.3	4.0	4.3	15	8.4	6.6	3.7	4.8	3.4	5.3	8.8	7.5
17	5.3	5.3	4.3	13	9.8	6.6	3.7	5.8	3.3	5.4	8.6	7.5
18	5.3	5.2	4.3	9.7	11	6.5	3.7	6.1	3.2	5.4	8.7	7.7
19	6.8	4.7	4.4	8.2	18	5.6	3.7	6.2	3.1	5.2	9.1	7.7
20	5.3	4.4	4.9	7.5	13	4.5	3.7	5.9	3.1	5.2	9.0	7.7
21	5.3	4.3	5.6	7.0	3910	3.8	3.7	5.6	3.1	5.1	9.0	7.5
22	5.3	4.3	5.2	6.6	14200	3.6	3.7	5.4	3.0	5.0	8.9	7.3
23	5.3	4.4	5.2	6.4	14800	3.5	3.6	4.9	3.0	4.9	9.0	7.5
24	5.1	5.0	7.2	6.2	6480	3.4	3.5	4.0	3.0	4.9	9.3	7.5
25	9.5	6.3	8.1	6.2	5970	3.4	3.5	4.2	3.1	4.9	9.3	7.5
26	6.0	6.4	6.8	6.1	4030	3.4	3.5	4.1	4.6	5.0	9.6	7.7
27	5.1	5.3	5.7	6.1	3010	3.4	3.5	4.9	5.8	5.0	11	7.9
28	4.9	4.8	5.3	6.0	2970	3.3	3.5	4.7	5.3	4.9	9.5	7.9
29	4.9	4.5	4.9	5.9	2900	3.2	3.5	6.0	4.2	5.1	8.5	7.7
30	4.9	4.4	5.8	5.7	---	3.2	3.5	5.0	3.9	5.2	8.5	7.7
31	4.9	---	8.8	5.7	---	3.1	---	4.6	---	5.1	8.5	---
TOTAL	174.0	136.7	155.6	248.2	58415.0	3549.0	116.4	133.7	116.6	163.1	259.4	237.4
MEAN	5.61	4.56	5.02	8.01	2014	114	3.88	4.31	3.89	5.26	8.37	7.91
MAX	9.5	6.4	8.8	22	14800	1850	5.4	6.2	5.8	6.4	11	8.9
MIN	4.9	3.9	4.3	4.8	5.2	3.1	3.3	3.2	3.0	3.8	4.8	7.3
AC-FT	345	271	309	492	115900	7040	231	265	231	324	515	471

CAL YR 1979 TOTAL 2472.6 MEAN 6.77 MAX 19 AC-FT 4900
WTR YR 1980 TOTAL 63705.1 MEAN 174 MAX 14800 MIN 3.0 AC-FT 126400

11414000 SOUTH YUBA RIVER NEAR CISCO, CA

LOCATION.--Lat 39°19'12", long 120°33'38", in SE¼SW¼ sec.19, T.17 N., R.13 E., Nevada County, 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.--38 years, 197 ft³/s (5.579 m³/s), 142,700 acre-ft/yr (176 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.--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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 13	1930	*9,320 264	14.27 4.349	May 4	2100	1,830 51.8	6.96 2.121
Feb. 18	0200	2,130 60.3	7.41 2.259	May 21	2130	1,940 54.9	7.14 2.176

Minimum daily, 3.2 ft³/s (0.091 m³/s) Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	34	66	489	111	160	137	957	724	396	21	36
2	8.7	33	59	207	106	153	128	1110	733	597	18	30
3	8.8	42	53	149	108	149	119	1240	518	523	15	29
4	8.9	49	52	121	114	136	124	1330	488	361	14	28
5	10	47	47	103	123	131	138	1240	452	277	13	25
6	9.0	42	47	94	138	128	124	1190	456	229	12	21
7	9.1	41	56	91	132	118	112	1090	618	205	11	21
8	9.2	38	57	91	119	111	113	1030	806	190	11	20
9	9.0	35	59	109	113	112	136	852	878	166	9.5	20
10	8.8	31	55	113	114	123	162	518	894	145	9.1	21
11	8.8	28	40	241	107	135	193	373	842	131	8.5	20
12	8.9	27	36	3890	101	116	232	348	749	122	8.3	19
13	9.0	25	35	7370	99	110	366	413	591	111	8.1	19
14	11	23	32	3080	117	107	475	485	528	100	7.0	19
15	13	22	30	951	152	104	480	664	680	91	6.6	18
16	11	45	29	692	246	97	580	822	795	82	5.3	18
17	30	78	26	594	856	102	780	949	798	76	3.2	23
18	38	78	26	371	1540	106	864	1050	772	66	5.8	23
19	145	63	27	266	677	97	943	1240	701	57	5.8	22
20	130	54	27	233	361	110	963	1320	641	50	5.4	21
21	61	50	29	210	250	104	734	1350	603	47	4.5	21
22	54	50	30	191	213	96	429	1230	537	41	7.5	19
23	49	53	30	176	190	100	465	853	475	36	9.5	16
24	49	178	31	172	181	105	757	473	468	32	9.4	17
25	138	294	41	177	169	103	842	350	464	27	9.4	17
26	101	191	42	164	168	96	953	292	431	23	10	14
27	59	112	37	152	180	100	1060	313	378	21	11	25
28	50	88	33	145	191	113	1090	380	391	19	10	25
29	44	81	32	128	167	137	1220	512	413	18	15	23
30	39	77	76	117	---	178	1070	626	381	17	51	23
31	36	---	474	117	---	156	---	716	---	31	38	---
TOTAL	1175.4	2009	1714	21004	7143	3693	15789	25316	18205	4287	372.9	653
MEAN	37.9	67.0	55.3	678	246	119	526	817	607	138	12.0	21.8
MAX	145	294	474	7370	1540	178	1220	1350	894	597	51	36
MIN	8.7	22	26	91	99	96	112	292	378	17	3.2	14
AC-FT	2330	3980	3400	41660	14170	7330	31320	50210	36110	8500	740	1300
CAL YR 1979 TOTAL	59830.0			MEAN 164	MAX 1380	MIN 2.3	AC-FT 118700					
WTR YR 1980 TOTAL	101361.3			MEAN 277	MAX 7370	MIN 3.2	AC-FT 201000					

11414000 SOUTH YUBA RIVER NEAR CISCO, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: October 1979 to September 1980.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JAN 24...	1130	164	45	7.0	11.4	--	--	12	3.0	1.0	4.0
MAR 20...	1030	110	--	7.0	11.1	4	.8	--	--	--	--
SEP 25...	0930	16	30	7.5	8.4	--	--	5	2.0	.0	3.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
JAN 24...	.5	8	.0	6.0	34	--	.04	.00	.40	.00	.00
MAR 20...	--	--	--	--	--	4	--	--	--	--	--
SEP 25...	.5	7	.0	3.0	21	--	.01	.00	.10	.00	.00

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
JAN 24...	1130	--	--	0	0	--	--
MAR 20...	1030	--	--	--	--	--	--
SEP 25...	0930	0	0	0	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
JAN 24...	--	--	--	--	--	--	--
MAR 20...	--	--	--	--	--	.8	.00
SEP 25...	50	0	0	.0	10	--	--

SACRAMENTO RIVER BASIN

11414090 FORDYCE LAKE NEAR CISCO, CA

LOCATION.--Lat 39°22'43", long 120°29'39", in NE¼SE¼ 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. Capacity, 46,662 acre-ft (57.5 hm³) between gage heights 0.85 ft (0.259 m), bottom of outlet valve and 111.6 ft (34.02 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 1978-80.--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, 46,737 acre-ft (57.6 hm³) June 25, gage height, 111.72 ft (34.052 m); minimum, 250 acre-ft (0.31 hm³) Oct. 31 to Nov. 7, 1979.

Capacity table (gage height, in feet, and contents, in acre-feet)

4	238	40	8,001
5	331	50	11,836
10	831	60	16,196
15	1,643	70	21,298
20	2,447	80	26,863
25	3,563	90	32,735
30	4,862	100	39,106
35	6,350	113	47,529

CONTENTS, IN ACRE-FEET, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1318	250	5336	8415	26696	21217	8879	15351	41150	46549	46247	40505
2	1369	250	5695	8534	26788	21325	8218	15551	41932	46530	46191	39158
3	1369	250	5843	8629	26880	21433	7551	15751	42509	46468	46127	38352
4	1318	250	6029	8684	26975	21541	7107	16051	43074	46537	46058	37594
5	1318	250	6178	8739	27076	21649	6440	18731	43133	46562	46001	36814
6	1318	250	6315	8772	26902	21768	5773	20076	43113	46562	45950	36029
7	1318	250	6452	8824	26953	21828	5395	21282	43306	46637	45887	35257
8	1318	402	6615	8872	26765	21828	5400	22464	43769	46662	45887	34474
9	1352	554	6746	8983	26041	21893	5400	23339	44387	46612	45708	33708
10	1352	706	6882	10130	25310	21996	5400	23861	44740	46543	45677	32929
11	1352	858	6969	11110	24560	22100	5500	24220	44714	46649	45619	32171
12	1352	1010	7058	16195	23855	22200	5550	24526	44616	46662	45574	31430
13	1352	1152	7150	20130	23114	22300	5600	24891	44537	46643	45593	30673
14	1337	1314	7219	22100	22398	22400	5650	25345	44948	46574	45581	29927
15	1339	1470	7272	23242	21708	21600	7077	26030	45842	46518	45587	29206
16	1386	1861	7299	24800	21708	20800	7646	26863	46210	46568	45593	28515
17	1386	1861	7319	25100	22088	20000	8339	27779	46153	46606	45587	27791
18	1386	1861	7332	25200	22468	19200	9185	28897	46102	46643	45561	27076
19	1420	2231	7355	25280	22868	17623	10159	30290	46071	46662	45542	26368
20	1420	2326	7379	25373	23268	16884	11109	31913	46392	46662	45555	25647
21	1320	2479	7402	25584	23468	16145	11836	33594	46512	46662	45516	24863
22	1180	2679	7409	25721	23668	15406	12265	35238	46417	46662	45497	24137
23	1040	2894	7486	25852	23868	14667	12665	36131	46405	46606	45561	23416
24	940	3543	7608	25973	24068	13928	13182	36622	46562	46530	45638	22671
25	870	4022	7644	26076	24268	13188	13298	36954	46737	46468	45298	21936
26	690	4407	7673	26179	20745	12448	13449	37242	46612	46443	44662	21185
27	530	4520	7670	26282	20890	12214	13893	37594	46549	46392	43854	20441
28	450	4904	7694	26386	21002	11547	14270	37979	46656	46355	43067	19675
29	390	5132	7707	26437	21099	10880	14804	38583	46731	46348	42276	18926
30	300	5336	7817	26512	---	10213	15194	39396	46643	46317	41718	18180
31	250	---	8192	26604	---	9546	---	40232	---	46279	41118	---
MAX	1420	5336	8192	26604	27076	22400	15194	40232	46737	46662	46247	40505
MIN	250	250	5336	8415	20745	9546	5395	15351	41150	46279	41118	18180
†	4.13	31.66	40.54	79.55	69.63	44.20	57.80	101.74	111.57	110.99	103.10	64.05
‡	-1068	+5086	+2856	+18412	-5505	-11553	+5648	+25038	+6411	--364	-5161	-22938
CAL YR 1979	†	+5256										
WTR YR 1980	†	+16862										

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

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.--14 years, 129 ft³/s (3.653 m³/s), 93,460 acre-ft/yr (115 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, 1,190 ft³/s (33.7 m³/s) July 2, gage height, 4.81 ft (1.466 m); minimum daily, 3.9 ft³/s (0.11 m³/s) Oct. 11, Nov. 8, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	23	11	14	25	19	376	401	28	600	36	548
2	5.2	10	11	14	24	19	370	407	29	828	36	549
3	5.4	6.3	11	14	24	19	358	407	30	580	36	545
4	5.4	7.8	11	14	24	19	352	413	31	407	36	538
5	5.4	12	11	14	24	19	352	170	212	340	37	536
6	5.6	13	12	14	25	19	346	19	310	287	38	534
7	5.2	8.6	12	14	25	19	156	19	304	206	37	529
8	5.2	3.9	12	14	225	19	11	20	310	201	37	526
9	5.2	3.9	12	14	495	19	11	20	322	242	37	525
10	4.2	4.0	12	14	489	19	12	20	593	167	37	521
11	3.9	4.6	12	17	482	19	12	20	736	116	36	515
12	5.6	5.0	12	33	476	19	12	20	716	136	36	511
13	4.6	5.6	12	36	489	299	13	22	508	175	63	507
14	4.2	6.5	11	25	489	489	14	22	163	175	93	505
15	4.0	7.2	11	24	489	489	14	22	67	152	93	501
16	4.0	8.0	11	25	482	482	15	22	521	93	91	498
17	4.0	8.6	9.9	25	482	476	16	23	917	65	92	495
18	4.4	8.9	9.9	25	476	470	16	23	871	64	91	493
19	6.5	16	9.9	25	489	463	17	25	736	64	92	489
20	7.2	12	9.9	25	489	457	18	25	419	65	92	481
21	58	12	9.9	25	203	457	18	26	547	66	91	478
22	77	12	10	25	19	450	18	26	620	75	67	474
23	75	12	11	25	19	444	18	27	534	81	34	468
24	64	11	11	25	19	438	170	27	407	80	34	465
25	81	12	11	25	19	432	388	27	438	68	322	462
26	92	10	11	26	19	425	388	27	580	59	514	453
27	87	10	11	26	19	413	394	27	489	47	574	452
28	89	10	12	26	19	407	394	27	425	37	572	445
29	81	11	12	26	19	394	401	28	482	36	569	442
30	55	11	14	26	---	382	401	28	567	36	565	436
31	37	---	18	25	---	382	---	28	---	36	560	---
TOTAL	896.8	285.9	354.5	680	6578	8477	5081	2418	12912	5584	5048	14921
MEAN	28.9	9.53	11.4	21.9	227	273	169	78.0	430	180	163	497
MAX	92	23	18	36	495	489	401	413	917	828	574	549
MIN	3.9	3.9	9.9	14	19	19	11	19	28	36	34	436
AC-FT	1780	567	703	1350	13050	16810	10080	4800	25610	11080	10010	29600

CAL YR 1979 TOTAL 37626.8 MEAN 103 MAX 629 MIN 3.5 AC-FT 74630
WTR YR 1980 TOTAL 63236.2 MEAN 173 MAX 917 MIN 3.9 AC-FT 125400

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, 74,773 acre-ft (92.2 hm³) July 2, gage height, 205.0 ft (62.48 m); minimum, 14,420 acre-ft (17.8 hm³) Dec. 28, gage height, 85.30 ft (26.000 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46807	39650	33089	21639	51996	54635	42220	63604	72289	74417	54464	40506
2	45512	39349	32950	21693	50959	53947	41908	64558	72866	74773	53427	40880
3	44839	39367	32240	21146	50011	53263	40439	65806	72880	74605	52411	41044
4	44033	40567	31231	20477	49089	52457	40194	66987	72948	74431	51508	41204
5	42880	40416	30193	20317	48147	51795	40225	67651	72997	74159	50669	41411
6	42549	39853	29181	20291	47417	50999	40103	67875	73128	73680	49820	42361
7	42215	39246	28283	19784	46490	50096	40429	68232	73272	73397	48983	43301
8	41576	38634	28107	19136	45621	49179	39904	68531	73708	73121	48191	43624
9	40926	38086	27919	19030	45377	48258	39393	68544	74173	72886	47367	43751
10	40291	37991	27142	19450	45129	47340	38910	68372	73937	72612	46517	43863
11	39342	37887	26047	20927	44855	46501	38534	68239	73909	72057	45723	43980
12	38889	37754	25027	41364	44518	45615	38190	67961	73888	71451	44914	44171
13	38945	37281	24086	68292	44118	44973	37699	68047	73833	70949	44006	44518
14	39015	36653	22905	67816	43704	44812	38145	68272	73771	70814	43164	44780
15	38950	35940	22325	66431	44224	44651	38519	68910	73584	70181	42356	44454
16	38694	35219	21674	66411	45404	44443	39151	69778	74264	69457	41643	43985
17	38494	34790	20541	65910	48865	44283	40398	70794	74083	68597	41008	43502
18	38494	34316	19432	63949	56061	44096	41804	72146	74020	67743	40358	43001
19	39099	33704	18740	62550	58870	43932	44294	73798	73979	66869	39752	42581
20	40056	33098	17140	61787	59719	43799	46720	74180	73930	66001	39136	42340
21	40413	32429	16342	61104	59973	43592	47748	74319	74138	65119	38534	42111
22	40516	32360	16332	60481	59510	43349	47820	74236	73888	64205	37917	41638
23	40260	32885	15829	59911	58907	43112	47892	73791	74076	63343	37212	41070
24	39853	33821	14911	59208	58234	42875	48904	73563	74389	62449	36517	40490
25	39980	35862	15048	58485	57493	42644	50595	72852	74703	61517	36099	39884
26	42319	36196	15267	57699	56781	42351	52619	72009	74717	60562	36182	39423
27	42817	35559	14818	56847	56234	42069	54801	71322	74473	59596	36391	39469
28	41158	34733	14420	55971	55941	41851	57191	70949	74487	58564	36532	39747
29	40962	33882	14685	54996	55328	41747	58748	70861	74738	57578	36820	39823
30	40469	33205	15747	54006	---	41763	62253	71193	74584	56510	38066	39849
31	40123	---	19461	53013	---	41654	---	71716	---	55500	39297	---
MAX	46807	40567	33089	68292	59973	54635	62253	74319	74738	74773	54464	44780
MIN	38494	32360	14420	19030	43704	41654	37699	63604	72289	55500	36099	39423
†	147.23	133.03	99.78	170.88	174.82	150.21	186.13	200.57	204.73	175.11	145.60	146.69
‡	-7625	-6918	-13744	+33552	+2315	-13674	+20599	+9463	+2868	-19084	-16203	+552

CAL YR 1979 † -7031

WTR YR 1980 † -7899

† Gage height, in feet, at end of month.

‡ Change in contents, in acre-feet.

11414170 DRUM CANAL AT TUNNEL OUTLET, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'03", long 120°39'08", in SE¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, 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.--16 years, 522 ft³/s (14.78 m³/s), 378,200 acre-ft/yr (466 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	534	547	351	73	841	836	840	833	830	833	804	109
2	647	461	352	533	839	834	840	837	828	833	808	532
3	269	90	581	790	823	840	839	834	827	819	806	637
4	328	91	791	796	838	842	837	837	776	830	744	642
5	501	414	798	472	840	834	822	838	831	835	695	623
6	105	619	794	397	834	836	837	835	833	832	690	209
7	100	615	715	668	839	838	841	832	834	811	688	210
8	226	611	341	778	838	836	839	834	834	796	685	548
9	264	582	347	719	835	840	836	835	833	765	682	662
10	253	345	660	421	835	835	822	835	834	801	675	663
11	388	348	778	533	833	836	814	835	830	800	672	667
12	235	347	771	190	835	835	833	836	828	783	667	610
13	95	516	762	528	839	839	839	838	828	780	702	512
14	93	601	758	764	821	838	842	836	828	571	738	512
15	201	597	485	753	838	831	841	831	828	804	733	637
16	247	591	513	754	836	836	831	834	828	805	687	670
17	245	587	787	748	838	838	841	836	827	802	637	668
18	244	583	778	786	785	838	841	837	823	797	632	668
19	199	577	782	805	822	839	349	836	820	795	629	618
20	90	570	774	817	833	838	828	837	824	783	626	512
21	90	566	614	839	833	838	839	837	828	792	623	513
22	185	190	208	837	836	838	839	834	833	796	619	642
23	389	90	529	837	830	840	845	838	832	784	616	662
24	448	91	733	834	836	838	841	833	830	784	610	692
25	434	396	176	830	839	836	838	823	828	796	608	692
26	383	708	113	833	837	834	838	835	831	799	608	613
27	92	791	448	834	835	840	840	835	832	793	610	512
28	80	793	388	833	831	842	837	833	832	795	611	515
29	477	796	77	828	839	841	837	833	836	798	571	615
30	498	674	78	837	---	841	837	831	834	802	106	649
31	495	---	160	844	---	839	---	836	---	797	107	---
TOTAL	8835	14787	16442	21511	24158	25966	24603	25874	24840	24611	19689	17014
MEAN	285	493	530	694	833	838	820	835	828	794	635	567
MAX	647	796	798	844	841	842	845	838	836	835	808	692
MIN	80	90	77	73	785	831	349	823	776	571	106	109
AC-FT	17520	29330	32610	42670	47920	51500	48800	51320	49270	48820	39050	33750
CAL YR 1979	TOTAL	190087.00	MEAN	521	MAX	845	MIN	.00	AC-FT	377000		
WTR YR 1980	TOTAL	248330.00	MEAN	678	MAX	845	MIN	73	AC-FT	492600		

SACRAMENTO RIVER BASIN

11414190 DRUM CANAL ABOVE DRUM FOREBAY, NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'50", long 120°43'47", in NE¼SW¼ sec.10, T.16 N., R.11 E., Placer County, 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.

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

GAGE.--Water-stage recorder. Altitude of gage is 4,800 ft (1,463 m), from topographic map.

REMARKS.--Flow represents water diverted from South Yuba River through Spaulding No. 1 powerplant plus diversion from North Fork American River basin by way of Lake Valley Canal (station 11426190). Water from Drum Canal enters the Bear River at Drum 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.--16 years, 526 ft³/s (14.90 m³/s), 381,100 acre-ft/yr (470 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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	544	578	393	120	815	815	824	824	822	844	823	140
2	651	511	394	498	813	812	824	817	823	843	831	187
3	298	119	627	810	805	797	824	819	817	843	817	670
4	350	120	792	814	814	804	823	820	818	842	797	672
5	530	411	803	563	819	821	822	818	778	839	732	672
6	131	643	797	467	817	814	815	821	823	833	729	561
7	124	631	761	678	817	815	822	818	823	817	725	245
8	257	636	382	812	819	819	822	817	823	840	722	247
9	276	619	389	802	817	826	824	814	822	838	717	652
10	265	386	645	475	817	824	777	820	822	836	712	685
11	410	385	788	672	816	824	603	823	842	718	708	686
12	251	385	783	413	818	821	575	820	841	785	705	685
13	112	532	774	633	823	824	596	819	841	839	706	621
14	111	624	770	622	813	824	606	823	840	837	763	548
15	208	621	547	750	807	823	597	827	840	833	761	548
16	242	617	544	750	803	821	594	821	841	832	753	665
17	246	620	785	740	801	823	592	822	840	831	675	683
18	261	615	789	789	788	823	768	823	837	833	672	681
19	234	610	792	790	792	825	816	825	836	831	669	678
20	113	604	789	809	760	827	414	822	841	829	666	633
21	116	599	696	814	816	824	693	822	840	818	656	542
22	206	250	242	817	802	825	781	821	843	822	659	540
23	407	117	515	818	819	825	823	818	827	810	655	642
24	474	122	767	813	809	825	824	822	841	827	650	665
25	475	399	266	810	815	824	823	824	843	832	646	635
26	422	723	148	814	813	823	821	822	843	834	644	607
27	121	797	484	817	812	820	827	820	843	818	644	518
28	111	799	457	816	814	825	822	824	845	831	646	514
29	491	799	130	810	819	826	821	822	844	817	646	594
30	541	715	115	813	---	825	821	820	845	826	443	630
31	531	---	227	819	---	825	---	821	---	822	140	---
TOTAL	9509	15587	17391	21968	23493	25449	22394	25449	24984	25600	21112	17046
MEAN	307	520	561	709	810	821	746	821	833	826	681	568
MAX	651	799	803	819	823	827	827	827	845	844	831	686
MIN	111	117	115	120	760	797	414	814	778	718	140	140
AC-FT	18860	30920	34500	43570	46600	50480	44420	50480	49560	50780	41880	33810
CAL YR 1979 TOTAL	189871.8			MEAN 520	MAX 810	MIN 6.0	AC-FT 376600					
WTR YR 1980 TOTAL	249982.0			MEAN 683	MAX 845	MIN 111	AC-FT 495800					

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.--16 years, 95.4 ft³/s (2.702 m³/s), 69,120 acre-ft/yr (85.2 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69	60	44	34	147	148	148	163	151	149	82	75
2	63	54	44	36	145	147	148	163	151	149	78	78
3	65	52	46	38	145	147	148	164	150	149	74	79
4	67	51	46	42	144	147	148	163	141	148	73	78
5	67	52	46	38	144	147	150	164	150	152	75	77
6	65	51	53	38	85	147	150	163	150	154	75	77
7	65	50	56	42	147	148	13	161	151	110	76	78
8	65	50	55	42	147	149	1.2	160	151	67	78	59
9	64	49	55	51	148	148	52	162	148	66	79	57
10	64	38	57	55	147	148	131	161	147	64	80	56
11	77	33	57	49	147	148	129	162	145	65	82	56
12	83	33	57	35	147	147	148	161	148	70	82	56
13	81	33	55	20	147	147	161	155	149	72	82	56
14	81	24	53	5.0	148	148	161	155	149	74	80	56
15	81	34	48	14	149	147	161	155	149	75	80	58
16	80	43	55	28	149	147	156	155	149	76	79	57
17	80	48	60	27	151	148	152	154	150	77	79	55
18	81	47	50	89	138	148	153	153	150	79	79	55
19	78	48	61	145	149	130	156	151	148	80	79	55
20	79	52	49	143	148	148	158	146	146	78	78	55
21	83	51	61	144	148	148	159	151	147	75	78	55
22	85	56	53	106	148	148	160	153	148	73	78	55
23	83	49	65	81	148	148	159	153	148	75	78	56
24	79	47	79	120	148	148	159	153	148	80	77	56
25	67	45	78	143	148	148	159	152	149	83	77	56
26	56	50	83	145	148	148	159	152	149	83	79	56
27	53	49	83	145	148	148	158	151	149	82	80	63
28	56	44	83	147	148	148	159	152	149	81	81	74
29	60	43	82	147	147	148	160	152	149	81	79	74
30	61	44	57	148	---	148	162	152	149	85	75	70
31	62	---	36	148	---	148	---	151	---	85	76	---
TOTAL	2200	1380	1807	2445.0	4203	4562	4218.2	4843	4458	2837	2428	1888
MEAN	71.0	46.0	58.3	78.9	145	147	141	156	149	91.5	78.3	62.9
MAX	85	60	83	148	151	149	162	164	151	154	82	79
MIN	53	24	36	5.0	85	130	1.2	146	141	64	73	55
AC-FT	4360	2740	3580	4850	8340	9050	8370	9610	8840	5630	4820	3740
CAL YR 1979	TOTAL	23767.35	MEAN	65.1	MAX	144	MIN	.55	AC-FT	47140		
WTR YR 1980	TOTAL	37269.20	MEAN	102	MAX	164	MIN	1.2	AC-FT	73920		

SACRAMENTO RIVER BASIN

11414250 SOUTH YUBA RIVER AT LANGS CROSSING, NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°19'07", long 120°39'27", in SW¼SW¼ sec.20, T.17 N., R.12 E., Nevada County, 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.

DRAINAGE AREA.--120 mi² (311 km²).

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.--14 years (water years 1967-80), 71.6 ft³/s (2.028 m³/s), 51,870 acre-ft/yr (64.0 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, 19,700 ft³/s (558 m³/s) Jan. 13, gage height, 19.6 ft (5.97 m), from floodmarks; minimum daily, 4.4 ft³/s (0.12 m³/s) Aug. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.7	5.4	5.8	42	15	33	8.6	206	25	384	5.7	6.5
2	5.8	5.4	5.5	21	15	34	8.7	658	27	533	5.5	6.2
3	5.3	9.6	5.2	16	15	37	8.3	722	30	753	5.4	5.4
4	5.3	12	6.6	14	15	35	8.1	942	32	235	5.2	5.5
5	5.2	11	7.5	13	15	34	28	947	39	193	5.3	5.3
6	5.1	8.7	7.5	13	11	32	24	854	112	95	5.2	5.3
7	5.1	8.1	7.4	13	9.8	24	19	621	247	20	5.2	5.3
8	5.1	7.4	7.0	13	6.1	18	17	546	344	7.1	5.2	5.3
9	5.0	7.3	7.0	52	5.6	18	18	570	510	6.6	5.2	5.4
10	4.9	7.1	6.6	47	5.6	18	16	232	1090	6.2	4.6	6.0
11	4.7	6.7	4.9	87	5.9	19	15	30	1120	6.1	6.0	6.0
12	4.7	6.5	5.1	367	5.6	16	14	28	942	5.8	6.3	5.9
13	4.7	6.3	5.7	1230	5.1	15	15	27	629	5.3	4.7	5.9
14	5.0	6.1	6.4	4560	13	16	16	31	197	4.9	5.2	5.7
15	5.6	5.9	6.5	2150	42	21	15	30	287	5.2	5.6	5.4
16	5.1	5.9	6.6	1870	53	16	15	27	307	5.5	5.5	5.2
17	5.0	11	6.5	1690	116	15	15	29	1170	5.4	5.5	5.2
18	5.2	9.6	5.7	1550	188	15	14	32	1130	5.2	5.3	5.4
19	14	8.5	5.1	952	143	13	13	127	937	5.0	5.1	5.4
20	11	7.6	5.4	450	72	12	17	1060	570	5.7	5.5	5.4
21	7.6	7.2	6.1	60	63	13	23	1190	382	5.9	5.8	5.4
22	5.6	7.2	6.2	12	54	12	15	1120	683	5.7	5.6	6.0
23	5.7	8.6	10	11	48	12	12	753	291	5.5	5.4	6.5
24	5.7	10	17	9.3	43	11	11	115	150	5.3	5.7	6.5
25	12	18	13	9.0	36	10	11	177	117	5.2	6.3	6.1
26	8.4	30	11	8.3	37	9.5	12	201	313	5.7	5.4	5.3
27	6.9	12	9.4	7.7	40	9.0	11	110	349	6.4	5.1	5.1
28	6.1	8.5	8.9	10	61	8.7	10	27	184	6.3	5.5	5.8
29	5.7	7.0	8.5	14	42	8.9	11	24	117	6.0	4.9	4.9
30	5.6	6.1	37	16	---	9.2	11	23	390	5.9	4.4	5.4
31	5.4	---	117	17	---	9.0	---	24	---	5.8	4.6	---
TOTAL	192.2	270.7	368.1	15324.3	1180.7	553.3	431.7	11483	12721	2350.7	165.9	168.7
MEAN	6.20	9.02	11.9	494	40.7	17.8	14.4	370	424	75.8	5.35	5.62
MAX	14	30	117	4560	188	37	28	1190	1170	753	6.3	6.5
MIN	4.7	5.4	4.9	7.7	5.1	8.7	8.1	23	25	4.9	4.4	4.9
AC-FT	381	537	730	30400	2340	1100	856	22780	25230	4660	329	335
CAL YR 1979	TOTAL	4317.7	MEAN	11.8	MAX	117	MIN	3.7	AC-FT	8560		
WTR YR 1980	TOTAL	45210.3	MEAN	124	MAX	4560	MIN	4.4	AC-FT	89670		

11415500 BOWMAN LAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°27'01", long 120°39'10", in SE&SW¼ 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.

COOPERATION.--Seventy-five 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, 68,900 acre-ft (85.0 hm³) June 3-12, 17-19, elevation, 5,563.9 ft (1,695.88 m); minimum, 37,600 acre-ft (46.4 hm³) Oct. 18, elevation, 5,522.6 ft (1,683.29 m).

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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38400	41300	48000	43600	61100	61900	51500	55400	68800	68800	62000	46500
2	38500	41400	48100	43600	60700	61800	51100	56200	68800	68800	61600	46000
3	38700	41600	48300	43400	60400	61700	50800	57000	68900	68800	61200	45800
4	38800	41800	48400	43200	60000	61600	50400	58000	68900	68800	60700	45600
5	39000	42000	48500	42800	59600	61300	50000	58900	68900	68700	60000	45400
6	39100	42200	48700	42500	59300	61100	49700	59800	68900	68600	59500	45100
7	39200	42400	48800	42200	59000	60800	49400	60600	68900	68400	58900	44900
8	39300	42600	48900	41900	58600	60600	49000	61400	68900	68400	58300	44800
9	39400	42800	49000	41800	58300	60400	48600	62100	68900	68200	57700	44600
10	39600	42900	49000	41500	58000	60000	48300	62600	68900	68000	57100	44300
11	39500	43200	49100	41400	57600	59700	48000	62800	68900	67800	56600	44200
12	39200	43300	49200	47400	57500	59400	47800	62900	68900	67500	56000	44000
13	39000	43500	48800	56500	57600	59000	47600	63100	68800	67200	55600	43700
14	38700	43700	48400	61300	57600	58700	47500	63300	68800	66800	55100	43700
15	38500	44100	48000	62300	57400	58300	47500	63700	68800	66400	54400	43900
16	38200	44300	47700	63500	57500	57800	47500	64100	68800	66100	54000	44100
17	37900	44700	47300	64300	58800	57500	47600	64700	68900	65600	53700	44500
18	37600	45000	46900	64400	61600	57100	48000	65300	68900	65200	53300	44900
19	37800	45200	46500	64300	62300	56800	48500	66100	68900	64800	52800	45300
20	38100	45600	46200	64200	62800	56300	49000	67000	68800	64400	52400	45700
21	38400	45800	45800	64000	62900	55900	49500	67900	68800	63900	52000	46000
22	38700	46000	45500	63700	62900	55500	49800	68500	68700	63500	51500	46400
23	38900	46200	45200	63500	62800	55100	50000	68800	68600	63400	51000	46700
24	39200	46500	45000	63300	62800	54700	50300	68800	68500	63300	50500	47100
25	39600	46700	44700	63200	62700	54300	50700	68800	68500	63300	50100	47700
26	40000	47000	44300	62900	62500	53900	51100	68800	68500	63200	49700	47900
27	40200	47300	44000	62700	62400	53500	51900	68800	68600	63200	49200	47800
28	40400	47500	43600	62400	62300	53100	52700	68800	68600	63200	48700	47800
29	40600	47600	43200	62200	62200	52700	53600	68800	68700	63200	48100	47600
30	40800	47800	43000	61800	---	52300	54500	68800	68800	62800	47600	47400
31	41100	---	43300	61400	---	51800	---	68800	---	62400	47100	---
MAX	41100	47800	49200	64400	62900	61900	54500	68800	68900	68800	62000	47900
MIN	37600	41300	43000	61400	57400	51800	47500	55400	68500	62400	47100	43700
†	5527.6	5537.1	5530.7	5554.5	5555.5	5542.5	5545.9	5563.8	5563.7	5555.8	5536.1	5536.5
‡	+2700	+6700	-4500	+18100	+800	-10400	+2700	+14300	0	-6400	-15300	+300

CAL YR 1979 † +14700
WTR YR 1980 ‡ +9000

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

SACRAMENTO RIVER BASIN

11416000 BOWMAN-SPAULDING CANAL INTAKE NEAR GRANITEVILLE, CA

LOCATION.--Lat 39°26'26", long 120°39'30", in NW¼SW¼ sec.8, T.18 N., R.12 E., Nevada County, 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.

PERIOD OF RECORD.--October 1927 to current year. Prior to October 1970, published as Bowman-Spauldung Canal at intake or Bowman-Spauldung Canal intake, near Sierra City.

REVISED RECORDS.--WSP 1395: 1935-36, 1940.

GAGE.--Water-stage recorder. Datum of gage is 5,390.39 ft (1,642.991 m) National Geodetic Vertical Datum of 1929. Prior to July 1965 at site 0.3 mi (0.5 km) upstream at different datum.

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.

AVERAGE DISCHARGE.--53 years, 157 ft³/s (4.446 m³/s), 113,700 acre-ft/yr (140 hm³/yr).

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.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 19/9 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	265	216	132	243	197	275	86	221	271	292	297
2	.25	275	216	133	243	197	273	110	222	272	298	296
3	.25	277	217	225	243	198	272	128	222	270	296	295
4	.20	279	217	225	243	216	273	129	222	268	295	295
5	.20	279	218	225	242	229	273	107	222	267	291	294
6	.20	279	218	226	242	229	272	106	221	268	289	294
7	.20	279	218	226	242	228	270	106	222	277	296	293
8	.20	286	219	242	240	228	274	114	222	279	298	293
9	.20	287	220	255	240	228	276	120	221	278	301	292
10	.20	287	221	253	240	236	275	121	220	276	305	291
11	113	288	214	226	240	249	274	132	219	280	304	297
12	213	289	210	42	239	260	273	152	219	289	302	302
13	187	290	211	15	150	268	274	169	227	293	304	300
14	187	250	211	10	102	273	273	173	231	291	304	122
15	187	219	211	9.5	245	273	257	172	234	288	302	.20
16	204	214	211	9.5	192	272	247	150	237	284	301	.20
17	217	217	211	9.5	57	272	236	130	237	282	299	.20
18	218	217	215	83	35	273	177	131	235	295	298	.20
19	225	218	219	176	46	277	158	136	236	305	300	.20
20	219	218	219	213	120	263	159	144	239	303	302	.20
21	218	215	220	226	171	283	159	144	244	301	299	.20
22	218	212	216	222	190	283	159	145	243	300	300	.20
23	213	213	220	219	190	281	165	154	246	300	304	.20
24	209	217	221	216	171	279	169	154	248	300	303	.20
25	212	215	222	201	168	278	169	165	254	299	301	.20
26	211	215	222	201	188	282	153	173	261	286	300	187
27	231	214	221	208	198	281	138	196	267	268	298	302
28	246	214	222	219	198	279	128	215	273	266	265	294
29	246	215	221	235	197	278	104	214	272	267	303	310
30	246	215	226	244	---	278	91	215	272	266	301	297
31	246	---	186	244	---	276	---	221	---	279	299	---
TOTAL	4542.90	7358	6709	5370.5	5515	7964	6496	4612	7109	8768	9250	5353.20
MEAN	147	245	216	173	190	257	217	149	237	283	298	178
MAX	246	290	226	255	245	283	276	221	273	305	305	310
MIN	.20	212	186	9.5	35	197	91	.86	219	266	265	.20
AC-FT	9010	14590	13310	10650	10940	15800	12880	9150	14100	17390	18350	10620
CAL YR 1979	TOTAL	61690.60	MEAN	169	MAX	290	MIN	.20	AC-FT	122400		
WTR YR 1980	TOTAL	79047.60	MEAN	216	MAX	310	MIN	.20	AC-FT	156800		

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.--16 years, 221 ft³/s (6.259 m³/s), 160,100 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	186	258	231	176	296	300	305	301	310	303	289	301
2	35	269	229	158	295	294	305	294	311	306	299	302
3	0	277	223	234	295	293	303	305	311	309	300	301
4	0	283	226	237	296	293	302	311	309	307	300	301
5	0	284	227	237	297	305	307	311	312	303	299	301
6	0	282	227	232	298	309	309	310	310	301	297	299
7	0	281	226	230	296	305	307	309	306	299	293	298
8	0	278	226	241	296	299	306	307	305	300	294	297
9	0	280	226	269	294	292	306	307	305	300	293	297
10	0	279	225	287	291	289	308	305	305	299	295	297
11	0	279	218	278	289	297	309	289	305	297	295	292
12	136	277	216	310	288	302	310	280	303	298	294	287
13	249	276	213	311	226	303	312	297	300	300	292	285
14	237	271	212	264	140	305	314	302	300	299	293	241
15	234	241	211	282	269	307	315	298	298	299	293	41
16	206	221	210	282	310	306	316	307	300	297	295	5.0
17	208	222	210	277	323	305	316	304	302	295	295	0
18	218	226	207	207	323	305	317	299	303	294	294	0
19	269	226	211	262	301	304	316	301	303	299	295	0
20	283	225	215	285	290	304	316	306	302	300	295	0
21	256	218	219	292	305	306	319	311	302	300	294	0
22	240	213	218	298	308	304	316	313	302	299	294	0
23	237	218	217	296	310	304	309	313	299	299	296	0
24	230	226	221	298	309	303	311	311	296	303	296	0
25	238	245	220	298	289	303	313	300	297	304	295	0
26	244	270	218	288	285	303	314	291	301	307	295	35
27	237	248	220	280	296	303	314	282	301	305	298	220
28	253	234	217	286	305	302	316	298	303	303	269	291
29	257	232	214	289	305	302	317	302	302	303	303	293
30	259	231	218	295	---	305	313	302	302	296	303	298
31	256	---	233	297	---	306	---	306	---	288	302	---
TOTAL	4968	7570	6804	8276	8425	9358	9341	9372	9105	9312	9145	5282.0
MEAN	160	252	219	267	291	302	311	302	304	300	295	176
MAX	283	284	233	311	323	309	319	313	312	309	303	302
MIN	0	213	207	158	140	289	302	280	296	288	269	0
AC-FT	9850	15020	13500	16420	16710	18560	18530	18590	18060	18470	18140	10480

CAL YR 1979 TOTAL 74019.0 MEAN 203 MAX 306 MIN 0 AC-FT 146800
WTR YR 1980 TOTAL 96958.0 MEAN 265 MAX 323 MIN 0 AC-FT 192300

SACRAMENTO RIVER BASIN

11416500 CANYON CREEK BELOW BOWMAN LAKE, CA

LOCATION.--Lat 39°26'23", long 120°39'39", in NE¼SE¼ sec.7, T.18 N., R.12 E., Nevada County, 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. 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.--53 years, 35.2 ft³/s (0.997 m³/s), 25,500 acre-ft/yr (31.4 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 (3.1416 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, 250 ft³/s (7.08 m³/s) May 23, gage height, 5.08 ft (1.548 m); minimum daily, 1.0 ft³/s (0.028 m³/s) Nov. 15, Dec. 5.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.3	3.3	1.3	6.4	3.7	4.2	3.4	3.8	133	16	2.8	3.3
2	2.9	3.2	1.3	3.8	3.7	4.5	3.4	3.7	152	62	2.6	3.3
3	4.5	4.0	1.2	3.2	4.0	4.9	3.3	3.7	93	128	2.3	3.1
4	4.7	5.2	1.1	2.9	3.8	4.5	3.4	3.7	55	56	2.3	3.1
5	2.7	3.7	1.0	2.8	3.3	4.4	4.0	3.5	50	20	2.3	3.1
6	2.9	2.6	1.1	2.9	3.3	3.8	4.1	3.5	12	5.6	2.2	3.1
7	4.2	2.3	1.3	3.1	3.2	3.5	3.5	3.4	4.5	3.0	2.2	3.0
8	5.1	1.9	1.3	3.8	3.0	3.4	3.7	3.3	19	2.7	2.3	3.0
9	4.7	1.8	1.3	6.9	3.0	3.5	4.3	3.3	94	2.6	2.3	3.0
10	4.4	1.6	1.3	5.8	2.9	3.7	4.6	4.1	158	2.6	2.3	3.0
11	4.1	1.5	1.5	17	2.9	3.8	4.5	4.6	144	2.5	2.2	3.0
12	3.6	1.4	1.5	60	2.9	3.5	4.6	4.5	126	2.4	2.2	3.0
13	3.5	1.3	1.7	96	2.7	3.5	5.7	5.7	82	2.4	2.2	3.0
14	3.6	1.2	1.9	40	6.3	3.5	6.1	6.0	26	2.3	2.2	2.8
15	4.0	1.0	1.9	26	9.7	3.6	5.2	5.0	19	2.7	2.1	3.3
16	3.7	1.1	1.9	36	13	3.4	4.9	4.1	30	4.2	2.1	3.9
17	3.7	2.5	1.9	32	20	3.5	5.4	3.8	73	4.2	2.2	3.9
18	4.0	2.5	1.9	121	30	3.5	5.2	3.6	87	4.2	2.2	4.0
19	14	1.9	2.0	80	15	3.6	4.4	3.5	107	4.2	2.3	5.1
20	6.1	1.5	2.0	29	6.1	3.8	4.4	3.4	75	4.2	2.3	6.3
21	4.1	1.3	2.1	20	4.7	3.5	6.8	3.3	38	4.2	2.5	6.3
22	3.5	1.3	2.1	7.0	4.1	3.6	4.3	3.2	14	4.2	3.6	6.3
23	3.3	1.8	2.2	4.3	3.9	3.7	3.6	140	5.5	3.9	3.7	6.1
24	3.1	6.2	2.3	3.9	3.7	3.7	3.9	179	3.8	3.6	3.6	6.1
25	6.7	6.8	2.2	3.7	3.7	3.4	3.5	82	3.5	3.5	3.6	6.2
26	4.4	7.0	2.1	3.7	4.1	3.4	3.4	20	3.4	3.4	3.6	6.0
27	3.6	3.0	2.1	3.6	4.9	3.3	3.2	5.6	7.1	3.4	3.6	6.0
28	3.4	2.2	2.1	3.7	6.3	3.5	3.1	3.5	3.4	3.5	3.4	4.0
29	3.3	1.8	2.1	3.6	4.8	3.9	3.6	3.3	3.2	3.4	3.5	3.7
30	3.2	1.5	6.3	3.5	---	4.1	4.0	3.2	5.4	3.4	3.3	3.5
31	3.2	---	24	3.7	---	3.6	---	62	---	3.2	3.3	---
TOTAL	130.5	78.4	80.0	639.3	182.7	115.8	127.5	585.3	1626.8	371.5	83.3	123.5
MEAN	4.21	2.61	2.58	20.6	6.30	3.74	4.25	18.9	54.2	12.0	2.69	4.12
MAX	14	7.0	24	121	30	4.9	6.8	179	158	128	3.7	6.3
MIN	2.3	1.0	1.0	2.8	2.7	3.3	3.1	3.2	3.2	2.3	2.1	2.8
AC-FT	259	156	159	1270	362	230	253	1160	3230	737	165	245
CAL YR 1979	TOTAL	1224.9	MEAN	3.36	MAX	30	MIN	1.0	AC-FT	2430		
WTR YR 1980	TOTAL	4144.6	ME	11.3	MAX	179	MIN	1.0	AC-FT	8220		

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 excellent. 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.--29 years, 446 ft³/s (12.63 m³/s), 323,100 acre-ft/yr (398 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, 16,600 ft³/s (470 m³/s) Jan. 4, gage height, 16.16 ft (4.926 m); minimum daily, 38 ft³/s (1.08 m³/s) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	69	112	1450	387	1070	355	389	353	541	63	57
2	38	66	103	623	371	1010	355	950	376	546	61	57
3	40	81	96	440	362	1050	345	1080	372	1150	59	57
4	40	151	91	345	376	1230	340	1260	318	436	58	56
5	41	167	87	297	354	1560	603	1280	386	381	57	54
6	42	122	86	274	340	1660	666	1110	290	270	57	51
7	40	100	85	265	317	1360	575	1030	374	173	57	51
8	39	89	83	256	304	1150	497	820	514	120	56	51
9	43	83	80	690	284	1000	475	1000	752	105	55	52
10	45	80	78	1220	273	901	478	974	1210	99	54	51
11	42	77	76	1150	263	832	463	444	1210	95	53	51
12	40	74	72	9180	256	766	448	388	1190	92	52	53
13	38	71	71	11600	250	705	463	411	1040	92	53	51
14	40	70	71	12200	340	677	507	448	398	92	52	51
15	47	69	71	6110	1150	775	494	465	474	89	51	53
16	57	67	71	5320	1750	666	470	402	464	84	54	50
17	47	111	70	4250	3620	617	503	366	1130	83	58	52
18	45	178	70	2960	607	531	531	351	1260	82	58	50
19	126	133	71	2270	7620	561	480	340	1120	80	57	50
20	265	103	78	1360	4090	540	507	784	856	79	57	51
21	140	90	140	987	4100	533	650	1530	603	78	57	50
22	94	87	138	813	2860	507	485	1630	757	77	57	49
23	81	110	160	684	2170	481	419	1120	581	74	57	48
24	93	129	1360	595	1710	463	430	611	347	73	58	47
25	200	298	1190	548	1370	448	421	511	199	71	58	47
26	231	507	450	499	1200	428	433	470	298	69	57	47
27	109	268	283	481	1100	408	428	424	492	76	56	62
28	86	178	220	490	1710	394	438	270	437	68	54	43
29	79	143	191	445	1270	381	427	237	197	69	64	42
30	73	123	441	414	---	378	434	231	332	68	56	41
31	70	---	2120	402	---	358	---	234	---	64	57	---
TOTAL	2410	3894	8315	68618	46377	23516	14120	21560	18330	5476	1753	1525
MEAN	77.7	130	268	2213	1599	759	471	695	611	177	56.5	50.8
MAX	265	507	2120	12200	7620	1660	666	1630	1260	1150	64	62
MIN	38	66	70	256	250	358	340	231	197	64	51	41
AC-FT	4780	7720	16490	136100	91990	46640	28010	42760	36360	10860	3480	3020
CAL YR 1979	TOTAL	98385	MEAN 270	MAX 2970	MIN 36	AC-FT 195100						
WTR YR 1980	TOTAL	215894	MEAN 590	MAX 12200	MIN 38	AC-FT 428200						

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), 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.--39 years, 2,484 ft³/s (70.35 m³/s), 1,800,000 acre-ft/yr (2.22 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, 41,900 ft³/s (1,190 m³/s) Jan. 13, gage height, 23.18 ft (7.065 m); minimum daily, 1,550 ft³/s (43.9 m³/s) Oct. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2160	1820	1800	3900	4170	7410	4120	4110	2420	3360	3030	3130
2	2170	1820	1830	2830	4160	6270	4020	4110	2380	3370	3120	3130
3	2180	1810	1820	2830	4150	6160	4100	4120	2380	3380	3120	3110
4	2220	1810	1800	2820	3630	5540	4090	3740	2410	2740	3130	3110
5	2440	1810	1800	2800	3310	5820	4100	2350	2420	2400	3230	3120
6	2220	1790	1800	2810	3520	6440	4100	2210	2420	2400	3170	3140
7	2220	1760	1810	2810	3610	5740	4110	2210	2410	3000	3180	3140
8	2210	1800	1800	2810	3610	5260	4110	2540	2400	3150	3180	3140
9	2220	1770	1810	3030	3610	4950	4110	2710	2660	3150	3180	3140
10	2220	1790	1830	3380	3610	4740	4110	2690	2770	3160	3140	3150
11	2210	1790	1830	3460	3850	4600	4100	2290	3150	3180	3140	3150
12	2200	1800	1840	20400	3980	4510	4100	2210	3340	3150	3150	3150
13	2520	1790	1840	28200	4020	4390	4100	2210	3330	3150	3150	3150
14	2370	1790	2130	24400	4060	4350	4100	2560	2600	3170	3150	3150
15	2000	1790	2240	12600	4150	4470	4090	2640	2400	3160	3150	3150
16	1810	1830	2230	13400	4370	4370	4100	2690	3080	3160	3150	3150
17	1810	1800	2230	11500	8930	4270	4100	2730	3370	3160	3150	3150
18	1800	1800	2240	8280	14400	4240	4100	2730	3310	3160	3150	3150
19	1810	1800	2240	6990	21000	4200	4100	2920	3260	3160	3150	3150
20	1550	1800	2240	5640	12900	4190	4100	3120	3000	3160	3150	3160
21	1810	1810	2240	5000	13200	4190	4100	3820	2420	3160	3150	3140
22	1820	1810	2200	4650	16700	4190	4100	4180	2420	3130	3140	3150
23	1830	1810	2220	4420	18300	4190	4100	4180	3120	3140	3110	3150
24	1830	1790	2880	4280	14400	4180	4100	3870	3360	3140	3010	3160
25	1750	1790	3800	4220	10800	4170	4100	2260	3360	3140	3100	3160
26	1800	1800	2940	4210	9690	4160	4100	2710	2850	3130	3150	3160
27	1790	1800	2810	4210	8130	4160	4100	3880	2560	3130	3160	3160
28	1800	1800	2780	4210	9020	4150	4100	2790	2440	2040	3190	3140
29	1790	1800	2770	4200	8390	4140	4100	2480	2410	2660	3120	3130
30	1790	1800	2900	4190	---	4130	4110	2440	3160	2870	3120	3140
31	1800	---	3230	4170	---	4130	---	2420	---	2820	3130	---
TOTAL	62150	53980	69930	212650	227670	147710	122970	91920	83610	94080	97350	94310
MEAN	2005	1799	2256	6860	7851	4765	4099	2965	2787	3035	3140	3144
MAX	2520	1830	3800	28200	21000	7410	4120	4180	3370	3380	3230	3160
MIN	1550	1760	1800	2800	3310	4130	4020	2210	2380	2040	3010	3110
AC-FT	123300	107100	138700	421800	451600	293000	243900	182300	165800	186600	193100	187100
CAL YR 1979 TOTAL	635317			MEAN 1741	MAX 5470	MIN 552	AC-FT 1260000					
WTR YR 1980 TOTAL	1358330			MEAN 3711	MAX 28200	MIN 1550	AC-FT 2694000					

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.--45 years, 128 ft³/s (3.625 m³/s), 92,740 acre-ft/yr (114 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, 7,550 ft³/s (214 m³/s) Feb. 19, gage height, 11.37 ft (3.466 m); minimum daily, 1.1 ft³/s (0.031 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	8.7	17	346	149	501	139	28	30	3.8	4.2	4.6
2	2.2	8.2	17	128	137	483	136	28	28	5.7	5.4	3.5
3	2.2	21	16	81	125	731	129	25	24	15	7.3	3.0
4	2.2	42	16	62	125	614	128	19	25	12	6.6	3.2
5	2.4	24	14	48	120	956	328	25	47	8.1	4.3	2.9
6	2.2	18	13	41	115	1170	335	46	30	6.8	4.1	2.8
7	2.4	14	12	37	112	657	292	51	22	4.8	5.9	3.1
8	2.4	12	11	33	105	540	205	51	15	4.4	5.6	3.2
9	2.6	10	11	461	95	458	161	131	10	4.2	6.1	3.0
10	3.0	9.8	11	388	93	398	140	290	8.8	4.6	4.9	3.2
11	2.4	9.5	13	571	92	391	122	171	7.2	4.3	4.3	3.3
12	2.3	9.3	9.7	2610	91	388	108	128	6.7	4.5	3.6	3.2
13	2.1	9.2	10	1940	87	361	97	106	6.6	4.5	4.0	3.5
14	2.2	8.6	11	822	223	357	91	96	10	4.3	3.6	3.5
15	2.5	8.7	11	442	859	432	82	86	11	4.1	3.7	277
16	3.1	7.6	11	1270	908	362	78	79	9.5	4.4	3.8	226
17	2.8	100	11	793	1670	333	73	74	8.4	4.2	4.2	2.7
18	2.6	69	11	835	1540	330	91	68	5.9	4.1	3.8	2.1
19	16	38	14	602	4220	314	116	64	4.5	5.3	3.3	1.9
20	41	21	20	458	1720	284	177	60	4.3	5.4	3.3	2.0
21	32	16	83	374	2550	281	124	57	5.7	4.8	3.5	1.8
22	9.9	18	63	315	1400	240	69	55	5.1	4.5	3.7	1.6
23	5.6	37	45	291	1040	221	45	53	4.4	6.1	3.1	1.7
24	3.2	30	1060	282	816	244	41	54	4.2	5.5	4.5	1.6
25	327	53	1030	265	682	249	38	51	3.9	5.0	4.4	1.8
26	98	84	253	255	587	235	30	39	3.6	16	4.0	1.6
27	27	41	98	242	537	205	28	31	3.7	9.8	4.2	1.6
28	16	27	59	252	870	170	28	31	3.9	7.0	4.2	1.3
29	12	21	45	218	584	155	32	34	4.6	12	3.8	1.2
30	11	19	211	195	---	149	32	31	4.0	14	4.0	1.1
31	9.9	---	863	171	---	140	---	30	---	6.0	4.9	---
TOTAL	653.1	794.6	4069.7	14828	21652	12349	3495	2092	357.0	205.2	136.3	573.0
MEAN	21.1	26.5	131	478	747	398	117	67.5	11.9	6.62	4.40	19.1
MAX	327	100	1060	2610	4220	1170	335	290	47	16	7.3	277
MIN	2.1	7.6	9.7	33	87	140	28	19	3.6	3.8	3.1	1.1
AC-FT	1300	1580	8070	29410	42950	24490	6930	4150	708	407	270	1140
‡	29525	30457	33302	48547	48547	48547	48402	48330	48185	44792	39406	34576
CAL YR 1979 TOTAL	36728.5			MEAN 101	MAX 1800	MIN 2.1	AC-FT 72850					
WTR YR 1980 TOTAL	61204.9			MEAN 167	MAX 4220	MIN 1.1	AC-FT 121400					

‡ Contents, in acre-feet, at end of month for Scotts Flat Reservoir, furnished by Nevada Irrigation District.

SACRAMENTO RIVER BASIN

11420700 DRY CREEK NEAR BROWNS VALLEY, CA

LOCATION.--Lat 39°15'23", long 121°20'34", in NE¼SW¼ sec.7, T.16 N., R.6 E., Yuba County, Hydrologic Unit 18020125, on left bank 500 ft (150 m) upstream from diversion dam, and 3.6 mi (5.8 km) east of Browns Valley.

DRAINAGE AREA.--87.1 mi² (225.6 km²).

PERIOD OF RECORD.--July 1964 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 265 ft (80.8 m), from topographic map.

REMARKS.--Records good except those for the summer months, which are fair. Flow regulated by Lake Mildred, capacity, 1,500 acre-ft (1.85 hm³) and Merle Collins Reservoir since 1963, capacity, 57,000 acre-ft (70.3 hm³), 6.5 mi (10.5 km) upstream. Some diversion above station for irrigation. See schematic diagram of Yuba River basin.

AVERAGE DISCHARGE (unadjusted).--16 years, 77.2 ft³/s (2.186 m³/s), 55,930 acre-ft/yr (69.0 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,950 ft³/s (169 m³/s) Jan. 21, 1969, gage height, 10.38 ft (3.164 m); minimum daily, 0.84 ft³/s (0.024 m³/s) Oct. 25, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,880 ft³/s (110 m³/s) Feb. 19, gage height, 9.54 ft (2.908 m); minimum daily, 4.3 ft³/s (0.122 m³/s) Dec. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	8.0	6.4	48	70	279	82	14	10	11	10	10
2	8.6	7.8	6.2	21	68	261	82	12	10	12	10	10
3	8.6	9.0	6.1	17	66	540	81	12	9.0	13	11	10
4	9.1	11	6.1	14	66	769	61	13	11	12	11	10
5	8.1	9.5	6.0	12	63	591	34	14	11	12	11	8.8
6	8.5	7.8	5.9	11	60	648	33	13	10	12	11	8.8
7	9.0	6.6	5.9	10	58	454	80	13	10	13	11	9.2
8	8.6	6.2	5.9	9.6	50	340	87	13	9.3	16	10	9.2
9	8.4	4.8	5.9	35	48	274	79	15	9.0	16	9.9	9.3
10	8.2	4.7	5.7	33	47	235	61	16	8.7	15	9.9	9.1
11	8.4	4.6	5.2	84	46	208	50	14	9.3	14	9.6	9.5
12	8.2	4.6	4.4	449	45	186	34	14	9.7	14	9.2	9.4
13	8.0	4.5	4.4	760	44	167	28	14	8.9	14	10	9.1
14	8.1	4.4	4.4	1380	132	166	24	14	8.7	13	10	9.0
15	8.1	4.4	4.4	754	663	285	18	13	8.7	12	10	9.3
16	8.3	5.3	4.4	1520	931	228	17	13	9.1	12	10	9.8
17	8.2	18	4.4	1460	1600	178	17	12	9.0	12	10	9.6
18	8.1	11	4.3	971	1920	167	17	12	9.0	12	11	8.5
19	8.6	6.5	5.8	479	2780	145	14	11	9.2	12	10	8.7
20	9.2	5.5	6.3	319	1580	133	13	11	11	11	11	8.7
21	9.4	5.2	15	239	2430	125	13	11	15	11	11	9.1
22	9.8	5.9	9.5	191	1310	117	16	11	15	11	10	9.2
23	9.0	9.0	12	157	847	110	17	11	15	11	11	8.7
24	8.5	8.2	138	135	537	107	18	12	15	10	10	9.0
25	45	8.4	102	121	418	97	17	12	15	9.4	11	8.9
26	15	9.5	27	110	340	97	17	11	15	9.2	11	9.7
27	10	7.7	12	100	295	96	17	11	11	9.3	11	9.9
28	9.0	7.2	8.1	97	457	93	18	11	11	9.4	11	10
29	9.0	6.8	8.7	89	377	86	19	11	10	9.7	11	10
30	8.6	6.4	36	79	---	90	17	11	11	10	10	9.7
31	8.2	---	137	74	---	82	---	10	---	11	10	---
TOTAL	310.5	218.5	613.4	9778.6	17348	7354	1081	385	323.6	369.0	322.6	280.2
MEAN	10.0	7.28	19.8	315	598	237	36.0	12.4	10.8	11.9	10.4	9.34
MAX	45	18	138	1520	2780	769	87	16	15	16	11	10
MIN	8.0	4.4	4.3	9.6	44	82	13	10	8.7	9.2	9.2	8.5
AC-FT	616	433	1220	19400	34410	14590	2140	764	642	732	640	556
CAL YR 1979	TOTAL	20018.6	MEAN	54.8	MAX	2300	MIN	2.1	AC-FT	39710		
WTR YR 1980	TOTAL	38384.4	MEAN	105	MAX	2780	MIN	4.3	AC-FT	76140		

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.--37 years (water years 1944-80), 2,493 ft³/s (70.60 m³/s), 1,806,000 acre-ft/yr (2.23 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944, 1947-80), 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, 46,900 ft³/s (1,330 m³/s) Jan. 14, gage height, 75.58 ft (23.037 m); minimum daily, 1,480 ft³/s (41.9 m³/s) Oct. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1980	1720	1660	4550	4520	8550	4440	3660	2180	2930	2310	2670
2	2010	1720	1690	3000	4490	7310	4340	3680	2170	2930	2430	2700
3	2010	1720	1660	2840	4480	7840	4360	3680	2140	2970	2460	2710
4	2040	1740	1610	2780	4160	7280	4360	3610	2160	2620	2460	2670
5	2230	1720	1610	2730	3700	7390	4480	2170	2210	2110	2560	2650
6	2110	1700	1610	2710	3860	8530	4490	1970	2190	2090	2530	2680
7	2100	1660	1620	2680	3980	7240	4530	1970	2180	2450	2530	2680
8	2100	1700	1610	2660	3970	6450	4470	2160	2170	2730	2540	2710
9	2100	1660	1600	2980	3940	5930	4410	2410	2340	2730	2530	2820
10	2120	1610	1600	3900	3920	5560	4380	2610	2470	2770	2510	2840
11	2010	1620	1600	3580	4050	5330	4390	2440	2670	2800	2490	2870
12	2100	1630	1610	19700	4230	5220	4260	2120	2960	2770	2490	2880
13	2420	1620	1620	26900	4270	5050	4140	2070	2980	2770	2500	2890
14	2260	1620	1780	33400	4490	4950	4110	2310	2510	2810	2500	2900
15	1900	1620	2170	15500	5900	5180	4050	2480	2140	2820	2520	3100
16	1710	1660	2010	15000	6460	5090	4010	2460	2550	2830	2510	3270
17	1710	1780	2010	14200	11300	4890	3960	2530	3020	2840	2510	2960
18	1700	1740	2010	11900	17200	4840	3950	2540	2970	2820	2510	2940
19	1720	1710	2010	8920	27500	4780	3940	2620	2870	2820	2540	2940
20	1740	1680	2010	7130	19800	4700	3900	2920	2820	2820	2570	2930
21	1480	1680	2090	6090	19500	4700	3850	3320	2140	2820	2570	2940
22	1720	1690	2110	5560	19800	4660	3780	3840	2090	2780	2560	2980
23	1720	1720	2060	5170	21100	4620	3770	3860	2510	2720	2550	2960
24	1720	1690	3380	4930	17200	4620	3750	3830	2880	2720	2470	3020
25	2080	1690	5230	4800	12300	4590	3740	2410	2930	2720	2510	3060
26	1840	1740	3500	4760	10700	4590	3710	2070	2570	2730	2600	3070
27	1720	1710	2960	4730	9310	4510	3720	3630	2310	2740	2610	3030
28	1720	1690	2830	4730	10100	4530	3660	2720	2120	1800	2640	3050
29	1700	1680	2750	4690	9500	4480	3650	2310	2070	2080	2630	3030
30	1700	1670	3010	4600	---	4470	3670	2240	2540	2110	2630	3040
31	1710	---	3910	4550	---	4460	---	2180	---	2120	2660	---
TOTAL	59180	50590	68930	241670	275730	172340	122270	84820	73860	81770	78430	86990
MEAN	1909	1686	2224	7796	9508	5559	4076	2736	2462	2638	2530	2900
MAX	2420	1780	5230	33400	27500	8550	4530	3860	3020	2970	2660	3270
MIN	1480	1610	1600	2660	3700	4460	3650	1970	2070	1800	2310	2650
AC-FT	117400	100300	136700	479400	546900	341800	242500	168200	146500	162200	155600	172500
CAL YR 1979 TOTAL	611198			1675		8940		310		1212000		
WTR YR 1980 TOTAL	1396580			3816		33400		1480		2770000		

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 DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 29...	0920	1700	82	7.3	10.9	--	--	38	10	3.0	2.0
NOV 30...	1200	1680	85	7.5	12.7	--	--	38	10	3.0	2.0
DEC 27...	1000	2990	86	7.2	12.0	--	--	35	9.0	3.0	2.0
JAN 25...	1145	4800	56	7.2	11.7	--	--	23	6.0	2.0	2.0
APR 22...	1040	3780	67	7.3	11.4	3	1.3	26	7.0	2.0	2.0
MAY 29...	1020	2310	63	7.3	10.2	--	--	26	7.0	2.0	2.0
JUN 24...	0950	2840	58	7.3	9.9	--	--	23	6.0	2.0	2.0
JUL 23...	0920	2720	67	7.3	9.7	2	--	28	8.0	2.0	2.0
AUG 27...	1350	2650	71	7.6	9.6	2	--	28	8.0	2.0	2.0
SEP 24...	0910	3020	74	7.3	10.8	2	.8	35	9.0	3.0	2.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, PENED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT 29...	.5	36	4.0	1.0	51	--	.02	.02	.60	.00	.00
NOV 30...	.5	35	2.0	1.0	70	--	.04	.00	.10	.02	.00
DEC 27...	.5	35	4.0	1.0	63	--	.10	.00	.50	.03	.00
JAN 25...	.5	21	1.0	.0	40	--	.05	.00	.20	.05	.00
APR 22...	.5	28	2.0	.0	47	5	.03	.00	.00	.01	.00
MAY 29...	.5	25	3.0	1.0	46	--	.01	.01	.00	.00	.00
JUN 24...	.4	24	.0	1.0	43	--	.00	.01	.10	.01	.00
JUL 23...	.5	28	2.0	1.0	49	4	.01	.02	.00	.01	.00
AUG 27...	.5	30	1.0	1.0	57	0	.01	.02	.10	.01	.00
SEP 24...	.5	31	2.0	1.0	50	0	.01	.00	.10	.01	.00

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 29...	0920	--	--	0	--	--	--
NOV 30...	1200	--	1	0	--	--	--
DEC 27...	1000	--	1	0	--	--	--
JAN 25...	1145	--	--	0	--	--	--
APR 22...	1040	0	0	0	10	0	10
MAY 29...	1020	--	--	0	--	--	--
JUN 24...	0950	--	--	0	--	--	--
JUL 23...	0920	--	--	0	--	--	--
AUG 27...	1350	--	--	0	--	--	--
SEP 24...	0910	0	0	0	0	0	0

SACRAMENTO RIVER BASIN

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11421000 YUBA RIVER NEAR MARYSVILLE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 29...	--	--	--	--	--	--	--
NOV 30...	--	--	--	--	--	--	--
DEC 27...	--	--	--	--	--	--	--
JAN 25...	--	--	--	--	--	--	--
APR 22...	30	0	20	.0	10	.8	.00
MAY 29...	--	--	--	--	--	--	--
JUN 24...	--	--	--	--	--	--	--
JUL 23...	--	--	--	--	--	--	--
AUG 27...	--	--	--	--	--	--	--
SEP 24...	10	0	0	.0	0	1.3	.00

SACRAMENTO RIVER BASIN

11421720 BOARDMAN CANAL NEAR EMIGRANT GAP, CA

LOCATION.--Lat 39°17'49", long 120°42'08", in SE¼NE¼ sec.35, T.17 N., R.11 E., Placer County, 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.--16 years, 21.1 ft³/s (0.598 m³/s), 15,290 acre-ft/yr (18.9 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	21	16	12	14	13	9.9	10	18	22	29	25
2	.42	21	16	12	14	13	9.9	12	18	21	25	26
3	.42	23	17	12	14	13	9.9	12	18	21	23	26
4	.42	24	20	12	12	13	9.9	12	18	22	23	25
5	.42	23	20	12	10	13	10	11	18	21	25	24
6	.42	20	23	12	10	13	12	12	17	21	25	24
7	.70	17	27	11	9.3	16	13	12	18	21	26	26
8	2.3	17	26	17	8.5	13	10	14	18	20	27	6.0
9	.46	16	25	25	8.1	7.5	10	18	18	21	28	.68
10	2.0	15	26	23	7.9	7.5	8.7	19	17	23	27	.64
11	.49	15	26	24	7.9	11	6.4	18	17	21	27	.59
12	19	15	26	13	13	14	11	18	17	22	27	.56
13	19	15	26	4.2	14	14	14	17	17	22	28	.56
14	19	15	23	1.9	12	14	12	17	17	23	28	.50
15	20	15	20	1.2	13	14	8.9	16	17	27	28	.49
16	20	17	20	1.6	12	14	8.6	16	17	27	29	.46
17	20	23	21	.79	8.4	14	8.3	17	17	28	29	.42
18	20	21	21	.50	3.9	14	7.6	17	19	29	28	.42
19	19	19	19	.42	6.8	14	5.5	17	19	27	28	.42
20	18	19	17	7.7	11	13	6.8	17	19	27	28	.42
21	18	18	18	18	15	13	12	16	19	26	27	.42
22	17	19	16	23	14	12	11	16	19	26	26	.38
23	17	20	21	24	14	9.9	10	16	19	28	27	.36
24	17	21	31	24	14	9.9	10	16	20	31	27	.36
25	16	20	29	19	14	9.9	10	17	22	28	27	.36
26	15	22	26	12	14	9.9	10	17	22	28	26	.33
27	14	17	25	9.5	13	9.9	10	17	22	29	26	16
28	15	17	24	13	14	9.9	10	17	22	26	26	25
29	17	18	23	14	13	9.9	10	18	22	24	26	23
30	20	18	28	14	---	9.9	9.9	19	22	28	26	21
31	17	---	23	14	---	9.9	---	19	---	28	25	---
TOTAL	386.05	561	699	387.81	334.8	372.1	295.3	490	563	768	827	275.37
MEAN	12.5	18.7	22.5	12.5	11.5	12.0	9.84	15.8	18.8	24.8	26.7	9.18
MAX	21	24	31	25	15	16	14	19	22	31	29	26
MIN	.42	15	16	.42	3.9	7.5	5.5	10	17	20	23	.33
AC-FT	766	1110	1390	769	664	738	586	972	1120	1520	1640	546
CAL YR 1979	TOTAL	6354.83	MEAN	17.4	MAX	33	MIN	0	AC-FT	12600		
WTR YR 1980	TOTAL	5959.43	MEAN	16.3	MAX	31	MIN	.33	AC-FT	11820		

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CAL YR 1979	TOTAL	69261.90	MEAN 190	MAX 529	MIN 0	AC-FT	137400
WTR YR 1980	TOTAL	111575.00	MEAN 305	MAX 548	MIN 36	AC-FT	221300

SACRAMENTO RIVER BASIN

11421760 DUTCH FLAT NO. 2 FLUME NEAR BLUE CANYON, CA

LOCATION.--Lat 39°15'16", long 120°46'28", in SE&NE¼ sec.18, T.16 N., R.11 E., Placer County, Hydrologic Unit 18020126, on left bank 600 ft (183 m) downstream from Drum Afterbay, and 3.6 mi (5.8 km) west of Blue Canyon.

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

GAGE.--Water-stage recorder. Datum of gage is 3,348.09 ft (1,020.498 m) National Geodetic Vertical Datum of 1929 (levels by Nevada Irrigation District).

REMARKS.--Records good except flows below 50 ft³/s (1.42 m³/s), which are poor. Water is diverted from Drum Afterbay through the flume to Dutch Flat No. 2 powerplant and then to Dutch Flat Afterbay. See schematic diagram of Bear River basin.

AVERAGE DISCHARGE.--14 years, 349 ft³/s (9.884 m³/s), 252,900 acre-ft/yr (312 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 610 ft³/s (17.3 m³/s) Mar. 1, 1968; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	340	366	58	44	573	580	583	583	541	520	483	20
2	360	477	57	334	573	576	583	582	470	519	449	404
3	227	15	336	474	573	578	583	582	467	525	543	424
4	191	15	408	454	577	581	584	581	573	474	542	436
5	357	259	388	276	584	584	584	581	572	476	483	466
6	15	483	461	279	588	584	584	583	571	419	537	40
7	15	368	382	371	556	583	584	576	514	530	530	37
8	233	368	20	438	580	526	585	579	483	421	476	364
9	146	447	70	427	583	584	589	581	535	505	535	493
10	127	42	368	583	564	584	589	580	567	474	533	457
11	313	69	483	465	552	584	590	579	568	446	534	398
12	15	111	428	377	577	584	590	571	569	487	429	428
13	16	366	423	504	574	583	590	581	507	427	429	389
14	15	447	421	517	579	584	593	576	494	438	420	367
15	125	439	340	519	540	583	589	577	499	463	547	438
16	176	418	370	520	587	584	587	578	474	441	549	434
17	201	412	423	534	588	584	588	575	459	438	531	448
18	123	427	452	542	562	588	587	555	434	446	429	436
19	15	437	475	519	284	587	228	573	478	406	423	437
20	22	405	398	521	1.0	588	577	575	456	545	403	363
21	15	415	303	527	1.0	564	584	576	444	552	513	284
22	15	15	27	533	1.0	587	585	576	420	531	468	418
23	88	15	340	445	1.0	586	586	552	475	459	486	432
24	66	15	469	532	1.0	578	585	574	446	543	482	429
25	428	308	111	531	1.0	583	584	558	461	534	503	446
26	285	450	90	531	210	533	584	577	438	420	429	484
27	15	558	397	533	447	564	584	510	500	524	482	39
28	15	483	169	479	583	583	584	556	512	527	437	20
29	372	452	20	474	584	583	583	555	338	551	427	323
30	401	330	20	439	---	582	583	540	519	550	20	394
31	432	---	285	564	---	583	---	534	---	547	20	---
TOTAL	5164	9412	8992	14286	12424.0	17935	17209	17656	14984	15138	14072	10548
MEAN	167	314	290	461	428	579	574	570	499	488	454	352
MAX	432	558	483	583	588	588	593	583	573	552	549	493
MIN	15	15	20	44	1.0	526	228	510	420	406	20	20
AC-FT	10240	18670	17840	28340	24640	35570	34130	35020	29720	30030	27910	20920
CAL YR 1979	TOTAL	129751.0	MEAN	355	MAX	607	MIN	1.0	AC-FT	257400		
WTR YR 1980	TOTAL	157820.0	MEAN	431	MAX	593	MIN	1.0	AC-FT	313000		

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.--14 years, 13.5 ft³/s (0.382 m³/s), 9,780 acre-ft/yr (12.1 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, 1,830 ft³/s (51.8 m³/s) Jan. 12; minimum daily, 2.7 ft³/s (0.076 m³/s) Feb. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	5.3	5.2	5.1	5.8	9.0	10	10	10	10	10	10
2	5.3	5.2	5.2	5.1	5.7	10	10	10	10	10	10	10
3	5.4	5.2	5.3	5.3	5.8	10	10	10	10	10	10	10
4	5.4	5.2	5.2	5.3	5.8	10	10	10	9.9	10	10	10
5	5.3	5.2	5.2	5.3	5.8	10	10	10	10	10	10	10
6	5.2	5.2	5.2	5.3	5.8	10	10	10	10	10	10	10
7	5.2	5.2	5.3	5.3	5.8	10	10	10	10	10	10	10
8	5.3	5.2	5.2	5.3	5.8	10	10	10	10	10	10	10
9	5.4	5.2	5.2	5.3	5.8	10	10	10	9.9	9.9	10	10
10	5.3	5.3	5.4	5.3	5.7	10	10	10	10	10	10	10
11	5.3	5.2	5.3	5.3	5.7	10	10	10	10	10	10	10
12	5.3	5.3	5.2	1830	5.8	10	10	10	10	10	10	10
13	5.2	5.2	5.3	1410	5.8	10	10	10	10	10	10	10
14	5.3	5.2	5.3	200	5.7	10	10	10	10	10	10	10
15	5.2	5.2	5.2	5.6	150	10	13	10	10	10	10	10
16	5.3	5.2	5.2	5.6	2.7	10	10	10	10	9.9	10	10
17	5.3	5.3	5.2	5.6	352	10	10	10	10	10	10	10
18	5.2	5.2	5.2	5.6	669	10	10	10	10	10	10	10
19	5.2	5.3	5.2	5.6	1030	10	10	10	10	10	10	10
20	5.2	5.2	5.3	5.6	825	10	10	10	10	9.8	10	10
21	5.3	5.2	5.2	5.6	762	10	10	10	10	9.8	10	9.8
22	5.3	5.2	5.1	5.8	586	10	10	10	10	10	10	10
23	5.3	5.2	5.1	5.8	481	10	10	9.8	10	10	10	10
24	5.3	5.2	5.0	5.8	441	10	10	10	10	10	10	10
25	5.2	5.1	5.1	5.8	408	10	10	9.9	10	10	10	10
26	5.3	5.0	5.1	5.8	220	10	10	10	10	10	10	9.8
27	5.3	5.1	5.1	5.8	4.0	10	10	9.7	10	10	10	10
28	5.4	5.2	5.1	5.8	4.8	10	10	9.7	10	10	10	10
29	5.4	5.2	5.1	5.8	9.7	10	10	10	10	10	10	10
30	5.3	5.2	5.1	5.8	---	10	10	10	10	10	10	10
31	5.2	---	5.1	5.8	---	10	---	10	---	10	10	---
TOTAL	167.1	156.1	160.9	3595.1	6026.0	309.0	303	309.1	299.8	309.4	310	299.6
MEAN	5.39	5.20	5.19	116	208	9.97	10.1	9.97	9.99	9.98	10.0	9.99
MAX	8.5	5.3	5.4	1830	1030	10	13	10	10	10	10	10
MIN	5.2	5.0	5.0	5.1	2.7	9.0	10	9.7	9.9	9.8	10	9.8
AC-FT	331	310	319	7130	11950	613	601	613	595	614	615	594
CAL YR 1979 TOTAL	2919.5			MEAN 8.00	MAX 29	MIN 5.0	AC-FT 5790					
WTR YR 1980 TOTAL	12245.1			MEAN 33.5	MAX 1830	MIN 2.7	AC-FT 24290					

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.--14 years, 612 ft³/s (17.33 m³/s), 443,400 acre-ft/yr (547 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	520	507	393	533	1100	1080	1080	1070	932	970	877	139
2	601	523	397	531	1090	1070	1080	1050	929	913	790	497
3	288	177	650	958	1100	1080	1080	938	987	975	820	721
4	376	258	872	1050	1090	1080	981	942	989	875	835	691
5	475	446	874	582	1090	1080	1050	942	1040	874	742	670
6	137	711	792	446	1090	1080	1080	942	1040	889	728	241
7	118	668	807	850	1090	1070	1080	941	1050	923	713	303
8	331	662	398	942	1090	1070	1080	964	971	892	713	616
9	258	609	392	960	1090	1080	1080	1060	929	850	712	736
10	247	377	673	1080	1090	1070	852	1060	933	768	708	667
11	439	374	860	954	1090	1070	1080	1060	978	858	709	663
12	266	397	859	1090	1050	1070	1090	1060	976	888	711	613
13	125	572	823	1100	950	1070	1090	1060	976	877	741	526
14	134	667	626	1100	1060	1070	1090	985	954	622	740	528
15	268	671	603	1110	1090	1070	1080	929	848	866	741	690
16	301	670	578	1100	1090	1070	1080	930	996	824	749	719
17	275	649	755	1100	1090	1070	1090	1060	899	824	771	660
18	322	627	817	1100	1080	1080	1080	1050	914	855	666	664
19	293	626	816	1100	1080	1080	727	1030	880	879	636	658
20	212	657	833	1100	1080	1080	1060	865	1040	863	638	540
21	180	642	754	1110	1080	1080	1070	970	876	863	703	552
22	219	214	261	1100	1080	1080	1070	972	878	862	731	654
23	377	159	690	1000	1080	1070	1070	970	914	821	732	712
24	536	191	1080	1100	1080	1080	1070	995	924	814	598	622
25	489	513	394	1020	1080	1080	1070	1050	922	812	595	620
26	440	900	345	1100	1080	1080	1070	1010	948	814	619	663
27	167	899	520	1100	1070	1080	1080	924	975	861	669	563
28	161	852	553	1100	1080	1070	1080	931	876	906	724	562
29	495	816	192	1100	1080	1080	1070	995	871	803	697	616
30	537	709	245	861	---	1080	1070	1050	972	891	135	663
31	535	---	811	1100	---	1080	---	1050	---	748	135	---
TOTAL	10122	16743	19663	30477	31290	33350	31630	30855	28417	26480	21078	17769
MEAN	327	558	634	983	1079	1076	1054	995	947	854	680	592
MAX	601	900	1080	1110	1100	1080	1090	1070	1050	975	877	736
MIN	118	159	192	446	950	1070	727	865	848	622	135	139
AC-FT	20080	33210	39000	60450	62060	66150	62740	61200	56370	52520	41810	35240
CAL YR 1979 TOTAL	217688.00			MEAN 596	MAX 1090	MIN .00	AC-FT 431800					
WTR YR 1980 TOTAL	297874.00			MEAN 814	MAX 1110	MIN 118	AC-FT 590800					

11421790 BEAR RIVER BELOW DUTCH FLAT AFTERBAY, NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°12'55", long 120°50'23", in NE¼NW¼ sec.34, T.16 N., R.10 E., Placer County, 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 flows above 13 ft³/s (0.37 m³/s), 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.--14 years, 27.5 ft³/s (0.779 m³/s), 19,920 acre-ft/yr (24.6 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, 3,200 ft³/s (90.6 m³/s) Jan. 13; minimum daily, 4.3 ft³/s (0.12 m³/s) Jan. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	6.9	5.0	4.4	4.4	221	5.5	6.7	9.7	10	11	11
2	10	5.0	5.0	4.4	4.4	49	5.5	9.9	9.9	10	11	11
3	10	5.0	5.0	4.4	4.4	173	5.5	9.9	9.9	10	11	11
4	10	5.2	5.0	4.4	4.4	171	5.5	9.9	9.9	10	11	11
5	9.9	5.0	5.0	4.4	4.4	333	5.7	9.9	9.9	10	11	11
6	9.9	5.0	5.0	4.4	4.4	131	5.7	9.9	9.9	10	11	11
7	9.9	5.0	5.0	4.4	4.4	235	5.7	10	9.9	10	11	11
8	9.9	5.0	5.0	4.4	4.4	10	5.7	10	9.9	10	11	11
9	9.9	5.0	5.0	4.4	4.4	124	5.7	10	9.9	10	11	11
10	9.9	5.0	5.0	4.4	4.4	101	5.7	10	9.9	10	11	11
11	9.9	5.0	5.0	4.3	4.4	50	5.7	10	9.9	10	11	11
12	9.9	5.0	4.4	1310	4.4	68	5.7	9.9	9.9	10	11	11
13	9.9	5.0	4.4	1750	4.4	9.0	5.7	9.9	9.9	10	11	11
14	9.9	5.0	4.4	1030	4.6	4.6	5.7	9.9	10	10	11	11
15	9.9	5.0	4.6	689	238	14	85	9.9	10	10	11	11
16	9.9	5.0	4.6	837	275	69	60	9.9	10	10	11	11
17	9.9	5.0	4.6	384	679	83	168	9.9	10	10	11	11
18	9.9	5.0	4.6	239	1400	11	32	9.9	10	10	11	11
19	9.9	5.0	4.6	266	1550	5.7	5.5	9.9	10	10	11	11
20	9.9	5.0	4.6	69	899	5.7	5.5	9.9	9.9	10	11	11
21	9.9	5.0	4.4	208	734	5.7	5.5	9.9	9.9	10	11	11
22	9.9	5.0	4.4	203	520	5.7	5.5	9.9	9.9	10	11	11
23	9.9	5.2	4.6	44	339	5.7	5.5	9.9	9.9	10	11	11
24	9.9	5.2	4.6	4.4	221	5.7	5.5	9.9	9.9	10	11	11
25	9.9	5.2	4.6	57	184	5.5	5.5	9.9	9.9	10	11	11
26	9.9	5.2	4.4	4.4	142	5.5	5.5	9.9	9.9	10	11	11
27	9.9	5.0	4.4	4.4	38	5.5	5.5	9.7	9.9	10	11	11
28	9.7	5.0	4.4	4.4	299	5.5	5.5	9.9	9.9	10	11	11
29	9.7	5.0	4.4	4.4	267	5.5	5.5	9.9	9.9	10	11	11
30	9.7	5.0	4.4	4.4	---	5.5	5.5	9.9	9.9	10	11	11
31	9.7	---	4.4	4.4	---	5.5	---	9.9	---	10	11	---
TOTAL	306.5	152.9	144.8	7165.1	7846.8	1929.3	490.0	304.0	297.4	310	341	330
MEAN	9.89	5.10	4.67	231	271	62.2	16.3	9.81	9.91	10.0	11.0	11.0
MAX	10	6.9	5.0	1750	1550	333	168	10	10	10	11	11
MIN	9.7	5.0	4.4	4.3	4.4	4.6	5.5	6.7	9.7	10	11	11
AC-FT	608	303	287	14210	15560	3830	972	603	590	615	676	655
CAL YR 1979 TOTAL	2981.1			MEAN 8.17	MAX 78	MIN 4.4	AC-FT 5910					
WTR YR 1980 TOTAL	19617.8			MEAN 53.6	MAX 1750	MIN 4.3	AC-FT 38910					

SACRAMENTO RIVER BASIN

11421800 ROLLINS RESERVOIR NEAR COLFAX, CA

LOCATION.--Lat 39°08'05", long 120°56'54", in NE&SE& 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, 70,000 acre-ft (86.3 hm³) Jan. 13, elevation, 2,175.7 ft (663.15 m); minimum, 30,000 acre-ft (37.0 hm³) Nov. 5, elevation, 2,114.2 ft (644.41 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43700	30900	37500	66600	66900	67100	66900	66900	66700	66800	66600	61200
2	43900	31000	37300	66600	66900	67000	66900	66800	66700	66700	66500	60600
3	43400	30400	38500	66700	66900	67100	66900	66800	66700	66700	66500	60700
4	43000	30100	40300	66800	66900	67100	66800	66800	66700	66700	66500	60500
5	42900	30000	42000	66500	66900	67200	67000	66700	66800	66700	66400	60400
6	42000	30500	43600	66300	66900	67200	67000	66700	66800	66700	66400	59400
7	41000	30900	45300	66700	67000	67200	67000	66700	66800	66700	66400	58400
8	40500	31300	46000	66700	66900	67100	66900	66700	66800	66700	66400	58100
9	39900	31600	46700	67200	66800	67100	66900	67000	66700	66700	66400	58100
10	39200	31400	48100	67100	66800	67100	66700	66900	66700	66700	66400	57900
11	39000	31200	49800	67400	66800	67000	66900	66900	66700	66700	66400	58100
12	38400	31000	51200	68400	66800	67000	66900	66900	66700	66700	66400	58100
13	37600	31200	53200	70000	66800	67000	66900	66900	66700	66700	66300	58000
14	36600	31600	54200	68200	67000	67000	66900	66800	66700	66500	66300	57800
15	36000	31900	54900	67800	67400	67000	66900	66800	66700	66700	66400	57800
16	35500	32300	55200	68400	67300	67000	66900	66700	66800	66700	66400	57800
17	35000	32800	55900	67700	67900	67000	67000	66800	66700	66700	66500	57800
18	34600	33200	56700	67300	68700	66900	66900	66800	66700	66700	66400	57700
19	34300	33600	57600	67200	68800	66900	66600	66800	66700	66700	66400	57600
20	33800	33900	58700	67100	68000	68900	66900	66700	66800	66700	66200	57200
21	33100	34300	59800	67100	68200	66900	66900	66800	66700	66700	66200	57000
22	32500	33800	59400	67100	67800	66900	66800	66700	66700	66700	66100	56900
23	32100	33200	59900	66900	67600	66900	66800	66700	66700	66700	66100	56900
24	32100	32700	62500	67000	67300	66900	66900	66700	66700	66700	65800	56800
25	32400	33000	64000	66900	67200	66900	66900	66800	66700	66600	65500	56600
26	32400	34200	64200	66900	67200	66900	66900	66800	66700	66700	65200	56600
27	31700	35300	64500	67000	67200	66900	66900	66700	66800	66700	65100	56300
28	30800	36200	64800	66900	67200	66900	66900	66700	66700	66700	65000	56000
29	30700	37000	64300	66900	67200	66900	66900	66800	66700	66700	64900	55800
30	30800	37600	64500	66700	---	66800	66900	66800	66800	66700	63800	55800
31	30800	---	66800	66900	---	66800	---	66800	---	66600	62300	---
MAX	43900	37600	66800	70000	68800	67200	67000	67000	66800	66800	66600	61200
MIN	30700	30000	37300	66300	66800	66800	66600	66700	66700	66500	62300	55800
†	2116.0	2129.3	2172.0	2172.1	2172.4	2172.0	2172.1	2172.0	2172.0	2171.7	2166.5	2157.9
‡	-13000	+6800	+29200	+100	+300	-400	+100	-100	0	-200	-4300	-6500

CAL YR 1979 † +19300
WTR YR 1980 ‡ +12000

† 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 SW¼SE¼ 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 WSP 1315-A. Prior to October 1912, published as Pacific Gas and Electric Co.'s Canal near Colfax, October 1912 to September 1953, published as Bear River Canal near Colfax.

GAGE.--Water-stage recorder. Altitude of gage is 1,980 ft (604 m), from topographic map. Prior to Mar. 25, 1946, water-stage recorder at site 1.5 mi (2.4 km) downstream at different datum.

REMARKS.--Canal diverts from left bank of Bear River. Water is first used to develop power at Halsey and Wise powerhouse, part of it is then distributed for irrigation and part is eventually spilled into North Fork American River. See schematic diagram showing diversion and storage in Bear River basin.

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

AVERAGE DISCHARGE.--57 years (water years 1913-53, 1965-80), 295 ft³/s (8.354 m³/s), 213,700 acre-ft/yr (263 hm³).

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 516 ft³/s (14.6 m³/s) Oct. 6, 1976; no flow at times in most years.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	475	479	474	469	495	489	487	490	478	471	474	482
2	475	476	471	486	496	488	488	490	481	471	474	482
3	474	473	31	486	496	488	488	489	482	468	474	481
4	478	474	26	487	496	487	487	488	482	465	475	481
5	468	473	26	487	496	486	488	487	482	465	475	481
6	476	473	25	487	496	484	488	487	481	465	475	481
7	482	473	40	487	496	483	488	486	481	464	472	481
8	481	475	73	488	496	482	488	489	480	464	475	482
9	480	478	53	476	496	480	488	485	480	463	474	482
10	478	479	7.4	454	496	479	488	477	480	464	475	481
11	475	479	7.4	454	496	478	488	476	479	463	474	470
12	478	479	7.4	454	496	477	489	475	479	463	470	480
13	480	479	7.2	454	497	483	489	474	479	462	472	480
14	475	480	114	453	497	487	489	481	476	465	474	478
15	476	482	299	453	498	487	489	483	478	468	473	478
16	480	483	352	453	495	487	490	483	477	467	474	478
17	480	485	432	453	470	487	489	482	477	468	474	478
18	480	486	436	453	454	487	489	481	476	467	475	478
19	479	482	375	453	417	487	489	481	477	467	476	478
20	478	479	346	453	443	487	489	480	476	467	476	478
21	478	480	348	480	443	487	489	480	476	466	477	478
22	480	481	464	499	444	486	489	475	476	467	480	477
23	478	480	468	499	445	487	489	478	475	467	482	477
24	483	474	450	500	458	487	490	479	474	468	482	477
25	474	471	460	501	470	487	490	481	473	468	482	477
26	475	481	477	501	469	487	490	480	473	469	482	477
27	476	486	489	501	468	487	490	480	472	470	482	477
28	473	484	490	498	467	487	490	479	472	471	482	477
29	473	473	490	495	478	487	490	479	472	471	482	477
30	474	475	468	495	---	487	490	479	472	473	481	477
31	475	---	452	495	---	487	---	478	---	473	482	---
TOTAL	14787	14352	8658.4	14804	13864	15049	14665	14932	14316	14480	14775	14361
MEAN	477	478	279	478	478	485	489	482	477	467	477	479
MAX	483	486	490	501	498	489	490	490	482	473	482	482
MIN	468	471	7.2	453	417	477	487	474	472	462	470	470
AC-FT	29330	28470	17170	29360	27500	29850	29090	29620	28400	28720	29310	28490
CAL YR 1979 TOTAL	167290.4			MEAN 458	MAX 490	MIN 7.2	AC-FT 331800					
WTR YR 1980 TOTAL	169043.4			MEAN 462	MAX 501	MIN 7.2	AC-FT 335300					

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).--21 years (water years 1913, 1916, 1951-53, 1965-80), 373 ft³/s (10.56 m³/s), 270,200 acre-ft/yr (333 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, 11,800 ft³/s (334 m³/s) Jan. 12, gage height, 11.36 ft (3.463 m); minimum daily, 11 ft³/s (0.31 m³/s) Dec. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	17	19	761	794	1380	771	709	576	516	388	253
2	87	17	18	236	785	1230	770	694	524	501	354	241
3	87	20	19	529	780	1250	768	626	545	559	329	203
4	87	19	20	690	775	1320	710	565	579	465	370	235
5	87	19	20	421	764	1650	900	560	610	433	317	243
6	87	21	20	134	757	1710	975	559	627	432	254	246
7	87	22	20	208	704	1600	968	557	627	468	253	252
8	87	22	20	532	789	1340	873	550	581	462	237	257
9	87	21	18	717	784	1210	842	744	517	425	226	251
10	87	21	15	1250	744	1200	683	906	495	348	241	208
11	87	20	12	1150	722	1140	730	790	526	370	221	101
12	87	20	11	7450	713	1080	799	750	539	417	227	83
13	87	20	18	7720	599	1020	799	738	541	429	270	83
14	87	20	19	5820	740	980	797	705	536	322	234	140
15	82	20	20	3750	1260	1070	802	596	449	282	220	176
16	75	21	19	4190	1790	986	850	573	489	377	275	183
17	73	21	20	3230	2690	980	830	641	513	368	247	185
18	71	20	20	2080	4530	966	832	684	472	374	223	185
19	72	20	20	1720	6460	911	565	677	427	411	165	185
20	72	19	19	1430	4260	893	590	515	550	403	210	183
21	70	19	22	1240	4290	894	807	553	506	401	241	182
22	70	19	21	1140	3250	866	769	574	444	398	242	176
23	71	19	22	971	2430	850	752	578	455	380	241	172
24	71	23	32	934	1960	841	750	587	477	350	242	172
25	77	25	29	866	1660	834	744	653	479	361	243	171
26	74	20	20	870	1480	822	737	648	493	331	237	171
27	70	19	20	878	1370	811	736	564	515	358	242	171
28	65	19	20	921	1750	801	729	531	472	416	242	169
29	65	18	20	870	1540	788	730	565	423	380	239	168
30	65	18	23	699	---	780	720	633	475	389	241	168
31	50	---	96	705	---	774	---	651	---	319	246	---
TOTAL	2411	599	692	54112	51170	32977	23328	19676	15462	12445	7917	5613
MEAN	77.8	20.0	22.3	1746	1764	1064	778	635	515	401	255	187
MAX	87	25	96	7720	6460	1710	975	906	627	559	388	257
MIN	50	17	11	134	599	774	565	515	423	282	165	83
AC-FT	4780	1190	1370	107300	101500	65410	46270	39030	30670	24680	15700	11130
CAL YR 1979	TOTAL	87042	MEAN 238	MAX 1260	MIN 11	AC-FT 172600						
WTR YR 1980	TOTAL	226402	MEAN 619	MAX 7720	MIN 11	AC-FT 449100						

11423700 NEW CAMP FAR WEST RESERVOIR NEAR WHEATLAND, CA

LOCATION.--Lat 39°03'01", long 121°18'53", in NE¼SW¼ sec.21, T.14 N., R.6 E., on Yuba-Placer County line, 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, 117,000 acre-ft (144 hm³) Feb. 19, elevation, 305.80 ft (93.208 m); minimum observed, 6,400 acre-ft (7.89 hm³) Oct. 24, elevation, 197.30 ft (60.14 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7000	8700	13800	34200	106400	107900	106600	106100	105900	104200	94100	72600
2	7000	8700	13800	37900	106400	107900	106400	106100	105900	104200	93500	71900
3	7000	8700	13800	39300	106600	108500	106400	106100	105900	104200	93100	70900
4	7000	8700	14300	41100	106600	108100	106400	106100	105900	104200	92400	70300
5	7000	9300	14300	41100	106600	109200	106800	106100	105900	104200	91800	69800
6	6900	9300	14300	41100	106600	109800	106600	105900	105900	103800	91200	69200
7	6800	9300	14300	41100	106400	108700	106800	105900	106100	103600	90500	68800
8	6800	9300	14300	45400	106400	108100	106800	105900	106100	103500	89700	68400
9	6700	9300	14300	45400	106400	107700	106600	105900	106100	103100	89000	68200
10	6600	9300	14300	51000	106400	107700	106600	106400	106100	103300	88200	68000
11	6600	9300	14300	55000	106400	107400	106400	106600	105900	102900	87500	67500
12	6600	9300	14300	66700	106400	107200	106400	106400	105900	102300	86700	67100
13	6600	10100	14300	91600	106400	107200	106400	106400	105900	102000	85800	66600
14	6600	10100	14300	114200	106600	107000	106400	106400	105900	101800	85100	66100
15	6500	10100	14300	111500	108300	107200	106400	106400	105900	101400	84500	65700
16	6500	10100	14300	111100	109200	107200	106400	106100	105900	100600	83800	65600
17	6500	10100	14300	111500	111500	107000	106400	106100	105900	100300	83200	65400
18	6500	10100	14300	110000	113500	107000	105900	106100	105900	99900	82400	65400
19	6500	11500	14300	109200	117000	107000	106100	106100	105700	99500	81700	65400
20	6500	11500	14300	108300	112000	107000	105900	106100	105700	99100	80900	65300
21	6500	11500	16000	107400	113700	106800	106100	105900	105700	98800	80300	65300
22	6500	11500	16000	107200	111100	106800	106100	105900	105700	98400	79500	65300
23	6500	11500	16000	107000	109600	106800	106100	105900	105500	98000	78800	65300
24	6400	11500	16000	106800	108700	106800	106100	105900	105300	97800	78200	65400
25	7000	11500	16000	106800	108300	106600	106100	105900	105300	97300	77400	65400
26	7000	12700	25500	106800	107900	106600	106100	105900	105100	96700	76700	65400
27	7000	12700	25500	106600	107700	106600	106100	105900	104800	96100	76100	65600
28	7000	13600	27500	106600	109000	106600	106400	105900	104800	95800	75300	65700
29	7000	13600	27500	106600	108300	106600	106100	105900	104800	95400	74800	65700
30	7000	13600	27500	106600	---	106600	106100	105900	104400	95000	74000	65900
31	8400	---	32500	106600	---	106600	---	105900	---	94400	73200	---
MAX	8400	13600	32500	114200	117000	109800	106800	106600	106100	104200	94100	72600
MIN	6400	8700	13800	34200	106400	106600	105900	105900	104400	94400	73200	65300
†	205.0	219.5	248.0	301.0	301.8	301.0	300.8	300.7	300.0	294.7	282.3	277.4
‡	+1200	+5200	+18900	+74100	+1700	-1700	-500	-200	-1500	-10000	-21200	-7300

CAL YR 1979 † -44100

WTR YR 1980 † +58700

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

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

11424000 BEAR RIVER NEAR WHEATLAND, CA

LOCATION.--Lat 39°00'01", long 121°24'21", in SE&SW¼ 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).--51 years, 459 ft³/s (13.00 m³/s), 332,500 acre-ft/yr (410 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, 16,900 ft³/s (479 m³/s) Feb. 19, gage height, 16.25 ft (4.953 m); minimum daily, 0.39 ft³/s (0.011 m³/s) Dec. 6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.2	3.5	.74	24	923	2070	875	254	103	25	17	8.9
2	3.9	2.7	.61	12	957	1880	869	248	80	23	18	10
3	3.7	3.1	.45	8.8	962	2350	859	201	44	23	15	9.8
4	3.5	3.2	.50	8.9	962	2110	860	122	37	23	14	11
5	3.7	2.6	.52	8.4	960	2300	1010	104	78	20	12	10
6	3.7	17	.39	8.2	948	3470	1190	74	106	19	12	9.8
7	3.9	44	.83	7.8	933	2700	1220	48	135	20	15	10
8	3.5	8.9	6.7	10	893	2140	1120	46	170	18	16	9.3
9	2.7	3.4	5.0	17	920	1750	992	46	152	19	16	9.1
10	2.6	3.2	4.6	30	930	1580	907	276	110	18	17	9.0
11	2.6	2.3	4.8	24	904	1440	777	429	70	19	15	9.8
12	2.5	1.4	4.9	87	885	1330	768	347	60	18	9.8	8.5
13	3.1	1.3	4.9	200	867	1260	799	277	79	18	7.6	8.4
14	3.3	1.3	4.9	8860	863	1260	794	248	96	20	7.6	8.0
15	3.2	1.2	4.9	6560	1530	1250	779	215	98	20	8.4	9.3
16	3.3	1.0	4.9	5660	2680	1240	737	148	59	20	8.9	12
17	2.7	1.8	4.9	6160	4460	1220	703	120	40	16	9.8	14
18	2.3	1.7	4.9	3850	6200	1170	870	133	59	13	9.3	10
19	2.9	1.5	5.7	2530	13000	1120	413	160	53	7.6	8.0	9.3
20	3.0	1.3	6.4	2000	10200	1090	289	156	24	5.8	8.4	7.9
21	3.0	1.0	7.8	1650	8470	1070	281	87	25	8.8	11	8.0
22	3.0	1.0	6.1	1460	6870	1050	337	54	23	8.1	9.8	8.2
23	2.8	1.0	6.3	1340	4400	1040	352	34	22	8.8	8.9	26
24	2.8	.95	14	1200	3130	1020	344	42	25	9.6	9.3	5.7
25	7.9	1.1	26	1150	2530	1020	316	61	26	13	8.9	6.2
26	5.6	1.3	15	1080	2090	1010	284	92	26	14	7.6	7.2
27	8.5	1.3	9.7	1060	1950	976	275	99	25	15	7.2	8.0
28	8.2	1.1	7.4	1110	2600	951	277	56	26	17	7.6	7.4
29	6.3	.82	7.2	1130	2460	940	272	34	26	15	7.6	7.0
30	5.6	.77	12	1060	---	923	265	43	26	13	8.0	7.4
31	6.8	---	32	950	---	898	---	67	---	15	8.0	---
TOTAL	122.8	116.74	215.04	49256.1	85477	45628	19834	4321	1903	502.7	338.7	285.2
MEAN	3.96	3.89	6.94	1589	2947	1472	661	139	63.4	16.2	10.9	9.51
MAX	8.5	44	32	8860	13000	3470	1220	429	170	25	18	26
MIN	2.2	.77	.39	7.8	863	898	265	34	22	5.8	7.2	5.7
AC-FT	244	232	427	97700	169500	90500	39340	8570	3770	997	672	566
†	2630	0	0	0	0	0	11060	30048	28455	29748	29475	12252

CAL YR 1979 TOTAL 91791.48 MEAN 251 MAX 4250 MIN .39 AC-FT 182100 MEAN † 382 AC-FT † 276600
WTR YR 1980 TOTAL 208000.28 MEAN 568 MAX 13000 MIN .39 AC-FT 412600 MEAN † 847 AC-FT † 615000

† 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.

SACRAMENTO RIVER BASIN

285

11424000 BEAR RIVER NEAR WHEATLAND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1953 to current year.

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 29...	1130	6.3	191	7.9	10.8	80	18
DEC 27...	1230	10	168	7.4	--	64	14
JAN 24...	1100	1200	74	7.3	11.0	30	7.0
MAR 21...	1130	1070	67	7.3	11.4	28	6.0
APR 22...	1225	337	70	7.4	10.0	28	6.0
MAY 29...	0950	117	102	7.3	8.9	39	9.0
JUN 24...	0900	24	140	7.7	8.9	52	11
JUL 23...	0815	9.3	176	7.7	7.8	77	16

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CAC03)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 29...	--	7.0	--	63	8.0	111
DEC 27...	7.0	6.0	--	51	7.0	--
JAN 24...	3.0	3.0	.9	24	2.0	49
MAR 21...	3.0	3.0	.7	23	2.0	36
APR 22...	3.0	3.0	.6	22	2.0	30
MAY 29...	4.0	5.0	--	31	5.0	60
JUN 24...	6.0	4.0	.8	43	4.0	77
JUL 23...	9.0	5.0	.9	63	5.0	104

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA

LOCATION.--Lat 38°53'26", long 121°36'12", in SE&NE¼ 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 good. 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.--37 years (water years 1944-80), 8,010 ft³/s (226.8 m³/s), 5,803,000 acre-ft/yr (7.16 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge (water years 1944-80), 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 discharge, 115,000 ft³/s (3,260 m³/s) Jan. 17, gage height, 43.05 ft (13.122 m); maximum gage height, 43.86 ft (13.369 m) Jan. 14; minimum daily discharge, 3,020 ft³/s (85.5 m³/s) May 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4120	3340	3930	8700	14300	30000	8520	4780	3770	7390	6350	5260
2	4120	3340	3920	8360	13200	27300	8110	4790	3840	6720	6570	5250
3	4010	3430	3990	6780	12400	24000	7920	4770	3740	6440	6650	5310
4	3980	3580	4350	7160	12100	25900	7930	4670	3750	5870	6720	5270
5	4030	3590	4430	7400	11000	25100	8070	4050	3850	4920	6770	5090
6	4160	3530	4420	7100	10100	26000	8310	3240	3900	4710	6790	4970
7	3970	3470	4410	6980	8690	28800	8140	3080	4530	4740	6800	4880
8	3950	3450	4370	7000	7930	26400	7780	3020	5410	5160	6680	4880
9	3960	3450	4360	7270	7740	23900	7510	3390	6030	5150	6310	4910
10	3970	3480	4400	9180	7520	22800	7190	3900	6300	5180	6290	4940
11	3970	3500	4380	9000	7300	21800	6820	4310	7000	5180	6290	4980
12	3890	3490	4360	19100	7310	21000	6540	4060	8130	5150	6230	5000
13	3840	3490	4380	48900	7130	20200	6270	3770	8840	5120	5890	4930
14	4150	3450	4420	101000	7150	19400	6200	3630	8950	5160	5830	4920
15	3830	3420	4700	109000	8860	18800	6110	3990	8220	5250	5850	4960
16	3520	3440	4730	111000	15900	17500	6000	3820	8340	5620	5870	5280
17	3370	3610	4720	111000	29400	16300	5910	3870	8850	5690	5840	5050
18	3350	3720	4730	98900	46300	15200	5960	3890	9020	5790	5490	4960
19	3420	3690	4770	84800	64800	14900	5750	3940	8830	6470	5490	4950
20	3450	3580	4800	72400	90600	14900	5480	4220	8800	6690	5470	4970
21	3300	3500	4960	41500	93000	13900	5430	4290	8180	6750	5480	4970
22	3440	3490	5010	25000	94000	13000	5400	5060	7920	6730	5470	4980
23	3510	3550	4900	23700	78000	12100	5370	5190	7970	6630	5490	4970
24	3490	3560	5390	22600	64800	11300	5330	5230	8550	6580	5420	4980
25	3780	3550	10500	21500	53500	10500	5190	4670	8700	6580	5070	5000
26	4290	3690	10900	20400	41500	9480	5060	3580	8550	6620	5150	5020
27	3880	4070	7200	19300	35400	9300	4950	4550	8180	6600	5130	5010
28	3660	4050	6450	18200	30000	9130	4920	4740	7860	6180	5130	5030
29	3550	3990	6320	17200	31600	8960	4840	3970	7720	6210	5170	5020
30	3430	3960	6100	16200	---	8860	4760	3780	7100	6190	5160	5040
31	3370	---	6850	15300	---	8720	---	3770	---	6370	5230	---
TOTAL	116760	107460	163150	1081950	911530	555450	191770	128020	210830	183840	182080	150780
MEAN	3766	3582	5263	34900	31430	17920	6392	4130	7028	5930	5874	5026
MAX	4290	4070	10900	111000	94000	30000	8520	5230	9020	7390	6800	5310
MIN	3300	3340	3920	6780	7130	8720	4760	3020	3740	4710	5070	4880
AC-FT	231600	213100	323600	2146000	1808000	1102000	380400	253900	418200	364600	361200	299100
CAL YR 1979 TOTAL	1964470			MEAN 5382	MAX 27200	MIN 2130	AC-FT 3897000					
WTR YR 1980 TOTAL	3983620			MEAN 10880	MAX 111000	MIN 3020	AC-FT 7902000					

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. 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 (discontinued).

PERIOD OF DAILY RECORD.--

CHEMICAL ANALYSES: October 1951 to September 1958, November 1959 to September 1962, October 1979 to September 1980.

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), discontinued.

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.

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, 23.5°C Aug. 1, 2; minimum recorded, 7.0°C on several days during December.

SEDIMENT CONCENTRATIONS (storm season only): Maximum daily mean, 334 mg/L Jan. 13; minimum daily mean, 9 mg/L Dec. 14, 15.

SEDIMENT DISCHARGE (storm season only): Maximum daily, 89,000 tons (80,700 metric tons) Jan. 17; minimum daily, 98 tons (89 metric tons) May 8.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT											
17...	0945	3370	--	7.5	9.8	--	--	--	--	--	--
NOV											
21...	1115	3500	--	7.4	11.4	--	--	--	--	--	--
DEC											
21...	1040	4940	91	7.3	11.1	2	1.0	39	9.0	4.0	3.0
JAN											
22...	1230	25000	--	7.1	10.3	--	--	--	--	--	--
FEB											
21...	1430	93000	--	7.2	10.2	--	--	--	--	--	--
MAR											
19...	1145	14900	80	7.3	10.8	--	--	30	7.0	3.0	3.0
APR											
16...	0900	6010	84	7.4	10.1	3	1.0	36	8.0	4.0	3.0
MAY											
21...	1400	4210	89	7.6	9.0	6	1.1	36	8.0	4.0	4.0
JUN											
19...	0730	8810	72	7.3	8.9	5	.8	30	7.0	3.0	3.0
JUL											
16...	1215	5650	--	7.4	8.8	5	.6	--	--	--	--
AUG											
20...	0840	5450	--	7.4	8.8	5	.6	--	--	--	--
SEP											
17...	0830	5080	--	7.4	9.4	5	.6	--	--	--	--
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT											
17...	--	--	--	--	--	--	--	.02	.00	.10	.02
NOV											
21...	--	--	--	--	--	--	--	.03	.00	.20	.02
DEC											
21...	--	--	--	--	.0	65	75	.05	.01	.10	.03
JAN											
22...	--	--	--	--	--	--	--	.10	.02	.20	.06
FEB											
21...	--	--	--	--	--	--	--	.30	.02	.30	.09
MAR											
19...	.7	31	--	--	1.0	54	--	.10	.00	.20	.05
APR											
16...	.6	34	2.0	2.0	56	9	--	--	--	--	--
MAY											
21...	.9	33	4.0	.2	54	8	.05	.00	.20	.03	.00
JUN											
19...	.7	31	--	--	1.0	45	18	.01	.00	.20	.04
JUL											
16...	--	--	--	--	--	--	25	.02	.00	.20	.04
AUG											
20...	--	--	--	--	--	--	13	.01	.01	.10	.02
SEP											
17...	--	--	--	--	--	--	9	.02	.00	.10	.02

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)
DEC 21...	1040	--	--	--	--	--	--
FEB 21...	1430	0	0	0	0	10	40
APR 16...	0900	--	--	--	--	--	--
MAY 21...	1400	--	--	--	--	--	--
JUN 19...	0730	--	--	--	--	--	--
JUL 16...	1215	--	--	--	--	--	--
AUG 20...	0840	--	--	--	--	--	--
SEP 17...	0830	0	0	0	0	0	30

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
DEC 21...	--	--	--	--	2.2	.00
FEB 21...	0	10	.0	10	--	--
APR 16...	--	--	--	--	1.0	.00
MAY 21...	--	--	--	--	1.3	.00
JUN 19...	--	--	--	--	2.5	.00
JUL 16...	--	--	--	--	2.0	.00
AUG 20...	--	--	--	--	1.9	.00
SEP 17...	0	10	.0	0	1.7	.00

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				3340	20	180	3930	14	149
2				3340	13	117	3920	17	180
3				3430	12	111	3990	19	205
4				3580	13	126	4350	25	294
5				3590	15	145	4430	30	359
6				3530	11	105	4420	26	310
7				3470	11	103	4410	22	262
8				3450	18	168	4370	17	201
9				3450	19	177	4360	17	200
10				3480	18	169	4400	22	261
11				3500	14	132	4380	26	307
12				3490	11	104	4360	17	200
13				3490	11	104	4380	11	130
14				3450	11	102	4420	9	107
15				3420	13	120	4700	9	114
16				3440	15	139	4730	11	140
17				3610	16	156	4720	13	166
18				3720	16	161	4730	15	192
19				3690	16	159	4770	17	219
20				3580	13	126	4800	17	220
21				3500	11	104	4960	17	228
22				3490	11	104	5010	17	230
23				3550	11	105	4900	20	265
24				3560	13	125	5390	84	1230
25				3550	16	153	10500	67	1900
26				3690	24	239	10900	57	1680
27				4070	24	264	7200	26	505
28				4050	18	197	6450	13	226
29				3990	14	151	6320	15	256
30				3960	14	150	6100	17	280
31				---	---	---	6850	27	499
TOTAL				107460	---	4296	163150	---	11515

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	8700	50	1170	14300	76	2930	30000	68	5510
2	8360	31	700	13200	93	3310	27300	58	4280
3	6780	22	403	12400	163	5460	24000	57	3690
4	7180	23	446	12100	237	7740	25900	41	2870
5	7400	27	539	11000	168	4990	25100	56	3800
6	7100	28	537	10100	132	3600	26000	53	3720
7	6980	27	509	8690	49	1150	28800	55	4280
8	7000	24	454	7930	41	878	26400	62	4420
9	7270	23	451	7740	42	878	23900	69	4450
10	9180	60	1490	7520	42	853	22800	74	4560
11	9000	43	1040	7300	35	690	21800	69	4060
12	19100	187	11100	7310	28	553	21000	50	2840
13	48900	334	48600	7130	27	520	20200	41	2240
14	101000	312	85600	7150	30	579	19400	41	2150
15	109000	215	63300	8860	95	2270	18800	42	2130
16	111000	214	64100	15900	221	9490	17500	39	1840
17	111000	297	89000	29400	237	18800	16300	36	1580
18	98900	292	78000	46300	220	27500	15200	38	1560
19	84800	162	37100	64800	248	43400	14900	44	1770
20	72400	90	17600	90600	242	59200	14900	61	2450
21	41500	92	10300	93000	132	33100	13900	65	2440
22	25000	88	5940	94000	107	27200	13000	58	2040
23	23700	75	4800	78000	101	21300	12100	73	2380
24	22600	65	3970	64800	79	13800	11300	86	2620
25	21500	59	3420	53500	90	13000	10500	85	2410
26	20400	54	2970	41500	97	10900	9480	77	1970
27	19300	65	3390	35400	61	5830	9300	65	1630
28	18200	200	9830	30000	73	5910	9130	49	1210
29	17200	142	6590	31600	97	8280	8960	36	871
30	16200	65	2840	---	---	---	8860	25	598
31	15300	71	2930	---	---	---	8720	24	565
TOTAL	1081950	---	559119	911530	---	334111	555450	---	82934

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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	8520	24	552	4780	13	168			
2	8110	23	504	4790	13	168			
3	7920	23	492	4770	13	167			
4	7930	22	471	4670	13	164			
5	8070	22	479	4050	13	142			
6	8310	21	471	3240	12	105			
7	8140	21	462	3080	12	100			
8	7780	20	420	3020	12	98			
9	7510	19	385	3390	12	110			
10	7190	18	349	3900	12	126			
11	6820	17	313	4310	12	140			
12	6540	16	283	4060	12	132			
13	6270	15	254	3770	12	122			
14	6200	14	234	3630	12	118			
15	6110	13	214	3990	12	129			
16	6000	13	211	3820	12	124			
17	5910	13	207	3870	12	125			
18	5960	13	209	3890	12	126			
19	5750	13	202	3940	12	128			
20	5480	13	192	4220	12	137			
21	5430	13	191	4290	12	139			
22	5400	13	190	5060	12	164			
23	5370	13	188	5190	12	168			
24	5330	13	187	5230	12	169			
25	5190	13	182	4670	12	151			
26	5060	13	178	3580	12	116			
27	4950	13	174	4550	12	147			
28	4920	13	173	4740	12	154			
29	4840	13	170	3970	12	129			
30	4760	13	167	3780	12	122			
31	---	---	---	3770	12	122			
TOTAL	191770	---	8704	128020	---	4210			
PERIOD	3139330		1004889						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	107460.00	4296.00	6750	11000
DECEMBER ...	163150.00	11515.00	10000	21500
JANUARY 1980	1081950.00	559119.00	128000	687000
FEBRUARY ...	911530.00	334111.00	107000	441000
MARCH	555450.00	82934.00	41400	124000
APRIL	191770.00	8704.00	24300	33000
MAY	128020.00	4210.00	10100	14300
PERIOD	3139330.00	1004889.00	324550	1328800

SACRAMENTO RIVER BASIN

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
DEC 29...	1040	6350	7.0	15	257	--	--	--
JAN 15...	1250	98700	10.5	206	54900	17	23	29
17...	1355	112000	10.0	309	93400	10	14	19
22...	1045	38600	9.0	94	9800	--	--	--

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 29...	--	--	90	93	96	100	--
JAN 15...	36	41	47	61	92	100	--
17...	24	27	31	39	74	99	100
22...	--	--	89	95	98	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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	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
NOV 08...	1530	14.5	1	3450	0	1	12	80	98	100	--	--
08...	1531	14.5	1	3450	0	1	20	92	100	--	--	--
08...	1532	14.5	1	3450	--	0	8	84	98	100	--	--
08...	1533	14.5	1	3450	--	0	3	74	98	100	--	--
08...	1534	14.5	1	3450	--	0	3	76	99	100	--	--
DEC 07...	1115	9.5	1	4390	0	6	38	84	97	100	--	--
07...	1116	9.5	1	4390	--	0	12	90	100	--	--	--
07...	1117	9.5	1	4390	--	0	4	83	100	--	--	--
07...	1118	9.5	1	4390	--	0	4	74	99	100	--	--
07...	1119	9.5	1	4390	--	0	4	81	98	100	--	--
29...	1040	7.0	1	6350	--	0	3	77	98	100	--	--
29...	1041	7.0	1	6350	--	0	5	78	98	100	--	--
29...	1042	7.0	1	6350	--	0	6	90	100	--	--	--
29...	1043	7.0	1	6350	--	0	8	83	99	100	--	--
29...	1044	7.0	1	6350	--	0	8	94	100	--	--	--
JAN 15...	1340	10.5	1	98700	99	100	--	--	--	--	--	--
15...	1341	10.5	1	98700	--	0	16	93	99	99	100	--
15...	1342	10.5	1	98700	--	0	13	84	100	--	--	--
15...	1343	10.5	1	98700	0	1	9	54	82	94	98	100
15...	1344	10.5	1	98700	0	1	20	88	99	99	100	--
15...	1345	10.5	1	98700	8	17	65	96	97	98	99	100
15...	1346	10.5	1	98700	0	9	84	100	--	--	--	--
15...	1347	10.5	1	98700	22	48	82	97	100	--	--	--
15...	1348	10.5	1	98700	16	30	77	99	100	--	--	--
15...	1349	10.5	1	98700	41	57	81	96	98	98	100	--
17...	1530	10.0	1	112000	82	89	96	100	--	--	--	--
17...	1531	10.0	1	112000	--	0	13	82	98	100	--	--
17...	1532	10.0	1	112000	--	0	8	94	100	--	--	--
17...	1533	10.0	1	112000	--	0	11	74	97	99	100	--
17...	1534	10.0	1	112000	0	1	19	94	100	--	--	--
17...	1535	10.0	1	112000	2	8	69	99	100	--	--	--
17...	1536	10.0	1	112000	3	4	38	95	100	--	--	--
17...	1537	10.0	1	112000	25	53	87	99	100	--	--	--
17...	1538	10.0	1	112000	17	34	78	99	100	--	--	--
17...	1539	10.0	1	112000	25	45	81	94	96	97	100	--
22...	1045	9.0	1	38600	--	0	4	94	100	--	--	--
22...	1046	9.0	1	38600	--	0	5	97	100	--	--	--
22...	1047	9.0	1	38600	--	0	4	86	100	--	--	--

11425000 FEATHER RIVER NEAR NICOLAUS, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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
JAN							
22...	1048	9.0	1	38600	--	0	10
22...	1049	9.0	1	38600	--	0	5
FEB							
07...	1230	8.0	1	8770	--	0	10
07...	1231	8.0	1	8770	--	0	7
07...	1232	8.0	1	8770	1	10	27
07...	1233	8.0	1	8770	0	5	14
07...	1234	8.0	1	8770	1	3	9
12...	1250	9.0	1	7360	1	3	6
12...	1251	9.0	1	7360	1	7	16
12...	1252	9.0	1	7360	0	3	13
12...	1253	9.0	1	7360	--	0	12
12...	1254	9.0	1	7360	--	0	9
JUN							
05...	1315	18.5	1	3850	51	90	99
05...	1316	18.5	1	3850	17	57	92
05...	1317	18.5	1	3850	0	1	9
05...	1318	18.5	1	3850	8	33	72
05...	1319	18.5	1	3850	1	3	35

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
JAN						
22...	97	100	--	--	--	--
22...	78	98	99	100	--	--
FEB						
07...	86	99	100	--	--	--
07...	86	99	100	--	--	--
07...	87	97	97	97	97	100
07...	93	100	--	--	--	--
07...	89	100	--	--	--	--
12...	93	100	--	--	--	--
12...	90	100	--	--	--	--
12...	88	100	--	--	--	--
12...	90	100	--	--	--	--
12...	83	99	100	--	--	--
JUN						
05...	100	--	--	--	--	--
05...	99	100	--	--	--	--
05...	62	94	100	--	--	--
05...	95	99	100	--	--	--
05...	86	98	100	--	--	--

SACRAMENTO RIVER BASIN

11425500 SACRAMENTO RIVER AT VERONA, CA

LOCATION.--Lat 38°46'51", long 121°36'12", in SW&SE¼ 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.

DRAINAGE AREA.--21,251 mi² (55,040 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1926 to September 1929 (low-water periods only), October 1929 to current year.

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

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).

AVERAGE DISCHARGE.--51 years (water years 1930-80), 18,820 ft³/s (533.0 m³/s), 13,640,000 acre-ft/yr (16.8 km³/yr).

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, 80,900 ft³/s (2,290 m³/s) Feb. 22, gage height, 38.12 ft (11.619 m); minimum daily, 8,710 ft³/s (247 m³/s) Oct. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10700	9910	14100	38200	39300	68600	21900	10500	11000	14700	13400	13400
2	10600	9520	13500	40400	36800	68000	21400	10400	10800	14300	13400	13300
3	10400	9430	13100	39200	34500	67500	20800	9930	10500	13800	13500	13800
4	10200	9880	13000	35200	32300	67300	20700	9570	10400	13500	13700	13900
5	10200	10400	12900	31500	30700	66800	21400	9440	10700	12800	13600	13800
6	10400	11500	12700	29300	29200	67600	22000	8880	11300	12400	13700	13800
7	10300	11800	12400	27300	26900	68100	22600	8920	12000	12400	13800	13800
8	10200	11700	12300	25800	24800	67300	22400	8960	13000	12600	13600	13500
9	10200	11600	12300	24700	23600	65900	21600	9450	13800	12700	13100	13500
10	10200	11200	12200	25000	22800	64300	20500	10800	14300	12500	13300	13900
11	10200	10700	11900	25800	22200	62800	19400	12800	14700	12500	13400	14000
12	10100	10400	11700	31200	21600	61400	18700	14300	15200	12400	13300	14000
13	10000	10100	11600	51900	20800	59900	18000	14300	15700	12400	13000	14000
14	10100	9880	11500	70500	20400	58100	17300	13900	16300	12300	12700	14000
15	9870	9720	11700	75100	20900	56000	16700	13800	16300	12400	12400	13900
16	9420	9620	11900	76800	26900	53700	15700	13300	16800	12600	12500	14000
17	8970	9850	11900	77800	37600	52000	14900	12800	17500	12900	12700	14100
18	8710	11700	12100	77200	54700	50200	14200	12300	17800	13500	12700	13800
19	8770	17200	12400	74700	68000	47900	13800	11900	17800	14100	12600	13800
20	8820	17500	12700	72800	76100	45800	12800	11600	17900	14500	12700	13900
21	8910	15400	13000	70400	79300	42800	12700	11700	17500	14600	12700	13900
22	9230	13900	13400	67900	80700	39300	13000	12300	17300	14700	12600	13600
23	9470	13000	14200	66500	79600	36300	13600	12800	16700	14500	12600	13200
24	9340	13000	15500	65500	77400	32800	13500	13100	16400	14400	12500	13100
25	9810	14400	28600	64500	74700	29500	13000	13200	16800	14400	12000	12800
26	10800	15900	38900	62600	72600	26900	12300	12500	16800	14400	12000	12500
27	13900	18100	41500	59700	70800	25300	11900	12900	16100	14500	12000	12300
28	15900	18400	44200	56100	69700	24600	11600	13900	15800	14300	12000	12200
29	13600	16900	39900	51700	69000	23700	11200	13100	15800	13800	12200	12100
30	11700	15200	34000	47200	---	23000	10600	12200	15000	14000	12200	11700
31	10600	---	32600	42900	---	22500	---	11500	---	13900	12700	---
TOTAL	321620	377810	563700	1605400	1343900	1545900	500200	367050	448000	418800	398600	403600
MEAN	10370	12590	18180	51790	46340	49870	16670	11840	14930	13510	12860	13450
MAX	15900	18400	44200	77800	80700	68600	22600	14300	17900	14700	13800	14100
MIN	8710	9430	11500	24700	20400	22500	10600	8880	10400	12300	12000	11700
AC-FT	637900	749400	1118000	3184000	2666000	3066000	992100	728000	888600	830700	790600	800500
CAL YR 1979 TOTAL	5645150	MEAN	15470	MAX	56900	MIN	7380	AC-FT	11200000			
WTR YR 1980 TOTAL	8294580	MEAN	22660	MAX	80700	MIN	8710	AC-FT	16450000			

11425500 SACRAMENTO RIVER AT VERONA, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952, 1969-70.

CHEMICAL ANALYSIS: Water years 1952, 1969-70.

WATER TEMPERATURES: November 1979 to May 1980 (discontinued).

SEDIMENT RECORDS: November 1979 to May 1980 (discontinued).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1979 to May 1980 (discontinued).

SEDIMENT RECORDS: November 1979 to May 1980 (discontinued).

EXTREMES FOR PERIOD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 614 mg/L Dec. 26; minimum daily mean, 16 mg/L Nov. 16.

SEDIMENT DISCHARGE: Maximum daily, 64,500 tons (58,500 metric tons) Dec. 26; minimum daily, 416 tons (377 metric tons) Nov. 16.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		15.0	10.0	10.0	8.5	10.5	11.0	16.0				
2		---	10.0	9.5	8.5	11.0	12.0	16.0				
3		15.0	---	9.0	9.0	11.0	12.0	16.0				
4		---	---	9.5	8.5	11.0	13.0	16.0				
5		15.0	---	10.0	9.5	11.0	12.0	17.0				
6		---	10.0	---	9.5	10.0	12.0	18.0				
7		15.0	---	9.5	9.5	11.0	12.0	18.0				
8		---	10.0	10.0	10.0	10.5	12.0	16.0				
9		15.0	---	10.0	9.0	11.0	13.0	16.0				
10		---	---	10.0	9.0	11.0	13.0	16.0				
11		17.0	---	9.5	---	11.5	13.0	---				
12		---	7.0	11.5	9.0	11.0	13.0	17.0				
13		12.5	---	12.5	9.0	11.5	14.0	16.0				
14		---	8.0	11.0	10.0	11.0	15.0	---				
15		---	---	11.0	10.0	10.5	15.0	17.0				
16		---	8.0	10.5	10.5	11.5	15.0	17.0				
17		13.0	---	11.0	11.0	11.5	15.0	18.0				
18		---	8.0	10.0	11.0	11.5	15.0	19.0				
19		12.0	---	9.0	11.0	12.0	---	21.0				
20		10.0	9.0	9.0	10.0	11.0	---	22.0				
21		9.5	9.0	9.0	10.0	11.0	14.0	21.0				
22		10.0	9.0	9.5	10.0	11.0	14.0	20.0				
23		10.0	8.0	9.0	10.0	12.0	13.0	19.0				
24		12.0	8.0	8.5	10.5	11.0	14.0	17.0				
25		11.0	9.0	8.5	11.0	11.0	14.0	19.0				
26		10.0	8.0	9.0	11.5	10.0	14.0	19.0				
27		10.0	7.5	8.5	11.0	11.0	16.0	20.0				
28		9.0	8.0	8.0	12.0	11.0	16.0	19.0				
29		10.0	8.0	8.0	11.5	11.0	18.0	21.0				
30		10.0	8.0	8.0	---	11.0	18.0	---				
31		---	9.0	8.0	---	10.0	---	---				
MONTH		---	---	9.5	10.0	11.0	14.0	18.0				

SACRAMENTO RIVER BASIN

11425500 SACRAMENTO RIVER AT VERONA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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				9910	19	508	14100	50	1900
2				9520	18	463	13500	50	1820
3				9430	18	458	13100	42	1490
4				9880	19	507	13000	40	1400
5				10400	23	646	12900	42	1460
6				11500	23	714	12700	45	1540
7				11800	20	637	12400	40	1340
8				11700	19	600	12300	38	1260
9				11600	19	595	12300	35	1160
10				11200	21	635	12200	35	1150
11				10700	24	693	11900	35	1120
12				10400	29	814	11700	35	1110
13				10100	35	954	11600	35	1100
14				9880	26	694	11500	25	776
15				9720	17	446	11700	28	885
16				9620	16	416	11900	30	964
17				9850	19	505	11900	30	964
18				11700	35	1110	12100	32	1050
19				17200	205	9520	12400	35	1170
20				17500	175	8270	12700	38	1300
21				15400	115	4780	13000	42	1470
22				13900	60	2250	13400	45	1630
23				13000	60	2110	14200	55	2110
24				13000	108	3790	15500	79	3310
25				14400	85	3300	28600	381	29400
26				15900	95	4080	38900	614	64500
27				18100	140	6840	41500	440	49300
28				18400	110	5460	44200	251	30000
29				16900	100	4560	39900	159	17100
30				15200	60	2460	34000	129	11800
31				---	---	---	32600	106	9330
TOTAL				377810	---	68815	563700	---	244909

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	38200	187	19300	39300	99	10500	68600	84	15600
2	40400	316	34500	36800	96	9540	68000	84	15400
3	39200	216	22900	34500	107	9970	67500	85	15500
4	35200	135	12800	32300	97	8460	67300	78	14200
5	31500	96	8160	30700	91	7540	66800	80	14400
6	29300	89	7040	29200	132	10400	67600	84	15300
7	27300	81	5970	26900	157	11400	68100	83	15300
8	25800	79	5500	24800	112	7500	67300	75	13600
9	24700	73	4870	23600	101	6440	65900	81	14400
10	25000	96	6480	22800	112	6890	64300	92	16000
11	25800	83	5780	22200	87	5210	62800	100	17000
12	31200	187	15800	21600	84	4900	61400	103	17100
13	51900	250	35000	20800	81	4550	59900	103	16700
14	70500	216	41100	20400	78	4300	58100	112	17600
15	75100	186	37700	20900	82	4630	56000	111	16800
16	76800	199	41300	26900	142	10300	53700	130	18800
17	77800	201	42200	37600	189	19200	52000	161	22600
18	77200	182	37900	54700	236	34900	50200	157	21300
19	74700	136	27400	68000	199	36500	47900	150	19400
20	72800	100	19700	76100	235	48300	45800	157	19400
21	70400	130	24700	79300	154	33000	42800	137	15800
22	67900	155	28400	80700	132	28800	39300	149	15800
23	66500	125	22400	79600	113	24300	36300	144	14100
24	65500	122	21600	77400	97	20300	32800	147	13000
25	64500	101	17600	74700	98	19800	29500	125	9960
26	62600	96	16200	72600	96	18800	26900	103	7480
27	59700	117	18900	70800	85	16200	25300	99	6760
28	56100	104	15800	69700	96	18100	24600	92	6110
29	51700	97	13500	69000	89	16600	23700	103	6590
30	47200	102	13000	---	---	---	23000	104	6460
31	42900	106	12300	---	---	---	22500	86	5220
TOTAL	1605400	---	635800	1343900	---	457330	1545900	---	443680

11425500 SACRAMENTO RIVER AT VERONA, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), NOVEMBER 1979 TO MAY 1980

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	21900	89	5260	10500	36	1020			
2	21400	92	5320	10400	35	983			
3	20800	93	5220	9930	34	912			
4	20700	74	4140	9570	32	827			
5	21400	76	4390	9440	32	816			
6	22000	75	4450	8880	30	719			
7	22600	74	4520	8920	31	747			
8	22400	72	4350	8960	31	750			
9	21600	69	4020	9450	33	842			
10	20500	76	4210	10800	36	1050			
11	19400	72	3770	12800	45	1560			
12	18700	73	3690	14300	51	1970			
13	18000	68	3300	14300	51	1970			
14	17300	66	3080	13900	50	1880			
15	16700	53	2390	13800	49	1830			
16	15700	52	2200	13300	47	1690			
17	14900	59	2370	12800	45	1560			
18	14200	56	2150	12300	43	1430			
19	13800	55	2050	11900	42	1350			
20	12800	49	1690	11600	40	1250			
21	12700	45	1540	11700	41	1300			
22	13000	46	1610	12300	43	1430			
23	13600	48	1760	12800	45	1560			
24	13500	48	1750	13100	46	1630			
25	13000	46	1610	13200	47	1680			
26	12300	43	1430	12500	44	1490			
27	11900	41	1320	12900	46	1600			
28	11600	40	1250	13900	50	1880			
29	11200	38	1150	13100	46	1630			
30	10600	36	1030	12200	42	1380			
31	---	---	---	11500	40	1240			
TOTAL	500200	---	87020	367050	---	41976			
PERIOD	6303960		1979530						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, NOVEMBER 1979 TO MAY 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
NOVEMBER 1979	377810.00	68815.00	10700	79500
DECEMBER ...	563700.00	244909.00	26600	271000
JANUARY 1980	1605400.00	635800.00	156000	792000
FEBRUARY ...	1343900.00	457330.00	128000	585000
MARCH	1545900.00	443680.00	145000	588000
APRIL	500200.00	87020.00	18500	106000
MAY	367050.00	41976.00	9520	51500
PERIOD.....	6303960.00	1979530.00	494320	2473000

SACRAMENTO RIVER BASIN

11425500 SACRAMENTO RIVER AT VERONA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, NOVEMBER 1979 TO MAY 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
NOV 13...	1325	10000	12.5	31	837	--	--	--
DEC 28...	1330	43200	8.0	251	29300	23	31	37
JAN 07...	1445	27100	9.5	70	5120	--	--	--
14...	1045	71300	11.0	220	42400	32	43	54
22...	1355	67700	9.5	150	27400	35	43	49

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
NOV 13...	--	--	79	89	96	100	--
DEC 28...	45	52	59	73	96	100	--
JAN 07...	--	--	63	78	97	100	--
14...	64	73	82	90	95	100	--
22...	54	59	63	70	88	99	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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	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
NOV												
13...	1325	12.5	1	10000	--	0	1	33	90	99	100	--
13...	1326	12.5	1	10000	--	0	2	72	98	99	100	--
13...	1327	12.5	1	10000	--	0	4	59	98	100	--	--
13...	1328	12.5	1	10000	0	1	10	79	99	100	--	--
13...	1329	12.5	1	10000	2	11	62	94	99	100	--	--
DEC												
12...	1515	7.0	1	11700	1	7	59	99	100	--	--	--
12...	1516	7.0	1	11700	--	0	5	68	99	100	--	--
12...	1517	7.0	1	11700	--	0	4	64	98	100	--	--
12...	1518	7.0	1	11700	--	0	3	45	96	100	--	--
12...	1519	7.0	1	11700	--	0	1	68	98	99	100	--
12...	1520	7.0	1	11700	--	0	1	41	94	99	100	--
28...	1045	7.5	1	44600	--	0	2	30	82	97	100	--
28...	1046	7.5	1	44600	--	0	6	69	98	100	--	--
28...	1047	7.5	1	44600	0	1	28	92	100	--	--	--
28...	1048	7.5	1	44600	0	1	21	77	99	100	--	--
28...	1049	7.5	1	44600	--	0	7	70	99	100	--	--
JAN												
02...	1322	9.5	1	39500	57	72	83	94	97	98	100	--
02...	1323	9.5	1	39500	--	0	4	40	85	98	100	--
02...	1324	9.5	1	39500	--	0	16	83	99	100	--	--
02...	1325	9.5	1	39500	0	1	20	85	100	--	--	--
02...	1326	9.5	1	39500	0	1	25	86	100	--	--	--
07...	1430	9.5	1	27100	0	1	13	69	97	100	--	--
07...	1431	9.5	1	27100	--	0	4	50	90	98	99	100
07...	1432	9.5	1	27100	--	0	11	77	97	100	--	--
07...	1433	9.5	1	27100	--	0	19	80	99	100	--	--
07...	1434	9.5	1	27100	0	1	34	90	100	--	--	--
14...	1055	11.0	1	71300	0	1	26	97	100	--	--	--
14...	1056	11.0	1	71300	--	0	5	70	98	100	--	--
14...	1057	11.0	1	71300	--	0	3	54	94	100	--	--
14...	1058	11.0	1	71300	--	0	2	37	71	86	92	98
14...	1059	11.0	1	71300	--	0	1	49	90	98	99	100
22...	1405	9.5	1	67700	--	0	2	20	62	93	99	100
22...	1406	9.5	1	67700	--	0	3	71	97	100	--	--
22...	1407	9.5	1	67700	--	0	8	67	96	100	--	--
22...	1408	9.5	1	67700	--	0	9	74	99	100	--	--
22...	1409	9.5	1	67700	--	0	10	74	99	100	--	--
FEB												
22...	1205	10.5	1	80800	--	0	3	38	88	97	100	--

11425500 SACRAMENTO RIVER AT VERONA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, NOVEMBER 1979 TO MAY 1980

DATE	TIME	TEMPER- ATURE, WATER (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	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
FEB											
22...	1206	10.5	1	80800	--	0	3	66	98	100	---
22...	1207	10.5	1	80800	--	0	5	72	98	100	---
22...	1208	10.5	1	80800	--	0	6	80	99	100	---
22...	1209	10.5	1	80800	--	0	10	90	100	---	---
APR											
10...	0825	12.0	1	20700	88	92	96	99	100	---	---
10...	0826	12.0	1	20700	--	0	2	43	95	100	---
10...	0827	12.0	1	20700	--	0	3	65	96	100	---
10...	0828	12.0	1	20700	--	0	10	92	100	---	---
10...	0829	12.0	1	20700	0	3	26	82	99	100	---
JUN											
05...	0935	18.0	1	10700	--	0	1	32	91	99	100
05...	0936	18.0	1	10700	--	0	3	60	95	98	100
05...	0937	18.0	1	10700	--	0	3	75	98	100	---
05...	0938	18.0	1	10700	--	0	5	80	99	100	---
05...	0939	18.0	1	10700	2	17	44	87	99	100	---

SACRAMENTO RIVER BASIN

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.--41 years, 206 ft³/s (5.834 m³/s) 149,200 acre-ft/yr (184 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.--Maximum daily discharge, 41,600 ft³/s (1,180 m³/s) Jan. 15; no flow most of year.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				0	0	224						
2				0	0	210						
3				0	0	203						
4				0	0	199						
5				0	0	182						
6				0	0	219						
7				0	0	224						
8				0	0	199						
9				0	0	161						
10				0	0	116						
11				0	0	72						
12				0	0	35						
13				145	0	1.5						
14				21400	0	0						
15				41600	0	0						
16				39300	0	0						
17				30000	0	0						
18				27800	27	0						
19				16500	320	0						
20				7590	1040	0						
21				1270	11700	0						
22				242	15300	0						
23				179	17700	0						
24				152	16000	0						
25				125	11800	0						
26				68	9190	0						
27				10	3700	0						
28				0	323	0						
29				0	246	0						
30				0	---	0						
31		---		0	---	0	---		---			---
TOTAL	0	0	0	186381	87346	2045.5	0	0	0	0	0	0
MEAN	0	0	0	6012	3012	66.0	0	0	0	0	0	0
MAX	0	0	0	41600	17700	224	0	0	0	0	0	0
MIN	0	0	0	0	0	0	0	0	0	0	0	0
AC-FT	0	0	0	369700	173300	4060	0	0	0	0	0	0
CAL YR 1979	TOTAL	197.00	MEAN	.54	MAX	92	MIN	0	AC-FT	391		
WTR YR 1980	TOTAL	275772.50	MEAN	753	MAX	41600	MIN	0	AC-FT	547000		

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LOCATION.--Lat 39°17'56", long 120°38'31", in SE¼NE¼ 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. Prior to Oct. 1, 1979, at site 0.7 mi (1.1 km) downstream.

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.

AVERAGE DISCHARGE.--16 years, 14.9 ft³/s (0.422 m³/s), 10,800 acre-ft/yr (13.3 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.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	22	15	33	29	35	37	37	37	36	36	38
2	0	22	15	31	27	35	37	37	37	37	36	38
3	13	24	14	30	31	36	36	37	36	37	36	39
4	15	25	14	31	35	35	36	37	37	37	36	38
5	21	24	13	33	34	35	33	37	37	36	36	38
6	27	24	14	37	35	35	30	36	36	36	36	38
7	27	24	16	36	35	35	33	36	36	35	36	38
8	25	23	16	36	35	34	36	36	36	35	36	37
9	24	23	16	36	35	34	37	36	37	36	36	38
10	22	22	15	33	34	34	37	36	37	37	36	39
11	20	22	15	38	35	34	37	35	37	37	36	38
12	17	22	15	68	37	34	38	36	37	37	36	38
13	17	22	15	75	37	34	38	36	37	36	36	37
14	16	22	15	13	36	34	37	38	37	36	37	37
15	15	21	15	18	36	34	36	37	37	36	39	36
16	14	21	14	30	24	34	37	37	37	36	37	35
17	19	25	14	27	21	34	38	36	37	37	37	34
18	24	25	14	24	21	36	38	36	36	37	37	34
19	24	24	14	25	20	36	37	36	36	36	38	33
20	24	23	16	29	30	36	33	36	36	37	37	31
21	26	23	23	33	35	37	28	36	36	36	38	30
22	27	21	23	32	33	36	33	35	35	36	38	28
23	27	19	24	34	35	36	33	35	34	36	38	26
24	26	25	27	32	35	37	33	35	35	36	38	21
25	25	25	27	33	35	37	35	35	36	36	37	6.6
26	25	28	25	35	35	36	37	36	37	36	37	1.5
27	28	19	25	35	36	36	37	36	37	36	37	.64
28	28	18	25	36	37	36	37	36	36	36	38	.99
29	30	17	24	34	36	37	38	36	36	36	38	.51
30	30	16	30	30	---	37	37	36	36	36	39	.40
31	22	---	38	30	---	37	---	37	---	36	38	---
TOTAL	658	671	586	1047	944	1096	1069	1121	1091	1123	1146	849.64
MEAN	21.2	22.4	18.9	33.8	32.6	35.4	35.6	36.2	36.4	36.2	37.0	28.3
MAX	30	28	38	75	37	37	38	38	37	37	39	39
MIN	0	16	13	13	20	34	28	35	34	35	36	.40
AC-FT	1310	1330	1160	2080	1870	2170	2120	2220	2160	2230	2270	1690
CAL YR 1979	TOTAL	7395.90	MEAN	20.3	MAX	40	MIN	0	AC-FT	14670		
WTR YR 1980	TOTAL	11401.64	MEAN	31.2	MAX	75			AC-FT	22620		

SACRAMENTO RIVER BASIN

11426197 NORTH FORK AMERICAN RIVER ABOVE SLAUGHTER RAVINE, NEAR COLFAX, CA

LOCATION.--Lat 39°06'02", long 120°55'27", in NE¼NW¼ sec.1, T.14 N., R.9 E., Placer County, Hydrologic Unit 18020128, 200 ft (16 m) upstream from county bridge, 800 ft (244 m) upstream from Slaughter Ravine, and 1.6 mi (2.6 km) east of Colfax.

DRAINAGE AREA.--236 mi² (611 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

SEDIMENT RECORDS: Water years 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 24...	1145	80	125	7.7	12.0	10.6	K9	25	52	7	16
DATE	TIME	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (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 SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 24...	3.0	3.1	11	.2	.7	45	9.1	3.8	.0	11	76
DATE	TIME	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 24...	74	.10	.00	.02	.01	.00	.00	.50	.50	.51	.00
DATE	TIME	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	
OCT 24...		.004	.00	40	10	240	20	10	3	1.5	

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

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 24...	1145	80	12.0	1	.22

SACRAMENTO RIVER BASIN

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11426200 NORTH FORK FORBES CREEK NEAR DUTCH FLAT, CA

LOCATION.--Lat 39°08'37", long 120°45'30", in NW¼SE¼ sec.17, T.15 N., R.11 E., Placer County, 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 Water and Power Resources Service and reviewed by Geological Survey.

AVERAGE DISCHARGE.--24 years, 4.47 ft³/s (0.127 m³/s), 3,240 acre-ft/yr (3.99 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.

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, 205 ft³/s (5.81 m³/s) Jan. 13, gage height, 4.31 ft (1.314 m); minimum daily, 0.13 ft³/s (0.004 m³/s) Dec. 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.26	.35	.52	6.0	19	4.2	2.3	4.0	18	.34	1.7
2	.48	.26	.35	.29	5.6	19	4.0	2.3	4.2	17	.30	1.6
3	.48	.38	.35	.24	5.4	18	4.0	2.2	4.0	16	.30	1.0
4	.48	.38	.32	.24	5.2	19	3.8	2.1	4.2	15	.26	.30
5	.48	.35	.32	.24	3.7	33	8.0	2.0	4.2	12	.26	.30
6	.44	.29	.32	.24	1.6	33	8.3	1.9	4.0	12	.26	.33
7	.44	.26	.29	.24	1.1	22	7.7	1.8	4.0	11	.30	.34
8	.44	.26	.29	.24	.87	33	6.5	1.7	4.0	5.6	.30	.46
9	.44	.26	.29	.58	.80	29	6.0	2.6	3.8	.38	.26	.51
10	.79	.29	.26	.59	.87	18	5.8	4.4	3.8	.26	.26	.56
11	1.5	.26	.26	1.0	.94	15	5.2	3.8	4.6	.23	.23	.56
12	1.1	.26	.26	.69	.87	14	5.4	3.4	5.0	.26	.23	.62
13	1.1	.26	.26	1.63	.87	13	5.2	3.3	5.4	.26	.23	.68
14	1.2	.24	.24	1.33	1.0	12	5.0	4.2	5.4	.34	.26	.80
15	1.2	.26	.24	.87	1.8	13	4.8	3.4	5.4	.34	.26	.87
16	1.2	.29	.24	.71	6.9	12	4.4	3.1	5.2	.34	.26	.87
17	1.2	.41	.24	.64	.24	10	4.0	2.8	5.2	.34	.26	.94
18	1.3	.44	.24	.51	.46	11	4.0	2.7	5.2	.26	.26	1.0
19	1.6	.44	.24	.38	.83	9.7	3.8	2.3	5.2	.23	.26	1.1
20	1.4	.41	.29	.29	.87	9.1	4.0	2.1	5.2	.26	.30	1.2
21	1.3	.38	.38	.24	.82	8.8	4.8	1.9	4.8	.23	.34	1.1
22	.86	.41	.35	.19	.68	8.0	4.0	1.8	4.6	.23	.34	1.1
23	.41	.41	.41	.16	.55	7.5	3.8	1.7	4.6	.20	.37	1.2
24	.38	.44	.73	.14	.45	7.0	3.6	1.8	4.6	.23	.38	1.2
25	.52	.48	.48	.12	.35	6.5	3.4	1.9	4.6	.23	.82	.86
26	.41	.48	.21	.10	.32	6.3	3.1	1.8	4.6	.20	1.6	.68
27	.35	.41	.17	9.4	.25	6.0	3.0	1.7	4.6	.23	1.7	.94
28	.35	.38	.15	9.7	.28	5.6	2.8	1.7	8.9	.26	1.7	.87
29	.32	.35	.13	8.3	.23	5.2	2.7	3.4	18	.30	1.7	.87
30	.29	.35	.26	7.0	---	5.0	2.6	4.2	18	.30	1.7	.87
31	.29	---	.94	6.5	---	4.4	---	4.0	---	.30	1.7	---
TOTAL	23.23	10.35	9.86	845.32	676.52	432.1	137.9	80.3	169.3	112.89	17.74	25.43
MEAN	.75	.35	.32	27.3	23.3	13.9	4.60	2.59	5.64	3.64	.57	.85
MAX	1.6	.48	.94	163	.87	33	8.3	4.4	18	18	1.7	1.7
MIN	.29	.24	.13	.24	.80	4.4	2.6	1.7	3.8	.20	.23	.30
AC-FT	46	21	20	1680	1340	857	274	159	336	224	35	50
CAL YR 1979	TOTAL	1123.69	MEAN	3.08	MAX	37	MIN	.04	AC-FT	2230		
WTR YR 1980	TOTAL	2540.94	MEAN	6.94	MAX	163	MIN	.13	AC-FT	5040		

SACRAMENTO RIVER BASIN

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 Water and Power Resources Service and reviewed by Geological Survey.

AVERAGE DISCHARGE.--24 years, 20.2 ft³/s (0.572 m³/s), 14,630 acre-ft/yr (18.0 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, 3,370 ft³/s (95.4 m³/s) Jan. 13, 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; minimum daily, 0.01 ft³/s (<0.001 m³/s) on several days in July and August.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.78	4.1	80	22	92	24	12	3.4	2.0	.12	.03
2	.08	.20	3.8	41	21	85	24	9.9	5.6	2.8	.10	.04
3	.08	.20	1.4	24	20	81	24	12	3.3	2.2	.08	.04
4	.08	.26	1.3	27	18	81	25	11	4.0	1.6	.08	.04
5	.08	5.1	2.5	29	16	105	53	11	4.2	1.0	.08	.04
6	.07	6.8	2.2	14	13	94	41	9.4	3.8	.89	.08	.04
7	.07	4.4	1.0	12	12	85	36	5.7	4.1	.95	.08	.04
8	.07	1.4	2.9	12	9.5	86	29	5.4	3.0	.95	.08	.04
9	.07	3.4	1.8	30	6.4	82	30	8.4	2.8	.95	.06	.03
10	.07	1.9	1.7	72	5.1	70	28	10	2.8	1.3	.05	.50
11	.07	1.9	.40	150	5.1	66	27	8.4	2.7	1.2	.05	.86
12	.07	.83	1.1	894	4.6	59	24	8.0	2.3	.98	.04	.40
13	.07	2.4	2.0	1170	4.0	53	23	8.3	2.7	.95	.04	.19
14	.07	1.6	.76	626	14	52	22	10	2.8	.89	.03	.15
15	.07	.40	.36	291	68	66	21	6.5	2.8	.53	.02	.14
16	.07	1.1	.40	245	97	52	19	5.5	2.7	.18	.01	.11
17	.06	3.6	2.0	152	179	.48	16	7.1	2.7	.17	.02	.09
18	.06	2.6	1.9	125	316	56	15	5.8	2.7	.06	.02	.08
19	4.9	1.5	2.3	100	524	48	14	4.3	2.6	.04	.01	.08
20	4.4	5.3	2.2	84	461	44	12	4.6	2.6	.01	.01	.08
21	3.4	7.3	4.1	75	440	41	14	3.1	2.5	.20	.01	.09
22	3.3	2.8	4.4	68	330	37	14	3.6	2.4	.42	.01	.10
23	3.7	1.1	4.7	69	244	36	14	5.2	2.4	.37	.01	.11
24	2.0	3.5	79	25	188	34	14	6.4	2.3	.31	.01	.11
25	3.0	5.6	69	46	148	32	13	5.8	2.2	.26	.01	.09
26	4.1	9.0	19	47	128	32	11	4.6	2.1	.36	.01	.05
27	4.1	9.6	11	43	112	31	10	3.2	1.6	.57	.01	.04
28	3.8	8.7	9.0	40	132	36	11	4.5	1.5	.54	.01	.04
29	2.1	6.8	7.2	31	107	31	14	2.0	1.6	.32	.01	.04
30	1.2	5.1	29	27	---	27	14	2.8	1.6	.14	.02	.04
31	1.2	---	127	24	---	24	---	2.4	---	.14	.02	---
TOTAL	42.49	105.17	399.52	4673	3644.7	1766	636	206.9	83.8	23.28	1.19	3.73
MEAN	1.37	3.51	12.9	151	126	57.0	21.2	6.67	2.79	.75	.038	.12
MAX	4.9	9.6	127	1170	524	105	53	12	5.6	2.8	.12	.86
MIN	.06	.20	.36	12	4.0	24	10	2.0	1.5	.01	.01	.03
AC-FT	84	209	792	9270	7230	3500	1260	410	166	46	2.4	7.4
CAL YR 1979	TOTAL	5094.27	MEAN	14.0	MAX	139	MIN	.06	AC-FT	10100		
WTR YR 1980	TOTAL	11585.78	MEAN	31.7	MAX	1170	MIN	.01	AC-FT	22980		

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.--39 years, 811 ft³/s (22.97 m³/s), 587,600 acre-ft/yr (725 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.--Peak discharges above base of 4,300 ft³/s (122 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. 31	2300	6,390 181	4.16 1.268	Jan. 13	2230	*47,500 1,350	10.07 3.069
Jan. 12	1200	34,000 963	8.56 2.609	Feb. 19	1530	15,800 447	6.06 1.847

Minimum daily, 33 ft³/s (0.935 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	81	231	3750	902	2170	862	1890	1140	547	114	61
2	33	77	209	1610	850	2020	826	1910	1170	609	108	61
3	34	84	193	1090	832	2030	790	2070	1060	938	104	60
4	34	163	177	861	848	2080	779	2310	907	633	100	60
5	33	221	166	755	825	2660	1150	2340	997	521	97	59
6	33	177	159	662	832	3400	1300	*2170	880	449	94	58
7	33	140	153	607	810	2830	1180	2060	852	403	93	57
8	33	129	153	589	764	2280	1060	1910	968	375	90	57
9	34	120	150	940	707	1980	1030	1900	1090	351	88	58
10	34	118	145	2750	672	1800	1090	1710	1120	326	85	57
11	35	112	140	2150	648	1750	1120	1340	1130	303	82	55
12	34	109	130	22500	619	1600	1090	1160	1070	287	80	55
13	35	105	123	32000	596	1460	1200	1220	977	275	78	55
14	38	103	123	19200	680	1370	1440	1290	825	260	73	54
15	40	103	120	9430	1700	1480	1460	1390	850	254	71	58
16	41	103	116	7940	2570	1320	1450	1450	913	239	71	58
17	43	161	113	7170	5700	1250	1670	1540	977	229	71	57
18	43	281	109	4770	11400	1290	1940	1650	970	220	70	56
19	85	243	115	3380	13400	1200	1940	1780	931	206	69	54
20	423	175	118	2540	8290	1150	2140	2050	860	191	69	54
21	280	147	189	2060	8000	1130	2280	2080	797	181	68	55
22	153	136	240	1770	6200	1070	1600	2130	735	180	66	54
23	122	149	187	1510	4670	1010	1320	1800	661	178	66	53
24	99	192	1080	1380	3710	994	1460	1320	620	169	65	53
25	171	928	1850	1300	2980	967	1580	1070	605	161	67	53
26	399	1060	914	1180	2550	926	1760	936	584	149	64	51
27	221	630	551	1090	2330	886	1880	865	542	139	62	50
28	132	386	421	1090	3020	873	2120	838	506	135	60	49
29	104	295	357	969	2540	869	2160	870	522	132	59	49
30	92	257	538	865	---	938	2320	952	529	130	62	50
31	85	---	3000	887	---	911	---	1050	---	119	61	---
TOTAL	3010	6985	12270	138795	89645	47694	43997	49051	25788	9289	2407	1661
MEAN	97.1	233	396	4477	3091	1539	1467	1582	860	300	77.6	55.4
MAX	423	1060	3000	32000	13400	3400	2320	2340	1170	938	114	61
MIN	33	77	109	589	596	869	779	838	506	119	59	49
AC-FT	5970	13850	24340	275300	177800	94600	87270	97290	51150	18420	4770	3290
CAL YR 1979 TOTAL	232568			637	MAX	4790	MIN 33	AC-FT	461300			
WTR YR 1980 TOTAL	430592			1176	MAX	32000	MIN 33	AC-FT	854100			

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 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

WATER TEMPERATURES: Water years 1960 to current year.

SEDIMENT RECORDS: Water years 1979 to September 1980 (discontinued).

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. 1; minimum recorded, 7.0°C Jan. 30 to Feb. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI, 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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
OCT 22...	1200	142	100	7.9	17.0	9.6	26	58	56	10	15	4.4	
DATE		SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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 CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 22...	3.2	11	.2	.8	46	11	2.7	.0	12	78	77	.11	
DATE		SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE- D (MG/L)	SOLIDS, NON- VOLA- TILE, SUS- PENDE- D (MG/L)	SOLIDS, VOLA- TILE, SUS- PENDE- D (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 22...	5	0	5	.00	.02	.01	.03	.01	.71	.72	.73	.000	
DATE		PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)			
OCT 22...		.001	.00	40	20	60	10	8	3	.6			

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	22.5	18.5	14.0	12.5			---	---	7.5	7.0	9.5	9.5
2	22.5	19.0	13.5	12.5			---	---	7.0	7.0	9.5	9.5
3	22.0	19.0	14.0	13.5			---	---	7.5	7.0	9.5	9.5
4	22.5	19.0	14.0	13.5			---	---	8.0	7.5	9.5	9.5
5	22.5	19.0	14.0	13.0			---	---	8.5	7.5	9.5	9.5
6	21.5	19.0	13.5	12.5			---	---	9.0	8.0	9.5	9.0
7	21.5	18.5	13.5	12.0			---	---	9.0	8.5	9.0	9.0
8	21.0	18.0	13.5	12.0			---	---	9.0	8.5	9.5	9.0
9	21.5	17.5	13.5	11.5			---	---	9.0	8.0	9.5	9.0
10	21.5	18.0	13.0	11.5			---	---	8.5	8.0	10.0	9.0
11	21.0	18.0	13.0	11.5			---	---	8.5	8.0	9.5	9.0
12	21.0	17.5	13.0	11.0			---	---	8.5	7.5	9.5	8.5
13	20.5	17.5	13.0	11.0			---	---	8.5	7.5	10.0	8.5
14	20.0	18.0	12.5	10.5			---	---	8.0	8.0	9.5	8.5
15	22.0	19.0	12.5	11.0			---	---	8.0	8.0	9.5	9.0
16	21.5	18.5	12.5	11.5			---	---	9.0	8.0	9.5	9.0
17	20.5	17.5	12.5	12.0			---	---	9.0	8.5	9.5	8.5
18	18.5	17.0	12.0	11.0			---	---	9.0	9.0	10.0	9.0
19	17.5	17.0	11.0	10.0			---	---	9.0	9.0	10.0	9.5
20	19.0	17.5	10.0	9.5			---	---	9.0	9.0	10.0	9.0
21	18.5	17.0	---	---			8.0	4.0	9.0	9.0	10.0	9.5
22	18.0	16.5	---	---			6.5	5.0	9.5	9.0	10.5	9.5
23	18.0	16.5	---	---			6.5	6.0	9.5	9.5	10.5	9.5
24	16.0	17.5	---	---			8.0	7.5	9.5	9.5	9.5	9.5
25	16.5	16.0	---	---			7.5	7.5	9.5	9.5	10.0	9.5
26	17.0	16.0	---	---			7.5	7.5	10.0	9.5	9.5	9.0
27	16.0	15.5	---	---			8.0	7.5	10.0	10.0	10.5	8.5
28	16.0	14.5	---	---			8.0	7.5	10.0	10.0	10.5	9.0
29	15.0	13.5	---	---			8.0	7.5	10.0	9.5	11.0	9.5
30	13.5	12.5	---	---			7.5	7.0	---	---	11.0	10.0
31	15.5	13.5	---	---			7.5	7.0	---	---	11.0	10.5
MONTH	22.5	12.5	---	---			---	---	10.0	7.0	11.0	8.5
DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
1	11.0	9.5	12.0	11.0	15.5	14.0	21.5	19.5	28.0	25.5	23.5	20.5
2	11.0	9.5	12.5	11.0	15.5	14.0	20.5	20.0	27.0	24.0	24.0	20.5
3	11.0	9.5	13.0	11.5	14.5	13.0	20.0	17.5	26.5	23.5	23.5	20.0
4	10.5	10.0	13.0	12.0	14.0	12.5	20.0	18.0	26.0	23.5	24.0	20.5
5	10.0	10.0	13.0	12.0	13.5	12.0	20.5	18.0	25.5	23.0	24.0	21.0
6	10.0	9.5	12.5	12.0	14.0	12.0	20.5	19.0	25.5	23.0	24.0	21.0
7	10.0	9.0	13.0	12.0	14.5	12.5	21.0	19.0	25.5	23.0	23.0	19.5
8	10.5	9.0	12.5	12.0	15.0	13.0	21.0	19.0	25.5	23.0	23.5	20.5
9	11.0	9.5	12.0	11.5	16.0	14.0	21.0	19.5	25.5	22.5	24.0	20.5
10	11.0	10.0	11.5	10.5	16.5	14.0	22.0	19.5	25.0	22.0	24.0	20.5
11	12.0	10.0	11.0	10.5	16.0	14.0	22.5	20.0	25.5	22.5	23.5	20.0
12	12.0	11.0	10.5	10.0	16.0	14.5	22.5	20.5	25.5	22.0	24.0	20.5
13	12.0	11.0	11.0	9.5	16.0	14.0	23.0	20.5	25.0	22.0	23.0	19.5
14	12.0	11.5	12.0	10.5	16.0	14.0	23.5	21.5	24.0	21.5	20.5	18.5
15	12.5	11.0	13.0	11.5	16.5	14.5	24.5	21.5	24.5	21.5	21.5	18.0
16	12.5	11.0	13.5	12.0	17.0	15.0	25.0	22.0	25.0	22.0	22.0	18.0
17	12.5	11.0	14.0	12.5	18.0	15.5	25.5	22.5	25.5	23.0	21.5	19.5
18	12.5	11.5	14.5	13.0	18.0	16.5	25.5	22.5	24.5	22.5	21.5	19.5
19	12.5	11.0	14.5	13.5	18.5	16.5	25.5	22.5	24.0	21.0	22.0	18.0
20	12.0	11.0	14.5	13.5	18.5	16.5	26.0	23.5	24.5	21.5	22.0	18.0
21	11.0	10.0	14.5	13.5	19.0	16.0	26.5	24.0	25.0	22.0	21.5	17.5
22	10.0	9.5	14.0	13.5	18.5	16.5	27.0	24.0	23.5	21.5	21.5	17.0
23	9.5	9.0	13.5	12.5	19.0	17.0	27.0	24.5	24.0	21.0	21.5	17.5
24	9.5	9.0	12.5	11.5	19.0	16.5	27.5	24.5	24.5	21.0	22.0	18.0
25	11.0	9.5	12.0	10.5	19.0	17.0	27.5	24.5	24.0	21.0	22.0	18.5
26	11.5	10.5	12.5	10.5	19.0	17.0	27.0	24.5	24.0	21.0	22.0	19.0
27	12.5	11.0	13.0	11.0	20.0	17.5	27.5	25.0	23.5	20.5	22.0	18.0
28	12.5	11.5	13.0	11.5	21.0	18.5	26.5	25.5	23.0	19.5	21.5	17.5
29	12.0	11.5	14.0	12.5	20.0	19.0	27.5	25.0	22.5	19.0	21.5	17.5
30	12.0	11.5	14.5	13.0	21.0	19.5	27.5	25.0	23.0	19.0	22.0	18.0
31	---	---	15.0	13.5	---	---	27.5	24.5	23.5	20.0	---	---
MONTH	12.5	9.0	15.0	9.5	21.0	12.0	27.5	17.5	28.0	19.0	24.0	17.0

SACRAMENTO RIVER BASIN

11427000 NORTH FORK AMERICAN RIVER AT NORTH FORK DAM, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 22...	1200	142	17.0	2	0.77

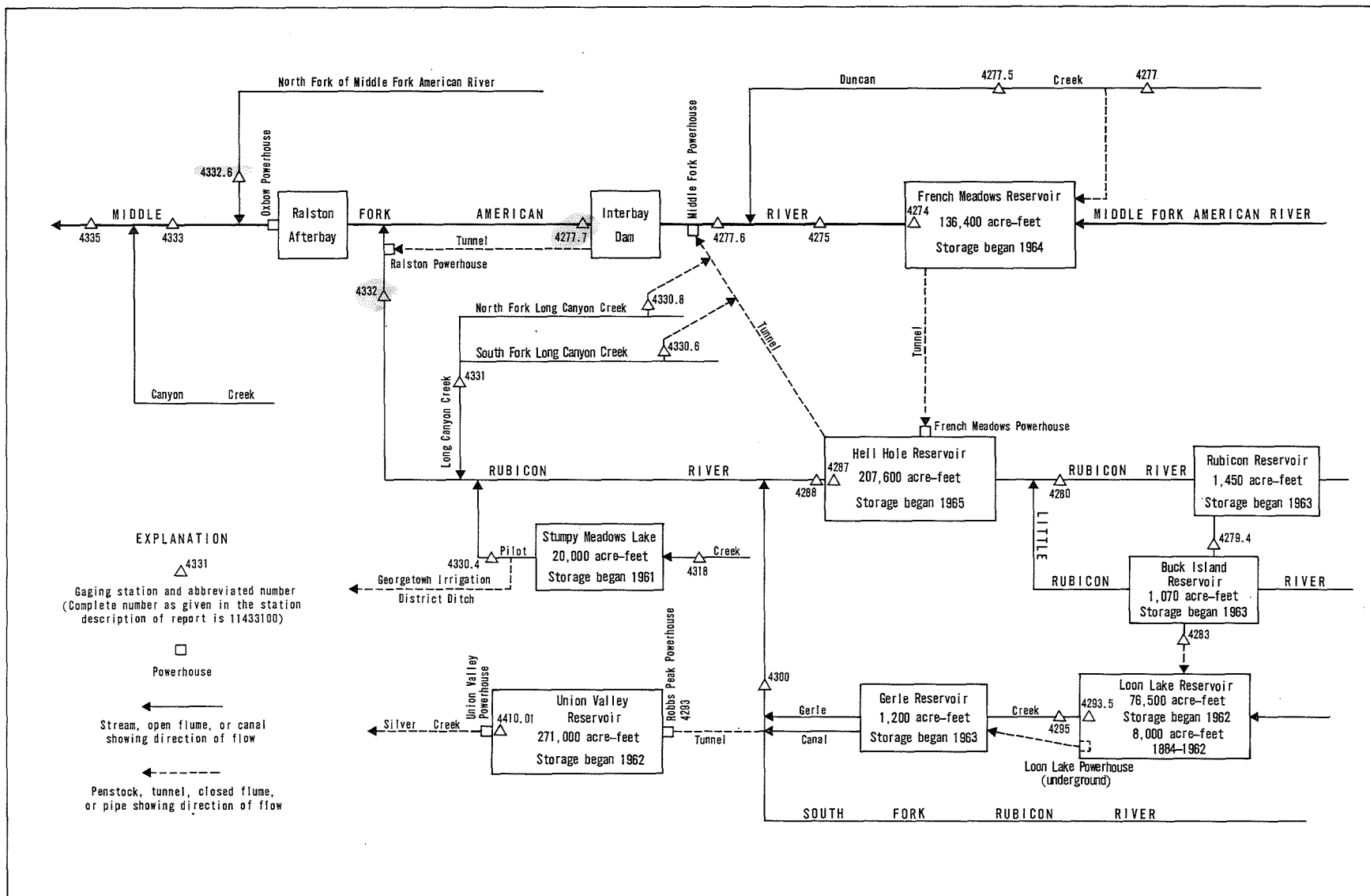


FIGURE 10. — Schematic diagram showing diversions and storage in Middle Fork American and Rubicon river basins.

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, 136,320 acre-ft (168 hm³) July 2, elevation, 5,262.94 ft (1,604.144 m); minimum daily, 44,398 acre-ft (54.7 hm³) Dec. 21, elevation, 5,179.48 ft (1,578.706 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90860	68077	54239	47349	94271	103583	88913	94155	119466	135811	119715	106650
2	90178	67385	54391	47758	94573	103329	88733	95073	120520	136320	118993	106711
3	89499	66696	54035	48076	94852	103111	87824	96252	121182	136263	118312	106576
4	88823	65914	53336	48320	94887	102809	87299	97757	121846	136008	117634	106232
5	87925	65136	52623	48496	94468	102639	87032	98799	122885	135628	116854	105546
6	87255	64362	51932	48682	94074	102265	86620	100166	123259	135275	116206	105032
7	86476	63593	51515	48741	93612	101856	86088	101135	123917	134979	115431	104447
8	85700	62828	51515	48784	93265	101411	85589	101952	124724	134430	114711	103850
9	84817	62067	51601	49385	93265	100967	85114	102784	125628	133869	113955	103244
10	84047	61217	51246	49445	93265	100500	84608	103111	126537	133323	113189	102664
11	83281	60466	50444	50298	93035	100107	84311	103220	126945	132792	112362	102061
12	82410	59812	49742	50933	92460	99701	83938	103269	127041	132248	111729	101435
13	81651	58884	49045	75078	92001	99106	83817	103559	127041	131649	110971	101219
14	80896	58147	48286	80144	91544	98644	83828	104288	126945	131205	110318	101087
15	80039	57414	48177	82443	91624	98170	83905	104764	126918	130471	109629	100728
16	79285	56851	47699	84751	91692	97698	84135	105301	127408	129877	109454	100261
17	78543	56994	47033	86620	95120	97109	84586	105876	128243	129216	109279	99773
18	77802	57049	46207	87601	98407	96552	85224	106736	129147	128653	108842	99273
19	77591	56776	45469	87813	100632	96053	85965	107848	129919	127996	108680	98738
20	77169	55960	44819	88958	103230	95586	86876	108966	130637	127381	108655	98383
21	76434	55420	44398	90473	103111	95003	87433	110217	131330	126755	108643	97934
22	75702	55420	44414	90178	103826	94422	87601	111792	131914	126076	108593	97427
23	74870	55528	44657	90803	104483	93959	87702	112908	132471	125426	108580	96757
24	74043	55906	44884	91315	104666	93265	87936	113827	132889	124912	108568	96170
25	73528	56413	44957	91772	104569	92575	88486	114595	133449	124159	108245	95562
26	72810	56413	45062	92207	104386	92001	89116	115251	133995	123581	107674	95096
27	71993	55870	45086	92702	104191	91429	89895	115844	134472	122966	107291	94631
28	71283	55240	45111	93058	104094	90871	90883	116426	134937	122365	106983	95096
29	70474	54570	45143	93427	103863	90337	92116	117113	135430	121740	106687	93554
30	69571	54150	45445	93762	---	89906	93150	117842	135698	121076	106685	93200
31	68871	---	45960	94017	---	89446	---	118679	---	120414	106662	---
MAX	90860	68077	54391	94017	104666	103583	93150	118679	135698	136320	119715	106711
MIN	68871	54150	44398	47349	91544	89446	83817	94155	119466	120414	106662	93200
†	5206.60	5190.98	5181.40	5229.73	5238.25	5225.95	5229.20	5250.00	5262.50	5251.32	5240.54	5229.25
‡	-22673	-14721	-8190	+48057	+9846	-14417	+3704	+25529	+17019	-15284	-13752	-13462

CAL YR 1979 † -48963
WTR YR 1980 † +1656

† 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).

WATER-DISCHARGE RECORDS

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); 16 years (water years 1965-80), 19.1 ft³/s (0.541 m³/s), 13,840 acre-ft/yr (17.1 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, 161 ft³/s (4.56 m³/s) Jan. 13, gage height, 5.52 ft (1.682 m); minimum daily, 4.9 ft³/s (0.14 m³/s) on several days during February.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	7.1	7.5	14	5.2	7.6	7.7	7.4	7.7	7.7	8.2	8.1
2	8.4	7.1	7.5	11	5.1	8.0	7.5	7.4	7.8	8.7	8.1	8.2
3	8.2	7.9	7.6	10	5.0	8.4	7.4	7.4	7.9	8.2	7.9	8.2
4	8.2	8.3	8.0	9.9	5.0	8.0	7.5	7.2	8.2	7.9	7.9	8.2
5	8.2	7.9	6.9	9.8	5.0	7.8	10	7.2	7.9	7.7	7.9	8.2
6	8.2	7.8	6.8	9.8	5.0	7.2	9.3	7.2	7.8	7.7	7.9	8.2
7	8.2	7.8	6.8	10	5.0	6.9	8.5	7.4	7.7	7.7	7.9	8.2
8	8.2	7.8	6.8	11	4.9	6.8	8.4	7.6	7.7	7.7	7.9	8.2
9	8.2	7.8	6.8	19	4.9	6.6	8.7	8.5	7.6	7.4	7.9	8.2
10	7.8	7.8	7.0	17	4.9	6.5	8.9	8.6	7.4	7.4	7.9	8.2
11	7.8	7.5	7.8	30	4.9	6.5	8.7	9.0	7.4	7.4	7.9	8.2
12	7.8	7.1	8.2	89	4.9	6.3	8.7	10	7.4	6.7	7.9	8.0
13	7.8	7.1	8.2	108	4.9	6.1	9.2	9.6	7.6	6.7	7.9	7.9
14	7.8	7.1	8.2	46	6.4	6.1	9.5	7.7	7.9	6.7	7.9	7.9
15	7.8	7.1	8.2	31	9.7	6.3	9.2	7.2	7.9	6.7	7.9	7.9
16	7.8	7.2	8.2	40	13	6.1	9.3	7.0	7.9	6.7	7.9	7.9
17	7.8	8.3	8.2	31	25	6.1	9.5	6.5	7.9	6.7	7.9	7.9
18	8.1	8.2	8.2	21	32	6.3	9.4	6.5	8.2	6.7	7.9	7.9
19	10	8.0	8.2	17	32	6.1	9.3	6.5	8.2	7.4	7.9	7.9
20	9.0	7.8	8.2	15	15	6.3	10	6.7	8.2	7.4	7.9	7.9
21	8.5	7.6	8.5	14	12	6.3	10	6.7	7.7	7.4	7.9	7.9
22	8.5	7.7	8.5	13	10	6.1	9.4	7.4	7.7	7.9	7.9	7.9
23	8.4	7.9	8.9	10	9.2	6.3	9.0	7.4	7.7	7.9	7.9	7.9
24	7.8	9.3	9.1	6.6	8.6	6.4	8.7	7.4	7.7	7.9	7.9	7.9
25	8.4	10	9.0	6.4	8.0	6.6	8.5	7.4	7.4	7.9	7.9	8.5
26	7.8	11	8.9	6.1	7.7	7.2	8.3	7.7	7.4	7.9	7.9	9.0
27	7.8	8.1	8.7	5.8	7.8	7.3	8.1	7.7	7.7	7.9	7.9	9.0
28	7.8	7.6	8.7	5.8	9.4	7.4	7.9	7.7	7.7	7.9	7.9	9.0
29	7.5	7.5	8.7	5.7	8.3	7.6	7.9	7.6	7.7	7.9	7.9	8.7
30	7.3	7.5	11	5.5	---	7.9	7.6	7.4	7.7	8.2	7.9	8.7
31	7.1	---	18	5.4	---	7.8	---	7.4	---	8.2	7.9	---
TOTAL	250.7	236.9	261.3	633.8	278.8	212.9	262.1	234.4	232.7	234.2	245.4	245.8
MEAN	8.09	7.90	8.43	20.4	9.61	6.87	8.74	7.56	7.76	7.55	7.92	8.19
MAX	10	11	18	108	32	8.4	10	10	8.2	8.7	8.2	9.0
MIN	7.1	7.1	6.8	5.4	4.9	6.1	7.4	6.5	7.4	6.7	7.9	7.9
AC-FT	497	470	518	1260	553	422	520	465	462	465	487	488
†	23650	16740	10350	895	12630	25050	24290	14690	4410	23380	13490	12630

CAL YR 1979 TOTAL 2999.1 MEAN 8.22 MAX 29 MIN 5.0 AC-FT 5950

WTR YR 1980 TOTAL 3329.0 MEAN 9.10 MAX 108 MIN 4.9 AC-FT 6600

† Diversion, in acre-feet, from French Meadows Reservoir to Hell Hole Reservoir through French Meadows powerplant.

SACRAMENTO RIVER BASIN

11427500 MIDDLE FORK AMERICAN RIVER AT FRENCH MEADOWS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water year 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
OCT 26...	1100	8.0	30	7.1	7.0	10.3	12	0	3.6	.7

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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)
OCT 26...	1.4	19	.2	.6	12	2.3	.4	.0	11	25

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)
OCT 26...	27	.03	.03	.020	.05	.04	.050	.32	.37	.42

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH DISSOL. (MG/L AS P)	BORON, SUS- PENDED RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 26...	.000	.004	40	0	650	80	140	90	1.2

11427700 DUNCAN CREEK NEAR FRENCH MEADOWS, CA

LOCATION.--Lat 39°08'09", long 120°28'39", in NE4NW4 sec.24, T.15 N., R.13 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on left bank 0.2 mi (0.3 km) upstream from diversion dam, 0.5 mi (0.8 km) downstream from Little Duncan Creek, 2 mi (3 km) northwest of French Meadows, and 20 mi (32 km) northeast of Foresthill.

DRAINAGE AREA.--9.94 mi² (25.74 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 5,270 ft (1,606 m), from topographic map. Prior to Sept. 3, 1965, at site 150 ft (46 m) upstream at datum 9.56 ft (2.914 m) higher.

REMARKS.--No storage or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by the Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--20 years, 34.9 ft³/s (0.988 m³/s), 25,290 acre-ft/yr (31.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,650 ft³/s (103 m³/s) Dec. 22, 1964, gage height, 10.6 ft (3.23 m) from floodmarks, from rating curve extended above 400 ft³/s (11.3 m³/s) on basis of computation of flow over diversion dam; minimum daily, 0.10 ft³/s (0.003 m³/s) July 31, Aug. 1, 2, 8, 9, 13-16, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.08 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 13	1615	*3,080 87.2	10.53 3.210
Feb. 17	2315	440 12.5	7.68 2.341
May 4	1700	251 7.11	7.20 2.195

a Backwater from ice.

Minimum daily, 0.41 ft³/s (0.012 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	1.8	15	93	28	51	29	180	88	27	3.4	1.2
2	.41	1.6	14	51	28	48	28	183	96	48	3.2	1.2
3	.41	3.3	13	40	27	46	28	203	84	38	3.1	1.1
4	.41	4.1	12	32	26	42	29	216	90	29	2.9	1.1
5	.41	3.9	11	28	28	42	30	214	88	25	2.8	1.0
6	.41	4.3	11	25	30	39	28	207	81	21	2.8	1.0
7	.41	4.8	11	24	28	36	27	189	81	19	2.7	.99
8	.45	4.7	11	24	26	34	29	176	89	18	2.6	1.0
9	.49	4.5	11	26	25	34	32	155	97	16	2.4	1.0
10	.49	4.2	10	37	25	35	37	118	101	14	2.3	.94
11	.49	3.6	9.6	101	23	35	39	93	97	13	2.2	.99
12	.49	3.4	8.9	865	23	32	45	88	90	12	2.1	1.0
13	.50	3.1	8.4	1560	22	30	60	91	79	12	2.0	.95
14	.92	2.9	7.8	626	25	30	71	94	69	11	1.9	.93
15	1.3	2.7	7.4	344	33	28	75	100	68	10	1.9	.98
16	1.1	2.9	6.9	317	59	27	90	107	71	9.4	1.9	.95
17	.85	8.2	6.5	286	238	28	117	122	73	8.5	1.9	.91
18	1.6	6.5	6.2	189	385	28	131	142	70	8.2	1.8	.92
19	45	4.7	5.9	133	268	28	138	171	66	7.5	1.8	1.0
20	17	5.0	6.0	101	168	29	163	189	60	7.1	1.7	1.0
21	5.9	5.9	6.0	83	122	26	147	204	54	6.6	1.6	.96
22	4.5	4.0	6.0	70	93	26	110	195	47	6.1	1.5	.91
23	3.1	7.4	5.5	59	78	27	102	159	41	5.9	1.7	.80
24	2.6	42	5.5	53	71	28	108	117	37	5.5	2.0	.66
25	16	42	5.5	50	65	27	119	92	34	5.1	1.7	.65
26	7.8	57	5.0	45	60	24	135	75	33	4.7	1.5	.63
27	3.9	25	5.0	41	58	25	161	70	29	4.4	1.4	.61
28	2.9	19	6.7	39	58	27	185	65	27	4.4	1.4	.61
29	2.4	18	6.8	37	53	32	205	68	26	4.4	1.3	.60
30	2.1	17	53	34	---	34	196	74	25	4.0	1.3	.57
31	2.0	---	150	30	---	32	---	82	---	3.8	1.3	---
TOTAL	126.75	317.5	447.6	5443	2173	1010	2694	4239	1991	408.6	64.1	27.16
MEAN	4.09	10.6	14.4	176	74.9	32.6	89.8	137	66.4	13.2	2.07	.91
MAX	45	57	150	1560	385	51	205	216	101	48	3.4	1.2
MIN	.41	1.6	5.0	24	22	24	27	65	25	3.8	1.3	.57
AC-FT	251	630	888	10800	4310	2000	5340	8410	3950	810	127	54

CAL YR 1979 TOTAL 10762.19 MEAN 29.5 MAX 254 MIN .34 AC-FT 21350
WTR YR 1980 TOTAL 18941.71 MEAN 51.8 MAX 1560 MIN .41 AC-FT 37570

11427760 MIDDLE FORK AMERICAN RIVER ABOVE MIDDLE FORK POWERHOUSE, NEAR FORESTHILL, CA

LOCATION.--Lat 39°01'31", long 120°35'40", in NW¼NW¼ sec.36, T.14 N., R.12 E., Placer County, Hydrologic Unit 18020128, Tahoe National Forest, on right bank 300 ft (91 m) upstream from Middle Fork powerhouse, 3.7 mi (6.0 km) upstream from Big Mosquito Creek, and 11 mi (18 km) east of Foresthill.

DRAINAGE AREA.--87.8 mi² (227.4 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 2,540 ft (774 m), from topographic map.

REMARKS.--Records good. Flow regulated by French Meadows Reservoir (station 11427400). See schematic diagram of Middle Fork American and Rubicon River basins.

COOPERATION.--Records collected by Placer County Water Agency, under general supervision of the Geological Survey, in connection with a Federal Energy Regulatory Commission Project.

AVERAGE DISCHARGE.--15 years, 93.4 ft³/s (2.645 m³/s), 67,670 acre-ft/yr (83.4 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,860 ft³/s (279 m³/s) Jan. 13, 1980, gage height, 8.47 ft (2.582 m); minimum daily, 5.3 ft³/s (0.15 m³/s) Sept. 10, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,860 ft³/s (279 m³/s) Jan. 13, gage height, 8.47 ft (2.582 m); minimum daily, 15 ft³/s (0.42 m³/s) Oct. 11-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	33	252	109	314	133	148	57	41	25	20
2	16	19	31	136	103	308	136	141	55	57	24	19
3	16	27	30	106	98	312	130	138	53	53	23	19
4	16	38	28	93	94	305	130	136	58	48	23	18
5	16	30	27	86	91	312	193	130	59	37	24	18
6	16	25	27	83	91	295	192	119	52	37	23	18
7	16	23	26	84	86	275	172	102	50	37	22	17
8	16	22	25	89	81	258	166	83	48	37	22	18
9	16	21	25	205	77	243	169	107	47	36	21	18
10	16	21	25	315	75	233	173	102	46	36	20	18
11	15	20	27	368	73	233	175	78	45	36	19	18
12	15	20	30	3760	70	215	174	80	44	35	18	18
13	15	20	30	5290	67	203	190	95	43	35	18	18
14	16	19	29	1920	63	196	207	121	42	34	18	19
15	17	19	29	1030	198	202	207	74	42	34	19	19
16	17	19	29	992	258	185	210	106	42	33	19	19
17	17	35	29	941	495	180	219	91	42	33	19	19
18	17	38	28	716	925	181	225	85	41	32	19	19
19	48	29	28	563	977	164	222	81	41	32	19	20
20	51	25	28	464	706	168	232	78	41	31	19	20
21	30	23	40	373	634	158	230	75	40	31	19	20
22	23	23	33	281	537	128	203	77	40	30	19	20
23	21	29	36	250	458	127	184	75	40	30	20	19
24	20	46	102	220	397	126	177	74	39	30	21	18
25	29	72	79	201	352	125	170	72	39	29	21	18
26	30	119	53	181	326	124	169	69	39	28	20	19
27	22	59	45	168	319	123	170	67	41	27	20	19
28	21	45	42	163	370	126	172	64	40	28	19	19
29	20	39	40	132	338	131	172	61	39	28	19	19
30	20	35	61	120	---	125	164	59	39	26	20	19
31	20	---	230	115	---	125	---	58	---	26	20	---
TOTAL	644	979	1325	19697	8468	6200	5466	2846	1344	1067	832	562
MEAN	20.8	32.6	42.7	635	292	200	182	91.8	44.8	34.4	20.4	18.7
MAX	51	119	230	5290	977	314	232	148	59	57	25	20
MIN	15	19	25	83	63	123	130	58	39	26	18	17
AC-FT	1280	1940	2630	39070	16800	12300	10840	5650	2670	2120	1250	1110
CAL YR 1979 TOTAL	25346			MEAN 69.4	MAX 584	MIN 10	AC-FT 50270					
WTR YR 1980 TOTAL	49230			MEAN 135	MAX 5290	MIN 15	AC-FT 97650					

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.--15 years, 45.4 ft³/s (1.286 m³/s), 32,890 acre-ft/yr (40.6 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, 9,900 ft³/s (280 m³/s) Jan. 13, gage height, 7.95 ft (2.423 m); minimum daily, 13 ft³/s (0.37 m³/s) on several days during September.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	21	21	23	42	318	144	153	65	24	24	23
2	17	21	21	23	33	327	142	154	48	23	24	23
3	17	21	21	23	31	330	131	144	40	35	24	23
4	16	21	21	23	39	314	136	148	45	23	24	23
5	16	21	21	23	23	327	195	141	31	23	24	23
6	16	21	21	22	27	310	200	131	35	23	24	23
7	16	21	21	22	23	290	180	122	31	23	24	24
8	16	21	21	22	23	276	172	95	32	36	24	24
9	16	21	21	22	42	258	176	99	36	38	24	24
10	16	21	21	22	23	248	182	23	43	25	24	24
11	16	21	21	32	23	228	184	88	91	37	24	24
12	16	21	21	2220	68	226	183	91	32	41	24	24
13	16	21	22	5140	23	207	197	47	23	28	24	24
14	16	21	23	1860	23	191	214	138	28	36	24	24
15	16	21	23	715	30	197	214	92	35	49	24	24
16	16	21	23	651	69	180	223	123	34	85	24	23
17	16	21	23	763	35	184	231	106	49	51	24	23
18	16	21	23	23	297	176	237	100	41	45	24	23
19	16	21	23	23	651	162	231	84	23	42	24	23
20	16	21	23	31	658	175	242	83	37	49	24	23
21	19	21	23	23	749	166	244	92	38	39	23	26
22	21	21	23	176	922	133	221	83	23	33	23	13
23	21	21	23	97	613	132	196	84	23	49	23	13
24	21	21	23	38	235	131	189	82	23	24	23	13
25	27	21	23	55	253	112	182	84	34	24	23	13
26	21	21	23	65	217	142	182	75	33	24	23	14
27	21	21	23	70	288	123	192	75	30	24	23	13
28	21	21	23	35	394	129	184	79	23	24	23	13
29	21	21	23	25	350	134	192	66	29	24	23	13
30	21	21	23	44	---	128	183	62	23	24	23	13
31	21	---	23	23	---	131	---	67	---	24	23	---
TOTAL	558	630	688	12334	6204	6385	5779	3011	1078	1049	733	613
MEAN	18.0	21.0	22.2	398	214	206	193	97.1	35.9	33.8	23.6	20.4
MAX	27	21	23	5140	922	330	244	154	91	85	24	26
MIN	16	21	21	22	23	112	131	23	23	23	23	13
AC-FT	1110	1250	1360	24460	12310	12660	11460	5970	2140	2080	1450	1220
†	25200	25820	34890	38790	44210	57730	55890	56870	37380	44310	28870	27610

CAL YR 1979 TOTAL 7851 MEAN 21.5 MAX 80 MIN 16 AC-FT 15570
WTR YR 1980 TOTAL 39062 MEAN 107 MAX 5140 MIN 13 AC-FT 77480

† Diversion, in acre-feet, to Ralston powerplant.
NOTE.--No gage-height record Jan. 3 to Sept. 22.

11427940 RUBICON-ROCKBOUND TUNNEL NEAR MEEKS BAY, CA

LOCATION.--Lat 38°59'26", long 120°13'29", in NE¼SE¼ 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.--17 years, 102 ft³/s (2.889 m³/s), 73,900 acre-ft/yr (91.1 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	16	35	183	36	38	39	415	312	543	87	.29
2	0	14	32	95	34	36	33	442	363	606	74	.19
3	0	14	28	50	34	34	30	531	269	727	60	.14
4	0	21	27	34	32	32	30	626	213	490	49	.13
5	0	26	24	28	36	32	32	622	179	378	44	.12
6	0	24	24	24	48	33	32	632	143	329	26	.12
7	0	24	25	23	44	31	29	652	160	289	.47	.12
8	0	23	26	22	38	29	28	512	288	280	.33	.10
9	0	22	27	25	33	28	41	408	440	250	.32	.09
10	0	20	28	32	33	30	67	259	505	252	.29	.09
11	0	18	23	60	30	31	74	174	528	244	.33	.09
12	0	17	18	755	28	30	69	131	472	243	1.5	.09
13	0	15	17	1050	27	30	111	126	373	228	8.6	.09
14	0	15	15	984	30	30	175	131	272	211	12	.08
15	0	14	14	556	35	28	191	165	365	210	12	.07
16	0	14	12	277	43	26	192	255	492	212	11	.07
17	0	27	11	186	131	27	245	350	582	220	11	.87
18	.04	39	11	133	390	26	309	430	629	207	11	.40
19	252	28	10	97	252	27	350	545	595	176	11	6.6
20	358	22	9.7	78	151	28	430	685	587	156	9.2	2.1
21	124	17	11	70	98	28	339	739	551	174	7.6	.85
22	74	17	12	62	73	27	178	739	490	175	6.2	.35
23	49	29	14	56	63	25	121	555	421	167	4.4	.12
24	43	135	18	54	53	25	157	277	402	162	4.7	.02
25	108	337	23	54	44	24	230	170	442	147	4.5	0
26	134	191	29	52	41	23	308	128	461	119	3.8	0
27	72	100	25	47	44	23	374	122	418	109	3.3	0
28	45	63	20	46	47	25	440	129	411	110	2.8	0
29	34	48	18	43	41	29	487	182	536	103	1.8	0
30	25	41	31	38	---	46	517	253	571	98	1.0	0
31	19	---	130	38	---	46	---	319	---	95	.53	---
TOTAL	1337.04	1391	747.7	5252	1989	929	5658	11704	12470	7710	469.67	138.92
MEAN	43.1	46.4	24.1	169	68.6	30.0	189	378	416	249	15.2	4.63
MAX	358	337	130	1050	390	46	517	739	629	727	87	87
MIN	0	14	9.7	22	27	23	28	122	143	95	.29	0
AC-FT	2650	2760	1480	10420	3950	1840	11220	23210	24730	15290	932	276
CAL YR 1979	TOTAL	35169.84	MEAN	96.4	MAX	784	MIN	0	AC-FT	69760		
WTR YR 1980	TOTAL	49796.33	MEAN	136	MAX	1050	MIN	0	AC-FT	98770		

SACRAMENTO RIVER BASIN

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).--27 years (water years 1911-13, 1957-80), 120 ft³/s (3.398 m³/s), 86,940 acre-ft/yr (107 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, 5,270 ft³/s (149 m³/s) Jan. 13, gage height, 10.28 ft (3.133 m); minimum discharge, 0.28 ft³/s (0.008 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.30	7.2	9.9	73	15	21	19	72	21	9.5	6.7	6.7
2	.29	7.2	9.4	31	15	19	17	77	22	13	6.7	6.7
3	.28	9.7	9.1	24	15	19	17	82	18	15	6.7	6.4
4	.29	13	8.7	20	15	18	18	83	25	11	6.6	6.3
5	.29	11	8.5	18	19	18	20	69	27	10	6.5	6.3
6	.30	9.1	8.3	18	23	17	18	73	21	9.4	6.5	6.3
7	.30	8.7	8.3	18	19	16	16	60	18	9.1	6.9	6.4
8	.31	8.3	8.3	17	17	16	16	54	21	8.8	7.2	6.5
9	.31	8.1	8.3	22	16	16	30	46	22	8.5	7.3	6.4
10	.30	7.8	8.3	27	15	18	39	39	22	8.3	7.4	6.5
11	.31	7.7	7.9	76	15	19	34	31	21	8.2	7.5	6.5
12	.32	7.5	7.9	1520	14	17	40	26	19	8.0	7.4	6.5
13	.32	7.5	7.8	3800	14	16	67	30	17	8.0	7.4	6.5
14	.34	7.4	7.8	1140	16	17	77	32	15	7.8	7.6	6.5
15	.40	7.2	7.8	73	25	16	65	36	16	7.8	7.8	6.6
16	.46	7.3	7.8	73	44	14	72	41	16	7.5	7.5	6.5
17	.38	15	7.5	59	187	15	84	43	16	7.6	7.4	6.6
18	.39	12	7.5	37	188	16	88	46	16	7.5	7.2	7.9
19	27	9.8	7.5	29	73	15	93	52	14	7.4	7.2	7.5
20	18	8.5	7.5	25	42	17	93	54	13	7.3	7.1	4.1
21	6.9	8.0	8.3	23	29	16	56	53	12	7.3	7.0	3.4
22	4.9	8.4	8.2	22	26	14	34	46	12	7.3	7.0	3.2
23	2.3	15	9.0	18	23	15	39	35	11	7.3	6.6	3.2
24	1.5	35	14	20	21	16	59	23	11	7.2	6.5	3.2
25	22	27	12	22	20	15	67	19	11	7.2	6.5	3.2
26	8.4	44	11	20	20	14	74	18	10	7.2	6.6	3.2
27	3.2	16	11	18	22	14	83	17	10	7.2	6.6	3.3
28	2.2	12	11	18	27	16	88	16	9.5	7.0	6.5	3.3
29	1.6	11	10	17	23	20	93	18	9.4	7.0	6.5	3.2
30	1.3	11	44	16	---	28	72	20	9.4	7.0	6.5	3.3
31	6.8	---	157	15	---	23	---	23	---	6.7	6.5	---
TOTAL	111.99	367.4	459.6	7309	998	531	1588	1334	485.3	258.1	215.4	162.2
MEAN	3.61	12.2	14.8	236	34.4	17.1	52.9	43.0	16.2	8.33	6.95	5.41
MAX	27	44	157	3800	188	28	93	83	27	15	7.8	7.9
MIN	.28	7.2	7.5	15	14	14	16	16	9.4	6.7	6.5	3.2
AC-FT	222	729	912	14500	1980	1050	3150	2650	963	512	427	322
MEAN ‡	46.7	58.6	38.9	405	103	47.0	241	421	432	257	22.1	10.0
AC-FT ‡	2870	3490	2390	24920	5930	2890	14370	25860	25690	15800	1360	598

CAL YR 1979 TOTAL 7730.88 MEAN 21.2 MAX 1090 MIN .28 AC-FT 15330 MEAN ‡ 118 AC-FT ‡ 85080
WTR YR 1980 TOTAL 13819.99 MEAN 37.8 MAX 3800 MIN .28 AC-FT 27410 MEAN ‡ 174 AC-FT ‡ 126200

‡ Adjusted for diversion to Rubicon-Rockbound tunnel.

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.--17 years, 132 ft³/s (3.738 m³/s), 95,630 acre-ft/yr (118 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	23	48	303	43	54	56	570	401	677	98	.69
2	0	19	42	166	41	52	49	559	472	677	85	.69
3	0	19	38	89	39	49	42	665	395	895	70	.69
4	0	22	35	56	38	48	41	797	289	683	58	.69
5	0	29	33	43	39	49	50	856	254	485	50	.69
6	0	32	30	36	50	48	48	810	202	404	39	.69
7	0	32	30	34	57	44	42	903	199	348	.67	.69
8	0	31	32	33	51	39	38	731	319	333	.67	.68
9	0	30	33	36	43	37	44	590	518	301	.67	.68
10	0	27	34	52	40	38	76	379	636	295	.67	.68
11	0	25	33	70	39	43	95	246	690	288	.67	.68
12	0	22	25	808	38	43	90	175	641	285	.67	.68
13	0	20	21	1190	37	40	119	160	517	274	.67	.68
14	0	18	19	1120	40	39	199	167	369	251	.67	.68
15	0	17	17	879	51	40	247	203	418	243	.68	.68
16	0	16	14	438	59	36	244	309	575	242	.68	.68
17	0	25	13	282	151	35	297	433	710	250	.68	72
18	0	47	12	187	507	38	380	540	790	246	.68	83
19	105	45	11	133	422	35	439	673	768	215	.68	36
20	540	34	10	104	230	36	541	863	741	182	.68	16
21	236	27	14	89	154	39	498	968	712	188	.68	8.0
22	119	23	16	79	105	36	280	999	637	198	.69	4.2
23	75	29	16	71	84	34	174	842	543	191	.69	2.3
24	58	91	33	66	74	33	182	443	489	182	.69	1.2
25	95	409	39	64	65	33	275	248	516	171	.69	.71
26	204	302	36	63	58	32	374	174	553	143	.69	.37
27	119	171	33	58	58	31	459	149	527	123	.70	.12
28	70	98	29	58	66	31	562	157	479	117	.70	0
29	50	67	24	56	60	34	643	213	598	116	.70	0
30	37	55	32	49	---	48	716	309	683	108	.70	0
31	29	---	158	46	---	60	---	399	---	104	.70	---
TOTAL	1737	1805	960	6758	2739	1254	7300	15530	15641	9215	417.07	234.85
MEAN	56.0	60.2	31.0	218	94.4	40.5	243	501	521	297	13.5	7.83
MAX	540	409	158	1190	507	60	716	999	790	895	98	83
MIN	0	16	10	33	37	31	38	149	199	104	.67	0
AC-FT	3450	3580	1900	13400	5430	2490	14480	30800	31020	18280	827	466
CAL YR 1979	TOTAL	46086.55	MEAN	126	MAX	990	MIN	0	AC-FT	91410		
WTR YR 1980	TOTAL	63590.92	MEAN	174	MAX	1190	MIN	0	AC-FT	126100		

SACRAMENTO RIVER BASIN

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, 204,061 acre-ft (252 hm³) July 7, elevation, 4,627.17 ft (1,410.361 m); minimum, 104,375 acre-ft (129 hm³) Dec. 30, elevation, 4,527.80 ft (1,380.073 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116791	118909	119623	105238	168316	174667	159522	171416	188303	195738	184366	170240
2	116783	118569	119783	106946	166177	174474	159139	172913	187946	197782	183345	169950
3	116565	118636	119893	107755	164841	174304	158535	174713	187472	199029	182444	169382
4	116407	119412	120332	107715	163926	174077	157908	176640	186997	200637	181592	168838
5	116140	119460	120256	106486	164035	173930	157352	178442	186725	202153	180546	168284
6	116516	119631	120037	106518	164024	173556	157268	180360	186016	203576	179388	167619
7	117061	119682	119665	106502	164122	173104	156638	181965	185414	204061	178247	167002
8	117209	119563	118814	106422	164013	172642	156115	183275	185131	203576	177201	166298
9	116894	119631	118216	106543	163361	172135	155802	185544	184943	203230	176171	165530
10	116682	120062	117821	107731	162495	171663	155396	185921	184731	202389	175145	164852
11	116324	120917	117503	109485	162063	171427	155095	186169	185025	201721	174349	164122
12	115773	120764	116983	124253	161740	170788	154825	186240	185544	201032	173330	163372
13	115282	120892	116557	148417	161310	170274	154928	186524	186063	200515	172766	163145
14	115349	120587	115889	167962	161439	169739	155282	186288	186263	199789	173115	162906
15	115475	120536	115057	171416	162820	169260	155698	186571	186583	199189	174020	162365
16	115473	120172	114144	173443	162344	168694	156167	187021	186618	198406	173364	162398
17	115394	119935	113152	176057	165848	168128	156953	187590	186418	197929	172856	161870
18	115556	120087	112163	177350	171753	167564	157974	188303	186607	196954	172991	161267
19	116311	119648	111177	177660	173862	167035	159203	189613	187068	196090	173070	160934
20	116980	119412	110195	177694	175737	166485	160472	191167	187377	195253	173059	160976
21	117312	118653	109070	177361	176479	165979	161191	192969	187697	194358	173048	160741
22	118174	118712	108241	176851	175714	165322	161396	194019	187709	193488	172991	160291
23	119074	117905	107189	176171	174997	164776	161471	194442	188065	192536	172980	159778
24	119927	118678	107092	175372	174838	164231	161956	193982	189136	191611	172034	159267
25	121019	118864	107269	174599	175099	163578	162387	193271	190090	190664	171606	158577
26	121155	119270	107189	173704	174861	162928	163036	192464	190988	190401	171158	157795
27	121155	119352	105416	172743	174951	162333	164340	191551	191623	189457	170945	157605
28	121155	119294	105256	171843	175031	161762	166925	190640	192428	188363	170643	157174
29	121180	119243	104775	170755	174917	161159	168516	189852	193307	187353	170598	156502
30	120553	119446	104375	169739	---	160634	169962	189386	194430	186382	170565	155792
31	119504	---	104855	168505	---	160280	---	188779	---	185378	170453	---
MAX	121180	120917	120332	177694	176479	174667	169962	194442	194430	204061	184366	170240
MIN	115282	117905	104375	105238	161310	160280	154825	171416	184731	185378	170453	155792
†	4546.21	4546.14	4528.40	4596.99	4602.70	4589.44	4598.30	4614.60	4619.31	4611.73	4598.74	4585.19
‡	+2963	-58	-14591	+63650	+6412	-14637	+9682	+18817	+5651	-9052	-14925	-14661

CAL YR 1979 † +7976

WTR YR 1980 ‡ +39251

† 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 NE¼NE¼ 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.--14 years, 22.2 ft³/s (0.629 m³/s), 16,080 acre-ft/yr (19.8 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, 170 ft³/s (4.81 m³/s) Jan. 13, gage height, 5.31 ft (1.618 m); minimum daily, 4.3 ft³/s (0.12 m³/s) Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	13	15	21	19	16	20	20	18	20	15	10
2	11	13	15	18	19	16	20	20	18	21	15	10
3	11	13	15	18	18	16	20	21	18	21	15	12
4	11	14	15	17	18	16	20	21	19	20	15	13
5	11	13	15	18	18	16	23	21	19	20	14	13
6	11	13	15	18	18	16	22	21	19	20	11	13
7	11	14	15	18	18	15	21	20	19	21	11	13
8	11	14	15	18	17	15	21	20	19	21	11	13
9	5.0	15	15	20	18	15	20	20	19	21	11	13
10	5.0	15	15	20	18	18	20	19	22	22	11	13
11	5.0	15	15	24	18	21	21	19	22	22	11	13
12	4.3	15	15	69	19	22	21	19	22	21	11	13
13	7.8	15	15	116	19	22	21	19	22	21	11	13
14	7.8	15	15	48	20	22	22	19	22	21	11	13
15	7.8	15	15	26	24	22	22	19	21	21	11	13
16	7.8	15	15	24	27	22	22	19	20	21	11	13
17	9.5	15	15	23	35	22	23	20	20	21	11	13
18	10	15	15	15	44	21	24	21	20	22	10	13
19	10	15	15	12	40	21	24	21	20	22	11	13
20	10	15	15	11	28	18	25	21	20	22	11	13
21	9.7	15	15	11	28	17	25	21	20	22	11	13
22	9.7	15	15	12	26	17	24	21	20	22	11	13
23	9.7	15	16	11	25	17	24	20	20	22	11	13
24	9.7	16	17	12	24	19	24	19	20	19	11	13
25	9.9	16	16	13	25	20	24	19	20	17	11	13
26	9.9	17	16	13	21	20	24	18	20	17	11	11
27	9.9	15	16	13	17	20	25	18	20	17	11	8.9
28	9.7	15	16	13	20	20	25	18	20	16	10	8.9
29	9.9	15	16	12	17	20	22	18	20	15	10	9.9
30	9.9	15	21	12	---	20	20	18	20	15	10	11
31	9.0	---	28	19	---	21	---	18	---	15	10	---
TOTAL	284.0	441	492	695	658	583	669	608	599	618	355	367.7
MEAN	9.16	14.7	15.9	22.4	22.7	18.8	22.3	19.6	20.0	19.9	11.5	12.3
MAX	11	17	28	116	44	22	25	21	22	22	15	13
MIN	4.3	13	15	11	17	15	20	18	18	15	10	8.9
AC-FT	563	875	976	1380	1310	1160	1330	1210	1190	1230	704	729
†	24400	24390	32890	26270	39360	58080	56500	57310	36240	44430	28930	27490
CAL YR 1979 TOTAL	5899.9			MEAN 16.2	MAX 40	MIN 4.3	AC-FT 11700					
WTR YR 1980 TOTAL	6369.7			MEAN 17.4	MAX 116	MIN 4.3	AC-FT 12630					

† Diversion, in acre-feet, from Hell Hole Reservoir to Middle Fork powerplant, furnished by Placer County Water Agency.

SACRAMENTO RIVER BASIN

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.--18 years, 235 ft³/s (6.655 m³/s) 170,300 acre-ft/yr (210 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	449	672	388	210	524	647	179	641	247	0
2	0	192	73	265	355	195	548	765	179	757	206	168
3	0	83	425	312	402	272	390	778	214	777	45	182
4	0	0	468	165	314	215	592	815	157	571	72	153
5	0	75	449	112	421	193	428	764	270	714	152	148
6	20	300	476	92	424	178	516	786	192	770	179	117
7	0	397	477	228	388	127	558	705	169	744	160	0
8	0	410	429	303	379	113	632	737	182	661	161	172
9	0	351	74	312	113	179	655	729	205	589	144	158
10	0	34	431	330	306	122	689	666	204	540	0	113
11	0	0	513	421	342	313	661	518	200	494	169	173
12	0	38	551	935	354	334	726	716	190	484	350	144
13	0	0	319	748	339	215	829	654	170	75	312	233
14	0	33	215	313	592	301	836	627	363	435	160	82
15	0	0	206	0	351	341	556	595	434	475	168	0
16	0	0	31	0	269	307	608	624	460	505	148	0
17	0	96	208	758	836	217	808	617	454	346	153	0
18	0	0	240	346	894	321	818	631	501	298	193	0
19	0	124	271	344	832	336	848	620	637	326	157	0
20	95	241	192	248	440	348	857	651	764	0	151	0
21	29	24	202	209	266	723	735	631	776	326	162	0
22	0	43	208	199	886	514	686	639	742	307	138	0
23	0	18	56	88	255	467	670	592	784	338	148	0
24	28	157	31	159	248	458	832	492	766	192	0	0
25	4.0	210	0	194	205	158	862	491	783	270	150	0
26	59	379	41	130	221	491	826	448	769	290	158	0
27	0	580	28	137	241	555	847	439	544	101	150	0
28	0	453	295	84	299	557	870	403	397	254	141	0
29	0	241	12	127	259	582	879	434	72	248	147	0
30	47	64	68	109	---	630	826	507	540	181	154	0
31	0	---	427	309	---	613	---	259	---	231	0	---
TOTAL	282.0	4543	7865	8649	11119	10585	21120	18980	12297	12940	4675	1843
MEAN	9.10	151	254	279	383	341	704	612	410	417	151	61.4
MAX	95	580	551	935	894	723	879	815	784	777	350	233
MIN	0	0	0	0	113	113	390	259	72	0	0	0
AC-FT	559	9010	15600	17160	22050	21000	41890	37650	24390	25670	9270	3660
CAL YR 1979 TOTAL	85702.00			MEAN 235	MAX 928	MIN 0	AC-FT 170000					
WTR YR 1980 TOTAL	114898.00			MEAN 314	MAX 935	MIN 0	AC-FT 227900					

11429350 LOON LAKE NEAR MEEKS BAY, CA

LOCATION.--Lat 38°58'59", long 120°19'22", in SE4SW4 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, 76,200 acre-ft (94.0 hm³) July 4, elevation, 6,410.0 ft (1,953.77 m); minimum, 37,500 acre-ft (46.2 hm³) Dec. 22, elevation, 6,379.0 ft (1,944.32 m).

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

6,330	3,600
6,340	7,200
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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49200	52400	49300	40000	58600	60100	49800	46800	62200	75400	68000	58000
2	49200	52000	49200	40400	58200	60300	49000	47600	63200	75500	67800	57700
3	49200	52000	48300	40300	57600	60400	48400	48400	64100	75600	67800	57300
4	49000	52100	47500	40300	57100	60500	47600	49600	64900	76200	67800	56900
5	48800	52100	46600	40400	56400	60800	47500	51100	65400	75500	67400	56600
6	48700	51400	45800	40500	55900	60900	46900	52300	65800	74800	67100	56300
7	48700	50600	44800	40300	55400	61000	45900	53500	66300	74100	66700	56300
8	48700	50000	44000	40000	55000	61000	45000	54400	67000	73500	66300	55900
9	48600	49400	44000	40100	55000	61200	44100	55000	68000	73000	66000	55400
10	48600	49400	43100	40200	54700	61200	43400	55200	69200	72700	66000	55200
11	48600	49400	42100	40500	54000	61200	42800	55200	70600	72300	65600	54800
12	48600	49400	41000	44200	53500	60800	42100	54500	72000	71900	64500	54300
13	48400	49400	40700	49600	53000	60700	41400	54300	73000	72300	64100	53900
14	48400	49400	40200	52600	52600	60400	41200	54200	73100	72000	63700	53900
15	48400	49500	39900	54700	52800	60100	41500	54200	73400	71600	63400	53900
16	48400	49500	39900	55900	53000	59800	41600	54200	74000	71000	63000	53900
17	48400	49600	39500	56800	54200	59400	41900	54500	74700	70900	62700	53900
18	48400	49800	39000	57300	55900	59100	42400	55200	75200	70900	62200	54000
19	48800	49600	38600	57700	57200	58700	42900	56000	75500	70600	61900	54000
20	50000	49300	38200	58000	58000	58300	43600	57300	75500	70900	61500	54000
21	50600	49300	38000	58200	58500	57600	44100	58600	75500	70600	61200	54000
22	50900	49400	37500	58300	58900	56800	44000	59900	75400	70500	60800	54000
23	51000	49400	37800	58500	59100	56000	43600	60900	74900	70000	60400	54000
24	51100	49800	38100	58600	59200	55400	43000	61300	74400	70000	60300	54000
25	51500	51000	38200	58700	59400	55400	42800	61200	74000	69800	60000	53900
26	51900	51300	38400	58900	59500	54500	42900	60900	73500	69500	59600	53900
27	52100	50600	38400	59000	59600	53800	43400	60500	73500	69500	59200	53900
28	52300	50300	37900	59200	59900	52900	43900	60400	73700	69100	58900	53900
29	52400	50000	37900	59400	60000	52000	45000	60400	74900	68800	58500	53900
30	52400	50000	38100	59500	---	51300	45900	60400	75200	68600	58100	53800
31	52400	---	39100	59100	---	50400	---	61300	---	68400	58100	---
MAX	52400	52400	49300	59500	60000	61200	49800	61300	75500	76200	68000	58000
MIN	48400	49300	37500	40000	52600	50400	41200	46800	62200	68400	58100	53800
†	6391.9	6390.0	6380.5	6397.2	6397.9	6390.3	6386.6	3698.9	6409.3	6404.4	6396.4	6393.0
‡	+3200	-2400	-10900	+20000	+900	-9600	-4500	+15400	+13900	-6800	-10300	-4300

CAL YR 1979 ‡ +200

WTR YR 1980 ‡ +4600

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

‡ Change in contents, in acre-feet.

SACRAMENTO RIVER BASIN

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); 9 years (water years 1972-80), 8.16 ft³/s (0.231 m³/s), 5,910 acre-ft/yr (7.29 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, 32 ft³/s (0.91 m³/s) Oct. 24, gage height, 2.60 ft (0.792 m); minimum daily, 7.2 ft³/s (0.20 m³/s) Apr. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	8.4	8.2	9.2	8.4	8.4	7.5	9.9	8.4	8.0	8.2	8.0
2	8.4	8.3	8.2	8.5	8.4	8.4	7.5	9.8	8.3	8.5	8.2	8.0
3	8.4	8.5	8.2	8.4	8.4	8.4	7.5	10	8.2	8.1	8.2	8.0
4	8.4	8.4	8.0	8.4	8.4	8.3	7.5	10	8.7	13	8.2	8.0
5	8.4	8.4	8.0	8.4	8.4	8.4	7.5	9.8	8.4	9.9	8.2	8.0
6	8.4	8.3	8.0	8.4	8.4	8.4	7.5	9.8	8.2	8.0	8.2	8.0
7	8.4	8.2	8.0	8.4	8.4	8.2	7.3	9.6	8.2	8.0	8.2	8.0
8	8.4	8.2	8.0	8.4	8.2	8.2	7.2	9.3	8.2	8.0	8.2	8.0
9	8.4	8.2	8.0	8.5	8.2	8.3	7.4	8.9	8.2	8.0	8.2	8.0
10	8.4	8.2	8.1	8.5	8.2	8.4	8.0	8.7	8.2	8.1	8.2	8.0
11	8.4	8.2	8.2	9.9	8.2	8.2	7.9	8.4	8.2	8.2	8.2	8.0
12	8.4	8.2	8.2	20	8.2	8.0	8.0	8.7	8.2	8.0	8.2	8.0
13	8.4	8.2	8.2	25	8.2	8.0	8.5	8.8	8.2	8.0	8.2	8.0
14	8.4	8.2	8.1	12	8.2	7.9	8.5	8.7	8.2	8.0	8.1	7.9
15	8.5	8.2	8.0	10	8.3	7.7	8.6	8.5	8.2	8.0	8.0	8.0
16	8.4	8.2	8.0	11	8.7	7.7	9.0	8.6	8.1	8.0	8.0	8.2
17	8.4	8.5	8.0	10	12	7.7	9.5	8.5	8.0	8.0	8.0	8.2
18	8.7	8.2	8.0	9.6	12	7.7	9.6	8.5	8.0	8.0	8.1	8.2
19	9.9	8.2	8.0	9.4	9.3	7.7	9.8	8.6	8.0	8.0	8.2	8.2
20	9.0	8.2	8.0	9.4	8.9	7.7	9.7	8.6	8.0	8.0	8.2	8.2
21	8.7	8.2	8.0	9.2	8.8	7.7	9.0	8.6	8.0	8.0	8.2	8.2
22	8.6	8.2	8.0	8.9	8.7	7.7	8.7	8.4	8.0	8.0	8.2	8.2
23	8.5	8.2	8.0	8.7	8.7	7.7	8.9	8.1	8.0	8.0	8.2	8.2
24	9.0	9.8	8.0	8.4	8.7	7.7	9.2	7.7	8.0	8.1	8.2	8.2
25	9.5	8.7	8.2	8.4	8.7	7.7	9.5	7.5	8.0	8.2	8.2	8.2
26	8.9	8.8	8.2	8.4	8.7	7.7	9.6	7.5	8.0	8.2	8.2	8.2
27	8.9	8.3	8.2	8.4	8.7	7.7	9.8	7.9	8.0	8.2	8.2	8.2
28	8.9	8.2	8.2	8.4	8.6	7.7	9.9	8.6	8.0	8.2	8.0	8.2
29	8.8	8.2	8.2	8.4	8.4	7.8	10	8.7	8.0	8.2	8.0	8.0
30	8.5	8.2	9.0	8.4	---	7.7	9.7	8.5	8.0	8.2	8.0	8.0
31	8.5	---	12	8.4	---	7.7	---	8.4	---	8.2	8.0	---
TOTAL	267.3	250.2	255.4	305.4	253.4	246.5	258.3	271.6	244.1	257.3	252.6	242.5
MEAN	8.62	8.34	8.24	9.85	8.74	7.95	8.61	8.76	8.14	8.30	8.15	8.08
MAX	9.9	9.8	12	25	12	8.4	10	10	8.7	13	8.2	8.2
MIN	8.4	8.2	8.0	8.4	8.2	7.7	7.2	7.5	8.0	8.0	8.0	7.9
AC-FT	530	496	507	606	503	489	512	539	484	510	501	481
†	309	6796	14130	2434	8099	12959	23469	20666	18175	25895	10267	3805

CAL YR 1979 TOTAL 3077.8 MEAN 8.43 MAX 13 MIN 7.5 AC-FT 6100
WTR YR 1980 TOTAL 3104.6 MEAN 8.48 MAX 25 MIN 7.2 AC-FT 6160

† 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).--18 years (water years 1962-80), 20.6 ft³/s (0.583 m³/s), 14,920 acre-ft/yr (18.4 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, 8,580 ft³/s (243 m³/s) Jan. 13, gage height, 11.34 ft (3.456 m); minimum daily, 4.6 ft³/s (0.13 m³/s) Nov. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	9.3	5.3	50	7.0	12	8.9	7.1	10	11	9.9	10
2	9.8	5.8	8.7	9.0	6.8	13	8.7	9.2	10	12	10	10
3	9.8	7.2	5.2	11	6.8	12	8.5	9.3	10	11	12	9.9
4	9.8	6.3	5.2	7.5	23	12	8.6	9.3	11	10	6.5	9.8
5	9.8	5.9	5.1	6.8	6.7	12	14	9.2	11	10	7.5	9.9
6	11	7.1	5.0	6.6	6.6	11	12	9.1	10	10	8.4	9.9
7	11	6.3	5.8	7.0	6.1	10	11	9.0	10	11	8.3	10
8	11	4.8	9.4	8.2	7.6	12	11	9.6	10	10	8.4	10
9	11	5.0	6.7	17	21	9.8	10	11	10	9.8	8.4	10
10	10	4.8	5.1	15	5.8	9.6	10	11	10	9.4	8.1	10
11	10	4.7	5.2	84	5.5	9.8	9.8	11	10	9.7	8.4	10
12	10	4.6	5.3	3620	5.4	9.4	9.5	11	10	10	8.7	10
13	10	4.7	5.2	5990	5.3	9.3	17	11	11	10	8.7	10
14	10	4.9	5.1	2160	8.3	9.2	16	15	11	10	8.8	11
15	10	4.9	4.9	865	14	10	9.2	23	11	10	9.3	9.1
16	10	5.3	4.9	1050	17	9.3	8.8	10	11	10	10	8.1
17	10	7.2	4.9	750	325	9.5	8.5	10	10	10	10	7.5
18	10	6.2	5.4	154	924	9.6	8.2	10	10	10	10	7.5
19	13	5.7	5.4	12	202	9.3	7.9	10	10	10	10	8.2
20	13	5.5	5.5	10	17	9.1	8.2	10	10	10	10	8.2
21	11	5.4	5.8	11	17	8.9	22	10	11	9.9	10	8.1
22	11	5.6	5.5	12	15	8.6	7.8	10	11	9.8	11	8.1
23	11	5.7	6.4	25	14	8.6	7.7	10	11	9.7	11	8.2
24	10	6.6	8.0	55	13	8.5	7.3	10	11	9.8	11	8.2
25	12	6.7	6.9	10	12	18	7.2	10	11	9.8	11	8.3
26	11	7.2	6.2	9.8	12	9.4	7.2	10	11	10	11	9.6
27	10	6.1	5.8	9.6	12	9.5	6.8	10	11	9.6	11	12
28	10	5.8	5.9	9.8	16	9.8	6.6	10	10	9.6	10	12
29	10	5.5	5.9	9.5	13	9.3	6.7	11	11	9.5	10	12
30	10	5.4	9.8	8.8	---	9.8	6.4	10	11	9.7	10	11
31	10	---	85	7.6	---	9.3	---	10	---	9.5	10	---
TOTAL	325.0	176.2	264.5	15001.2	1744.9	317.6	291.5	325.8	315	310.8	297.4	286.6
MEAN	10.5	5.87	8.53	484	60.2	10.2	9.72	10.5	10.5	10.0	9.59	9.55
MAX	13	9.3	85	5990	924	18	22	23	11	12	12	12
MIN	9.8	4.6	4.9	6.6	5.3	8.5	6.4	7.1	10	9.4	6.5	7.5
AC-FT	645	349	525	29750	3460	630	578	646	625	616	590	568
CAL YR 1979 TOTAL	3488.2			MEAN 9.56	MAX 214	MIN 4.5	AC-FT 6920					
WTR YR 1980 TOTAL	19656.5			MEAN 53.7	MAX 5990	MIN 4.6	AC-FT 38990					

SACRAMENTO RIVER BASIN

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 fair. No regulation or diversion above station. See schematic diagram of Middle Fork American and Rubicon River basins.

AVERAGE DISCHARGE.--20 years, 23.8 ft³/s (0.674 m³/s), 17,240 acre-ft/yr (21.3 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.--Peak discharges above base of 100 ft³/s (2.83 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. 31	1800	209	5.92	2.82	0.860	Jan. 16	1530	478	13.5	3.64	1.109
Jan. 12	1000	1,530	43.3	5.35	1.631	Feb. 19	0915	591	16.7	4.08	1.244
Jan. 13	2115	*2,490	70.5	6.31	1.923						

Minimum daily, 3.2 ft³/s (0.091 m³/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.4	5.7	8.0	82	28	76	32	32	18	10	6.2	5.4
2	3.3	5.7	7.6	39	27	77	31	31	18	17	5.7	5.2
3	3.3	13	7.1	27	26	76	31	29	17	16	4.6	5.1
4	3.3	15	6.9	22	25	72	31	28	20	12	4.9	5.0
5	3.3	11	6.7	19	25	74	53	27	20	11	5.3	4.9
6	3.3	8.7	6.4	18	25	68	49	25	17	10	5.8	4.8
7	3.2	7.6	6.4	17	24	63	43	23	17	9.6	5.6	4.9
8	3.4	7.0	6.1	18	23	59	41	22	16	9.2	5.5	5.4
9	3.6	6.6	6.1	68	22	56	40	24	15	8.9	5.4	5.5
10	3.5	6.4	5.9	117	22	54	40	28	15	8.5	5.3	5.0
11	3.5	6.2	5.9	157	21	54	39	27	14	8.1	5.3	5.0
12	3.6	5.9	5.8	935	20	51	38	26	14	9.4	4.9	4.9
13	3.8	5.9	5.7	1410	20	48	37	28	14	11	4.5	4.8
14	3.9	5.7	5.7	926	30	47	38	29	14	11	5.1	5.1
15	3.9	5.6	5.7	409	61	51	39	28	13	11	5.8	5.4
16	4.0	5.6	5.5	325	72	46	38	26	13	11	6.4	5.0
17	4.0	14	5.4	289	187	45	39	24	13	11	6.2	5.0
18	4.1	12	5.4	186	318	46	39	23	12	11	6.4	4.8
19	22	9.3	5.4	130	482	43	39	22	12	10	6.1	4.7
20	20	8.0	5.7	97	261	43	40	21	12	10	6.1	4.8
21	11	7.4	7.5	77	221	42	42	21	12	10	5.8	4.9
22	8.5	7.6	6.8	65	178	40	40	20	11	9.6	5.6	5.0
23	7.1	10	8.0	56	140	39	38	20	11	9.1	5.4	5.1
24	6.3	11	23	50	113	38	36	21	11	8.8	5.4	4.5
25	12	13	22	45	94	38	34	21	11	8.6	5.0	4.5
26	11	20	15	41	82	36	32	20	11	8.5	4.9	4.5
27	7.5	13	13	38	77	35	33	20	10	8.1	4.8	4.3
28	6.6	11	10	37	95	34	35	19	9.6	7.9	4.7	4.4
29	6.2	9.4	9.6	34	83	34	36	19	9.3	8.1	4.6	4.3
30	5.9	8.3	23	32	---	34	34	19	9.3	7.0	5.2	4.2
31	5.9	---	99	30	---	33	---	18	---	6.4	5.5	---
TOTAL	194.4	275.6	360.3	5796	2802	1552	1137	741	409.2	307.8	168.0	146.4
MEAN	6.27	9.19	11.6	187	96.6	50.1	37.9	23.9	13.6	9.93	5.42	4.88
MAX	22	20	99	1410	482	77	53	32	20	17	6.4	5.5
MIN	3.2	5.6	5.4	17	20	33	31	18	9.3	6.4	4.5	4.2
AC-FT	386	547	715	11500	5560	3080	2260	1470	812	611	333	290
CAL YR 1979	TOTAL	6474.2	MEAN	17.7	MAX	109	MIN	3.2	AC-FT	12840		
WTR YR 1980	TOTAL	13889.7	MEAN	38.0	MAX	1410	MIN	3.2	AC-FT	27550		

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 except those for period of no gage-height record, which are fair. 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.--19 years, 28.2 ft³/s (0.799 m³/s), 20,430 acre-ft/yr (25.2 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, 4,010 ft (114 m³/s) Jan. 13, gage height, 9.35 ft (2.850 m); minimum daily, 0.50 ft³/s (0.014 m³/s) July 13-15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.78	1.2	1.6	9.4	44	212	61	35	6.2	.65	1.7	1.4
2	.78	1.2	1.6	4.8	41	201	60	33	6.0	2.5	1.7	1.4
3	.74	2.2	1.5	3.8	37	199	58	31	6.0	1.1	1.7	1.3
4	.74	2.8	1.5	3.4	39	202	56	30	10	.77	1.7	1.3
5	.74	1.9	1.5	3.2	36	194	110	28	12	.73	1.7	1.3
6	.74	1.6	1.4	3.0	33	210	96	27	6.3	.70	1.7	1.3
7	.74	1.5	1.4	3.0	69	184	72	24	5.8	.82	1.7	1.3
8	.78	1.4	1.4	3.0	47	167	60	22	8.5	.78	1.6	1.4
9	.83	1.3	1.4	16	32	156	54	24	6.1	.97	1.6	1.5
10	.78	1.3	1.3	11	26	146	51	27	5.4	.58	1.6	1.4
11	.78	1.3	1.3	32	25	141	49	25	6.3	.53	1.6	1.4
12	.78	1.2	1.3	168	26	149	47	23	6.8	.51	1.6	1.4
13	.79	1.2	1.3	1370	39	135	47	24	6.1	.50	1.5	1.4
14	.82	1.2	1.3	2070	34	126	46	27	5.5	.50	1.6	1.4
15	.88	1.2	1.3	892	124	122	45	23	5.5	.50	1.6	1.4
16	.87	1.2	1.3	661	148	123	44	19	5.3	2.1	2.0	1.4
17	.85	3.2	1.3	622	251	108	44	17	5.2	2.1	2.2	1.4
18	.89	2.5	1.3	445	500	116	45	14	5.1	2.1	1.5	1.4
19	5.3	1.8	1.3	304	861	100	47	13	5.0	2.0	1.5	1.4
20	3.7	1.6	1.3	221	941	92	48	12	5.0	2.1	1.5	1.4
21	2.5	1.5	2.7	175	744	93	50	11	4.9	2.0	1.5	1.4
22	1.6	1.5	2.0	142	671	92	46	7.7	4.9	2.0	1.5	1.4
23	1.4	2.0	1.8	119	527	82	44	7.0	4.9	2.0	1.5	1.4
24	1.2	2.7	10	102	402	80	41	7.7	4.8	1.9	1.5	1.3
25	2.9	3.7	8.3	88	324	77	39	8.9	4.7	1.9	1.4	1.3
26	1.9	5.1	3.8	76	270	73	37	7.8	3.6	1.8	1.4	1.3
27	1.5	2.5	3.0	71	238	71	36	6.9	.73	1.8	1.4	1.3
28	1.3	2.1	2.5	74	250	67	37	6.4	.71	1.9	1.4	1.3
29	1.3	1.8	2.2	54	246	64	39	6.3	.67	1.9	1.4	1.3
30	1.2	1.7	4.6	49	---	63	37	6.4	.65	1.8	1.4	1.2
31	1.2	---	24	47	---	62	---	6.2	---	1.8	1.4	---
TOTAL	41.31	57.4	92.5	7842.6	7025	3907	1546	560.3	158.66	43.34	49.1	40.8
MEAN	1.33	1.91	2.98	253	242	126	51.5	18.1	5.29	1.40	1.58	1.36
MAX	5.3	5.1	24	2070	941	212	110	35	12	2.5	2.2	1.5
MIN	.74	1.2	1.3	3.0	25	62	36	6.2	.65	.50	1.4	1.2
AC-FT	82	114	183	15560	13930	7750	3070	1110	315	86	97	81

CAL YR 1979 TOTAL 6413.62 MEAN 17.6 MAX 132 MIN .74 AC-FT 12720
WTR YR 1980 TOTAL 21364.01 MEAN 58.4 MAX 2070 MIN .50 AC-FT 42380

NOTE.--No gage-height record Apr. 1 to May 13.

SACRAMENTO RIVER BASIN

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.--15 years, 9.96 ft³/s (0.282 m³/s), 7,220 acre-ft/yr (8.90 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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.2	27	23	0	23	85	19	5.3		
2	0	0	1.8	16	22	0	22	55	18	5.3		
3	0	.50	1.4	12	21	0	21	50	18	11		
4	0	1.0	1.0	10	21	0	22	53	19	16		
5	0	.04	.84	9.3	21	0	43	48	21	9.0		
6	0	0	.54	9.0	21	0	34	45	18	6.8		
7	0	0	.22	11	20	0	27	42	16	5.3		
8	0	0	0	11	18	0	26	41	15	4.5		
9	0	0	0	78	17	0	28	43	14	3.5		
10	0	0	0	80	17	0	31	41	14	3.0		
11	0	0	0	69	16	24	32	35	14	2.6		
12	0	0	0	4.3	16	130	32	36	14	2.4		
13	0	0	0	0	15	148	43	39	14	2.0		
14	0	0	0	0	24	109	51	43	13	1.8		
15	0	0	0	0	43	57	47	41	12	1.4		
16	0	0	0	0	58	37	80	38	11	1.2		
17	0	.23	0	0	27	25	105	35	11	1.0		
18	0	1.0	0	0	0	25	146	33	11	0		
19	0	.06	0	0	0	24	165	34	11	0		
20	.86	0	0	0	0	25	202	35	9.6	0		
21	0	0	0	31	0	24	167	37	8.7	0		
22	0	0	0	43	0	23	74	37	8.0	0		
23	0	1.2	1.1	35	0	23	46	35	6.8	0		
24	0	7.0	2.8	32	0	24	37	32	6.2	0		
25	.18	12	2.2	32	0	23	43	29	5.0	0		
26	.01	18	1.2	30	0	21	49	26	6.2	0		
27	0	6.5	1.6	28	0	21	70	23	6.5	0		
28	0	4.3	1.2	27	0	22	96	22	6.2	0		
29	0	3.3	1.0	26	0	23	142	20	5.9	0		
30	0	2.8	6.2	24	---	26	131	20	5.6	0		
31	0	---	40	24	---	25	---	19	---	0		---
TOTAL	1.05	57.93	65.30	668.6	400	859	2035	1172	357.7	82.1	0	0
MEAN	.034	1.93	2.11	21.6	13.8	27.7	67.8	37.8	11.9	2.65	0	0
MAX	.86	18	40	80	58	148	202	85	21	16	0	0
MIN	0	0	0	0	0	0	21	19	5.0	0	0	0
AC-FT	2.1	115	130	1330	793	1700	4040	2320	709	163	0	0

CAL YR 1979 TOTAL 3938.29 MEAN 10.8 MAX 79 MIN 0 AC-FT 7810
WTR YR 1980 TOTAL 5698.68 MEAN 15.6 MAX 202 MIN 0 AC-FT 11300

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.

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.--15 years, 3.83 ft³/s (0.108 m³/s), 2,770 acre-ft/yr (3.42 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.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0	0	2.8	8.5	11	22	12	23	5.9			
2	0	0	2.5	9.5	10	22	11	24	5.6			
3	0	.60	2.2	7.1	9.5	21	11	25	5.2			
4	0	1.6	2.1	5.6	9.5	21	12	24	5.9			
5	0	1.7	1.9	4.7	11	21	15	22	6.5			
6	0	1.6	1.8	4.5	11	18	14	21	2.8			
7	0	1.5	1.7	6.1	9.2	17	13	19	0			
8	0	1.3	1.6	9.2	8.0	16	15	18	0			
9	0	1.0	1.6	24	7.6	16	16	17	0			
10	0	.82	1.6	28	7.4	17	19	16	0			
11	0	.60	.89	21	6.9	16	18	15	0			
12	0	.45	0	15	6.5	14	19	18	0			
13	0	.12	0	4.1	6.1	13	22	20	0			
14	0	0	0	0	9.5	12	23	22	0			
15	0	0	0	0	21	12	23	20	0			
16	0	0	0	0	38	11	25	17	0			
17	0	2.2	0	0	20	12	26	16	0			
18	0	2.8	0	0	0	12	29	15	0			
19	8.8	1.7	0	0	0	12	28	14	0			
20	6.1	1.1	0	0	22	12	28	14	0			
21	1.2	.96	0	0	35	11	26	13	0			
22	.60	.96	0	12	27	11	21	12	0			
23	.08	2.8	.38	20	25	12	23	12	0			
24	0	17	.38	19	23	12	23	11	0			
25	3.4	16	0	17	22	11	22	9.8	0			
26	1.8	19	0	16	23	10	25	9.0	0			
27	.76	7.6	0	14	26	11	28	8.0	0			
28	.08	5.4	0	14	30	11	26	7.6	0			
29	0	3.8	0	13	26	13	27	6.9	0			
30	0	3.3	8.8	12	---	14	25	6.3	0			
31	0	---	21	11	---	13	---	6.3	---			---
TOTAL	22.82	95.91	51.25	295.3	461.2	446	625	481.9	31.9	0	0	0
MEAN	.74	3.20	1.65	9.53	15.9	14.4	20.8	15.5	1.06	0	0	0
MAX	8.8	19	21	28	38	22	29	25	6.5	0	0	0
MIN	0	0	0	0	0	10	11	6.3	0	0	0	0
AC-FT	45	190	102	586	915	885	1240	956	63	0	0	0
CAL YR 1979	TOTAL	2415.82	MEAN	6.62	MAX	46	MIN	0	AC-FT	4790		
WTR YR 1980	TOTAL	2511.28	MEAN	6.86	MAX	38	MIN	0	AC-FT	4980		

SACRAMENTO RIVER BASIN

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).--14 years (water years 1967-80), 28.4 ft³/s (0.804 m³/s) 20,580 acre-ft/yr (25.4 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, 4,700 ft³/s (133 m³/s) Jan. 13, 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; minimum daily, 0.83 ft³/s (0.024 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.90	2.6	7.3	36	18	78	25	22	14	6.2	3.2	1.6
2	.84	2.4	7.0	32	17	76	24	23	14	10	3.0	1.6
3	.83	6.0	6.7	26	16	78	23	22	13	10	2.9	1.5
4	.88	9.2	6.4	24	16	75	26	22	15	8.3	2.9	1.5
5	.93	7.2	6.3	23	15	75	34	22	14	7.5	2.8	1.5
6	.91	6.0	6.1	23	14	69	34	21	14	7.5	2.8	1.4
7	.93	5.5	6.0	23	14	61	33	21	14	7.1	2.8	1.4
8	.95	5.2	5.8	23	13	56	35	20	13	7.1	2.8	1.5
9	1.0	4.8	5.5	79	12	52	34	24	12	6.9	2.7	1.4
10	.94	4.5	5.5	48	11	50	34	24	12	6.6	2.6	1.4
11	.91	4.3	5.0	303	11	49	31	23	10	6.4	2.4	1.3
12	.94	4.1	6.3	1460	10	45	30	22	9.7	6.2	2.3	1.3
13	.96	3.8	6.4	2200	10	43	29	23	10	6.2	2.3	1.3
14	1.2	3.7	6.1	1020	17	44	29	24	10	6.0	2.2	1.3
15	1.4	3.5	6.1	647	40	47	29	22	9.4	6.2	2.2	1.4
16	1.4	3.4	5.8	658	69	43	28	20	8.8	6.0	2.2	1.3
17	1.3	9.2	5.5	636	362	42	30	18	8.3	5.7	2.2	1.3
18	1.6	9.5	5.5	383	868	43	30	18	7.8	5.5	2.1	1.3
19	8.4	7.8	5.2	244	868	40	31	17	7.5	5.4	2.1	1.3
20	8.3	6.5	5.5	191	340	39	36	17	7.3	5.2	2.1	1.3
21	5.3	5.7	7.9	134	236	40	36	16	7.1	4.9	2.0	1.3
22	3.8	5.7	6.6	77	175	37	31	15	6.6	4.9	1.9	1.3
23	3.1	7.4	8.5	54	138	36	29	13	6.4	4.7	1.9	1.3
24	2.7	13	19	38	111	35	27	13	6.2	4.4	1.8	1.2
25	5.7	15	17	34	91	33	26	12	6.2	4.3	1.8	1.2
26	6.1	26	13	30	82	32	25	13	6.4	4.1	1.7	1.2
27	4.1	11	11	27	44	30	24	15	6.2	4.1	1.7	1.1
28	3.5	9.2	11	26	129	29	24	15	6.0	3.9	1.6	1.1
29	3.2	8.1	10	23	97	28	26	14	6.0	3.7	1.6	1.1
30	2.9	7.7	21	21	---	27	24	14	6.0	3.5	1.6	1.0
31	2.8	---	81	19	---	26	---	14	---	3.3	1.6	---
TOTAL	78.72	218.0	326.0	8562	3844	1458	877	579	286.9	181.8	69.8	39.7
MEAN	2.54	7.27	10.5	276	133	47.0	29.2	18.7	9.56	5.86	2.25	1.32
MAX	8.4	26	81	2200	868	78	36	24	15	10	3.2	1.6
MIN	.83	2.4	5.0	19	10	26	23	12	6.0	3.3	1.6	1.0
AC-FT	156	432	647	16980	7620	2890	1740	1150	569	361	138	79

CAL YR 1979 TOTAL 6085.56 MEAN 16.7 MAX 180 MIN .61 AC-FT 12070
WTR YR 1980 TOTAL 16520.92 MEAN 45.1 MAX 2200 MIN .83 AC-FT 32770

11433200 RUBICON RIVER NEAR FORESTHILL, CA

LOCATION.--Lat 38°59'33", long 120°43'14", in SE¼NW¼ sec.11, T.13 N., R.11 E., Placer County, 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); 15 years (water years 1966-80), 278 ft³/s (7.873 m³/s), 201,400 acre-ft/yr (248 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, 37,000 ft³/s (1,050 m³/s) Jan. 13, gage height, 19.65 ft (5.989 m) from floodmarks; minimum daily, 29 ft³/s (0.82 m³/s) Oct. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	48	68	896	420	1120	415	431	227	90	63	52
2	32	46	65	341	400	1100	401	462	224	110	62	51
3	32	57	63	241	390	1120	394	453	207	125	61	51
4	31	90	62	201	370	1180	387	461	192	110	60	51
5	31	82	60	175	360	1260	567	457	188	94	57	50
6	31	66	59	163	350	1250	538	415	184	92	58	50
7	31	57	58	157	345	1200	463	414	180	90	58	50
8	31	55	57	157	340	1110	433	398	176	89	58	49
9	32	44	61	336	325	1020	421	367	172	88	58	49
10	32	42	63	902	310	950	425	320	168	87	57	49
11	32	44	56	2500	305	910	420	240	164	86	57	48
12	32	44	54	12000	315	870	406	220	160	85	57	48
13	29	44	54	19000	350	835	429	215	156	84	57	48
14	31	44	54	13000	700	793	472	213	152	82	56	47
15	29	44	54	7000	950	834	467	214	148	81	56	47
16	29	44	53	4500	1900	712	480	192	144	80	56	47
17	31	78	52	3900	3500	776	490	181	140	79	56	46
18	31	117	52	2800	6000	724	498	214	136	78	55	44
19	67	87	52	1900	7600	690	517	226	132	76	55	42
20	135	70	52	1500	5500	569	559	225	128	75	55	40
21	93	62	81	1150	3700	574	521	254	124	74	55	40
22	62	58	89	950	2600	538	434	256	120	73	54	40
23	52	62	73	840	1900	512	396	215	115	72	54	40
24	48	70	447	760	1600	484	397	175	111	71	54	40
25	66	97	478	680	1400	466	417	147	107	70	53	40
26	91	175	232	610	1300	440	454	135	103	69	53	40
27	62	132	159	570	1200	438	422	149	99	68	53	40
28	53	93	127	530	1180	412	421	165	95	67	53	40
29	50	79	110	490	1150	439	407	176	91	66	52	40
30	48	72	151	470	---	463	432	194	87	65	52	40
31	48	---	696	450	---	415	---	213	---	64	52	---
TOTAL	1434	2103	3792	79169	46760	24204	13483	8397	4430	2540	1737	1359
MEAN	46.3	70.1	122	2554	1612	781	449	271	148	81.9	56.0	45.3
MAX	135	175	696	19000	7600	1260	567	462	227	125	63	52
MIN	29	42	52	157	305	412	387	135	87	64	52	40
AC-FT	2840	4170	7520	157000	92750	48010	26740	16660	8790	5040	3450	2700

CAL YR 1979 TOTAL 72539 MEAN 199 MAX 1190 MIN 29 AC-FT 143900
WTR YR 1980 TOTAL 189408 MEAN 518 MAX 19000 MIN 29 AC-FT 375700

NOTE.--No gage-height record Jan. 11 to Mar. 12.

SACRAMENTO RIVER BASIN

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.--15 years, 253 ft³/s (7.165 m³/s), 183,300 acre-ft/yr (226 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, 30,100 ft³/s (852 m³/s) Jan. 13, gage height, 17.00 ft (5.182 m) from floodmarks; minimum daily, 19 ft³/s (0.54 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	34	89	1050	370	860	343	400	204	72	38	26
2	20	33	79	536	365	840	330	388	189	95	38	26
3	19	48	72	376	360	821	318	403	175	107	37	25
4	19	127	66	304	360	805	318	408	175	80	36	25
5	19	118	62	250	355	909	471	398	186	71	35	25
6	19	75	59	237	343	884	516	365	162	68	34	25
7	19	60	57	225	330	752	477	347	146	65	33	24
8	19	53	54	243	310	640	450	318	144	62	36	24
9	20	48	51	764	295	588	455	351	142	62	36	24
10	20	45	50	1270	283	564	460	347	137	61	35	24
11	20	42	48	2710	273	576	460	302	128	60	34	24
12	19	40	44	14900	270	522	450	279	120	58	33	24
13	19	38	42	18000	265	505	466	287	114	59	32	25
14	24	37	43	7000	480	482	499	318	110	59	31	25
15	24	36	42	4000	930	534	488	330	107	56	30	25
16	26	35	41	3400	1700	505	482	318	103	53	29	25
17	24	95	40	2800	3500	477	516	310	95	51	29	24
18	23	137	38	1800	6200	471	540	310	96	50	29	24
19	134	93	37	1300	4600	450	528	322	91	47	29	24
20	178	72	38	1050	2900	493	558	330	85	47	29	23
21	87	61	74	850	1600	434	534	326	87	47	29	23
22	53	56	65	700	1140	408	471	318	84	46	29	23
23	43	83	56	620	1000	398	434	287	82	44	28	23
24	37	145	370	570	920	398	424	261	82	43	28	23
25	62	323	410	530	860	393	408	243	79	43	28	23
26	112	597	202	500	840	365	418	214	78	42	28	23
27	56	237	146	470	880	360	444	204	73	41	28	22
28	44	155	120	450	870	351	460	195	71	41	27	22
29	40	120	107	410	865	351	460	189	70	41	27	22
30	37	101	209	380	---	365	450	183	70	40	26	22
31	36	---	1450	375	---	351	---	198	---	39	26	---
TOTAL	1293	3144	4261	68070	33464	16852	13628	9449	3485	1750	967	717
MEAN	41.7	105	137	2196	1154	544	454	305	116	56.5	31.2	23.9
MAX	178	597	1450	18000	6200	909	558	408	204	107	38	26
MIN	19	33	37	225	265	351	318	183	70	39	26	22
AC-FT	2560	6240	8450	135000	66380	33430	27030	18740	6910	3470	1920	1420
CAL YR 1979 TOTAL	77365			MEAN 212	MAX 2220	MIN 19	AC-FT 153500					
WTR YR 1980 TOTAL	157080			MEAN 429	MAX 18000	MIN 19	AC-FT 311600					

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).

WATER-DISCHARGE RECORDS

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.--22 years, 1,077 ft³/s (30.50 m³/s), 780,300 acre-ft/yr (962 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, 66,000 ft³/s (1,870 m³/s) Jan. 13, gage height, 19.57 ft (5.965 m) from floodmarks; minimum daily, 80 ft³/s (2.27 m³/s) Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	265	768	183	2490	1700	3600	1720	1800	1380	270	960	210
2	474	706	196	1260	1650	3400	1660	1750	1330	300	960	270
3	502	445	398	1190	1600	3350	1620	1720	1300	700	980	320
4	502	445	409	1050	1500	3400	1610	1700	1280	370	950	390
5	556	666	623	969	1400	3700	2040	1690	1270	270	950	660
6	214	523	722	620	1300	4300	2020	1680	1260	260	960	620
7	150	569	792	770	1250	3900	1930	1640	1260	450	980	670
8	390	640	461	792	1220	3400	1930	1600	1250	800	980	660
9	567	492	506	1520	1200	3100	1920	1620	1240	1000	980	800
10	574	329	623	3140	1200	2700	2010	1600	1230	1060	940	680
11	653	80	718	3310	1200	2430	1930	1590	1220	1070	920	740
12	704	540	813	27000	1200	2260	1990	1600	1220	1080	920	600
13	672	489	805	30000	1210	2280	2110	1600	1220	1020	880	400
14	425	646	873	25000	1350	2190	2120	1600	1210	980	600	290
15	400	542	666	16000	1900	2340	2150	1600	1200	1000	150	470
16	450	559	785	12000	2900	2140	2180	1590	1200	1020	160	310
17	495	437	1020	11000	4600	1970	2220	1550	1190	1000	470	450
18	415	308	1030	9000	8800	2160	2240	1550	1150	990	350	590
19	634	671	1030	6800	13500	1910	2280	1550	1000	980	240	540
20	699	721	1040	5000	11500	1850	2300	1520	924	1000	160	320
21	484	794	1110	3500	10300	1860	2330	1490	933	1020	130	320
22	93	143	732	2900	9000	1870	2160	1440	957	1030	125	500
23	111	674	757	2500	7200	1850	2060	1430	800	1040	140	680
24	100	400	1190	2350	5500	1780	1950	1420	300	1000	300	570
25	264	869	1100	2200	4400	1800	1900	1400	260	980	510	700
26	709	1480	1050	2100	3800	1750	1900	1390	270	830	480	600
27	745	996	1070	2050	3600	1760	1900	1380	330	830	500	430
28	424	828	949	2000	4400	1780	1900	1350	280	900	340	520
29	818	762	760	1950	4100	1740	1900	1320	240	990	320	700
30	726	472	794	1850	---	1800	1880	1350	245	990	180	630
31	673	---	2440	1800	---	1700	---	1370	---	970	120	---
TOTAL	14888	17994	25645	184111	114480	76070	59860	47890	28949	26200	17635	15640
MEAN	480	600	827	5939	3948	2454	1995	1545	965	845	569	521
MAX	818	1480	2440	30000	13500	4300	2330	1800	1380	1080	980	800
MIN	93	80	183	620	1200	1700	1610	1320	240	260	120	210
AC-FT	29530	35690	50870	365200	227100	150900	118700	94990	57420	51970	34980	31020
CAL YR 1979 TOTAL	345037			945	5170			684400				
WTR YR 1980 TOTAL	629362			1720	30000		65	1248000				

SACRAMENTO RIVER BASIN

11433300 MIDDLE FORK AMERICAN RIVER NEAR FORESTHILL, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

SEDIMENT RECORD: October 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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 24...	1020	90	48	7.2	12.0	10.2	47	70	19	0	5.2

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT 24...	1.4	2.2	19	.2	.9	18	2.9	1.6	.1	11	34

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 24...	35	.05	.00	.02	.02	.01	.00	.51	.51	.53	.01

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 24...	.008	.01	50	7	90	70	10	20	2.0

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 24...	1020	90	12.0	2	.49

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.--8 years, 0.92 ft³/s (0.026 m³/s), 667 acre-ft/yr (822,400 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)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 9	1815	54 1.52	1.38 0.421	Feb. 18	1230	71 2.01	1.53 .466
Jan. 12	0045	65 1.84	1.51 .460	Feb. 19	1015	74 2.10	1.55 .472
Jan. 13	1400	*263 7.45	2.35 .716	Feb. 21	0745	68 1.93	1.51 .460
Jan. 14	1445	51 1.44	1.39 .424	Mar. 5	0300	55 1.56	1.41 .430

Minimum daily, 0.02 ft³/s (0.001 m³/s) on several days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.07	.22	2.9	.89	2.4	.36	.29	.15	.05	.02	.04
2	.05	.10	.19	1.5	.83	2.8	.28	.27	.16	.19	.02	.03
3	.04	.43	.19	1.0	.80	4.0	.26	.28	.12	.09	.02	.03
4	.03	.29	.16	.80	.80	3.1	.26	.27	.14	.07	.03	.03
5	.03	.14	.14	.73	.63	14	2.3	.26	.13	.07	.03	.03
6	.03	.10	.14	.75	.61	14	1.6	.26	.12	.06	.04	.03
7	.04	.10	.14	.64	.56	6.3	1.1	.26	.11	.06	.03	.04
8	.04	.07	.14	.58	.52	4.0	.93	.26	.10	.06	.03	.05
9	.04	.05	.13	8.1	.45	2.9	.83	.87	.09	.06	.03	.04
10	.04	.05	.14	5.1	.45	2.4	.75	.82	.09	.05	.03	.04
11	.05	.07	.14	11	.45	2.4	.66	.48	.09	.05	.03	.03
12	.05	.10	.14	30	.42	1.9	.59	.37	.09	.05	.03	.03
13	.05	.10	.14	44	.42	1.6	.57	.29	.09	.05	.02	.04
14	.05	.07	.14	17	1.7	1.7	.54	.28	.09	.04	.03	.06
15	.06	.07	.14	9.2	6.4	2.1	.50	.24	.08	.04	.03	.05
16	.06	.27	.14	14	6.1	1.5	.48	.23	.07	.03	.03	.04
17	.06	2.3	.14	11	12	1.3	.43	.22	.07	.03	.04	.04
18	.10	1.6	.14	6.4	22	1.3	.42	.20	.07	.03	.04	.04
19	4.0	.37	.20	4.2	39	1.1	.41	.19	.07	.03	.04	.05
20	1.6	.29	.20	3.1	13	1.0	.55	.17	.07	.03	.04	.04
21	.20	.24	.73	2.6	28	.95	.52	.17	.06	.03	.03	.04
22	.15	.34	.34	2.1	11	.87	.45	.18	.06	.03	.03	.03
23	.13	.35	.93	1.8	6.1	.83	.45	.19	.05	.03	.04	.03
24	.12	.76	7.6	1.6	4.1	.76	.42	.20	.05	.03	.04	.03
25	3.2	1.9	9.1	1.4	3.1	.77	.38	.19	.05	.03	.03	.03
26	.29	1.7	2.6	1.3	2.5	.74	.36	.18	.05	.02	.03	.03
27	.18	.57	1.2	1.4	2.6	.76	.35	.17	.05	.02	.03	.05
28	.14	.35	.80	1.8	5.4	.72	.34	.17	.04	.03	.03	.03
29	.07	.27	.62	1.3	2.8	.70	.34	.16	.05	.03	.04	.03
30	.07	.24	2.3	1.1	---	.65	.33	.15	.05	.03	.04	.02
31	.07	---	6.2	.99	---	.50	---	.16	---	.02	.04	---
TOTAL	11.10	13.36	35.53	189.39	173.63	80.05	17.76	8.43	2.51	1.44	.99	1.10
MEAN	.36	.45	1.15	6.11	5.99	2.58	.59	.27	.084	.047	.032	.037
MAX	4.0	2.3	9.1	44	39	14	2.3	.87	.16	.19	.04	.06
MIN	.03	.05	.13	.58	.42	.50	.26	.15	.04	.02	.02	.02
AC-FT	22	26	70	376	344	159	35	17	5.0	2.9	2.0	2.2

CAL YR 1979 TOTAL 265.30 MEAN .73 MAX 22 MIN .01 AC-FT 526
WTR YR 1980 TOTAL 535.29 MEAN 1.46 MAX 44 MIN .02 AC-FT 1060

SACRAMENTO RIVER BASIN

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA

LOCATION.--Lat 38°55'05", long 121°00'51", in NE&SW¼ 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).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1911 to current year. Prior to October 1934, published as "near East Auburn."

REVISED RECORDS.--WSP 861: 1928. WSP 1315-A: 1913-15, 1919, 1921, 1923(M), 1929(M), 1930. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 552.35 ft (168.356 m) 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.--69 years, 1,310 ft³/s (37.10 m³/s), 949,100 acre-ft/yr (1.17 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 (31.288 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, 65,600 ft³/s (1,860 m³/s) Jan. 13; maximum gage height, 102.65 ft (31.288 m) Jan. 14, backwater from Auburn Dam (under construction); minimum daily discharge, 90 ft³/s (2.55 m³/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	734	324	3390	1750	3740	1870	1740	1320	224	970	208
2	402	726	196	1500	1720	3530	1840	1750	1330	259	957	200
3	485	609	252	1130	1650	3530	1830	1720	1240	502	944	325
4	488	420	492	880	1630	3540	1760	1730	1230	472	948	368
5	491	660	593	1140	1400	4130	2290	1710	1240	247	973	680
6	498	540	668	660	1270	4700	2430	1640	1230	223	969	595
7	90	645	839	690	1300	4040	2260	1620	1220	250	980	698
8	207	617	569	860	1230	3550	2110	1580	1220	1020	985	652
9	625	588	463	1280	1250	3250	2040	1620	1220	1060	981	798
10	466	343	579	3920	1260	2910	2080	1490	1210	1060	966	612
11	723	228	737	2800	1250	2980	2040	1580	1210	1070	914	743
12	649	279	800	24000	1250	2820	2010	1590	1200	1070	936	734
13	643	535	848	34200	1240	2710	2030	1580	1190	1030	811	520
14	618	606	853	24800	1300	2610	2140	1580	1180	961	427	238
15	317	618	764	15500	2220	2840	2160	1620	1180	1060	143	490
16	449	557	686	11000	3110	2550	2120	1590	1170	976	157	292
17	502	585	1030	11000	6000	2340	2160	1550	1170	1020	483	434
18	413	470	1030	7730	11300	2490	2190	1540	1130	1000	346	614
19	560	512	1040	6620	14900	2320	2180	1520	794	966	205	565
20	835	739	1040	4960	10800	2330	2230	1510	709	1040	146	309
21	694	815	1120	3440	10800	2290	2420	1470	783	1000	131	316
22	133	433	846	2760	8760	2230	2100	1460	778	1030	120	431
23	125	436	809	2560	6680	2150	1960	1420	796	999	132	705
24	113	505	1370	2400	5220	2030	1910	1400	296	999	250	565
25	185	745	1890	2270	4340	2090	1890	1400	260	1000	518	698
26	673	1470	1150	2160	4010	2040	1900	1400	250	761	484	693
27	763	1150	1180	2080	3720	2010	1890	1370	257	775	538	508
28	448	886	1060	2110	4670	1950	1930	1330	327	989	321	392
29	809	788	910	1960	4190	1940	1910	1320	224	1000	318	673
30	758	659	797	1830	---	1920	1890	1320	222	977	169	656
31	694	---	2180	1810	---	1910	---	1330	---	932	100	---
TOTAL	14953	18898	27115	183440	120220	85470	61570	47480	27586	25972	17322	15712
MEAN	482	630	875	5917	4146	2757	2052	1532	920	838	559	524
MAX	835	1470	2180	34200	14900	4700	2430	1750	1330	1070	985	798
MIN	90	228	196	660	1230	1910	1760	1320	222	223	100	200
AC-FT	29660	37480	53780	363900	238500	169500	122100	94180	54720	51520	34360	31160
CAL YR 1979 TOTAL	362961			994	5240			719900				
WTR YR 1980 TOTAL	645738			1764	34200			1281000				

11433500 MIDDLE FORK AMERICAN RIVER NEAR AUBURN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1957-67, 1977-80.

CHEMICAL ANALYSES: Water years 1958-66, 1977 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

SEDIMENT RECORDS: Water years 1957-67, 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
OCT 22...	1245	127	46	7.3	13.5	10.5	19	21	17	0	4.9	1.2	
DATE	TIME	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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 CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 22...	2.0	19	.2	.7	19	5.1	1.6	.0	10	39	37	.05	
DATE	TIME	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, NON- VOLATILE, SUS- PENDE (MG/L)	SOLIDS, VOLATILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 22...	0	0	0	.01	.02	.03	.03	.01	.54	.55	.58	.00	
DATE	TIME	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)			
OCT 22...		.018	.00	40	10	60	20	8	4	3.0			

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 22...	1245	127	13.5	2	.69

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA

LOCATION.--Lat 38°52'20", long 121°03'18", in SE¼SW¼ sec.23, T.12 N., R.8 E., Placer County, 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.

DRAINAGE AREA.--973 mi² (2,520 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service).

REMARKS.--Records good. Natural flow of stream affected by many reservoirs and diversions (see REMARKS for stations 11427000, 11433500).

AVERAGE DISCHARGE.--8 years, 1,875 ft³/s (53.1 m³/s), 1,358,000 acre-ft/yr (1.67 km³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,700 ft³/s (1,890 m³/s) Jan. 14, 1980, gage height, 87.5 ft (26.67 m) from floodmarks, affected by temporary storage at Auburn damsite; minimum daily, 51 ft³/s (1.44 m³/s) July 12, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 66,700 ft³/s (1,890 m³/s) Jan. 14, gage height, 87.5 ft (26.67 m) from floodmarks, affected by temporary storage at Auburn damsite; minimum daily, 98 ft³/s (2.78 m³/s) Oct. 1.

REVISIONS.--The maximum discharges for some water years have been revised, as shown in the following table. They supersede figures published in the reports for 1973-75 and 1978. Revised figures of discharge for the water year 1979, superseding those published in the report for 1979 are given herein.

Water year	Date	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
1973	Jan. 12, 1973	38,800	1,100	79.25	24.155
1974	Jan. 17, 1974	39,200	1,110	79.37	24.192
1975	Mar. 25, 1975	27,200	770	75.75	23.089
1978	Jan. 17, 1978	20,000	566	73.24	22.324
1979	Jan. 11, 1979	20,200	572	73.29	22.339

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

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	921	1200	339	1110	5460	2430	3440	2190	367	1070	822
2	175	435	485	339	1140	3810	2330	3120	2130	361	1090	751
3	376	635	303	706	1210	3020	2240	3410	2110	336	1060	671
4	301	607	250	483	1090	2760	2180	3720	2120	341	1040	728
5	135	616	192	364	1100	2630	2340	3530	2070	333	533	956
6	137	929	190	476	1130	2270	2790	4790	2010	322	1080	869
7	147	283	177	204	1130	2790	2740	4330	1930	646	1090	794
8	125	777	162	497	1170	3200	2510	4350	1790	283	1000	975
9	149	926	646	1430	1110	3240	2550	3760	1730	230	1040	975
10	125	193	601	1130	1100	3110	2540	3140	1700	401	1050	950
11	237	797	629	9990	1200	3270	2340	2870	1680	734	1050	956
12	667	788	516	5460	1130	3290	2380	2860	1660	1180	1050	931
13	672	318	516	2730	1540	3050	2350	3020	1460	1200	1050	995
14	579	641	411	2340	5470	3020	2520	3340	1790	1170	1050	1000
15	340	1080	554	3060	3310	3550	2560	3720	1110	1160	1050	834
16	122	676	421	2530	2840	4430	2650	3900	1020	1140	1040	799
17	114	918	465	1810	2580	3460	2930	4130	667	1100	1040	900
18	114	286	733	1440	2460	2900	2620	4370	676	1100	1040	962
19	114	142	693	1270	3440	2670	2270	4740	728	1110	1030	828
20	114	364	663	1470	2930	2570	2180	4790	746	1120	1030	428
21	114	1440	501	1410	4750	2020	2040	4630	562	1190	732	581
22	114	846	573	1360	4430	1960	1940	4590	742	1230	689	472
23	114	1260	364	1260	4260	1950	2150	4280	846	1190	558	393
24	112	589	208	1220	3140	1880	2340	3840	697	1180	840	459
25	111	530	202	1240	2570	1910	2160	3600	472	1150	710	508
26	401	1090	278	1150	2500	1960	2310	3540	469	1090	737	755
27	206	438	479	1060	2430	2980	4500	3510	676	1120	851	875
28	670	1100	465	1120	2460	4350	3940	3240	629	1120	728	609
29	174	406	479	1130	---	3600	3290	2870	418	1130	580	445
30	511	428	306	1100	---	2920	3160	2550	431	1130	160	135
31	555	---	246	1220	---	2600	---	2360	---	1120	550	---
TOTAL	8088	20459	13908	51338	64730	92630	77280	114340	37259	27284	27618	22356
MEAN	261	682	449	1656	2312	2988	2576	3688	1242	880	891	745
MAX	672	1440	1200	9990	5470	5460	4500	4790	2190	1230	1090	1000
MIN	111	142	162	204	1090	1880	1940	2360	418	230	160	135
AC-FT	16040	40580	27590	101800	128400	183700	153300	226800	73900	54120	54780	44340

CAL YR 1978 TOTAL 804259 MEAN 2203 MAX 15400 MIN 111 AC-FT 1595000
WTR YR 1979 TOTAL 557290 MEAN 1527 MAX 9990 MIN 111 AC-FT 1105000

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	807	588	6910	2660	5910	2730	3650	2550	770	1160	248
2	386	844	410	2690	2600	5450	2670	3630	2570	870	1140	259
3	515	733	417	2220	2500	5480	2620	3760	2450	1440	1110	346
4	519	610	667	1740	2480	5560	2540	3970	2230	1110	1110	424
5	519	910	709	1890	2300	6800	3440	4010	2350	770	1130	773
6	568	757	792	1320	2100	8450	3730	3800	2210	680	1120	678
7	142	807	972	1300	2150	7100	3440	3680	2170	660	1130	794
8	176	762	752	1380	2060	5830	3170	3510	2270	1400	1130	720
9	631	767	593	1910	2020	5230	3070	3490	2400	1410	1130	892
10	504	481	704	6800	2010	4710	3170	3300	2430	1390	1120	763
11	772	393	854	4360	1980	4730	3160	2910	2340	1380	1050	764
12	686	288	915	36900	1950	4420	3100	2790	2270	1360	1080	815
13	663	658	955	49900	1920	4170	3230	2820	2170	1310	960	667
14	733	690	949	58500	2000	3980	3500	2880	2000	1220	564	304
15	323	762	887	25600	3560	4320	3620	3020	2030	1400	240	494
16	488	649	752	18000	5180	3870	3570	3050	2080	1320	200	409
17	547	687	1100	19500	10200	3590	3730	3090	2150	1340	575	430
18	470	757	1060	12500	20500	3780	3990	3180	2100	1320	469	705
19	614	747	1120	10000	29600	3520	4000	3290	1720	1270	291	649
20	1270	926	1140	7500	18400	3480	4200	3550	1570	1320	218	473
21	1000	932	1280	5500	17600	3420	4410	3540	1580	1280	194	306
22	311	681	996	4530	14400	3300	3650	3580	1510	1300	181	475
23	236	477	938	4070	11100	3160	3240	3260	1460	1260	197	749
24	211	772	2560	3780	9210	3020	3310	2790	920	1250	221	634
25	367	1510	3750	3600	7770	3060	3410	2570	870	1240	636	766
26	1030	2450	1990	3370	6780	2970	3610	2420	840	1040	565	775
27	1010	1790	1670	3230	6120	2910	3710	2320	800	917	681	682
28	667	1310	1410	3260	7870	2830	3960	2260	840	1190	391	434
29	865	1090	1320	3280	7010	2820	3980	2290	750	1210	417	649
30	904	967	1290	2820	---	2880	4130	2360	750	1180	291	731
31	822	---	4000	2730	---	2840	---	2470	---	1130	146	---
TOTAL	18047	26014	37540	311090	206030	133590	104090	97240	54380	36737	20847	17808
MEAN	582	867	1211	10040	7104	4309	3470	3137	1813	1185	672	594
MAX	1270	2450	4000	58500	29600	8450	4410	4010	2570	1440	1160	892
MIN	98	288	410	1300	1920	2820	2540	2260	750	660	146	248
AC-FT	35800	51600	74460	617000	408700	265000	206500	192900	107900	72870	41350	35320
CAL YR 1979 TOTAL	596436		MEAN	1634	MAX	9990	MIN 98	AC-FT	1183000			
WTR YR 1980 TOTAL	1063413		MEAN	2906	MAX	58500	MIN 98	AC-FT	2109000			

SACRAMENTO RIVER BASIN

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.
 CHEMICAL ANALYSIS: Water years 1978 to current year.
 BIOLOGICAL DATA: Water years 1979 to current year.
 SEDIMENT RECORDS: Water years 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 22...	1030	287	81	7.4	15.0	9.6	24	K4	32	2	9.0
FEB 29...	0900	7180	57	7.8	9.5	12.2	--	--	--	--	--
MAR 26...	1030	2970	63	7.3	9.0	12.0	--	--	--	--	--
MAY 07...	0845	4010	40	7.5	12.0	11.1	--	--	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)
OCT 22...	2.3	2.6	14	.2	.7	30	10	2.3	.0	11
FEB 29...	--	--	--	--	--	20	--	--	--	--
MAR 26...	--	--	--	--	--	24	--	--	--	--
MAY 07...	--	--	--	--	--	9	--	--	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDE (MG/L)	SOLIDS, NON- VOL- TILE, SUS- PENDE (MG/L)	SOLIDS, VOL- TILE, SUS- PENDE (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
OCT 22...	55	56	.07	0	0	0	.00	.02	.02	.02
FEB 29...	--	--	--	--	--	--	--	--	--	.04
MAR 26...	--	--	--	--	--	--	--	--	--	.01
MAY 07...	--	--	--	--	--	--	--	--	--	.02

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 22...	.03	--	.26	--	.29	--	.31	--	.010	.005
FEB 29...	.00	.00	.00	.00	.00	.00	--	.04	.019	.000
MAR 26...	.00	.00	.41	.22	.41	.22	--	.23	.009	.010
MAY 07...	.08	.03	.81	.24	.89	.27	--	.29	.015	.010

See footnote at end of table.

11433800 NORTH FORK AMERICAN RIVER BELOW AUBURN DAMSITE, NEAR AUBURN, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 22...	.00	60	10	110	20	8	10	1.5
FEB 29...	.01	--	--	--	--	--	--	--
MAR 26...	.00	--	--	--	--	--	--	--
MAY 07...	.00	--	--	--	--	--	--	--

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

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 22...	1030	287	15.0	2	1.5

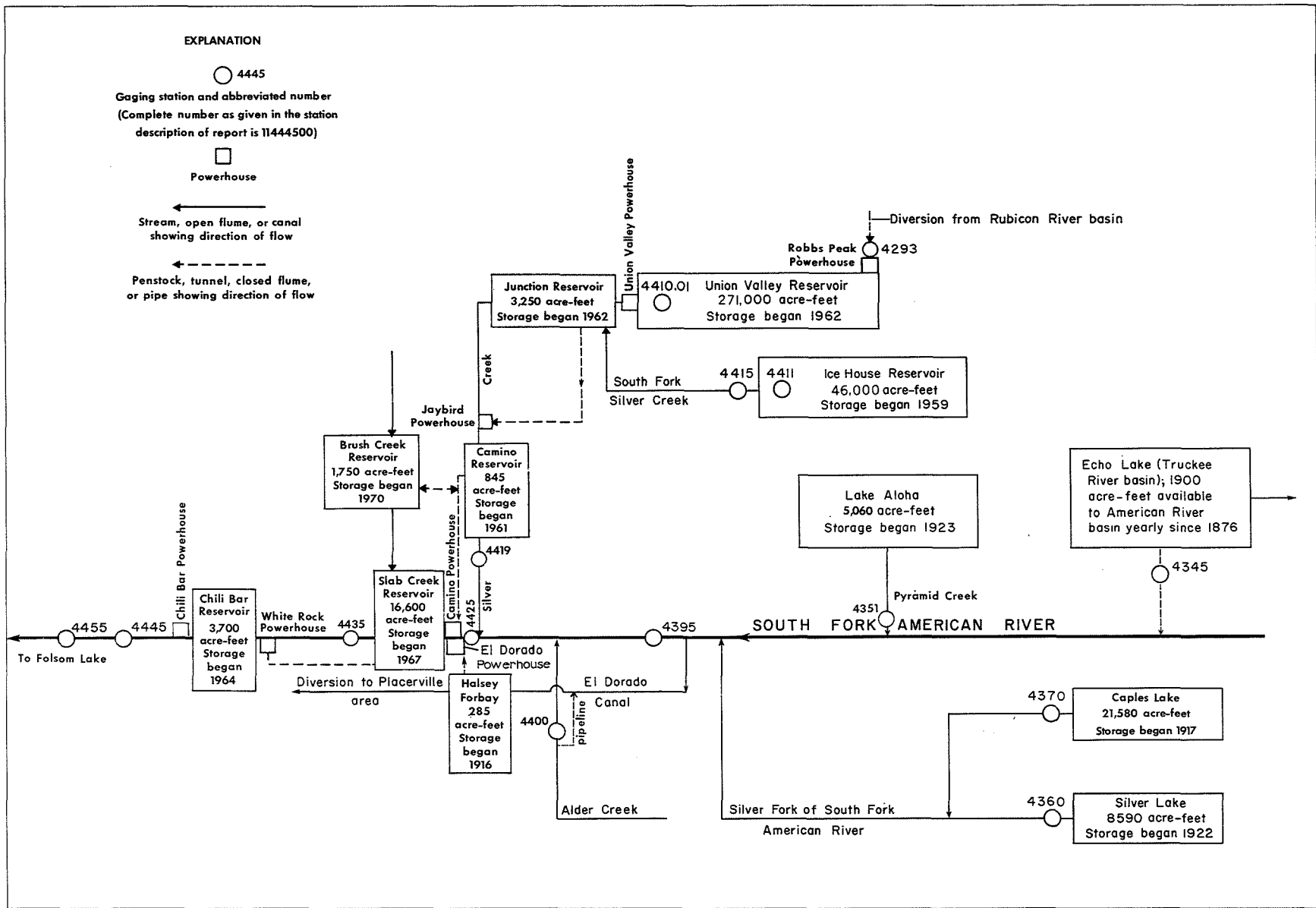


FIGURE 11.--Schematic diagram showing diversions and storage in South Fork American River basin.

SACRAMENTO RIVER BASIN

343

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 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	11	9.4									0
2	.03	11	8.7									5.4
3	.03	11	8.1									.25
4	.03	11	7.5									.14
5	.03	11	7.1									.13
6	1.6	10	6.8									.11
7	19	9.9	6.7									.11
8	17	9.6	6.6									19
9	15	9.2	5.5									32
10	14	8.9	6.3									33
11	13	8.6	6.2									33
12	12	8.2	6.0									32
13	11	7.9	5.9									32
14	10	7.7	5.8									14
15	9.3	7.5	5.7									.48
16	9.3	7.3	5.6									.36
17	8.6	7.2	5.3									.30
18	7.5	7.2	5.2									.27
19	8.1	7.4	4.9									.25
20	15	7.7	4.9									.22
21	16	7.5	5.9									.22
22	16	7.4	6.3									.22
23	15	8.0	5.9									.22
24	14	8.8	6.9									.20
25	14	11	7.8									.20
26	14	13	7.6									.20
27	14	14	1.1									.20
28	14	13	0									.18
29	13	12	0									.16
30	13	11	0									.16
31	12	--	0									--
TOTAL	325.55	285.0	169.7	0	0	0	0	0	0	0	0	204.98
MEAN	10.5	9.50	5.47	0	0	0	0	0	0	0	0	6.83
MAX	19	14	9.4	0	0	0	0	0	0	0	0	33
MIN	.03	7.2	0	0	0	0	0	0	0	0	0	0
AC-FT	646	565	337	0	0	0	0	0	0	0	0	407
CAL YR 1979	TOTAL	1240.43	MEAN 3.40	MAX 27	MIN 0	AC-FT 2460						
WTR YR 1980	TOTAL	985.23	MEAN 2.69	MAX 33	MIN 0	AC-FT 1950						

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, 1979, and Sept. 30, 1980. 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.--10 years, 38.6 ft³/s (1.093 m³/s), 27,970 acre-ft/yr (34.5 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, 0.20 ft³/s (0.006 m³/s) Nov. 4, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 803 ft³/s (22.7 m³/s) Jan. 13, gage height, 4.41 ft (1.344 m); minimum daily, 1.2 ft³/s (0.034 m³/s) Oct. 15, 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	9.4	17	22	18	18	18	77	114	106	50	51
2	1.8	8.6	16	17	18	17	17	85	118	139	44	50
3	1.7	10	15	16	17	17	17	102	92	128	36	49
4	1.7	13	15	15	18	17	17	110	82	101	30	49
5	1.6	13	15	14	21	18	16	106	74	105	31	48
6	1.6	13	15	14	22	18	16	146	64	105	42	48
7	1.6	13	16	14	18	17	16	191	53	103	34	49
8	1.5	13	16	14	17	17	17	172	75	99	34	48
9	1.5	13	17	15	16	18	20	159	95	93	61	47
10	1.4	12	16	16	16	19	23	138	99	95	65	47
11	1.3	12	13	24	16	18	23	127	92	95	75	46
12	1.3	11	12	287	16	18	25	122	81	97	63	45
13	1.3	10	12	551	16	18	39	121	68	93	63	37
14	1.3	10	11	227	17	18	50	121	66	88	61	13
15	1.2	9.6	11	78	18	17	46	126	88	88	61	7.9
16	1.3	9.3	11	58	19	17	51	137	105	89	60	7.1
17	1.2	14	10	46	29	17	63	145	115	92	60	7.0
18	1.8	15	10	35	57	17	69	157	116	86	59	7.1
19	202	13	9.7	28	40	17	74	179	114	76	59	7.2
20	67	12	9.6	26	33	17	80	192	117	73	58	7.1
21	34	11	12	24	26	16	59	195	108	76	57	7.0
22	26	9.6	13	23	22	16	40	184	97	78	56	6.9
23	23	12	13	22	19	16	35	149	90	78	56	6.8
24	22	77	19	22	18	16	48	118	94	76	56	6.7
25	27	76	26	23	17	16	59	107	100	71	55	6.7
26	23	44	20	21	17	15	69	102	99	61	54	6.5
27	19	25	16	20	18	15	79	101	88	58	53	6.5
28	16	21	14	20	19	15	85	102	95	60	53	6.6
29	13	21	13	19	18	19	97	109	110	56	52	6.6
30	11	19	18	18	---	22	87	115	109	55	52	6.6
31	10	---	27	18	---	19	---	113	---	55	51	---
TOTAL	519.9	549.5	458.3	1747	616	535	1355	4108	2818	2675	1641	737.3
MEAN	16.8	18.3	14.8	56.4	21.2	17.3	45.2	133	93.9	86.3	52.9	24.6
MAX	202	77	27	551	57	22	97	195	118	139	75	51
MIN	1.2	8.6	9.6	14	16	15	16	77	53	55	30	6.5
AC-FT	1030	1090	909	3470	1220	1060	2690	8150	5590	5310	3250	1460

CAL YR 1979 TOTAL 14256.9 MEAN 39.1 MAX 238 MIN 1.2 AC-FT 28280
WTR YR 1980 TOTAL 17760.0 MEAN 48.5 MAX 551 MIN 1.2 AC-FT 35230

SACRAMENTO RIVER BASIN

345

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 2,950 acre-ft (3.64 hm³) Sept. 30, 1979, and 5,030 acre-ft (6.20 hm³) Sept. 30, 1980. Some water, in addition to that released through dam and over spillway, escapes from Silver Lake through porous rock formation. See schematic diagram of South Fork American River basin.

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

AVERAGE DISCHARGE.--58 years, 34.3 ft³/s (0.971 m³/s), 24,850 acre-ft/yr (30.6 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, 601 ft³/s (17.0 m³/s) Jan. 14, gage height, 4.46 ft (1.359 m); minimum daily, 0.14 ft³/s (0.004 m³/s) Jan. 3-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	29	8.0	15	18	21	22	233	73	158	2.6	4.9
2	2.2	28	15	9.6	19	21	22	228	80	182	2.5	27
3	2.3	26	16	.14	18	22	21	252	77	204	2.7	63
4	2.4	25	16	.14	17	22	20	301	82	203	2.9	69
5	2.6	24	15	.14	17	26	27	318	83	165	2.8	72
6	2.6	22	14	.14	17	26	25	316	81	135	2.9	71
7	9.4	20	14	7.5	18	22	22	314	83	99	2.8	68
8	14	19	14	16	17	19	19	265	98	64	2.7	53
9	16	17	14	9.5	16	18	19	239	129	46	2.1	32
10	24	16	14	4.1	16	16	22	189	154	20	1.6	31
11	36	14	13	5.5	16	16	27	139	174	6.8	2.9	27
12	45	13	11	5.7	15	16	29	106	183	6.2	4.4	28
13	44	14	10	6.6	15	15	41	90	177	4.5	4.2	31
14	43	15	9.4	333	16	15	66	83	166	4.4	4.0	17
15	42	13	8.8	270	22	15	83	83	156	10	3.9	1.5
16	41	11	8.1	175	24	15	96	68	156	15	3.7	1.4
17	40	11	7.6	119	30	14	121	45	177	20	3.2	1.3
18	37	11	7.0	88	69	14	150	48	196	28	3.1	1.2
19	23	10	6.6	66	100	13	171	52	205	30	3.0	1.2
20	2.6	8.9	6.3	51	89	14	191	65	211	27	2.9	1.1
21	21	7.9	6.7	40	77	15	175	127	210	18	2.8	1.1
22	40	7.4	7.2	33	61	15	131	187	205	8.4	2.6	1.2
23	39	7.6	7.3	29	46	14	99	208	170	4.8	2.4	1.1
24	38	7.7	17	27	36	14	90	189	133	4.5	2.3	1.0
25	38	11	14	26	30	14	100	162	139	4.3	2.1	.94
26	38	10	12	25	26	13	130	134	146	5.3	2.0	.83
27	36	2.6	11	24	24	13	165	110	122	4.4	2.0	.73
28	35	2.6	9.5	23	24	12	196	95	96	3.2	1.9	.65
29	33	2.6	8.9	25	23	13	214	86	114	2.9	1.5	1.3
30	32	2.6	9.5	21	---	16	245	68	136	2.6	.93	1.6
31	31	---	12	20	---	20	---	63	---	2.6	2.6	---
TOTAL	811.9	408.9	342.9	1475.06	916	519	2739	4863	4212	1488.9	84.03	612.05
MEAN	26.2	13.6	11.1	47.6	31.6	16.7	91.3	157	140	48.0	2.71	20.4
MAX	45	29	17	333	100	26	245	318	211	204	4.4	72
MIN	1.8	2.6	6.3	.14	15	12	19	45	73	2.6	.93	.65
AC-FT	1610	811	680	2930	1820	1030	5430	9650	8350	2950	167	1210
CAL YR 1979 TOTAL	11949.26			MEAN 32.7	MAX 333	MIN .71	AC-FT 23700					
WTR YR 1980 TOTAL	18472.74			MEAN 50.5	MAX 333	MIN .14	AC-FT 36640					

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.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder and concrete control for outlet, and water-stage recorder for spillway. Altitude of gage is 7,700 ft (2,347 m), from topographic map.

REMARKS.--Flow regulated by Caples Lake 500 ft (152 m) upstream, capacity, 19,750 acre-ft (24.4 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 14,500 acre-ft (17.9 hm³) Sept. 30, 1979, and 19,400 acre-ft (23.9 hm³) Sept. 30, 1980. There was 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).--58 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, 482 ft³/s (13.7 m³/s) July 2; minimum daily, 1.9 ft³/s (0.054 m³/s) Feb. 26-28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	78	39	2.7	4.2	3.6	4.1	4.6	64	431	38	60
2	2.9	85	39	2.7	4.2	3.6	4.1	4.7	64	482	33	36
3	3.0	84	43	2.7	4.1	3.6	4.1	4.8	67	402	33	4.0
4	3.0	64	48	2.7	4.1	3.6	3.7	4.8	67	292	33	3.8
5	3.0	63	52	2.7	4.1	3.7	3.3	4.7	67	213	32	3.8
6	5.7	69	58	2.7	4.1	3.7	3.3	4.9	67	181	32	3.7
7	79	77	57	2.7	4.1	3.7	3.3	4.8	66	132	32	3.7
8	79	76	56	2.7	4.1	3.7	3.4	4.8	66	92	31	3.8
9	27	75	56	2.6	4.1	3.7	3.4	4.7	69	71	29	3.6
10	22	79	55	2.7	4.1	3.7	3.5	4.6	74	49	21	13
11	24	84	61	2.8	4.1	3.6	3.5	4.6	79	59	13	28
12	31	88	85	3.8	4.1	3.6	3.7	4.6	84	77	17	22
13	43	93	91	5.9	4.1	3.6	3.9	4.6	100	95	26	15
14	27	92	85	5.1	4.2	3.7	3.8	4.6	119	122	35	9.2
15	29	91	94	4.6	3.2	3.7	3.8	4.7	120	121	36	3.9
16	34	95	92	4.6	2.0	3.7	3.9	4.9	123	112	38	3.8
17	35	99	94	4.6	2.0	3.7	4.0	5.0	146	102	39	3.7
18	48	90	97	4.1	2.3	3.7	4.2	5.1	165	97	38	3.6
19	81	85	94	4.1	2.1	3.7	4.2	5.2	168	96	42	3.5
20	42	104	92	4.1	2.0	3.7	4.1	5.4	186	97	46	3.4
21	35	102	90	4.1	2.0	3.7	4.0	5.6	208	89	44	3.3
22	48	101	86	4.1	2.0	3.8	3.8	41	215	75	44	3.1
23	37	96	80	4.1	2.0	3.8	3.8	96	202	68	43	3.0
24	37	91	80	4.1	2.0	3.8	3.9	121	209	70	42	3.0
25	37	89	78	4.1	2.0	3.8	4.3	121	218	81	46	2.9
26	37	51	69	4.2	1.9	3.7	4.4	120	212	79	54	2.8
27	37	7.2	59	4.2	1.9	3.8	4.5	120	199	67	56	2.6
28	46	16	63	4.2	1.9	3.8	4.5	89	188	66	54	2.6
29	63	33	72	4.2	2.6	3.9	4.7	63	211	59	57	2.5
30	73	39	71	4.2	---	4.1	4.6	63	331	48	61	2.4
31	72	---	39	4.2	---	4.1	---	63	---	44	60	---
TOTAL	1143.5	2296.2	2175	116.3	89.6	115.6	117.8	998.7	4154	4069	1205	259.7
MEAN	36.9	76.5	70.2	3.75	3.09	3.73	3.93	32.2	138	131	38.9	8.66
MAX	81	104	97	5.9	4.2	4.1	4.7	121	331	482	61	60
MIN	2.9	7.2	39	2.6	1.9	3.6	3.3	4.6	64	44	13	2.4
AC-FT	2270	4550	4310	231	178	229	234	1980	8240	8070	2390	515
CAL YR 1979	TOTAL	16883.15	MEAN	46.3	MAX	194	MIN	.39	AC-FT	33490		
WTR YR 1980	TOTAL	16740.40	MEAN	45.7	MAX	482	MIN	1.9	AC-FT	33200		

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: 58 years (water years 1923-80), 288 ft³/s (8.156 m³/s), 208,700 acre-ft/yr (257 hm³/yr).
Combined river and diversion: 58 years (water years 1923-80), 404 ft³/s (11.44 m³/s), 292,700 acre-ft/yr (361 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, peak discharges above base of 2,000 ft³/s (57 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. 13	2215	12,700 360	10.05 3.063	May 7	0045	2,610 73.9	6.28 1.914
Feb. 18	0300	2,700 76.5	6.34 1.932	May 21	2200	2,600 73.6	6.27 1.911
Apr. 29	2345	2,370 67.1	6.09 1.856				

Minimum daily discharge, 2.3 ft³/s (0.065 m³/s) Oct. 28.

Combined flow, maximum discharge, 12,800 ft³/s (362 m³/s) Jan 13; minimum daily, 23 ft³/s (0.65 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	5.6	4.9	316	210	439	244	1660	1020	1230	49	8.0
2	23	7.6	5.1	105	197	415	225	1690	1080	1390	29	7.2
3	24	27	5.0	48	189	410	206	1870	894	1450	16	20
4	24	24	5.2	24	184	390	209	2110	934	1160	6.1	6.6
5	24	9.2	5.1	11	191	402	272	2070	841	968	5.6	12
6	24	6.1	5.5	4.6	222	371	262	2080	756	808	6.7	9.1
7	20	10	9.1	4.6	198	338	225	2210	800	696	5.2	6.1
8	11	6.7	5.8	12	178	315	222	1860	1050	533	4.8	15
9	41	5.5	6.2	43	163	301	260	1680	1240	452	8.8	5.2
10	8.5	5.2	5.7	99	157	305	339	1330	1330	394	6.7	3.6
11	4.8	5.3	5.2	203	148	312	371	1100	1330	337	12	9.9
12	5.6	5.1	6.6	3490	137	279	365	983	1250	357	5.2	13
13	8.1	5.9	32	7860	132	270	539	980	1120	338	4.8	7.9
14	9.8	6.9	7.0	5290	166	267	748	1020	1070	351	6.8	8.8
15	5.2	5.2	11	2240	277	253	776	1020	1200	347	6.7	11
16	5.2	5.2	7.6	1720	394	235	853	1130	1320	327	7.0	2.8
17	5.0	46	5.5	1400	968	237	1070	1230	1420	313	7.9	6.5
18	5.0	45	7.8	1040	2460	244	1260	1370	1480	292	7.3	10
19	267	7.4	7.5	777	1830	227	1360	1610	1460	259	6.6	9.2
20	233	12	6.9	600	1140	240	1500	1610	1450	232	9.7	8.6
21	17	13	12	523	922	238	1310	1980	1390	223	6.7	7.8
22	32	15	6.6	460	734	217	933	2010	1290	188	6.2	30
23	12	24	14	401	588	210	748	1750	1180	161	8.7	41
24	2.5	137	54	372	553	215	821	1370	1100	150	13	39
25	34	303	49	361	490	204	937	1170	1120	137	5.6	39
26	61	227	37	331	456	186	1200	1050	1100	128	5.1	38
27	10	40	15	302	462	182	1370	969	998	96	6.4	37
28	2.3	6.5	9.8	290	526	187	1580	926	943	92	5.2	38
29	3.5	5.4	12	271	470	203	1740	913	1060	88	4.8	39
30	6.3	5.7	69	235	---	271	1830	1000	1140	67	7.2	39
31	5.6	---	306	226	---	272	---	1010	---	59	7.2	---
TOTAL	957.4	1027.5	739.1	29059.2	14742	8635	23775	44961	34366	13623	288.0	528.3
MEAN	30.9	34.3	23.8	937	508	279	793	1450	1146	439	9.29	17.6
MAX	267	303	306	7860	2460	439	1830	2210	1480	1450	49	41
MIN	2.3	5.1	4.9	4.6	132	182	206	913	756	59	4.8	2.8
AC-FT	1900	2040	1470	57640	29240	17130	47160	89180	68160	27020	571	1050
CAL YR 1979 TOTAL	97757.2				2450	MIN 2.3	AC-FT 193900					
WTR YR 1980 TOTAL	172701.5				7860	MIN 2.3	AC-FT 342600					

SACRAMENTO RIVER BASIN

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

COMBINED DISCHARGE, IN CUBIC FEET PER SECOND, OF SOUTH FORK AMERICAN RIVER
AND EL DORADO CANAL NEAR KYBURZ, CA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	159	147	455	354	577	391	1810	1170	1390	213	174
2	23	168	153	244	342	553	372	1840	1230	1560	193	172
3	24	185	149	187	333	548	353	2020	1050	1610	180	188
4	24	182	153	163	328	528	356	2260	1090	1320	167	173
5	24	166	149	150	338	541	416	2220	995	1130	159	180
6	24	156	158	140	371	510	403	2230	910	972	167	177
7	56	170	166	141	347	477	367	2360	953	860	158	174
8	165	166	164	160	327	454	365	2010	1200	697	148	183
9	140	163	164	188	312	440	403	1830	1390	616	169	170
10	103	155	162	238	306	444	482	1480	1490	558	172	164
11	98	162	145	340	297	451	514	1250	1490	502	178	174
12	99	158	150	3610	286	418	508	1130	1410	521	157	180
13	107	165	193	7950	281	409	682	1130	1280	502	157	171
14	114	167	163	5340	314	408	891	1170	1230	515	168	142
15	91	162	176	2270	415	396	921	1170	1360	511	171	76
16	99	157	172	1750	532	378	1000	1280	1480	491	172	51
17	99	202	165	1450	1110	380	1220	1380	1580	477	173	49
18	97	199	172	1110	2600	387	1410	1520	1640	456	172	51
19	407	158	170	856	1960	370	1510	1760	1620	423	169	52
20	390	166	166	721	1270	383	1650	1960	1610	396	175	51
21	160	170	171	657	1040	381	1460	2130	1550	387	172	50
22	191	175	161	596	853	360	1080	2160	1450	352	168	49
23	171	184	167	544	725	355	893	1900	1340	325	176	47
24	159	294	204	515	686	362	966	1520	1260	314	181	46
25	192	457	188	504	629	351	1080	1320	1280	301	167	46
26	221	381	176	474	603	333	1350	1200	1270	292	169	45
27	168	194	155	445	611	329	1520	1120	1160	260	173	44
28	149	150	148	434	672	334	1730	1080	1110	256	169	45
29	156	148	161	414	608	350	1890	1060	1220	250	164	46
30	165	157	215	378	---	418	1980	1150	1310	230	172	44
31	164	---	445	370	---	419	---	1160	---	222	171	---
TOTAL	4103	5676	5428	32794	18850	13044	28163	49610	39128	18696	5300	3214
MEAN	132	189	175	1058	650	421	939	1600	1304	603	171	107
MAX	407	457	445	7950	2600	577	1980	2360	1640	1610	213	188
MIN	23	148	145	140	281	329	353	1060	910	222	148	44
AC-FT	8140	11260	10770	65050	37390	25870	55860	98400	77610	37080	10510	6370
CAL YR 1979	TOTAL	150494	MEAN	412	MAX	2600	MIN	23	AC-FT	298500		
WTR YR 1980	TOTAL	224006	MEAN	612	MAX	7950	MIN	23	AC-FT	444300		

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966-80.

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

WATER TEMPERATURES: Water years 1966-79.

SEDIMENT RECORDS: October 1979 to September 1980 (discontinued).

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 23...	1400	9.2	38	6.8	8.5	10.7	--	--	K10	K2
NOV 29...A	1015	8.8	60	7.0	--	11.9	--	--	--	--
APR 30...A	0730	1950	24	7.1	--	11.6	8	.4	--	--
JUN 25...A	0730	1110	21	7.2	--	10.2	--	--	--	--
AUG 28...A	1230	4.5	56	7.0	--	8.8	4	.1	--	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)
OCT 23...	9	2	2.9	.5	2.4	34	.3	.7	7
NOV 29...A	16	--	5.0	1.0	5.0	38	.5	.7	12
APR 30...A	5	--	2.0	.0	2.0	44	.4	.5	9
JUN 25...A	5	--	2.0	.0	1.0	28	.2	.4	8
AUG 28...A	16	--	5.0	1.0	4.0	33	.4	.9	14

DATE	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, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)
OCT 23...	2.4	3.0	.0	7.7	17	--	24	.42	.04
NOV 29...A	.0	9.0	--	--	60	--	--	1.43	--
APR 30...A	1.0	1.0	--	--	20	13	--	105	--
JUN 25...A	.0	1.0	--	--	22	--	--	65.9	--
AUG 28...A	.0	6.0	--	--	50	1	--	.61	--

DATE	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
OCT 23...	.02	.06	.03	.01	.21	.27	.00	.002	.003
NOV 29...A	--	--	.01	--	.10	--	.02	--	.000
APR 30...A	--	--	.02	--	.10	--	.03	--	.000
JUN 25...A	--	--	.00	--	.10	--	.01	--	.000
AUG 28...A	--	--	.01	--	.00	--	.01	--	.000

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11439500 SOUTH FORK AMERICAN RIVER NEAR KYBURZ, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 23...	1400	--	--	50	10	--	--	--
NOV 29...	1015	0	0	--	0	0	0	0
APR 30...	0730	0	0	--	0	0	0	0
JUN 25...	0730	0	0	--	--	0	0	0
AUG 28...	1230	0	0	--	0	0	0	0

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 23...	70	50	--	7	--	--	2.0	--
NOV 29...	--	30	0	0	.0	10	--	--
APR 30...	--	20	0	0	.0	0	1.9	.00
JUN 25...	--	10	0	0	.0	0	--	--
AUG 28...	--	30	0	10	.0	0	1.2	.00

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 23...	1400	9.2	8.5	2	.05

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) south-east of White Hall.

EXTREMES FOR CURRENT YEAR.--Creek only, peak discharges above base of 170 ft³/s (4.8 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. 31	2215	207	5.86	3.30	1.006	Feb. 16	1445	482	13.7	4.09	1.247
Jan. 13	2000	*4,550	129	7.91	2.411	Feb. 19	0615	843	23.9	4.77	1.454

Minimum daily discharge, 0.06 ft³/s (0.002 m³/s) many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	3.7	11	134	47	133	54	126	37	11	3.2	2.5
2	1.1	3.7	10	83	51	128	53	121	37	13	3.2	2.5
3	1.1	3.7	9.3	64	50	126	50	120	37	17	3.2	2.8
4	1.1	13	8.3	52	49	122	50	121	42	13	3.0	2.7
5	1.1	8.9	7.9	45	50	120	77	118	44	11	3.0	2.5
6	1.1	6.5	7.3	42	52	113	73	115	38	11	2.9	2.5
7	1.1	5.4	7.3	41	50	107	69	110	35	10	2.8	2.5
8	1.8	5.0	7.1	41	47	102	70	105	34	9.8	2.7	2.6
9	1.4	5.0	6.9	70	45	97	72	103	34	8.9	2.8	2.8
10	1.4	4.6	6.3	116	43	94	76	93	33	8.3	2.6	2.8
11	1.4	4.2	5.9	213	41	93	76	79	32	8.1	2.6	2.7
12	1.4	3.8	5.4	734	39	84	78	75	31	7.5	2.4	2.5
13	1.4	3.8	5.4	2150	38	81	88	83	29	6.9	2.2	2.1
14	1.4	3.8	4.6	1120	53	77	99	100	31	6.9	2.1	2.2
15	1.4	3.8	3.8	509	104	75	102	94	19	6.5	2.2	2.3
16	1.4	3.7	3.4	430	152	70	106	88	20	6.2	2.4	2.2
17	1.4	4.2	3.1	356	309	69	112	84	22	5.9	2.4	2.1
18	1.4	4.2	3.1	261	687	70	119	83	21	5.6	2.3	2.1
19	8.2	3.7	3.1	192	717	67	123	88	20	5.3	2.5	2.4
20	14	3.7	3.1	152	390	67	130	90	19	5.1	2.4	2.5
21	6.5	3.7	5.1	122	306	66	126	88	18	5.0	2.1	2.4
22	4.6	3.7	3.1	97	230	63	115	85	16	4.6	2.1	2.1
23	3.8	13	3.1	82	183	61	107	77	16	4.5	2.2	2.1
24	3.8	10	16	73	156	61	106	67	14	4.3	3.6	2.1
25	13	16	14	80	139	59	106	60	14	4.1	2.7	2.1
26	10	36	8.9	72	130	56	109	55	13	4.0	2.4	2.1
27	5.4	21	7.6	66	129	54	114	49	12	3.7	2.1	2.1
28	4.6	16	7.5	62	154	53	121	45	12	3.7	2.2	2.1
29	4.0	14	9.3	54	140	54	129	43	11	3.7	2.5	2.0
30	3.7	11	37	46	---	57	128	40	11	3.7	2.5	1.8
31	3.7	---	139	45	---	56	---	38	---	3.5	2.5	---
TOTAL	108.8	242.8	372.9	7604	4581	2535	2838	2643	752	221.8	79.8	70.2
MEAN	3.51	8.09	12.0	245	158	81.8	94.6	85.3	25.1	7.15	2.57	2.34
MAX	14	36	139	2150	717	133	130	126	44	17	3.6	2.8
MIN	1.1	3.7	3.1	41	38	53	50	38	11	3.5	2.1	1.8
AC-FT	216	482	740	15080	9090	5030	5630	5240	1490	440	158	139
CAL YR 1979	TOTAL	14591.8	MEAN	40.0	MAX	239	MIN	1.1	AC-FT	28940		
WTR YR 1980	TOTAL	22049.3	MEAN	60.2	MAX	2150	MIN	1.1	AC-FT	43730		

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, 277,000 acre-ft (342 hm³) July 3, elevation, 4,869.9 ft (1,484.35 m); minimum, 160,600 acre-ft (198 hm³) Nov. 4-6, elevation, 4,823.1 ft (1,470.08 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	179300	162400	173400	179900	221300	236600	214400	229300	250400	276100	263400	227700
2	178200	161600	173800	179900	220500	230900	213700	230100	250600	276700	262200	226400
3	176400	160800	174900	179700	219700	231100	212700	231100	250600	277000	261900	224900
4	174500	160600	176000	179500	219000	231400	212200	233500	250400	276400	260500	223300
5	172800	160600	177100	179500	218200	231700	213400	234800	250400	276100	259100	221800
6	171500	160600	178200	179900	217700	231900	212900	236200	250100	275800	257900	220200
7	171500	161000	179300	179900	216900	231400	212400	237300	250100	275500	256500	219700
8	170500	161400	180400	179500	216200	230100	211900	238100	251500	275500	255400	218500
9	169400	161800	180600	179900	214700	228800	211700	239100	251800	275200	253700	217200
10	168600	161800	181200	180600	213700	227500	211700	239400	252300	275200	253400	214900
11	167100	162000	181900	182800	212400	226700	212200	239400	252600	275200	252000	213200
12	166500	162000	182800	197400	211200	226400	212400	239700	252600	274900	250900	210900
13	166500	162000	182800	221500	210200	225400	213200	239700	252300	275200	249800	209000
14	166500	162200	181900	230100	210000	224600	213900	239700	252900	274900	248400	208200
15	166100	162200	181000	230900	210500	224100	213900	240000	254300	274600	247000	205800
16	166100	162400	180800	232200	210200	223100	214400	240800	255400	274600	245900	203400
17	166100	162800	179700	232700	213200	222300	215900	241300	256800	274100	245100	200700
18	165500	163000	179000	232700	218200	221300	216900	242100	258200	273500	243800	198400
19	166300	163400	178000	232500	223100	220500	218200	242900	259900	272900	242400	195800
20	167100	164000	176900	231700	225900	220000	220000	243800	262200	272600	241000	193200
21	167300	164200	176200	231700	227500	219700	220500	245900	264800	272000	239700	192100
22	167300	164400	175100	230900	228800	219200	220500	247300	267100	271400	238300	189500
23	166700	164600	175100	229800	229300	218700	220500	247600	269700	270900	237000	187000
24	165900	165900	175800	229000	228800	217900	221300	247600	272000	270300	236500	184600
25	165700	167300	176000	228200	228500	216400	221800	247300	273200	269400	235100	181900
26	165200	169000	175600	226700	228500	216400	222800	247000	274400	268500	233800	179500
27	165000	170500	174300	225600	228800	215900	224100	246500	274900	268000	232200	176900
28	165000	171300	173800	224600	230100	215400	225400	247000	275200	267100	230900	174300
29	164400	171900	173800	224100	230900	215700	226900	247600	275800	266500	229600	171900
30	163800	172400	174500	222500	---	215400	228000	248400	276100	265400	228200	169400
31	163000	---	177100	221800	---	214900	---	248700	---	264500	227700	---
MAX	179300	172400	182800	232700	230900	231900	228000	248700	276100	277000	263400	227700
MIN	163000	160600	173400	179500	210000	214900	211700	229300	250100	264500	227700	169400
†	4824.3	4828.8	4831.0	4849.9	4853.4	4847.2	4852.3	4860.0	4869.6	4865.6	4852.2	4827.4
‡	-17400	+9400	+4700	+44700	+9100	-16000	+13100	+20700	+27400	-11600	-36800	-58500

CAL YR 1979 † +4100
WTR YR 1980 ‡ -11000

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

SACRAMENTO RIVER BASIN

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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, 45,400 acre-ft (56.0 hm³) July 3,4, elevation, 5,449.3 ft (1,660.95 m); minimum, 26,000 acre-ft (32.1 hm³) Dec. 13-16, elevation, 5,417.3 ft (1,651.19 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36100	36800	34700	27200	35700	36100	30800	30400	37400	45000	44200	43500
2	36100	36800	34300	27400	35500	36100	30500	30800	37900	45200	44100	43500
3	36000	36800	33700	27600	35300	36100	30300	31200	38200	45400	44100	43500
4	36000	36900	32800	27600	35000	36100	30100	31700	38500	45400	44100	43400
5	35900	36800	32000	27800	34800	36100	29900	32100	38900	45300	44000	43200
6	35900	36600	31300	27800	34500	36100	29700	32700	39200	45100	44000	43000
7	35900	36500	30400	27800	34300	36100	29500	33100	39600	44900	44000	42800
8	35800	36300	29600	27900	34000	36000	29300	33500	40100	44800	43900	42600
9	35800	36300	28800	28000	33700	35900	29000	33600	40700	44700	43900	42400
10	35800	36300	27900	28200	33500	35900	28800	33700	41200	44600	43900	42300
11	35700	36300	27100	28500	33200	35700	28600	33700	41700	44600	43900	42100
12	35700	36300	26300	30400	33000	35500	28400	33600	42200	44600	43900	41900
13	35700	36300	26000	35600	32700	35400	28200	33600	42600	44600	43900	41700
14	35700	36100	26000	38100	32500	35100	28200	33600	43000	44500	43900	41500
15	35700	35900	26000	38000	32500	34900	28100	33600	43300	44400	43900	41400
16	35600	35900	26000	38000	32800	34700	28100	33700	44000	44400	43900	41200
17	35600	35900	26100	37800	33400	34500	28200	34000	44500	44300	43800	41000
18	35600	35900	26100	37600	34000	34400	28300	34200	44700	44200	43800	40700
19	36000	35900	26100	37600	34600	34200	28600	34600	44800	44200	43800	40600
20	36300	35700	26200	37600	35000	33900	28800	35300	45000	44100	43800	40500
21	36300	35500	26200	37600	35400	33700	28800	35900	45100	44100	43800	40300
22	36400	35700	26200	37500	35600	33400	28800	36400	45100	44100	43700	40200
23	36500	35700	26400	37500	35900	33100	28700	36600	45100	44200	43700	40000
24	36500	35900	26500	37500	36100	32800	28700	36600	45100	44200	43700	39800
25	36500	36300	26600	37500	36200	32500	28700	36500	45100	44200	43700	39600
26	36600	36300	26600	37400	36200	32300	28900	36500	45000	44200	43700	39400
27	36600	35900	26600	37400	36200	32100	29100	36300	45000	44200	43700	39200
28	36600	35700	26600	37100	36200	31800	29400	36300	45000	44100	43700	39100
29	36800	35400	26700	36500	36100	31500	29700	36200	44900	44200	43600	38900
30	36800	35000	26800	36300	---	31300	30100	36500	44900	44200	43500	38700
31	36700	---	27000	36000	---	31000	---	36900	---	44200	43500	---
MAX	36800	36900	34700	38100	36200	36100	30800	36900	45100	45400	44200	43500
MIN	35600	35000	26000	27200	32500	31000	28100	30400	37400	44100	43500	38700
†	5436.1	5433.5	5419.3	5435.0	5435.2	5426.7	5425.1	5436.4	5448.6	5447.5	5446.6	5439.1
‡	+600	-1700	-8000	+9000	+100	-5100	-900	+6800	+8000	-700	-700	-4800

CAL YR 1979 † +800
WTR YR 1980 † +2600

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

SACRAMENTO RIVER BASIN

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).--56 years, 74.9 ft³/s (2.121 m³/s), 54,270 acre-ft/yr (66.9 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, 570 ft³/s (16.1 m³/s) Jan. 28, gage height, 4.60 ft (1.402 m); minimum daily, 6.0 ft³/s (0.170 m³/s) Nov. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	10	206	8.6	196	98	196	200	12	201	40	13
2	14	6.1	206	7.8	196	98	196	200	12	203	40	13
3	14	6.8	354	7.8	196	99	191	200	12	203	40	13
4	13	6.8	449	7.8	196	99	190	200	12	203	29	53
5	13	42	448	7.5	196	99	194	202	12	203	20	99
6	14	101	444	7.5	195	98	193	203	12	203	22	99
7	14	101	466	7.7	194	98	195	203	12	203	22	99
8	14	101	482	7.8	194	98	196	203	12	201	22	97
9	14	71	477	9.1	193	98	195	203	12	166	22	96
10	14	6.1	481	8.5	193	98	195	203	12	125	22	96
11	13	6.1	484	11	193	121	196	203	12	118	17	96
12	14	6.0	480	19	193	161	196	201	12	112	11	96
13	14	49	187	21	193	161	196	200	13	112	11	96
14	14	108	7.3	207	194	161	197	200	13	112	11	96
15	13	108	6.9	531	108	161	197	200	13	112	11	96
16	13	72	6.9	446	7.6	161	197	200	12	112	11	95
17	13	7.7	6.6	385	8.3	161	197	200	66	112	11	95
18	13	7.3	6.7	293	9.8	161	198	200	165	111	11	95
19	15	62	6.7	220	10	161	199	200	208	111	12	96
20	14	103	6.7	184	8.0	171	200	200	209	111	13	96
21	14	68	6.9	162	7.9	199	200	202	209	69	13	96
22	14	7.4	6.8	146	7.6	197	200	203	209	40	13	96
23	13	7.3	6.9	132	7.5	197	200	203	204	39	13	96
24	13	8.0	7.2	123	7.3	196	200	203	200	39	13	96
25	14	8.6	7.0	115	57	196	200	203	200	40	13	96
26	13	127	6.9	108	106	196	200	203	200	40	13	96
27	13	209	6.9	104	107	197	200	201	200	40	13	96
28	13	208	6.9	250	103	199	200	200	200	40	14	96
29	13	207	6.9	370	99	199	200	200	200	40	13	95
30	13	206	8.0	196	---	198	200	104	200	40	13	95
31	13	---	11	197	---	197	---	12	---	40	13	---
TOTAL	420	2037.2	5293.2	4300.1	3376.0	4734	5914	5955	2865	3501	542	2593
MEAN	13.5	67.9	171	139	116	153	197	192	95.5	113	17.5	86.4
MAX	15	209	484	531	196	199	200	203	209	203	40	99
MIN	13	6.0	6.6	7.5	7.3	98	190	12	12	39	11	13
AC-FT	833	4040	10500	8530	6700	9390	11730	11810	5680	6940	1080	5140

CAL YR 1979 TOTAL 27312.2 MEAN 74.8 MAX 506 MIN 6.0 AC-FT 54170 MEAN ‡ 75.9 AC-FT ‡ 54970
WTR YR 1980 TOTAL 41530.5 MEAN 113 MAX 531 MIN 6.0 AC-FT 82380 MEAN ‡ 117 AC-FT ‡ 84980

‡ Adjusted for change in contents in Ice House Reservoir.

11441900 SILVER CRBEK 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 good. 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).--20 years, 80.2 ft³/s (2.271 m³/s), 58,100 acre-ft/yr (71.6 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, 2.0 ft³/s (0.057 m³/s) Mar. 7, 8, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,000 ft³/s (396 m³/s) Jan. 13, gage height, 10.43 ft (3.179 m); minimum daily, 7.3 ft³/s (0.21 m³/s) Dec. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	13	7.7	37	16	38	14	13	20	19	19	19
2	15	8.5	7.4	24	16	36	14	13	20	19	19	19
3	16	9.2	7.3	20	16	36	13	15	20	19	19	19
4	15	9.3	7.8	18	16	38	13	14	20	19	19	19
5	15	9.0	8.5	16	15	39	18	11	20	19	19	20
6	15	8.8	8.3	15	15	36	21	16	20	19	19	18
7	15	8.7	8.3	15	15	34	21	21	20	19	19	17
8	16	8.6	8.3	15	14	31	19	20	20	19	19	20
9	15	8.7	8.2	25	13	29	18	22	20	19	19	20
10	15	8.6	8.2	36	13	28	17	24	19	19	19	19
11	16	8.9	8.1	65	13	28	16	23	19	19	19	19
12	16	8.9	8.1	2220	12	27	15	22	19	19	19	19
13	16	8.7	8.0	5280	12	25	14	23	19	19	19	19
14	16	8.7	8.0	3420	16	24	14	23	19	19	19	19
15	16	8.4	8.0	2430	28	25	13	23	19	19	19	19
16	16	8.0	7.9	1700	29	24	13	23	20	19	19	19
17	16	9.0	8.0	1420	60	23	12	22	19	19	19	19
18	16	8.6	8.1	945	77	23	11	21	19	19	19	19
19	18	8.5	7.9	843	134	21	11	21	19	19	19	19
20	17	8.3	8.0	672	130	20	11	33	19	19	19	19
21	17	8.3	8.9	245	161	20	12	20	19	19	19	19
22	16	8.4	8.5	31	133	19	11	20	19	19	19	19
23	16	8.5	8.6	27	97	18	11	21	19	19	19	19
24	16	10	15	25	73	18	11	21	19	19	19	19
25	17	13	17	23	57	17	11	21	19	19	19	19
26	17	15	13	21	47	17	11	21	19	19	19	19
27	16	13	12	20	42	16	11	20	19	19	19	19
28	16	12	12	19	53	15	10	20	19	19	19	19
29	16	11	11	18	45	14	14	20	19	19	19	19
30	16	9.4	17	17	---	14	13	21	19	19	19	20
31	16	---	48	17	---	14	---	21	---	19	19	---
TOTAL	494	287.0	331.1	19679	1368	767	413	629	580	589	589	571
MEAN	15.9	9.57	10.7	635	47.2	24.7	13.8	20.3	19.3	19.0	19.0	19.0
MAX	18	15	48	5280	161	39	21	33	20	19	19	20
MIN	15	8.0	7.3	15	12	14	10	11	19	19	19	17
AC-FT	980	569	657	39030	2710	1520	819	1250	1150	1170	1170	1130
CAL YR 1979 TOTAL	6060.1			MEAN 16.6	MAX 127	MIN 7.3	AC-FT 12020					
WTR YR 1980 TOTAL	26297.1			MEAN 71.9	MAX 5280	MIN 7.3	AC-FT 52160					

SACRAMENTO RIVER BASIN

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).

WATER-DISCHARGE RECORDS

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).--10 years, 409 ft³/s (11.58 m³/s), 296,300 acre-ft/yr (36.5 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, 29,500 ft³/s (835 m³/s) Jan. 13, gage height, 17.83 ft (5.435 m); minimum daily, 24 ft³/s (0.68 m³/s) Dec. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	41	30	30	892	374	866	403	1780	1030	1180	82	35
2	40	25	28	398	349	809	376	1790	1110	1360	69	36
3	40	35	27	244	335	811	352	1960	961	1490	53	36
4	41	80	26	161	322	797	343	2200	955	1190	44	45
5	41	50	26	122	322	858	522	2170	930	1020	39	38
6	41	35	26	101	360	823	511	2140	899	865	37	38
7	41	29	26	92	335	745	432	2200	816	784	37	36
8	44	29	27	91	317	692	420	1960	1010	624	36	37
9	54	27	26	157	270	649	434	1850	1210	531	36	43
10	52	26	26	545	269	629	516	1490	1320	472	35	38
11	29	25	25	736	249	635	551	1210	1330	403	43	35
12	27	25	24	8180	235	575	530	1070	1260	414	46	35
13	25	25	25	15700	220	549	676	1090	1150	400	36	40
14	27	25	44	12600	270	528	888	1150	1040	401	35	39
15	29	25	28	6600	567	526	924	1120	1150	406	34	49
16	28	25	28	4800	813	476	963	1190	1270	387	36	67
17	26	55	27	3950	1620	468	1160	1260	1370	368	36	53
18	26	97	25	2810	3950	487	1360	1410	1460	351	36	40
19	162	66	27	2150	4290	446	1460	1630	1430	316	37	52
20	457	37	27	1710	2650	449	1650	1870	1410	284	37	53
21	127	31	42	1180	2670	444	1480	2050	1410	277	38	52
22	45	35	45	815	2020	418	1090	2090	1310	243	38	51
23	56	41	33	704	1490	396	908	1910	1200	210	42	60
24	38	53	175	635	1250	394	944	1440	1090	189	58	65
25	43	411	282	597	1070	379	1020	1230	1110	176	43	63
26	130	381	138	542	970	357	1270	1100	1110	164	38	63
27	60	188	95	501	917	346	1450	1030	1040	137	36	61
28	39	68	58	498	1080	342	1690	977	934	121	36	61
29	31	42	51	460	943	348	1850	944	1050	120	36	60
30	29	34	98	393	---	414	1970	1030	1110	104	36	59
31	29	---	718	404	---	424	---	1060	---	89	35	---
TOTAL	1898	2055	2283	68768	30527	17080	28143	47401	34475	15076	1280	1440
MEAN	61.2	68.5	73.6	2218	1053	551	938	1529	1149	486	41.3	48.0
MAX	457	411	718	15700	4290	866	1970	2200	1460	1490	82	67
MIN	25	25	24	91	220	342	343	944	816	89	34	35
AC-FT	3760	4080	4530	136400	60550	33880	55820	94020	68380	29900	2540	2860
‡	23060	12340	32140	65850	73740	76790	79170	73630	31740	53150	44040	63970
‡‡	6000	9410	9450	8130	9140	10070	9730	9790	8950	8750	8370	3670
CAL YR 1979 TOTAL	136336		MEAN 374	MAX 2530	MIN 24	AC-FT 270400						
WTR YR 1980 TOTAL	250426		MEAN 684	MAX 15700	MIN 24	AC-FT 496700						

‡ 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 Co.

11442500 SOUTH FORK AMERICAN RIVER BELOW SILVER CREEK, NEAR POLLOCK PINES, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

SEDIMENT RECORDS: Water years 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 23...	1200	55	57	7.1	8.5	10.7	49	65	17	0	5.0

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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)
OCT 23...	1.0	3.5	30	.4	1.0	17	3.8	5.4	.0	11	40

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 23...	41	.05	.04	.02	.06	.03	.01	1.5	1.5	1.6	.01

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 23...	.003	.00	40	10	180	50	8	3	3.1

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 23...	1200	55	8.5	4	.59

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 good. 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 Consummes 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 (949 hm³/yr); 13 years (water years 1968-80), 123 ft³/s (3.483 m³/s) 89,110 acre-ft/yr (110 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, 30,900 ft³/s (875 m³/s) Jan. 13, gage height, 21.53 ft (6.562 m);
minimum daily, 11 ft³/s (0.31 m³/s) Jan. 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29	19	16	17	16	18	52	75	94	25	47	66
2	28	17	16	16	16	18	65	73	90	25	47	65
3	29	17	17	15	16	17	64	72	89	24	46	65
4	30	18	16	15	15	17	66	71	92	24	47	65
5	30	18	16	15	14	19	70	70	94	24	47	68
6	30	17	16	15	14	27	69	98	95	23	47	73
7	30	16	16	15	13	27	70	67	95	23	40	73
8	30	16	16	15	13	22	71	69	98	23	34	72
9	30	16	16	16	12	21	73	70	101	22	35	72
10	30	15	16	16	12	21	73	69	99	22	35	72
11	30	16	17	16	13	21	74	70	95	22	35	72
12	30	16	16	3620	16	21	74	79	95	22	36	52
13	30	16	16	16800	16	22	73	87	85	22	36	36
14	30	16	16	11200	15	23	73	87	70	22	36	36
15	30	16	16	6220	15	23	74	87	70	22	36	36
16	30	16	16	4350	14	23	75	90	71	22	36	36
17	30	16	16	3680	13	23	76	92	73	22	36	36
18	30	15	16	1750	22	22	74	93	72	16	36	35
19	30	15	16	455	4140	22	73	93	73	46	36	35
20	30	15	16	63	1980	20	74	94	73	30	36	35
21	30	17	16	14	2370	20	74	95	70	40	36	35
22	30	17	16	12	1060	20	73	94	69	32	44	35
23	30	17	17	11	25	20	72	94	73	33	57	34
24	30	17	17	14	13	21	72	91	73	36	57	34
25	30	17	17	16	12	22	72	89	72	36	57	34
26	30	17	17	14	14	21	74	88	71	36	58	34
27	30	16	16	13	17	21	75	88	71	37	57	34
28	30	16	16	15	17	27	75	88	71	37	57	34
29	30	16	17	18	17	78	74	87	71	37	60	35
30	29	16	17	17	---	120	75	90	29	39	60	36
31	29	---	17	16	---	81	---	91	---	42	66	---
TOTAL	924	492	505	48469	9930	878	2149	2601	2394	886	1399	1445
MEAN	29.8	16.4	16.3	1564	342	28.3	71.6	83.9	79.8	28.6	45.1	48.2
MAX	30	19	17	16800	4140	120	76	98	101	46	66	73
MIN	28	15	16	11	12	17	52	67	29	16	34	34
AC-FT	1830	976	1000	96140	19700	1740	4260	5160	4750	1760	2770	2870
CAL YR 1979	TOTAL	12657	MEAN	34.7	MAX	153	MIN 15	AC-FT	25110			
WTR YR 1980	TOTAL	72072	MEAN	197	MAX	16800	MIN 11	AC-FT	143000			

11444500 SOUTH FORK AMERICAN RIVER NEAR PLACERVILLE, CA

LOCATION.--Lat 38°46'16", long 120°48'55", in NE¼SW¼ sec.25, T.11 N., R.10 E., El Dorado County, 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.

DRAINAGE AREA.--598 mi² (1,549 km²).

PERIOD OF RECORD.--August 1911 to July 1920, July 1964 to current year. Monthly discharge only for some periods, published in WSP 1315-A.

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 931.05 ft (283.784 m) 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.

REMARKS.--Flow regulated by storage, diversions, and powerplants. See schematic diagram of South Fork American River basin.

COOPERATION.--Records collected by Pacific Gas and Electric Co., under general supervision of the Geological Survey, in connection with a Federal 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); 16 years (water years 1965-80), 1,426 ft³/s (40.38 m³/s), 1,033,000 acre-ft/yr (1.27 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, 39,000 ft³/s (1,100 m³/s) Jan. 13, gage height, 16.3 ft (4.97 m); minimum daily, 109 ft³/s (3.09 m³/s) Oct. 15, 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	1120	334	1930	2380	3380	2230	3800	1310	3050	1050	506
2	1030	832	598	1870	2360	1930	2690	3800	3010	3220	1030	1160
3	671	434	642	1210	2080	3300	2350	3790	2200	3200	450	1240
4	288	193	764	1030	1720	2740	2180	3690	2140	2480	1060	1240
5	580	393	776	752	1770	3270	2530	3770	1820	3200	1180	1090
6	481	666	857	877	1870	2920	2500	3800	2050	2580	778	1300
7	482	647	784	707	1850	2720	2100	3810	1610	1550	1070	651
8	485	621	796	596	1860	3140	2050	3810	449	2010	992	1250
9	525	632	289	1500	1860	2520	2120	3820	1680	1880	925	1330
10	466	165	470	2450	1860	2560	2300	3330	2080	1680	516	1430
11	950	139	910	2020	1900	2170	2350	2360	2310	1610	926	1570
12	622	168	1100	6300	1850	2190	2310	2960	2130	1610	1770	1660
13	453	496	1060	18800	1860	2200	2330	3150	2390	818	1400	1310
14	140	462	933	19300	1870	2170	2350	2680	2110	1180	1070	428
15	109	416	995	9530	2260	2190	2500	2680	1660	1670	1020	1330
16	109	279	364	7160	3710	2130	2610	2730	1800	1640	1000	1670
17	231	286	591	6750	4260	2100	2760	2720	1880	1610	533	1670
18	306	258	1350	5690	4540	2050	3480	3060	2300	839	1070	1660
19	1010	360	836	4500	8730	2030	3490	2930	2430	1220	944	1660
20	955	769	1070	4050	6430	2030	2690	3070	2370	585	1130	1440
21	280	128	1190	3880	7580	2190	3470	3460	3370	679	914	797
22	651	137	637	3610	5590	2350	3440	3400	893	1510	817	1490
23	616	275	636	2400	4610	2380	2710	3660	1460	1230	835	1700
24	715	178	787	1960	4270	2370	2750	3530	2130	1250	603	1700
25	803	337	512	2170	4070	2240	2730	3350	2340	1200	809	1700
26	679	1360	1580	2480	2780	2180	2730	2850	2010	717	970	1690
27	319	1600	1730	2420	2810	1750	2770	2620	2130	880	1190	1350
28	275	585	455	2500	3150	1700	3450	2030	2120	1090	1190	786
29	1060	180	269	2350	3810	1910	3460	1650	1040	860	919	1350
30	603	194	148	2110	---	2030	3760	1450	1710	1040	1160	1670
31	705	---	1300	1950	---	1800	---	1570	---	1030	603	---
TOTAL	18229	14310	24763	124852	95690	72640	81190	95330	58932	49118	29924	39828
MEAN	588	477	799	4027	3300	2343	2706	3075	1964	1584	965	1328
MAX	1630	1600	1730	19300	8730	3380	3760	3820	3370	3220	1770	1700
MIN	109	128	148	596	1720	1700	2050	1450	449	585	450	428
AC-FT	36160	28380	49120	247600	189800	144100	161000	189100	116900	97430	59350	79000

CAL YR 1979 TOTAL 452434 MEAN 1240 MAX 5120 MIN 109 AC-FT 897400
WTR YR 1980 TOTAL 704806 MEAN 1926 MAX 19300 MIN 109 AC-FT 1398000

NOTE.--No gage-height record Jan. 9-13.

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); 18 years (water years 1963-80), 1,444 ft³/s (40.89 m³/s), 1,046,000 acre-ft/yr (1.29 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) July 13, 15-18, 24, 1977.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1862 and prior to beginning of record, 20.4 ft (6.22 m) from floodmarks, Nov. 21, 1950, discharge, 64,500 ft³/s (1,830 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 53,200 ft³/s (1,510 m³/s) Jan. 14, gage height, 18.86 ft (5.749 m); minimum daily, 126 ft³/s (3.57 m³/s) Nov. 22

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	807	1030	283	2400	2590	3720	2460	4030	1320	3100	1060	531
2	1170	850	660	1800	2570	2250	2960	4020	3160	3320	1020	933
3	809	589	574	1370	2230	3820	2530	4000	2270	3350	539	1240
4	319	280	827	1100	1870	2950	2410	3890	2320	2570	931	1340
5	559	313	810	944	1900	4140	2600	4000	1840	3290	1110	1110
6	522	753	867	820	1980	3860	2980	4010	2160	2680	980	1230
7	497	665	810	793	1960	3360	2280	4010	1790	1700	984	793
8	499	641	857	670	1980	3690	2150	4020	729	2120	999	1050
9	535	686	329	1620	1980	2850	2280	4080	1430	1910	981	1410
10	480	211	470	3230	1980	2970	2470	3630	2000	1690	552	1340
11	840	194	892	2950	2000	2430	2520	2580	2480	1700	904	1570
12	732	140	1110	12200	1970	2410	2470	3040	2130	1550	1360	1660
13	476	515	1040	24000	1960	2400	2420	3320	2530	1150	1830	1400
14	222	509	958	25100	2010	2360	2550	2830	2290	955	965	590
15	133	407	1130	11300	2520	2410	2630	2790	1770	1720	1070	1120
16	139	309	393	8900	4230	2310	2630	2840	1850	1680	1030	1680
17	192	348	487	8550	5480	2260	2910	2830	1850	1640	605	1680
18	324	323	1390	6740	5840	2200	3710	3170	2320	1060	1010	1670
19	860	216	864	5090	12100	2170	3700	3060	2430	1090	992	1670
20	1140	947	1050	4430	8630	2180	2860	3130	2450	773	1050	1630
21	334	185	1310	4190	10800	2280	3690	3630	3450	635	999	713
22	512	126	664	3850	7280	2510	3660	3530	1330	1420	855	1400
23	774	305	631	2630	5510	2520	2890	3830	1270	1260	848	1690
24	725	243	1060	2170	4850	2570	2900	3710	2170	1320	633	1690
25	895	349	969	2290	4540	2490	2890	3590	2360	1330	789	1690
26	727	1240	1640	2710	3230	2270	2890	2950	2060	1070	975	1690
27	365	1770	1840	2610	2960	1960	2950	2810	2180	758	1040	1470
28	319	648	652	2700	3650	1830	3650	2210	2070	1170	1180	777
29	951	255	342	2490	4210	1990	3630	1730	1540	1140	1060	1240
30	754	226	267	2210	---	2170	3970	1560	1330	1010	1090	1680
31	729	---	1350	1870	---	1960	---	1650	---	1010	780	---
TOTAL	18340	15273	26526	153727	114810	81290	86640	100480	60879	51171	30221	39687
MEAN	592	509	856	4959	3959	2622	2888	3241	2029	1651	975	1323
MAX	1170	1770	1840	25100	12100	4140	3970	4080	3450	3350	1830	1690
MIN	133	126	267	670	1870	1830	2150	1560	729	635	539	531
AC-FT	36380	30290	52610	304900	227700	161200	171900	199300	120800	101500	59940	78720
CAL YR 1979 TOTAL	463936			1271	5270	126	AC-FT	920200				
WTR YR 1980 TOTAL	779044			2129	25100	126	AC-FT	1545000				

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 current year.

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

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, 20.5°C July 21; minimum recorded, 5.0°C on several days during January and February.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	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 23...	0930	1370	36	6.9	11.5	10.2	106	>200	11	0	3.1
FEB 29...	1045	3960	40	7.3	8.0	11.8	--	--	--	--	--
MAR 26...	1400	1960	40	7.3	8.0	12.2	--	--	--	--	--
MAY 07...	1015	4000	27	7.4	10.0	11.1	--	--	--	--	--

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 23...	.8	1.8	25	.2	.6	11	3.5	1.4	.0	7.6
FEB 29...	--	--	--	--	--	16	--	--	--	--
MAR 26...	--	--	--	--	--	14	--	--	--	--
MAY 07...	--	--	--	--	--	10	--	--	--	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	SOLIDS, NON- VOLATILE, SUS- PENDED (MG/L)	SOLIDS, VOLATILE, SUS- PENDED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
OCT 23...	28	26	.04	0	0	0	.04	.02	.06	.02
FEB 29...	--	--	--	--	--	--	--	--	--	.08
MAR 26...	--	--	--	--	--	--	--	--	--	.01
MAY 07...	--	--	--	--	--	--	--	--	--	.01

See footnote at end of table.

SACRAMENTO RIVER BASIN

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 23...	.01	--	.43	--	.44	--	.50	--	.000	.00
FEB 29...	.00	.00	.27	.36	.27	.36	--	.44	.010	.01
MAR 26...	.00	.06	.80	.32	.80	.38	--	.39	.007	.01
MAY 07...	.06	.03	.26	.34	.32	.37	--	.38	.039	.02

DATE	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 23...	.10	40	10	170	40	20	6	2.0
FEB 29...	.01	--	--	--	--	--	--	--
MAR 26...	.01	--	--	--	--	--	--	--
MAY 07...	.00	--	--	--	--	--	--	--

> Actual value is known to be greater than the value shown.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11445500 SOUTH FORK AMERICAN RIVER NEAR LOTUS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT					
23...	0930	1370	11.5	3	11

SACRAMENTO RIVER BASIN

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).

WATER-DISCHARGE RECORDS

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 Water and Power Resources Service).

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 Water and Power Resources Service.

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, 885,500 acre-ft (1.09 km³) June 21, elevation, 454.78 ft (138.617 m); minimum, 589,200 acre-ft (726 hm³) Dec. 17, elevation, 424.70 ft (129.449 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	708500	661900	609400	639200	622900	673300	672300	726000	842600	841900	721600	691300
2	708900	661700	607000	644900	624600	676300	672900	729200	847700	840600	719200	689300
3	706600	661900	603000	646000	627400	683700	674800	734500	850800	840800	716000	688200
4	703200	660400	600700	642800	630400	688100	675900	740000	853800	839500	712800	687900
5	699700	658900	599800	639100	632000	700200	679600	746200	855900	838500	711700	687700
6	696800	657600	598800	633200	634000	716200	684000	752200	858300	835700	710800	687400
7	693200	655800	598500	627600	637300	725500	685500	757500	859700	831100	709400	686800
8	689700	654200	598100	622600	641000	731800	686800	763800	859700	828400	708000	686100
9	687000	652800	595900	621500	644900	734900	688100	768500	860100	825800	706900	686400
10	684000	649400	593900	634200	648800	736900	689400	772600	862700	822900	705000	686800
11	682300	645600	592800	642200	652200	737500	691100	774100	865800	819800	703600	687700
12	680600	641600	592400	737500	655400	737500	692700	775700	868400	816500	704600	688900
13	678100	639300	592200	802300	658300	736600	694500	778200	871300	812000	707600	689200
14	675400	637000	591900	848100	663000	735600	697200	779700	873600	806200	708600	687200
15	673500	634900	592200	777200	671600	735200	700100	781500	875000	803400	708200	686000
16	671900	632900	590400	720700	682200	733500	702500	783200	876200	799700	707600	686300
17	670600	630100	589200	695600	704800	730900	703800	785200	877800	796100	707200	686600
18	669300	627300	590100	662800	735100	728700	706500	788200	880100	791400	708500	687500
19	669600	624500	590400	650300	791500	725600	707700	791300	881900	786000	709900	688200
20	671400	623700	590600	641400	801300	722500	709200	794600	883400	780800	708000	688200
21	670500	621200	592200	639400	802900	719300	713800	799100	885500	774800	705300	686500
22	668000	618100	592200	641000	781800	716400	716400	804400	883800	770300	702900	687200
23	666700	615000	592800	640100	746800	713200	716200	812600	879800	765600	700400	687400
24	664700	612400	597800	637100	709500	709600	715400	819600	874700	760700	697900	687000
25	665400	611300	606900	634100	683200	706600	715300	825300	870300	756300	696100	686800
26	665400	613600	611500	632900	661100	702500	715900	830000	865100	750700	694600	685900
27	664700	616600	614800	631500	650400	697800	717000	834100	860600	743700	696200	680900
28	663400	616600	615200	630100	658700	692500	718500	836300	856400	738400	698300	672600
29	662800	614900	613800	628000	667300	687200	720500	838000	851400	733100	697500	669800
30	662400	612700	613000	624500	---	682300	723600	839500	845000	727500	696200	669800
31	661900	---	621400	622500	---	677200	---	841200	---	723900	694100	---
MAX	708900	661900	621400	848100	802900	737500	723600	841200	885500	841900	721600	691300
MIN	661900	611300	589200	621500	622900	673300	672300	726000	842600	723900	694100	669800
†	432.64	427.31	428.27	428.39	433.21	434.26	439.05	450.62	450.98	439.09	436.02	433.48
‡	-48500	-49200	+8700	+1100	+44800	+9900	+46400	+117600	+3800	-121100	-29800	-24300
††	2420	910	490	260	690	1990	3030	4820	6230	6520	5820	4460

CAL YR 1979 ‡ -19700
WTR YR 1980 ‡ -40600

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

SACRAMENTO RIVER BASIN

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11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

WATER-QUALITY RECORDS

FOLSOM LAKE SITE NO. 2 ON NORTH FORK ARM, NEAR FOLSOM, CA

LOCATION.--Lat 38°44'38", long 121°07'57", Placer County, Hydrologic Unit 18020128, at Granite Bay 5.0 mi (8.0 km) northeast of Folsom Post Office.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMPLING DEPTH (M) 1/	SPECIFIC CONDUCTANCE (MICROMHOS)	PH (UNITS)	TEMPERATURE, WATER (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATURATION)	LIGHT TRANSMISSION 1 METER PATH-LENGTH (%)	LIGHT ATTENUATION COEFFICIENT (ALPHA/METER)
OCT									
17...	1400	.50	53	7.6	22.0	8.5	99	24	1.42
17...	1401	1.0	53	7.6	22.0	8.5	99	23	1.48
17...	1402	2.0	53	7.6	22.0	8.6	101	21	1.54
17...	1403	3.0	53	7.6	21.8	8.6	100	20	1.60
17...	1404	4.0	52	7.5	21.5	8.3	96	19	1.66
17...	1405	5.0	52	7.5	21.5	8.4	97	16	1.84
17...	1406	6.0	52	7.5	21.4	8.3	96	15	1.91
17...	1407	7.0	52	7.5	21.3	8.2	95	11	2.17
17...	1408	8.0	52	7.4	21.2	7.8	90	12	2.11
17...	1409	9.0	52	7.3	20.9	7.6	87	12	2.11
17...	1410	10.0	50	7.3	20.9	7.6	87	12	2.11
17...	1411	11.0	50	7.2	20.8	7.6	87	11	2.17
17...	1412	12.0	49	7.2	20.6	7.7	88	9.8	2.32
17...	1413	13.0	50	7.2	20.2	7.8	88	8.5	2.46
17...	1414	14.0	49	7.2	20.0	7.9	89	7.3	2.62
17...	1415	15.0	48	7.2	19.6	8.1	90	6.8	2.69
17...	1416	16.0	47	7.2	19.2	8.2	91	7.3	2.62
17...	1417	17.0	47	7.2	19.1	8.3	92	7.3	2.62
17...	1418	18.0	48	7.2	18.7	8.3	91	7.3	2.62
17...	1419	19.0	48	7.2	18.5	8.3	91	7.3	2.62
17...	1420	20.0	48	7.2	18.3	8.4	91	7.3	2.62
17...	1421	21.0	48	7.2	18.1	8.3	90	6.2	2.77
17...	1422	22.0	47	7.1	18.0	8.3	90	4.5	3.11
17...	1423	23.0	48	7.1	17.7	8.0	86	2.3	3.77
17...	1424	24.0	48	7.1	17.6	7.9	85	1.7	4.09
17...	1425	25.0	48	7.0	17.4	7.2	77	2.1	3.87
17...	1426	26.0	48	6.9	17.4	6.5	69	2.6	3.67
17...	1427	27.0	48	6.9	17.0	5.4	57	2.6	3.67
17...	1428	28.0	47	6.7	16.8	5.2	55	1.9	3.98
17...	1429	29.0	49	6.7	16.6	4.9	52	1.3	4.32
17...	1430	30.0	49	6.7	16.5	4.8	50	.92	4.68
17...	1431	31.0	49	6.6	16.4	4.7	49	.71	4.95
17...	1432	32.0	50	6.6	16.2	4.4	46	.53	5.24
17...	1433	33.0	50	6.6	16.1	4.4	46	.33	5.71
17...	1434	34.0	50	6.6	15.9	4.2	44	.19	6.24
17...	1435	35.0	50	6.6	15.8	4.1	43	.16	6.43
17...	1436	36.0	50	6.6	15.7	4.0	41	.06	7.33
17...	1440	40.0	52	6.5	14.8	2.8	29	.00	12.88
17...	1441	41.0	55	6.5	14.4	2.6	26	.00	14.76
17...	1442	42.0	57	6.5	14.2	2.5	25	.00	15.65
17...	1443	43.0	57	6.4	14.0	2.4	24	.00	17.07
17...	1444	44.0	57	6.4	13.8	2.2	22	.00	16.54
17...	1445	45.0	59	6.4	13.5	2.0	20	--	--
AUG									
06...	1340	.50	51	7.9	27.1	8.0	102	17	1.79
06...	1341	1.0	51	7.9	26.9	7.9	101	17	1.79
06...	1342	2.0	51	7.9	26.9	7.9	101	16	1.85
06...	1343	3.0	51	7.9	26.8	7.9	100	14	1.98
06...	1344	4.0	50	7.9	26.7	7.9	100	13	2.04
06...	1345	5.0	50	7.9	26.7	7.9	100	13	2.04
06...	1346	6.0	50	7.9	26.6	7.9	100	12	2.11
06...	1347	7.0	49	7.5	24.2	8.0	97	9.0	2.39
06...	1348	8.0	47	7.5	22.7	8.0	95	13	2.04
06...	1349	9.0	46	7.4	20.5	8.0	90	15	1.91
06...	1350	10.0	44	7.3	19.8	8.3	92	14	1.98
06...	1351	11.0	45	7.3	19.5	8.2	91	13	2.04
06...	1352	12.0	45	7.3	19.1	8.1	89	11	2.25
06...	1353	13.0	46	7.2	18.8	8.0	87	7.0	2.62
06...	1354	14.0	46	7.2	18.5	7.8	84	5.0	2.94
06...	1355	15.0	46	7.1	18.0	7.4	79	4.0	3.19
06...	1356	16.0	46	7.0	17.2	7.3	77	4.0	3.28
06...	1357	17.0	45	7.0	16.8	7.2	75	4.0	3.11
06...	1358	18.0	46	7.0	16.3	7.2	74	4.0	3.19
06...	1359	19.0	45	6.9	15.9	7.2	74	4.0	3.28
06...	1400	20.0	46	6.7	15.5	7.1	72	3.0	3.47
06...	1401	21.0	46	6.9	15.2	7.0	71	3.0	3.57
06...	1402	22.0	46	6.9	14.7	6.7	67	2.0	3.87
06...	1403	23.0	47	6.8	14.4	6.5	65	2.0	4.20

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

SACRAMENTO RIVER BASIN

11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

FOLSOM LAKE SITE NO. 2 ON NORTH FORK ARM, NEAR FOLSOM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	LIGHT TRANS- MISSION 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)	
AUG										
06...	1404	24.0	47	6.8	14.2	6.3	62	1.0	4.56	
06...	1405	25.0	48	6.8	14.0	6.3	62	.80	4.82	
06...	1406	26.0	44	6.8	13.7	6.3	62	.70	4.95	
06...	1407	27.0	49	6.8	13.5	6.3	61	.70	4.95	
06...	1408	28.0	49	6.8	13.4	6.3	61	.60	5.09	
06...	1409	29.0	50	6.8	13.1	6.2	60	.50	5.39	
06...	1410	30.0	50	6.8	13.1	6.3	61	.40	5.63	
06...	1411	31.0	50	6.8	12.8	6.1	58	.30	5.97	
06...	1412	32.0	50	6.8	12.8	6.2	59	.20	5.88	
06...	1413	33.0	50	6.8	12.6	6.2	59	.14	6.54	
06...	1414	34.0	50	6.8	12.5	6.2	59	.10	6.86	
06...	1415	50.0	50	6.6	12.5	6.2	59	.10	6.86	
06...	1416	36.0	50	6.4	12.4	6.3	60	.07	7.21	
06...	1417	37.0	51	6.4	12.3	6.3	60	.07	7.33	
06...	1418	38.0	51	6.5	12.3	6.3	60	.04	7.72	
06...	1419	39.0	51	6.5	12.2	6.3	60	.04	7.86	
06...	1420	40.0	51	6.5	12.1	6.4	60	.02	8.45	
06...	1421	45.0	51	6.5	11.9	6.4	60	.00	9.90	
DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) (M) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT										
17...	1450	20	20	5.1	--	25	5	6.9	2.0	2.5
17...	1455	49	49	--	--	22	5	6.4	1.5	2.1
17...	1500	131	131	--	--	26	3	7.8	1.7	2.2
AUG										
06...	1425	13	13	3.3	32.2	--	--	--	--	--
DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS 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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT										
17...	17	.2	.6	20	4.8	1.5	.0	9.7	40	.05
17...	17	.2	.5	17	5.0	2.8	.0	9.8	38	.01
17...	15	.2	.6	23	4.8	1.5	.0	12	43	.05
AUG										
06...	--	--	--	--	--	--	--	--	--	--
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)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
OCT										
17...	.05	.00	.01	--	.58	--	.59	--	.64	--
17...	.02	.01	.04	--	.49	--	.53	--	.55	--
17...	.11	.08	.01	--	.63	--	.64	--	.75	--
AUG										
06...	--	.00	.00	.05	1.0	.37	1.0	.42	--	.42
DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
17...	.01	.001	.00	40	10	60	10	0	3	1.5
17...	.00	.000	.00	50	6	60	10	8	1	--
17...	.02	.000	.00	10	10	480	20	430	370	--
AUG										
06...	.00	.010	.04	--	--	--	--	--	--	--

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

SACRAMENTO RIVER BASIN

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11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

FOLSOM LAKE SITE NO. 1 ON SOUTH FORK ARM, NEAR FOLSOM, CA

LOCATION.--Lat 38°44'49", long 121°04'47", El Dorado County, Hydrologic Unit 18020128, 0.5 mi (0.8 km) north of Iron Mountain and 6.9 mi (11.1 km) northeast of Folsom.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

REMARKS.--Data for water year 1978 collected at site 1.2 mi (1.9 km) west of Iron Mountain.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	LIGHT TRANS- MISSION 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
OCT									
17...	1030	.50	53	7.3	21.2	8.2	94	--	1.37
17...	1031	1.0	53	7.3	21.2	8.2	94	--	1.43
17...	1032	2.0	52	7.3	21.2	8.2	94	--	1.54
17...	1033	3.0	52	7.3	21.1	8.2	94	--	1.98
17...	1034	4.0	52	7.3	21.1	8.2	94	--	2.11
17...	1035	5.0	52	7.2	21.1	8.2	94	--	2.25
17...	1036	6.0	52	7.2	21.1	8.2	94	--	2.32
17...	1037	7.0	52	7.2	21.1	8.2	94	--	2.39
17...	1038	8.0	52	7.2	21.1	8.2	94	--	2.46
17...	1039	9.0	52	7.2	21.0	8.1	93	--	2.54
17...	1040	10.0	52	7.2	21.0	8.0	92	--	2.54
17...	1041	11.0	52	7.2	20.8	7.8	89	--	2.62
17...	1042	12.0	50	6.9	20.0	6.9	78	--	2.77
17...	1043	13.0	46	6.9	19.5	6.9	77	--	2.54
17...	1044	14.0	45	6.9	19.2	6.7	74	--	2.46
17...	1045	15.0	43	6.8	18.8	6.9	76	--	2.62
17...	1046	16.0	42	6.8	18.5	7.1	78	--	2.62
17...	1047	17.0	42	6.8	18.3	7.2	78	--	2.77
17...	1048	18.0	40	6.8	18.1	7.3	79	--	2.94
17...	1049	19.0	40	6.8	18.0	7.5	81	--	2.94
17...	1050	20.0	39	6.8	17.8	7.6	82	--	3.28
17...	1051	21.0	39	6.8	17.7	7.6	82	--	3.47
17...	1052	22.0	38	6.8	17.5	7.7	82	--	3.38
17...	1053	23.0	38	6.8	17.3	7.8	83	--	4.32
17...	1054	24.0	38	6.8	17.0	7.9	84	--	6.06
17...	1055	25.0	37	6.8	16.6	7.9	83	--	5.24
17...	1056	26.5	34	6.4	16.3	7.9	82	--	6.64
AUG									
06...	1537	.50	49	8.0	27.2	7.8	100	7.0	2.69
06...	1538	1.0	49	8.0	27.2	8.0	102	7.0	2.69
06...	1539	2.0	49	8.0	27.0	8.3	106	6.0	2.77
06...	1540	3.0	49	8.0	26.9	8.6	110	6.0	2.85
06...	1541	4.0	48	7.9	26.5	8.6	109	5.0	3.02
06...	1542	5.0	48	7.7	26.0	8.6	108	4.0	3.11
06...	1543	6.0	41	7.3	24.0	8.4	102	3.0	3.38
06...	1544	7.0	37	7.2	23.0	8.6	102	3.0	3.38
06...	1545	8.0	34	7.0	21.2	8.4	96	4.0	3.28
06...	1546	9.0	31	7.0	20.9	8.6	98	4.0	3.19
06...	1547	10.0	29	6.9	19.9	8.7	97	4.0	3.28
06...	1548	11.0	29	6.9	19.6	8.8	98	3.0	3.38
06...	1549	12.0	28	6.9	19.2	8.8	97	2.0	4.09
06...	1550	13.0	28	6.9	19.0	8.2	90	1.0	4.43
06...	1551	14.0	28	6.8	18.7	8.3	90	1.5	4.20
06...	1552	15.0	29	6.8	18.2	8.1	87	.80	4.82
06...	1553	16.0	29	6.8	18.0	7.7	83	.40	5.55
06...	1554	17.0	28	6.7	17.4	7.4	78	1.0	4.56
06...	1555	18.0	29	6.7	16.8	7.2	75	.60	5.09
06...	1556	19.0	29	6.6	16.5	7.0	73	.50	5.24
06...	1557	20.0	29	6.6	16.1	6.8	70	.40	5.63
06...	1558	21.0	29	6.6	15.7	6.7	68	.30	5.88
06...	1559	22.0	30	6.6	15.4	6.4	65	.20	6.34
06...	1600	23.0	30	6.6	15.2	6.1	62	.10	6.97
06...	1601	24.0	30	6.6	15.2	6.1	62	.00	8.83
06...	1602	25.0	32	6.5	14.5	5.6	56	.00	10.10
06...	1603	26.0	32	6.5	14.0	5.4	53	.00	10.10
06...	1604	27.0	32	6.5	13.9	5.4	53	.00	10.10
AUG									
06...	1610	13	13	2.50	22.6	--	--	--	--

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

SACRAMENTO RIVER BASIN

11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

FOLSOM LAKE SITE NO. 1 ON SOUTH FORK ARM, NEAR FOLSOM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY ING/L AS (GAC03)	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)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 17...	16	.2	.6	21	4.6	1.7	.0	9.5	39	.03
17...	18	.2	.5	16	4.0	1.5	.0	8.7	33	.03
AUG 06...	--	--	--	--	--	--	--	--	--	--

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)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
OCT 17...	.02	.00	.060	--	.40	--	.46	--	.48	--
17...	.02	.00	.010	--	.51	--	.52	--	.54	--
AUG 06...	--	.00	.000	.050	1.8	1.4	1.8	1.4	--	1.4

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 17...	.01	.00	.00	--	20	70	10	4	5	1.6
17...	.01	.00	.00	30	9	120	10	20	5	--
AUG 06...	.00	.00	.04	--	--	--	--	--	--	--

FOLSOM LAKE AT DAM, NEAR FOLSOM, CA

LOCATION.--Lat 38°42'44", long 121°08'45", Placer County, Hydrologic Unit 18020128, 0.6 mi (1.0 km) northeast of Folsom Dam and 2.7 mi (4.3 km) northeast of Folsom Post Office.

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	LIGHT TRANSMISSION (PER- CENT 1 METER PATH- LENGTH (%))	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
OCT 16...	1100	.50	52	7.5	21.5	8.2	95	32	1.15
16...	1101	1.0	51	7.4	21.4	8.2	95	30	1.20
16...	1102	2.0	51	7.4	21.3	8.3	96	27	1.31
16...	1103	3.0	51	7.4	21.3	8.3	96	25	1.37
16...	1104	4.0	51	7.4	21.3	8.3	96	25	1.37
16...	1105	5.0	51	7.4	21.3	8.3	96	27	1.31
16...	1106	6.0	51	7.5	21.3	8.3	96	27	1.31
16...	1107	7.0	52	7.5	21.2	8.3	96	27	1.31
16...	1108	8.0	52	7.5	21.2	8.3	96	27	1.31
16...	1109	9.0	52	7.5	21.2	8.3	96	27	1.31
16...	1110	10.0	52	7.5	21.2	8.3	96	27	1.31
16...	1111	11.0	52	7.5	21.2	8.2	94	28	1.26
16...	1112	12.0	52	7.5	21.2	8.3	96	28	1.26
16...	1113	13.0	52	7.5	21.2	8.3	96	28	1.26
16...	1114	14.0	47	7.0	20.4	5.7	65	23	1.48
16...	1115	15.0	46	6.9	19.4	5.8	65	31	1.15
16...	1116	16.0	45	6.9	19.1	5.3	59	30	1.20
16...	1117	17.0	43	6.8	18.9	5.3	58	33	1.10
16...	1118	18.0	43	6.8	18.6	5.4	59	33	1.10
16...	1119	19.0	43	6.7	18.3	5.2	57	30	1.20

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

SACRAMENTO RIVER BASIN

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11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

FOLSOM LAKE AT DAM, NEAR FOLSOM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAM- PLING DEPTH (M) 1/	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED SATUR- ATION)	LIGHT TRANSMISSION 1 METER PATH- LENGTH (%)	LIGHT, ATTENU- ATION COEFFI- CIENT (ALPHA/ METER)
OCT									
16...	1120	20.0	42	6.7	18.1	5.2	56	31	1.15
16...	1121	21.0	42	6.7	17.9	5.3	57	28	1.26
16...	1122	22.0	42	6.7	17.6	5.2	56	25	1.37
16...	1123	23.0	38	6.7	17.4	5.3	57	24	1.42
16...	1124	24.0	35	6.7	17.1	5.8	62	27	1.31
16...	1125	25.0	34	6.6	17.0	5.8	61	27	1.31
16...	1126	26.0	32	6.6	16.8	6.4	68	25	1.37
16...	1127	27.0	32	6.6	16.7	6.3	66	25	1.37
16...	1128	28.0	32	6.6	16.6	6.1	64	23	1.48
16...	1129	29.0	33	6.6	16.5	5.8	61	23	1.48
16...	1130	30.0	33	6.6	16.4	6.0	63	15	1.91
16...	1131	35.0	33	6.6	15.6	5.9	61	.81	4.82
16...	1132	37.0	42	6.5	14.7	4.6	47	.53	5.24
16...	1133	40.0	42	6.5	14.0	4.6	46	.53	5.24
16...	1134	41.0	45	6.4	13.6	4.5	44	.81	4.82
AUG									
06...	1020	.50	49	8.0	24.3	7.8	95	27	1.31
06...	1021	1.0	49	8.0	24.3	7.8	95	28	1.26
06...	1022	2.0	49	8.0	24.3	7.8	95	27	1.31
06...	1023	3.0	49	8.0	24.3	7.8	95	27	1.31
06...	1024	4.0	49	8.0	24.2	7.8	95	27	1.31
06...	1025	5.0	49	8.0	24.2	7.8	95	24	1.43
06...	1026	6.0	49	8.0	24.2	7.8	95	21	1.54
06...	1027	7.0	48	8.0	24.1	7.8	94	20	1.60
06...	1028	8.0	47	7.6	21.7	8.0	92	16	1.85
06...	1029	9.0	41	7.4	21.1	7.8	89	14	1.98
06...	1030	10.0	42	7.4	20.5	8.0	90	12	2.11
06...	1031	11.0	42	7.3	19.9	7.8	87	13	2.04
06...	1032	12.0	39	7.2	19.4	7.5	83	13	2.04
06...	1033	13.0	38	7.2	18.8	7.2	79	11	2.18
06...	1034	14.0	38	6.9	18.5	7.1	77	10	2.32
06...	1035	15.0	41	6.8	18.0	7.3	78	10	2.32
06...	1036	16.0	37	6.8	17.6	7.3	78	10	2.32
06...	1037	17.0	35	6.7	17.2	7.2	76	8.0	2.46
06...	1038	18.0	35	6.6	16.6	7.1	74	8.0	2.54
06...	1039	19.0	34	6.6	15.8	7.0	72	6.0	2.77
06...	1040	20.0	33	6.6	15.5	6.9	70	5.0	2.94
06...	1041	21.0	34	6.6	15.1	6.9	70	5.0	3.02
06...	1042	22.0	35	6.6	14.9	6.9	69	4.0	3.11
06...	1043	23.0	35	6.6	14.5	6.9	69	4.0	3.11
06...	1044	24.0	39	6.6	14.1	6.9	68	4.0	3.19
06...	1045	25.0	36	6.6	13.8	7.1	70	4.0	3.28
06...	1046	26.0	36	6.6	13.5	7.0	68	4.0	3.19
06...	1047	27.0	36	6.6	13.4	7.1	69	4.0	3.11
06...	1048	28.0	38	6.6	13.1	7.1	69	4.0	3.28
06...	1049	29.0	40	6.6	13.0	7.1	68	3.0	3.38
06...	1050	30.0	38	6.6	12.8	7.1	68	2.0	3.87
06...	1051	31.0	38	6.6	12.7	7.1	68	3.0	3.66
06...	1052	32.0	41	6.6	12.6	7.0	67	2.0	3.77
06...	1053	33.0	40	6.6	12.5	7.0	67	2.0	3.87
06...	1054	34.0	40	6.6	12.3	7.0	64	2.0	3.98
06...	1055	35.0	41	6.6	12.2	7.1	67	1.0	4.56
06...	1056	36.0	43	6.6	12.1	7.2	68	1.3	4.32
06...	1057	37.0	43	6.6	12.0	7.1	67	1.0	4.56
06...	1058	38.0	43	6.6	12.0	7.1	67	.80	4.82
06...	1059	39.0	43	6.6	11.9	7.2	68	.18	6.44
06...	1100	40.0	43	6.6	11.8	7.2	68	.16	6.54
06...	1101	45.0	45	6.6	11.5	7.1	66	.14	11.00
06...	1102	50.0	46	6.6	11.0	6.8	63	.14	9.80
06...	1103	55.0	46	6.5	10.3	6.3	57	.14	6.54
06...	1104	60.0	48	6.5	10.0	6.1	55	.14	6.44
06...	1105	65.0	49	6.5	9.7	5.3	47	.14	6.54

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

SACRAMENTO RIVER BASIN

11446200 FOLSOM LAKE NEAR FOLSOM, CA--Continued

FOLSOM LAKE AT DAM, NEAR FOLSOM, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	DEPTH TO BOT- TOM OF SAMPLE INTER- VAL (FT)	DEPTH TO TOP OF SAMPLE INTER- VAL (FT)	TRANS- PAR- ENCY (SECCHI DISK) 1/	LIGHT DEPTH TO 1% OF SURFACE LIGHT (FEET)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
OCT											
16...	1140	23	23	6.6	--	24	2	6.6	1.8	2.2	16
16...	1145	48	48	--	--	20	4	5.7	1.5	2.0	23
16...	1150	115	82	--	--	10	0	2.0	1.1	1.9	42
AUG											
06...	1220	13	13	--	43.3	--	--	--	--	--	--
06...	1225	164	98	--	--	--	--	--	--	--	--

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)
OCT										
16...	.2	.6	22	4.4	1.6	.0	9.6	40	.05	.05
16...	.2	.5	16	1.8	1.3	.0	10	32	.04	.03
16...	.3	.5	11	1.4	1.1	.0	9.0	24	.05	.10
AUG										
06...	--	--	--	--	--	--	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT										
16...	.03	.01	--	.51	--	.52	--	.57	--	.01
16...	.00	.00	--	.60	--	.60	--	.63	--	.00
16...	.00	.01	--	.54	--	.55	--	.65	--	.00
AUG										
06...	.00	.00	.06	.63	.47	.63	.53	--	.53	.00
06...	.05	.00	.05	.69	.68	.69	.73	--	.78	.00

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	BORON, TOTAL RECOV- ERABLE (UG/L AS B)	BORON, DIS- SOLVED (UG/L AS B)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALGAL GROWTH POTEN- TIAL, BOTTLE TEST (MG/L)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT										
16...	.00	.00	30	9	20	10	4	3	1.2	1.3
16...	.00	.00	30	9	20	0	0	2	--	--
16...	.00	.00	30	4	80	10	20	10	--	--
AUG										
06...	.01	.04	--	--	--	--	--	--	--	--
06...	.01	.05	--	--	--	--	--	--	--	--

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

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 powerplant. Many diversions above station for irrigation, municipal, and domestic water supply. Diversions of San Juan Suburban Water District, Cordova Water Service, city of Folsom, city of Roseville, and State of California are made at Folsom Dam. Diversion to Folsom South Canal from Nimbus Reservoir started in June 1973. Some inflow from Bear and Yuba River basins.

AVERAGE DISCHARGE (adjusted for change in contents, diversions, and evaporation from Folsom Lake since 1955).--76 years, 3,762 ft³/s (106.5 m³/s), 2,726,000 acre-ft/yr (3.36 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, 84,800 ft³/s (2,400 m³/s) Jan. 15, gage height, 23.27 ft (7.093 m); minimum daily, 495 ft³/s (14.0 m³/s) Aug. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1830	1980	2560	2540	4940	7440	7500	6560	3000	5000	3170	2050
2	1650	1980	2550	2570	4400	7400	5370	6460	3000	5050	3160	2050
3	2460	1980	2550	3960	3770	7590	4780	5110	3000	4560	3150	2060
4	2520	1970	2540	5340	3510	7600	4900	4910	3000	4550	3140	2050
5	2530	2000	1960	5360	3580	7620	4980	4940	3020	4540	2560	2030
6	2540	2440	1980	5090	3420	7350	4990	4940	2990	4530	2560	2020
7	2540	2480	1830	5080	2400	7300	4980	4940	2980	4560	2470	2010
8	2540	2480	1820	5100	2380	7540	4990	4940	3000	4560	2430	2010
9	2540	2490	1900	5100	2340	7530	4980	4930	3010	4550	2450	2020
10	2540	2480	2060	5110	2420	7490	4990	4950	3000	4550	2460	2010
11	2540	2470	1990	5090	2430	7500	4990	4930	3000	4540	2390	2020
12	2540	2470	1990	10500	2520	7570	4990	4920	3010	4530	1590	2010
13	2540	2470	2000	49600	2490	7490	4960	4920	3000	4540	1550	2010
14	2440	2470	2000	68000	2660	7490	4960	4930	3000	4540	852	2010
15	1600	2450	1990	80200	3120	7490	4950	4910	2990	4540	1530	2010
16	1560	2470	1980	57300	6070	7490	5090	4900	2980	4530	1520	2000
17	1550	2500	1980	41900	8210	7490	6480	4900	2960	4520	1520	2010
18	1550	2540	1980	36000	15100	7500	6600	4880	2970	4520	641	2010
19	1560	2550	1990	21000	20300	7490	6620	4910	2980	4520	715	2010
20	1970	2560	1990	16400	25600	7500	6570	4940	3110	4520	2020	2020
21	2020	2560	2050	11300	33700	7510	6490	4880	3980	4530	2120	2020
22	2040	2550	2000	8240	34500	7510	6390	4010	3970	4540	2120	2070
23	2040	2550	2000	7800	34500	7490	6480	3060	4140	4550	2120	2620
24	2000	2550	2000	8110	32400	7500	6510	3000	5290	4560	2120	2620
25	1970	2560	2020	7630	25100	7500	6580	2990	5020	4730	2120	2620
26	1950	2560	2070	6970	21200	7490	6560	2990	4800	4700	2090	2710
27	1960	2560	2520	7060	14600	7590	6540	3000	4850	4690	689	5050
28	1950	2560	2550	7150	8710	7440	6550	3000	4850	4650	495	4980
29	1960	2550	2520	6970	7600	7440	6610	3010	4830	4630	1900	2970
30	1980	2560	2520	6980	---	7570	6630	3000	4870	4630	2050	2610
31	2010	---	2520	5960	---	7550	---	3000	---	3430	2050	---
TOTAL	65420	72790	66410	515410	333970	232460	174010	137760	106610	141390	61752	70690
MEAN	2110	2426	2142	16630	11520	7499	5800	4444	3554	4561	1992	2356
MAX	2540	2560	2560	80200	34500	7620	7500	6560	5290	5050	3170	5050
MIN	1550	1970	1820	2540	2340	7300	4780	2990	2960	3430	495	2000
AC-FT	129800	144400	131700	1022000	662400	461100	345100	273200	211500	280400	122500	140200
MEAN ‡	1504	1699	2387	16700	12350	7749	6719	6574	3902	2905	1799	2193
AC-FT ‡	92460	101100	146800	1027000	710600	476500	399800	404200	232200	178600	110600	130500
†	8740	5022	5946	4095	2712	3467	5286	8599	10694	12797	12129	10092
CAL YR 1979 TOTAL	1159000	MEAN	3175	MAX	16000	MIN	1190	AC-FT	2299000			
WTR YR 1980 TOTAL	1978672	MEAN	5406	MAX	80200	MIN	495	AC-FT	3925000			

‡ Adjusted for change in contents, diversions, and evaporation from Folsom Lake.

† Diversions, in acre-feet, from Folsom-Nimbus Dam complex furnished by Water and Power Resources Service.

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).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CACO3)
OCT												
02...	1100	1650	86	6.9	--	--	--	--	--	--	--	--
10...	1230	2540	50	7.5	19.5	9.1	18	4.5	1.7	2.4	.6	19
APR												
02...	1030	5370	59	7.0	13.0	11.3	--	--	--	--	--	27
MAY												
01...	0945	6560	56	6.9	12.5	10.2	--	--	--	--	--	24
JUN												
05...	1315	3020	56	7.7	16.0	10.3	--	--	--	--	--	21
JUL												
01...	0900	5000	49	7.0	16.0	9.4	--	--	--	--	--	22
AUG												
07...	0945	2470	50	7.4	17.0	9.0	--	--	--	--	--	22
SEP												
03...	1045	2060	49	6.8	18.0	8.7	--	--	--	--	--	20

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT											
02...	--	--	--	--	--	--	--	--	--	--	--
10...	2.4	1.6	.1	35	20	.05	.12	1.0	1.0	.04	.057
APR											
02...	--	--	--	--	7	--	.08	.62	.70	.04	--
MAY											
01...	--	--	--	--	0	--	.10	.59	.60	.03	--
JUN											
05...	--	--	--	--	35	--	--	.43	.48	.06	--
JUL											
01...	--	--	--	--	10	--	.14	.50	.54	.09	--
AUG											
07...	--	--	--	--	2	--	.19	.41	.49	.08	--
SEP											
03...	--	--	--	--	0	--	.20	.36	.36	.12	--

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
10...	1230	1	20	<1	10	1	10	0	7	.0	0	1.3

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

11447230 AMERICAN RIVER AT 16TH STREET BRIDGE, AT SACRAMENTO, CA

LOCATION.--Lat 38°35'46", long 121°28'30", in Rio Los Americanos Land Grant, T.9 N., R.5 E., Sacramento County, Hydrologic Unit 18020111, at center of 16th Street Bridge, 1.6 mi (2.6 km) northeast of the State Capitol at Sacramento.

DRAINAGE AREA.--1,972 mi² (5,107 km²).

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1979 to September 1980 (discontinued).

BIOLOGICAL DATA: Water years 1979 to September 1980 (discontinued).

REMARKS.--Streamflow data obtained from gaging station American River at Fair Oaks (station 11446500).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (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)	
OCT 10...	1000	2540	60	7.4	18.5	7.8	10	3200	103	19	2	
DATE	TIME	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NITRATE TOTAL (MG/L AS N)	NITRO- GEN, NITRITE TOTAL (MG/L AS N)	
OCT 10...	1.6	2.9	33	.3	.8	17	7.0	2.3	36	.02	.06	
DATE	TIME	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)	ALGAL GROWTH POTEN- TIAL, BOTTLE TEST (MG/L)	
OCT 10...		.08	.09	.29	.24	.53	.61	.09	.097	.093	12	
DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT 10...	1000	1	20	<1	10	1	10	0	9	.0	0	2.2

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

SUSPENDED SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 10...	1000	2540	18.5	7	48

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA
(National stream-quality accounting network station)
(Formerly published as 11447500 Sacramento River at Sacramento)

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. Prior to Oct. 1, 1979, at site 13.4 mi (21.6 km) upstream at I Street Bridge, in city 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.--32 years (water years 1949-80), 23,680 ft³/s (671 m³/s), 17,156,000 acre-ft/yr (21.2 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 daily discharge, 94,600 ft³/s (2,680 m³/s) Jan. 15; minimum daily, 10,100 ft³/s (286 m³/s) Oct. 18, 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13200	12000	17200	38700	44800	71700	29400	16200	13500	18700	16400	15500
2	12600	11500	16300	42300	41600	71200	27900	16500	13800	19200	16400	15900
3	12800	11600	16000	42400	38900	70900	26100	15200	13000	19000	16500	16200
4	12600	12400	15600	40700	36500	70900	25900	13900	13300	17500	16700	16500
5	12600	12500	15300	37700	34700	70800	26800	13700	13400	17300	16400	15900
6	12500	13700	14900	35400	33200	71600	27400	13700	14100	16500	16900	15700
7	12200	14400	14700	33400	30700	72000	27800	13400	14700	16400	16400	15900
8	12900	14500	14400	31900	28000	71700	27900	13100	15300	16500	16000	15900
9	12700	14200	14700	30800	26900	69900	27100	14200	16100	16800	15700	15800
10	12500	14100	14800	31200	26000	68300	25900	15200	16200	16500	15600	15900
11	12300	13700	14500	32600	25300	66700	24900	16900	16600	16300	15900	16500
12	12800	13300	14200	36900	24300	65600	24000	18600	17600	16200	15200	16200
13	12900	12800	14000	67900	23900	64400	23100	18800	18000	16300	14400	15900
14	12900	12300	13800	94200	23700	62700	22500	19100	18600	16500	13900	16800
15	12200	12100	13700	94600	24800	60900	21900	18300	18700	16500	13900	16300
16	11000	12000	13900	91900	31200	58900	21100	18100	19000	16500	14000	15800
17	10600	12300	14000	86700	43100	57300	20600	17400	19600	16900	14000	16000
18	10100	13700	13900	85000	61600	55700	21000	16900	19900	17400	13400	16100
19	10100	18400	14300	78800	77400	53600	20200	16700	20000	18300	13700	16100
20	10500	20500	14800	77500	89100	51600	19400	15800	20300	18600	14500	16100
21	11200	18900	14800	75700	93900	49400	19500	15600	20700	18900	15000	16100
22	11300	17000	15900	72300	94100	46300	19600	16200	20500	19000	14600	15700
23	11500	16100	16500	70000	92300	43400	20000	16300	20400	18900	15000	15400
24	10500	15800	17500	69200	88600	40400	20000	15900	20300	18800	14800	15300
25	12400	16800	25800	68400	84100	37700	19400	16000	21000	18800	14300	15100
26	13500	18500	39800	66400	80900	35100	18700	15400	21000	18800	14100	14900
27	15500	20700	43000	64000	76800	33000	18000	14900	20100	18900	13600	16400
28	18300	21400	45500	61000	75800	32200	17100	16300	19700	19000	12500	17100
29	16500	20300	43100	57400	72500	31200	17800	15600	19700	18400	13300	15600
30	14300	18500	37700	53800	---	30600	16600	14600	19300	18600	14600	14000
31	12900	---	35300	48900	---	29800	---	14200	---	17500	14700	---
TOTAL	389900	456000	629900	1817700	1524700	1715500	677600	492700	534400	549500	462400	476600
MEAN	12560	15200	20320	58640	52580	55340	22590	15890	17810	17730	14920	15890
MAX	18300	21400	45500	94600	94100	72000	29400	19100	21000	19200	16900	17100
MIN	10100	11500	13700	30800	23700	29800	16600	13100	13000	16200	12500	14000
AC-FT	773400	904500	1249000	3605000	3024000	3403000	1344000	977300	1060000	1090000	917200	945300
CAL YR 1979	TOTAL	6859100	MEAN	18790	MAX	71300	MIN	10100	AC-FT	13610000		
WTR YR 1980	TOTAL	9726900	MEAN	26580	MAX	94600	MIN	10100	AC-FT	19290000		

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

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.

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, 23.5°C Aug. 1-3; minimum recorded, 7.5°C Dec. 28-30.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 507 mg/L Dec. 27; minimum daily mean, 16 mg/L on several days during October.

SEDIMENT DISCHARGE: Maximum daily, 129,000 tons (117,000 metric tons) Jan. 15; minimum daily, 436 tons (396 metric tons) Oct. 18, 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CaCO3)
OCT , 1979										
17...	1000	14100	118	7.8	19.0	7.0	8.7	280	K13	51
NOV										
27...	1130	19500	135	7.8	11.0	20	10.2	66	120	54
DEC										
18...	1045	16100	118	7.2	8.5	5.0	11.0	38	K15	50
JAN , 1980										
17...	1130	84300	64	6.9	10.0	75	11.3	--	K500	27
FEB										
27...	1230	76300	91	7.4	11.0	60	10.4	40	104	37
MAR										
19...	1100	53900	126	7.7	11.0	60	10.6	48	40	51
APR										
29...	1030	20600	124	7.4	15.5	6.0	10.0	38	K8	45
MAY										
28...	1300	19900	197	7.7	18.5	15	8.3	K10	K7	64
JUN										
23...	1000	22800	113	7.6	19.5	13	8.6	84	16	41
JUL										
16...	1100	18200	134	7.5	21.5	4.0	8.6	22	K11	47
AUG										
20...	1100	14600	183	7.9	21.0	10	8.0	K35	11	65
SEP										
17...	1030	14200	192	7.8	19.0	12	8.3	140	33	68

See footnotes at end of table.

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT , 1979										
17...	0	11	5.8	8.6	39	.5	1.3	57	11	5.6
NOV										
27...	0	12	5.9	11	43	.7	1.5	60	15	7.0
DEC										
18...	0	11	5.4	8.3	38	.5	1.2	57	8.1	5.2
JAN , 1980										
17...	0	6.4	2.6	3.0	19	.3	.7	28	1.5	1.9
FEB										
27...	0	8.2	3.9	4.0	19	.3	1.1	37	2.2	2.2
MAR										
19...	0	11	5.6	6.4	21	.4	1.0	52	7.5	3.4
APR										
29...	0	9.7	5.0	6.6	24	.4	1.0	46	6.8	4.6
MAY										
28...	1	13	7.6	15	33	.8	1.2	63	16	8.8
JUN										
23...	0	9.0	4.5	6.3	25	.4	.8	42	5.4	3.6
JUL										
16...	0	9.9	5.4	8.3	27	.5	.9	48	9.5	5.0
AUG										
20...	0	13	7.8	13	30	.7	1.1	71	8.4	7.2
SEP										
17...	0	13	8.7	14	30	.7	1.5	80	9.8	11

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	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)
OCT , 1979									
17...	.1	17	96	95	.13	.11	.12	--	.21
NOV									
27...	.1	19	--	109	--	.21	.21	.11	.12
DEC									
18...	.1	18	100	92	.14	.12	.04	.15	.16
JAN , 1980									
17...	.1	10	--	44	--	.13	.13	.04	.00
FEB									
27...	.0	14	59	59	.08	.23	.23	.10	.07
MAR									
19...	.0	17	88	84	.12	.18	.18	.06	.08
APR									
29...	.1	15	71	76	.10	.11	.13	.17	.15
MAY									
28...	.1	16	116	116	.16	.15	.15	.14	.14
JUN									
23...	.1	16	78	71	.11	.10	.11	.11	.13
JUL									
16...	.2	16	88	84	.12	.06	.06	.07	.05
AUG									
20...	.2	18	112	112	.15	.04	.04	.08	.06
SEP									
17...	.1	17	122	124	.17	.08	.09	.06	.08

See footnotes at end of table.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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,AM- MONIA + ORGANIC DIS- (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT , 1979									
17...	--	.26	.59	.47	--	.59	.10	.07	3.7
NOV									
27...	.72	.62	.83	.74	1.0	.95	.11	.07	--
DEC									
18...	.28	.24	.43	.40	.55	.44	.08	.06	3.4
JAN , 1980									
17...	.82	.82	.86	.82	.99	.95	.09	.02	3.7
FEB									
27...	.03	.00	.13	.03	.36	.26	.11	.04	--
MAR									
19...	.53	.42	.59	.50	.77	.68	.07	.04	5.3
APR									
29...	.34	.26	.51	.41	.62	.54	.07	.06	2.4
MAY									
28...	--	.38	--	.52	--	.67	.13	.08	--
JUN									
23...	.47	.27	.58	.40	.68	.51	.08	.07	2.3
JUL									
16...	.45	.39	.52	.44	.58	.50	.08	.06	1.9
AUG									
20...	.63	.36	.71	.42	.75	.46	.10	.07	--
SEP									
17...	.56	.32	.62	.40	.70	.49	.12	.07	2.9

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 , 1979											
27...	1130	2	1	200	40	2	<1	0	0	0	<3
FEB , 1980											
27...	1230	1	1	200	30	3	2	10	0	2	<3
MAY											
28...	1300	2	3	0	40	2	0	0	0	1	0
AUG											
20...	1100	2	2	0	30	0	<1	20	0	0	<3

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 , 1979										
27...	8	3	2000	40	6	0	60	7	.1	.0
FEB , 1980										
27...	50	3	4100	40	51	6	80	10	.2	.1
MAY										
28...	3	2	1600	30	9	0	50	10	.1	.0
AUG										
20...	10	3	1200	30	4	2	50	9	.1	.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 (MG/L AS C)
NOV , 1979										
27...	7	3	0	0	0	0	0	<3	3.3	.0
FEB , 1980										
27...	11	0	0	0	3	0	90	6	4.9	--
MAY										
28...	12	5	0	0	1	0	30	10	3.4	.3
AUG										
20...	5	0	0	0	0	0	20	4	3.6	.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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES
OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	NOV 27,79 1130	MAR 19,80 1100	MAY 28,80 1300	JUN 23,80 1000
TOTAL CELLS/ML	1900	820	1600	1300
DIVERSITY: DIVISION	0.2	0.6	1.3	1.1
..CLASS	0.2	0.6	1.3	1.1
..ORDER	0.5	0.9	2.0	1.6
...FAMILY	1.7	1.1	2.6	2.2
....GENUS	1.8	2.3	3.1	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	39	2	--	-
....OCYSTACEAE								
....ANKISTRODESMUS	34	2	43	5	26	2	--	-
....CHLORELLA	--	-	--	-	--	-	13	1
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	13	1	--	-
....TETRAEDRON	--	-	--	-	13	1	--	-
....SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	100	6	--	-
....SCENEDESMUS	--	-	57	7	77	5	150	12
..TETRASPOALES								
...PALMELLACEAE								
...GLOEOCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CARTERIA	--	-	14	2	--	-	--	-
...CHLAMYDOMONAS	--	-	--	-	51	3	26	2
...PHACOTACEAE								
...PTEROMONAS	--	-	--	-	13	1	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCAEAE								
....CYCLOTELLA	20	1	170#	21	530#	33	140	11
....MELOSIRA	80	4	330#	40	140	9	--	-
....STEPHANODISCUS	--	-	160#	19	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	20	1	--	-	--	-	--	-
....COCCONEIS	*	0	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	13	1	--	-
....EPITHEMIA	34	2	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	20	1	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	1300#	68	--	-	210	13	--	-
....SYNEDRA	13	1	--	-	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	20	1	--	-	--	-	--	-
...NAVICULACEAE								
....GYROSIGMA	--	-	--	-	--	-	--	-
....NAVICULA	87	4	--	-	39	2	--	-
...NITZSCHACEAE								
....HANTZSCHIA	--	-	14	2	--	-	--	-
....NITZSCHIA	290	15	29	4	90	6	26	2
...XANTHOPHYCEAE								
...HETEROCOCCALES								
...CHLOROTHECIACEAE								
...OPHIOCYTIUM	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	270#	17	77	6
...HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	630#	49
....APHANIZOMENON	--	-	--	-	--	-	--	-
...OSCILLATORACEAE								
....OSCILLATORIA	--	-	--	-	--	-	210#	16
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
....EUGLENA	*	0	--	-	--	-	--	-

See footnotes at end of table.

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES
OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PHYTOPLANKTON

DATE TIME	JUL 16,80 1100	AUG 20,80 1100	SEP 17,80 1030
TOTAL CELLS/ML	2600	880	220
DIVERSITY: DIVISION	1.2	1.5	0.3
..CLASS	1.2	1.6	0.3
...ORDER	2.0	2.1	0.8
...FAMILY	2.2	2.3	1.0
...GENUS	2.5	2.4	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...MICRACTINIACEAE						
....GOLENKINIA	--	-	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	29	1	--	-	--	-
....CHLORELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	52	6	--	-
....KIRCHNERIELLA	57	2	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-
....TETRAEDRON	14	1	--	-	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	--	-	--	-	--	-
....SCENEDESMUS	57	2	150#	18	--	-
..TETRASPORALES						
...PALMELLACEAE						
....GLOEOCYSTIS	57	2	--	-	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CARTERIA	--	-	--	-	--	-
....CHLAMYDOMONAS	57	2	13	1	13	6
...PHACOTACEAE						
....PTEROMONAS	--	-	--	-	--	-
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
....CYCLOTELLA	550#	21	77	9	64#	29
....MELOSIRA	110	4	26	3	120#	53
....STEPHANODISCUS	--	-	--	-	--	-
..PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	14	1	--	-	--	-
....EPITHEMIA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....FRAGILARIA	1100#	41	300#	34	--	-
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....GYROSIGMA	--	-	--	-	13	6
....NAVICULA	--	-	--	-	--	-
...NITZSCHACEAE						
....HANTZSCHIA	--	-	--	-	--	-
....NITZSCHIA	72	3	--	-	13	6
..XANTHOPHYCEAE						
...HETEROCOCCALES						
...CHLOROTHECIACEAE						
....OPHIOCYTIUM	--	-	13	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	460#	18	--	-	--	-
....ANACYSTIS	57	2	--	-	--	-
...HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	--	-	--	-
....APHANIZOMENON	--	-	240#	28	--	-
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-

NOTE: # - Dominant organism; equal to or greater than 15%

* - Observed organism, may not have been counted; less than 1/2%

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

QUALITATIVE AND ASSOCIATED QUANTITATIVE ANALYSES
OF BIOLOGICAL DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

PERIPHYTON

DATE	LENGTH OF EXPO- SURE (DAYS)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	Sampling method
OCT 17...	34	30.1	28.4	44.1	1.17	38.5	Polyethylene strip
MAY 28...	29	29.8	22.8	9.42	.000	743	do
JUN 23...	26	7.09	3.23	31.8	9.58	121	do
AUG 20...	35	19.3	14.2	59.9	6.88	85.1	do

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	13200	19	677	12000	18	583	17200	27	1250
2	12600	18	612	11500	17	528	16300	25	1100
3	12800	18	622	11600	17	532	16000	24	1040
4	12600	18	612	12400	18	603	15600	24	1010
5	12600	18	612	12500	18	607	15300	24	991
6	12500	18	607	13700	20	740	14900	23	925
7	12200	18	593	14400	22	855	14700	23	913
8	12900	19	662	14500	21	822	14400	23	894
9	12700	18	617	14200	21	805	14700	23	913
10	12500	18	607	14100	21	799	14800	23	919
11	12300	18	598	13700	20	740	14500	22	861
12	12800	19	657	13300	20	718	14200	22	843
13	12900	18	627	12800	20	691	14000	22	832
14	12900	19	662	12300	18	598	13800	22	820
15	12200	18	593	12100	18	588	13700	22	814
16	11000	17	505	12000	18	583	13900	22	826
17	10600	16	458	12300	18	598	14000	22	832
18	10100	16	436	13700	21	777	13900	21	788
19	10100	16	436	18400	29	1440	14300	22	849
20	10500	16	454	20500	33	1830	14800	23	919
21	11200	17	514	18900	30	1530	14800	23	919
22	11300	17	519	17000	26	1190	15900	24	1030
23	11500	17	528	16100	25	1090	16500	25	1110
24	10500	16	454	15800	24	1020	17500	31	1460
25	12400	17	569	16800	26	1180	25800	100	6970
26	13500	20	729	18500	29	1450	39800	490	52700
27	15500	23	963	20700	34	1900	43000	507	58900
28	18300	28	1380	21400	34	1960	45500	212	26000
29	16500	24	1070	20300	32	1750	43100	172	20000
30	14300	22	849	18500	29	1450	37700	198	20200
31	12900	20	697	---	---	---	35300	120	11400
TOTAL	389900	---	19919	456000	---	29957	629900	---	219028

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	38700	124	13000	44800	116	14000	71700	207	40100
2	42300	142	16200	41600	111	12500	71200	156	30000
3	42400	120	13700	38900	120	12600	70900	155	29700
4	40700	104	11400	36500	114	11200	70900	150	28700
5	37700	87	8860	34700	88	8240	70800	139	26600
6	35400	82	7840	33200	106	9500	71600	137	26500
7	33400	73	6580	30700	106	8790	72000	134	26000
8	31900	67	5770	28000	106	8010	71700	124	24000
9	30800	68	5650	26900	104	7550	69900	134	25300
10	31200	62	5220	26000	102	7160	68300	110	20300
11	32600	76	6690	25300	99	6760	66700	153	27600
12	36900	110	11000	24300	96	6300	65600	165	29200
13	67900	320	58700	23900	84	5420	64400	154	26800
14	94200	368	93600	23700	72	4610	62700	135	22900
15	94600	506	129000	24800	67	4490	60900	116	19100
16	91900	434	108000	31200	65	5480	58900	152	24200
17	86700	343	80300	43100	116	13500	57300	198	30600
18	85000	325	74600	61600	260	43200	55700	203	30500
19	78800	240	51100	77400	432	90300	53600	203	29400
20	77500	240	50200	89100	306	73600	51600	149	20800
21	75700	232	47400	93900	250	63400	49400	142	18900
22	72300	205	40000	94100	252	64000	46300	162	20300
23	70000	194	36700	92300	220	54800	43400	168	19700
24	69200	217	40500	88600	195	46600	40400	150	16400
25	68400	249	46000	84100	133	30200	37700	141	14400
26	66400	279	50000	80900	198	43200	35100	120	11400
27	64000	196	33900	76800	120	24900	33000	102	9090
28	61000	157	25900	75800	143	29300	32200	105	9130
29	57400	139	21500	72500	161	31500	31200	84	7080
30	53800	125	18200	---	---	---	30600	73	6030
31	48900	123	16200	---	---	---	29800	71	5710
TOTAL	1817700	---	1133710	1524700	---	741110	1715500	---	676440
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	29400	58	4600	16200	27	1180	13500	20	729
2	27900	53	3990	16500	27	1200	13800	21	782
3	26100	47	3310	15200	24	985	13000	20	702
4	25900	46	3220	13900	22	826	13300	20	718
5	26800	50	3620	13700	22	814	13400	21	760
6	27400	52	3850	13700	22	814	14100	22	838
7	27800	50	3750	13400	21	760	14700	23	913
8	27900	52	3920	13100	22	778	15300	24	991
9	27100	50	3660	14200	23	882	16100	25	1090
10	25900	47	3290	15200	24	985	16200	25	1090
11	24900	44	2960	16900	27	1230	16600	26	1170
12	24000	42	2720	18600	31	1560	17600	27	1280
13	23100	40	2490	18800	31	1570	18000	27	1310
14	22500	38	2310	19100	30	1550	18600	29	1460
15	21900	36	2130	18300	30	1480	18700	29	1460
16	21100	35	1990	18100	30	1470	19000	30	1540
17	20600	34	1890	17400	28	1320	19600	31	1640
18	21000	35	1980	16900	27	1230	19900	32	1720
19	20200	37	2020	16700	27	1220	20000	32	1730
20	19400	37	1940	15800	25	1070	20300	32	1750
21	19500	31	1630	15600	25	1050	20700	32	1790
22	19600	32	1690	16200	26	1140	20500	32	1770
23	20000	33	1780	16300	26	1140	20400	33	1820
24	20000	34	1840	15900	25	1070	20300	33	1810
25	19400	32	1680	16000	25	1080	21000	33	1870
26	18700	31	1570	15400	24	998	21000	32	1810
27	18000	29	1410	14900	24	966	20100	31	1680
28	17100	29	1340	16300	27	1190	19700	30	1600
29	17800	29	1390	15600	26	1100	19700	30	1600
30	16600	29	1300	14600	24	946	19300	30	1560
31	---	---	---	14200	23	882	---	---	---
TOTAL	677600	---	75270	492700	---	34486	534400	---	40983

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	18700	30	1510	16400	27	1200	15500	23	963
2	19200	30	1560	16400	27	1200	15900	23	987
3	19000	30	1540	16500	27	1200	16200	24	1050
4	17500	27	1280	16700	27	1220	16500	24	1070
5	17300	27	1260	16400	27	1200	15900	23	987
6	16500	26	1160	16900	27	1230	15700	24	1020
7	16400	26	1150	16400	27	1200	15900	24	1030
8	16500	24	1070	16000	26	1120	15900	24	1030
9	16800	25	1130	15700	26	1100	15800	24	1020
10	16500	25	1110	15600	26	1100	15900	24	1030
11	16300	25	1100	15900	26	1120	16500	24	1070
12	16200	25	1090	15200	26	1070	16200	24	1050
13	16300	25	1100	14400	20	778	15900	24	1030
14	16500	25	1110	13900	20	751	16800	25	1130
15	16500	25	1110	13900	20	751	16300	24	1060
16	16500	25	1110	14000	20	756	15800	24	1020
17	16900	25	1140	14000	20	756	16000	24	1040
18	17400	28	1320	13400	20	724	16100	24	1040
19	18300	29	1430	13700	21	777	16100	24	1040
20	18600	30	1510	14500	22	861	16100	24	1040
21	18900	30	1530	15000	23	931	16100	24	1040
22	19000	30	1540	14600	24	946	15700	23	975
23	18900	29	1480	15000	22	891	15400	23	956
24	18800	29	1470	14800	23	919	15300	23	950
25	18800	29	1470	14300	22	849	15100	22	897
26	18800	29	1470	14100	22	838	14900	22	885
27	18900	29	1480	13600	21	771	16400	24	1060
28	19000	29	1490	12500	20	675	17100	27	1250
29	18400	28	1390	13300	21	754	15600	27	1140
30	18600	28	1410	14600	22	867	14000	24	907
31	17500	28	1320	14700	22	873	---	---	---
TOTAL	549500	---	40840	462400	---	29428	476600	---	30767
YEAR	9726900		3071938						

SUMMARY OF WATER AND SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

MONTH	WATER DISCHARGE CFS-DAYS	SUSPENDED SEDIMENT DISCHARGE TONS	BEDLOAD DISCHARGE TONS	TOTAL SEDIMENT DISCHARGE TONS
OCTOBER 1979	389900.00	19919.00	68	20000
NOVEMBER ...	456000.00	29957.00	360	30300
DECEMBER ...	629900.00	219028.00	9890	229000
JANUARY 1980	1817700.00	1133710.00	195000	1330000
FEBRUARY ...	1524700.00	741110.00	164000	906000
MARCH	1715500.00	676440.00	154000	830000
APRIL	677600.00	75270.00	3870	79100
MAY	492700.00	34486.00	291	34800
JUNE	534400.00	40983.00	732	41700
JULY	549500.00	40840.00	549	41400
AUGUST	462400.00	29428.00	170	29600
SEPTEMBER ..	476600.00	30767.00	235	31000
TOTAL	9726900.00	3071938.00	529165	3602900

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
OCT								
17...	1000	14100	19.0	22	838	--	--	--
NOV								
27...	1130	19500	11.0	54	2840	--	--	--
DEC								
18...	1045	16100	8.5	13	565	--	--	--
31...	1030	36200	8.0	101	9870	32	36	45
JAN								
17...	1130	84300	10.0	305	69400	--	--	--
FEB								
25...	1300	83700	10.0	127	28700	21	27	32
27...	1230	76300	11.0	120	24700	--	--	--
MAR								
07...	1335	72500	11.0	135	26400	22	28	33
19...	1100	53900	11.0	206	30000	--	--	--
APR								
10...	1125	25900	13.0	44	3080	--	--	--
29...	1030	20600	15.5	19	1060	--	--	--
MAY								
28...	1300	19900	19.0	35	1880	--	--	--
JUN								
23...	1000	22800	20.0	49	3020	--	--	--
JUL								
16...	1100	18200	21.5	15	737	--	--	--
AUG								
20...	1010	16100	21.0	36	1570	--	--	--
20...	1100	14600	21.0	32	1260	--	--	--
SEP								
17...	1000	15000	19.0	43	1740	--	--	--
17...	1030	14200	19.0	37	1420	--	--	--

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
OCT								
17...	--	--	95	--	--	--	--	--
NOV								
27...	--	--	94	--	--	--	--	--
DEC								
18...	--	--	84	--	--	--	--	--
31...	55	67	76	90	97	98	99	100
JAN								
17...	--	--	57	--	--	--	--	--
FEB								
25...	38	45	52	63	89	99	100	--
27...	--	--	66	--	--	--	--	--
MAR								
07...	38	43	48	48	90	99	100	--
19...	--	--	73	--	--	--	--	--
APR								
10...	--	--	89	97	99	100	--	--
29...	--	--	96	97	100	--	--	--
MAY								
28...	--	--	99	100	--	--	--	--
JUN								
23...	--	--	89	--	--	--	--	--
JUL								
16...	--	--	96	--	--	--	--	--
AUG								
20...	--	--	95	97	99	100	--	--
20...	--	--	94	--	--	--	--	--
SEP								
17...	--	--	97	99	100	--	--	--
17...	--	--	93	--	--	--	--	--

SACRAMENTO RIVER BASIN
11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued
PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (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
NOV							
14...	1115	13.0	1	13800	0	2	4
14...	1116	13.0	1	13800	--	0	3
14...	1117	13.0	1	13800	1	4	37
14...	1118	13.0	1	13800	1	3	20
14...	1119	13.0	1	13800	1	3	26
14...	1420	13.0	1	6640	1	1	3
14...	1421	13.0	1	6640	--	0	2
14...	1422	13.0	1	6640	0	4	54
14...	1423	13.0	1	6640	0	1	10
14...	1424	13.0	1	6640	4	8	30
DEC							
19...	1045	9.0	1	16300	76	94	99
19...	1046	9.0	1	16300	18	38	73
19...	1047	9.0	1	16300	0	9	13
19...	1048	9.0	1	16300	0	1	24
19...	1049	9.0	1	16300	0	3	52
19...	1050	9.0	1	16300	--	0	1
19...	1051	9.0	1	16300	36	48	62
31...	1015	8.0	1	36200	--	--	0
31...	1016	8.0	1	36200	--	0	3
31...	1017	8.0	1	36200	0	1	15
31...	1018	8.0	1	36200	0	2	24
31...	1019	8.0	1	36200	0	2	53
JAN							
17...	1200	10.5	1	84300	--	0	1
17...	1201	10.5	1	84300	0	1	22
17...	1202	10.5	1	84300	--	0	3
17...	1203	10.5	1	84300	0	1	16
17...	1204	10.5	1	84300	--	0	1
FEB							
25...	1330	10.5	1	83700	86	89	91
25...	1331	10.5	1	83700	--	0	1
25...	1332	10.5	1	83700	--	0	2
25...	1333	10.5	1	83700	--	0	23
25...	1334	10.5	1	83700	0	1	34
MAR							
07...	1320	11.0	1	72500	12	26	48
07...	1321	11.0	1	72500	--	0	1
07...	1322	11.0	1	72500	--	0	7
07...	1323	11.0	1	72500	0	1	20

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
NOV						
14...	17	60	79	88	98	100
14...	68	97	100	--	--	--
14...	80	98	100	--	--	--
14...	58	99	100	--	--	--
14...	98	100	--	--	--	--
14...	5	34	67	83	97	100
14...	54	95	100	--	--	--
14...	94	100	--	--	--	--
14...	63	99	100	--	--	--
14...	75	100	--	--	--	--
DEC						
19...	99	99	100	--	--	--
19...	98	99	100	--	--	--
19...	83	99	99	99	100	--
19...	72	99	100	--	--	--
19...	95	99	100	--	--	--
19...	27	92	99	99	100	--
19...	76	94	97	99	100	--
31...	1	36	84	98	100	--
31...	79	99	100	--	--	--
31...	76	99	100	--	--	--
31...	82	100	--	--	--	--
31...	100	--	--	--	--	--
JAN						
17...	23	96	100	--	--	--
17...	90	100	--	--	--	--
17...	65	99	100	--	--	--
17...	72	100	--	--	--	--
17...	2	24	70	89	97	100
FEB						
25...	95	99	100	--	--	--
25...	8	71	96	98	100	--
25...	45	98	100	--	--	--
25...	96	100	--	--	--	--
25...	99	100	--	--	--	--
MAR						
07...	76	98	100	--	--	--
07...	36	97	100	--	--	--
07...	64	99	100	--	--	--
07...	82	100	--	--	--	--

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (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
MAR							
07...	1324	11.0	1	72500	--	0	38
APR							
10...	1125	13.0	1	25900	4	7	25
10...	1126	13.0	1	25900	--	0	2
10...	1127	13.0	1	25900	--	0	19
10...	1128	13.0	1	25900	0	1	36
10...	1129	13.0	1	25900	76	93	98
JUN							
12...	1300	19.0	1	20900	5	11	60
12...	1301	19.0	1	20900	0	1	23
12...	1302	19.0	1	20900	0	1	26
12...	1303	19.0	1	20900	--	0	2
12...	1304	19.0	1	20900	--	0	1
JUL							
16...	1000	21.5	1	17100	0	1	26
16...	1001	21.5	1	17100	1	3	36
16...	1002	21.5	1	17100	0	1	18
16...	1003	21.5	1	17100	--	0	7
16...	1004	21.5	1	17100	2	4	8
SEP							
30...	0915	19.0	1	15400	0	1	17
30...	0916	19.0	1	15400	1	2	26
30...	0917	19.0	1	15400	1	2	30
30...	0918	19.0	1	15400	--	0	7
30...	0919	19.0	1	15400	0	1	2

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
MAR						
07...	100	--	--	--	--	--
APR						
10...	79	93	100	--	--	--
10...	69	96	100	--	--	--
10...	69	97	100	--	--	--
10...	78	99	100	--	--	--
10...	100	--	--	--	--	--
JUN						
12...	99	100	--	--	--	--
12...	68	100	--	--	--	--
12...	66	98	100	--	--	--
12...	52	97	100	--	--	--
12...	7	55	96	100	--	--
JUL						
16...	99	100	--	--	--	--
16...	78	100	--	--	--	--
16...	62	98	100	--	--	--
16...	60	98	100	--	--	--
16...	14	33	39	39	47	100
SEP						
30...	98	100	--	--	--	--
30...	74	99	100	--	--	--
30...	72	98	100	--	--	--
30...	58	96	100	--	--	--
30...	6	48	95	100	--	--

SACRAMENTO RIVER BASIN

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11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	TUR- BID- ITY (NTU)
OCT						
17...	1000	14100	19.0	22	838	7.0
23...	1415	14500	16.0	23	900	8.0
27...	1515	16100	16.5	28	1220	10
28...	1645	18100	16.0	60	2930	20
31...	1415	9100	15.0	31	762	22
NOV						
02...	1610	5420	14.0	11	161	8.0
05...	1845	5850	13.5	21	332	7.0
06...	1830	8700	14.5	15	352	8.0
08...	1630	16700	14.0	33	1490	13
12...	1530	8530	13.5	17	392	7.0
14...	0945	15500	13.0	32	1340	9.0
14...	1115	13800	13.0	23	857	8.0
14...	1140	12200	13.0	20	659	8.0
14...	1340	7300	13.0	13	256	4.0
14...	1420	6640	13.0	11	197	6.0
16...	1530	6770	14.0	8	146	5.0
19...	1640	16600	12.5	40	1790	14
24...	1700	17200	11.0	36	1670	13
26...	1415	16100	11.0	40	1740	15
27...	1130	19500	11.0	54	2840	20
27...	1625	19700	10.5	69	3670	22
29...	1730	17900	10.5	61	2950	26
30...	1330	17300	10.5	56	2620	24
DEC						
02...	1640	10600	10.5	18	515	8.0
03...	1615	11500	11.0	17	528	9.0
07...	1615	16600	11.0	20	896	8.0
10...	1545	13700	11.0	24	888	8.0
12...	1630	13000	10.0	12	421	5.0
14...	1545	7850	9.0	11	233	6.0
18...	1045	16100	8.5	13	565	5.0
19...	1045	16300	9.0	14	616	5.0
19...	1150	16400	9.0	16	708	5.0
22...	1720	12700	9.5	17	583	7.0
25...	1710	32500	9.0	130	11400	31
26...	1140	38500	9.0	507	52700	170
26...	1225	38500	9.0	533	55400	170
26...	1305	38700	9.0	574	60000	170
27...	1810	44100	8.5	437	52000	140
28...	1730	46100	8.0	153	19000	60
30...	1545	34600	7.5	199	18600	60
31...	1000	36200	8.0	118	11500	40
31...	1015	36200	8.0	114	11100	32
31...	1100	36000	8.0	113	11000	45
31...	1550	32400	8.5	93	8140	50
JAN						
08...	1900	31900	10.0	64	5510	20
10...	1355	29500	9.5	68	5420	24
10...	1530	31600	9.5	72	6140	24
11...	1800	33800	10.0	77	7030	28
12...	1800	39600	11.0	126	13500	33
13...	1900	81000	12.0	392	85700	75
14...	1120	96200	10.5	324	84200	90
14...	1530	92700	11.0	410	103000	75
15...	1530	94500	10.5	519	132000	150
16...	1630	91100	10.5	412	101000	110
17...	1130	84300	10.0	305	69400	75
17...	1200	84300	10.5	305	69400	65
17...	2145	86200	10.5	344	80100	110
18...	1015	85900	9.5	366	84900	80
18...	1900	83400	9.5	252	56700	75
20...	1410	78200	9.0	240	50700	50
21...	1600	75900	9.0	232	47500	55
21...	2145	75500	9.0	210	42800	55
22...	1530	72500	9.5	201	39300	75
23...	1615	70200	9.5	192	36400	75
24...	2000	69100	9.0	234	43700	75
25...	1610	68300	8.5	252	46500	55
26...	1710	66100	8.5	286	51000	50
27...	1720	63700	9.0	168	28900	50
28...	1730	60400	9.0	154	25100	45
FEB						
02...	2100	40500	8.0	114	12500	31
03...	1600	38200	8.0	124	12800	37
05...	2000	32900	9.0	88	7820	32
06...	1530	33900	10.0	112	10300	36
12...	2000	26800	10.0	96	6950	34
14...	2100	26400	10.5	72	5130	32
16...	1130	31600	11.0	67	5720	33

SACRAMENTO RIVER BASIN

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
FEB						
17...	2100	48200	10.0	223	29000	55
18...	2030	67300	11.0	376	68300	75
19...	1530	79200	11.0	449	96000	150
20...	1530	90200	10.5	256	62300	85
21...	2030	94200	10.0	252	64100	60
22...	1530	94100	10.0	253	64300	60
23...	2200	90700	10.0	205	50200	45
24...	2000	87900	10.0	189	44900	45
25...	1330	83700	10.0	127	28700	50
25...	1345	83700	10.0	151	34100	50
27...	1230	76300	11.0	120	24700	60
27...	2130	77400	11.0	132	27600	60
29...	2015	72200	11.0	175	34100	60
MAR						
01...	1100	71800	11.0	227	44000	45
02...	1220	71200	11.0	201	38600	45
03...	0640	70900	10.5	155	29700	50
05...	1555	70800	10.5	138	26400	36
06...	1530	71900	11.0	138	26800	34
07...	0920	72700	11.0	121	23800	39
07...	1320	72500	11.0	135	26400	33
09...	1535	70400	11.5	142	27000	40
10...	0910	68800	11.5	102	18900	40
11...	1605	66700	11.5	166	29900	45
13...	0915	64900	11.5	153	26800	35
15...	1600	60200	11.0	114	18500	40
17...	0845	57700	10.5	196	30500	38
19...	1100	53900	11.0	206	30000	60
19...	1545	53600	11.0	218	31500	50
20...	0735	51600	10.5	150	20900	35
21...	1930	49100	11.0	141	18700	32
22...	1500	46200	12.0	170	21200	33
23...	1600	43300	12.0	163	19100	32
25...	1635	37500	11.5	140	14200	34
26...	1645	34000	11.5	104	9550	32
28...	1330	32800	12.0	104	9210	28
29...	1315	32300	12.5	82	7150	23
31...	0930	30200	12.5	70	5710	22
APR						
02...	1900	25400	12.0	69	4730	17
04...	2130	24300	12.0	77	5050	17
05...	1800	28500	12.5	62	4770	14
07...	2045	29100	13.0	71	5580	18
08...	2100	28900	12.5	92	7180	22
10...	1120	25900	13.0	44	3080	18
10...	1140	25900	13.0	47	3290	19
11...	1930	25600	13.5	55	3800	12
14...	2130	23500	14.5	39	2480	11
16...	2130	19800	15.0	29	1550	4.0
17...	2130	18700	15.0	51	2580	14
18...	1700	23700	15.0	39	2500	14
21...	1640	21400	14.5	41	2370	13
22...	1740	21600	13.5	24	1400	6.0
23...	2030	22100	13.0	12	716	3.0
24...	1915	21300	13.5	34	1960	13
25...	1245	20400	14.0	34	1870	10
26...	1910	19300	14.5	38	1980	10
29...	1030	20600	15.5	19	1060	6.0
29...	1610	16200	15.5	31	1360	8.0
30...	1530	18700	15.5	31	1570	7.0
MAY						
01...	1415	20200	16.0	24	1310	6.0
02...	1915	13400	16.5	15	543	6.0
03...	1935	11800	16.5	16	510	6.0
04...	1730	17200	17.5	31	1440	6.0
05...	1830	16500	17.0	25	1110	7.0
06...	2045	14600	17.5	24	946	6.0
07...	1850	16300	17.5	25	1100	6.0
08...	1520	14900	18.0	27	1090	7.0
10...	1830	16900	16.0	32	1460	9.0
11...	1720	15000	16.0	36	1460	10
12...	1420	21000	16.0	58	3290	17
13...	1115	21800	16.0	53	3120	18
13...	1730	16700	16.0	48	2160	22
14...	2020	15100	16.5	33	1350	11
15...	1720	20600	17.0	44	2450	18
16...	1730	21100	18.0	45	2560	15
18...	2100	14600	19.0	30	1180	12
19...	1100	15400	19.5	28	1160	10
20...	1915	17600	20.0	29	1380	8.0

11447650 SACRAMENTO RIVER AT FREEPORT, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	TUR- BID- ITY (NTU)
MAY						
21...	1115	12200	20.0	15	494	8.0
22...	1945	10300	19.5	30	1480	12
23...	1630	15600	19.0	22	927	4.0
26...	1700	12300	19.0	28	930	11
28...	1300	19900	19.0	35	1880	15
28...	1345	19900	19.0	37	1990	10
29...	1510	19400	19.5	38	1990	13
31...	1600	16800	19.5	32	1450	12
JUN						
03...	1320	17200	22.0	25	1160	7.0
03...	1745	16300	20.0	30	1320	12
04...	1630	16700	20.0	28	1260	12
05...	1810	16600	19.5	27	1210	13
06...	1430	16100	19.0	21	913	8.0
07...	1700	16800	19.5	32	1450	7.0
08...	1740	17200	19.5	24	1120	5.0
09...	1315	14700	20.5	32	1270	8.0
10...	2015	18900	19.5	29	1480	8.0
11...	1930	17900	20.0	23	1110	7.0
12...	0930	20800	18.5	33	1850	7.0
12...	1300	20900	19.0	34	1920	6.0
12...	1315	20900	18.5	47	2650	11
13...	1320	21400	19.5	23	1330	10
14...	1830	16900	19.5	38	1730	12
15...	2045	15500	19.5	32	1340	11
16...	1530	22000	20.0	44	2610	13
17...	1600	22400	20.5	39	2360	11
20...	1740	22100	20.5	39	2330	12
23...	1000	22800	20.0	49	3020	13
23...	1630	20100	20.0	37	2010	11
24...	0845	23000	19.5	39	2420	7.0
25...	2020	22100	19.0	35	2090	10
26...	0840	23300	19.0	31	1950	8.0
27...	0820	22200	20.0	37	2220	8.0
JUL						
01...	2230	18100	19.5	18	880	5.0
02...	2045	15900	19.0	22	944	6.0
04...	1330	19200	20.0	21	1090	5.0
07...	2030	18400	19.5	27	1340	7.0
08...	2020	18700	19.5	25	1260	7.0
10...	1930	16500	20.5	14	624	1.0
11...	1130	20000	21.5	19	1030	4.0
12...	2000	14800	21.5	11	440	4.0
13...	2030	14400	20.5	11	428	3.0
14...	2045	13600	21.0	10	367	3.0
15...	1910	13700	21.0	9	333	3.0
16...	1000	17100	21.5	18	831	5.0
16...	1040	17900	21.5	20	967	5.0
16...	1100	18200	21.5	15	737	4.0
21...	2045	18500	22.5	22	1100	4.0
23...	2045	19800	23.0	17	909	3.0
24...	2110	20000	23.0	21	1130	5.0
28...	1800	16200	22.5	20	875	7.0
30...	1500	21600	23.0	26	1520	5.0
31...	1830	15200	22.5	17	698	4.0
AUG						
02...	1550	19000	23.5	14	718	3.0
04...	1710	18700	23.0	20	1010	3.0
05...	2000	18100	22.0	13	635	1.0
09...	1500	15400	22.5	37	1540	6.0
20...	1010	16100	21.0	36	1570	9.0
20...	1035	15700	21.0	47	1990	9.0
20...	1100	14600	21.0	32	1260	10
21...	1245	13200	22.0	39	1390	9.0
22...	1915	16400	21.5	20	886	7.0
24...	2030	16400	21.0	23	1020	6.0
SEP						
04...	2020	17800	21.5	35	1680	9.0
05...	2015	17700	21.5	28	1340	6.0
07...	2010	17100	21.0	23	1060	10
09...	2010	15600	21.5	20	842	7.0
14...	2045	12200	20.0	22	725	9.0
16...	1930	12300	19.5	25	830	6.0
17...	1000	15000	19.0	43	1740	9.0
17...	1030	14200	19.0	37	1420	12
17...	2020	12900	19.5	30	1050	7.0
19...	1930	17500	19.0	32	1510	8.0
20...	1840	17200	19.5	20	929	7.0
23...	2010	17100	19.5	20	923	5.0
28...	1900	11500	18.5	23	714	7.0
30...	0915	15400	19.0	27	1120	8.0
30...	1200	20500	19.0	17	941	5.0
30...	1400	15400	19.0	13	541	3.0
30...	1730	10900	19.0	24	706	4.0

SACRAMENTO RIVER BASIN

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 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)
OCT											
09...	0825	144	--	19.0	8.5	--	--	--	--	--	--
17...	1300	139	7.4	--	8.4	50	10	6.0	8.0	--	52
22...	0630	--	7.2	15.0	8.6	--	--	--	--	--	51
NOV											
21...	1310	172	7.3	--	9.7	59	12	7.0	12	1.5	56
26...	1120	--	7.7	11.0	10.1	--	--	--	--	--	52
DEC											
05...	0715	--	7.6	10.0	9.7	--	--	--	--	--	--
19...	1030	151	7.4	--	10.7	54	12	6.0	9.0	--	54
JAN											
17...	1035	73	7.2	--	11.1	28	6.0	3.0	3.0	--	28
FEB											
06...	0925	--	--	10.0	10.4	--	--	--	--	--	--
20...	1000	104	7.4	--	10.3	36	8.0	4.0	5.0	1.2	35
MAR											
19...	1340	--	7.4	--	10.1	--	--	--	--	--	--
APR											
07...	0920	--	7.3	12.0	10.0	--	--	--	--	--	47
16...	1345	--	7.4	--	9.5	--	--	--	--	--	--
21...	1000	--	7.7	14.0	9.1	--	--	--	--	--	43
MAY											
05...	0810	--	7.3	16.0	9.5	--	--	--	--	--	36
19...	0820	--	7.6	19.0	8.1	--	--	--	--	--	46
21...	0850	175	7.3	--	7.9	59	12	7.0	12	1.2	57
JUN											
03...	0800	--	7.7	18.0	8.6	--	--	--	--	--	55
17...	0810	--	7.5	20.0	8.2	--	--	--	--	--	41
18...	0905	133	7.3	--	7.9	46	10	5.0	9.0	.9	48
JUL											
01...	0655	--	7.2	19.0	8.2	--	--	--	--	--	31
15...	0700	--	7.5	20.0	8.0	--	--	--	--	--	48
16...	0700	138	7.3	--	7.9	52	11	6.0	9.0	.9	49
AUG											
04...	1235	--	7.6	23.0	7.8	--	--	--	--	--	47
18...	1100	--	7.7	21.0	7.8	--	--	--	--	--	74
20...	0540	199	7.5	--	7.2	68	14	8.0	14	1.0	--
SEP											
02...	1110	--	7.6	21.0	7.1	--	--	--	--	--	66
15...	0935	--	7.6	20.0	7.4	--	--	--	--	--	59
17...	0700	200	7.4	--	7.1	68	14	8.0	14	1.1	73

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT											
09...	--	5.0	--	92	8	.10	.18	.10	.40	.12	.09
17...	6.0	6.0	.1	99	--	.10	.17	--	.40	.12	.08
22...	--	--	--	--	8	.20	.24	.10	.40	--	--
NOV											
21...	11	8.0	.1	98	--	.20	.11	--	.60	.17	.07
26...	--	--	--	115	14	.20	.17	.10	.40	.10	.08
DEC											
05...	--	6.0	--	96	15	.20	.15	.20	.40	.12	.08
19...	8.0	5.0	.1	99	--	.20	.14	--	.30	.11	.07
JAN											
17...	3.0	3.0	.0	50	--	.11	.00	--	.50	.21	.00
FEB											
06...	--	4.0	--	87	46	.20	.07	.10	.20	.11	.04
20...	2.0	4.0	.0	68	--	.20	.06	--	.50	.18	.03
MAR											
19...	--	--	--	--	--	--	--	--	--	--	--
APR											
07...	--	6.0	--	89	26	.20	.07	.10	.20	.08	.04
16...	--	--	--	--	--	--	--	--	--	--	--
21...	--	--	--	--	14	.10	.14	.20	.20	--	--
MAY											
05...	--	5.0	--	75	10	.10	.13	.10	.30	.09	.06
19...	--	--	--	--	12	.10	.15	.20	.40	--	--
21...	14	9.0	.0	106	--	.20	.11	--	.50	.15	.08
JUN											
03...	--	9.0	--	116	8	.10	.11	.30	.40	.10	.06
17...	--	--	--	--	8	.10	.14	.20	.40	--	--
18...	8.0	5.0	.0	80	--	.10	.09	--	.40	.14	.06
JUL											
01...	--	5.0	--	84	10	.10	.12	.20	.30	.08	.06
15...	--	--	--	--	10	.10	.14	.20	.40	--	--
16...	10	5.0	.0	79	--	.10	.10	--	1.1	.41	.06
AUG											
04...	--	5.0	--	89	7	.10	.14	.10	.30	.10	.07
18...	--	--	--	--	16	.10	.13	.20	.40	--	--
20...	8.0	8.0	.1	133	--	.10	.07	--	.30	.13	.07
SEP											
02...	--	14	--	134	14	.10	.13	.20	.40	.12	.08
15...	--	--	--	--	13	.10	.12	.20	.40	--	--
17...	11	8.0	.1	132	--	.10	.08	--	.30	.15	.08

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT								
17...	1300	--	0	0	--	--	--	0
NOV								
21...	1310	--	0	100	--	--	--	0
DEC								
19...	1030	--	0	100	--	--	--	10
JAN								
17...	1035	--	0	0	--	--	--	0
FEB								
20...	1000	--	0	0	--	--	--	0
MAY								
05...	0810	0	0	--	0	0	10	0
19...	0820	--	--	100	--	--	--	--
21...	0850	--	0	100	--	--	--	10
JUN								
18...	0905	--	0	0	--	--	--	10
JUL								
16...	0700	--	0	0	--	--	--	0
AUG								
20...	0540	--	0	0	--	0	--	0
SEP								
02...	1110	0	0	--	0	0	10	0
15...	0935	1	--	--	--	--	--	--
17...	0700	0	0	200	--	--	--	0

SACRAMENTO RIVER BASIN

11447810 SACRAMENTO RIVER AT GREEN'S LANDING, NEAR COURTLAND, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)
OCT							
17...	10	--	0	10	--	10	--
NOV							
21...	20	--	0	0	--	0	--
DEC							
19...	10	--	0	0	--	0	--
JAN							
17...	40	--	0	20	--	10	--
FEB							
20...	20	--	0	10	--	10	--
MAY							
05...	20	0	0	10	.0	--	10
19...	--	--	--	--	--	--	--
21...	20	--	0	10	--	10	--
JUN							
18...	20	--	0	0	--	20	--
JUL							
16...	10	--	0	10	--	0	--
AUG							
20...	10	--	0	10	--	10	--
SEP							
02...	10	10	10	0	.0	--	10
15...	--	--	--	--	--	--	--
17...	0	--	0	10	--	20	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	150	150	145	120	105	130	130	185	110	135	---
2	170	150	155	155	120	110	140	125	180	105	140	---
3	165	145	155	150	120	110	140	110	195	110	140	---
4	150	145	160	140	125	110	140	110	190	120	135	---
5	145	140	155	140	130	110	140	120	185	110	140	---
6	145	155	150	150	130	110	145	120	175	120	140	---
7	135	165	155	170	120	115	150	120	175	125	140	---
8	140	165	155	195	140	115	150	130	185	130	140	---
9	145	160	150	170	140	120	140	150	170	135	145	---
10	140	160	150	150	135	120	140	140	165	130	150	---
11	140	160	160	160	135	120	135	145	155	125	155	---
12	135	155	150	160	140	120	130	155	150	130	160	210
13	130	155	150	135	140	120	130	155	130	125	120	205
14	130	155	155	70	145	120	130	150	120	120	130	200
15	130	155	175	55	155	125	130	150	120	130	135	200
16	130	150	180	50	160	130	140	155	130	130	125	205
17	140	150	200	60	155	130	140	160	125	135	125	200
18	150	145	210	60	150	130	145	160	120	135	130	190
19	150	155	170	60	145	130	140	160	115	130	130	195
20	145	160	135	65	140	130	140	160	115	120	165	190
21	140	170	135	70	130	130	130	170	120	115	175	180
22	140	180	145	70	115	125	130	170	110	120	155	175
23	145	180	140	90	105	125	150	185	100	120	140	180
24	145	175	150	105	100	125	145	185	100	120	150	160
25	145	165	160	110	100	120	145	185	100	120	160	160
26	140	185	150	110	100	125	135	185	100	120	190	155
27	140	180	110	110	100	125	130	190	110	120	---	150
28	160	170	130	115	100	130	130	200	100	120	---	130
29	150	150	145	110	100	130	130	190	105	125	---	130
30	145	150	150	120	---	130	130	195	105	130	---	145
31	145	---	140	115	---	130	---	190	---	130	---	---
MONTH	145	159	154	115	127	122	138	156	138	123	145	---

SACRAMENTO RIVER BASIN

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11449100 SCOTTS CREEK NEAR LAKEPORT, CA

LOCATION.--Lat 39°05'44", long 122°57'38", in NE¼NW¼ sec.3, T.14 N., R.10 W., Lake County, Hydrologic Unit 18020116, on left bank at upstream side of Bickhoff Road bridge, 0.9 mi (1.4 km) downstream from small right-bank tributary, and 4.2 mi (6.8 km) northwest of Lakeport.

DRAINAGE AREA.--55.2 mi² (143.0 km²).

PERIOD OF RECORD.--October 1960 to September 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,400 ft (427 m), from topographic map. Prior to Oct. 1, 1968, at site 3.0 mi (4.8 km) upstream at different datum.

REMARKS.--Small diversions above station for irrigation.

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

AVERAGE DISCHARGE.--20 years, 79.0 ft³/s (2.237 m³/s), 57,260 acre-ft/yr (70.6 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,100 ft³/s (314 m³/s) Jan. 16, 1974, gage height, 13.38 ft (4.078 m); maximum gage height, 17.88 ft (5.450 m) Dec. 22, 1964, site and datum then in use; no flow for several months in each year.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft³/s (143 m³/s) Jan. 13, gage height, 22.62 ft (6.895 m); no flow for several months.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		0	16	339	48	332	32	15	2.9			
2		0	14	212	44	294	30	15	1.9			
3		0	11	150	46	284	27	14	1.3			
4		25	9.8	112	42	259	45	13	2.1			
5		16	9.2	89	37	635	187	13	6.6			
6		59	8.7	73	33	514	119	12	4.3			
7		58	7.8	61	31	385	87	12	2.2			
8		29	6.8	52	30	299	70	12	1.4			
9		16	6.5	55	28	245	64	15	3.0			
10		8.5	6.3	76	28	210	53	18	4.6			
11		5.6	5.4	335	28	182	47	14	4.0			
12		4.5	5.0	2760	27	156	42	12	2.9			
13		4.0	4.6	3680	27	139	38	12	3.0			
14		3.3	4.7	1800	28	159	36	12	3.2			
15		3.0	4.8	915	81	148	33	11	4.3			
16		82	4.5	868	692	118	31	10	3.5			
17		198	4.3	612	1890	106	29	9.8	2.6			
18		40	4.7	417	2530	98	27	9.4	2.2			
19		20	7.7	301	2550	88	25	9.0	2.0			
20		13	28	237	1220	80	35	8.6	1.8			
21		11	89	195	1510	74	37	7.7	1.4			
22		25	48	163	987	67	28	6.7	1.1			
23		64	265	135	588	62	25	6.1	1.2			
24		51	1620	116	414	56	23	5.4	.90			
25		84	582	102	356	54	21	6.0	.60			
26		153	272.	89	287	49	20	6.2	.30			
27		70	170	79	366	44	19	5.8	.10			
28		44	116	72	661	40	18	5.3	0			
29		25	90	65	428	37	17	4.6	0			
30		19	728	57	---	35	17	4.1	0			
31		---	726	53	---	33	---	3.5	---			---
TOTAL	0	1130.9	4875.8	14270	15037	5282	1282	308.2	65.40	0	0	0
MEAN	0	37.7	157	460	519	170	42.7	9.94	2.18	0	0	0
MAX	0	198	1620	3680	2550	635	187	18	6.6	0	0	0
MIN	0	0	4.3	52	27	33	17	3.5	0	0	0	0
AC-FT	0	2240	9670	28300	29830	10480	2540	611	130	0	0	0
CAL YR 1979	TOTAL	20056.50	MEAN	54.9	MAX	1620	MIN	0	AC-FT	39780		
WTR YR 1980	TOTAL	42251.30	MEAN	115	MAX	3680	MIN	0	AC-FT	83810		

SACRAMENTO RIVER BASIN

11449500 KELSEY CREEK NEAR KELSEYVILLE, CA

LOCATION.--Lat 38°55'39", long 122°50'33", in SE¼SE¼ sec.34, T.13 N., R.9 W., Lake County, 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. No regulation or diversion above station.

AVERAGE DISCHARGE.--34 years, 72.4 ft³/s (2.050 m³/s), 52,450 acre-ft/yr (64.7 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. 24	1230	2740 77.6	9.66 2.944
Jan. 12	0345	3690 105	10.55 3.237
Feb. 19	0615	*3790 107	10.62 3.237

Minimum daily discharge, 2.6 ft³/s (0.074 m³/s) Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	8.9	23	305	60	267	39	30	14	7.6	4.0	3.3
2	2.7	9.6	21	190	56	246	38	29	14	7.8	3.6	3.3
3	2.7	17	19	134	55	235	36	28	14	7.7	3.6	3.2
4	2.6	19	17	105	51	211	52	27	15	7.8	3.7	3.1
5	2.7	13	16	85	48	535	302	27	17	7.6	3.7	3.1
6	2.7	16	15	69	45	364	139	25	15	7.4	4.1	2.9
7	2.7	54	14	59	42	281	105	25	14	7.1	4.0	2.9
8	2.9	30	14	51	40	236	89	24	13	7.0	3.9	3.2
9	3.1	21	13	50	38	202	83	29	12	7.4	3.7	3.1
10	3.3	16	13	51	36	175	75	31	12	7.0	3.5	3.1
11	3.1	13	12	360	34	154	68	27	12	6.5	3.7	3.2
12	3.1	12	12	1860	33	136	63	26	12	6.3	3.3	3.2
13	3.2	11	12	1810	32	124	58	26	12	6.2	3.1	3.1
14	3.5	11	11	1070	32	129	55	26	12	6.5	3.0	3.2
15	4.1	10	11	617	88	115	53	24	11	6.1	3.2	3.6
16	3.8	322	11	673	714	100	50	21	11	6.0	3.2	3.6
17	3.6	224	11	471	1550	93	47	20	10	6.0	3.3	3.6
18	3.6	73	11	338	2130	87	45	19	9.3	5.9	3.3	3.8
19	6.9	43	16	263	2050	78	43	18	8.7	5.4	3.4	4.1
20	8.1	31	62	212	926	73	67	18	8.9	5.0	3.5	3.9
21	6.1	25	125	177	1050	69	60	17	8.6	4.9	3.4	3.6
22	5.5	103	54	151	885	64	49	17	8.9	4.6	3.2	3.5
23	10	98	357	130	518	60	46	17	9.2	4.5	3.3	3.4
24	12	57	1620	116	378	57	42	17	8.9	4.4	3.2	3.1
25	402	49	510	105	330	59	40	17	9.4	4.3	3.4	3.1
26	50	59	238	95	270	54	38	17	9.1	3.8	3.3	3.1
27	22	41	147	87	417	49	36	17	8.5	3.6	3.3	3.1
28	15	33	102	80	496	47	34	17	7.9	3.8	3.4	3.3
29	11	28	77	74	321	44	32	16	7.6	3.7	3.3	3.4
30	10	25	502	68	---	42	31	16	8.3	3.7	3.3	3.2
31	9.6	---	732	64	---	40	---	15	---	3.6	3.4	---
TOTAL	624.3	1472.5	4798	9920	12725	4426	1915	683	333.3	179.2	107.3	99.3
MEAN	20.1	49.1	155	320	439	143	63.8	22.0	11.1	5.78	3.46	3.31
MAX	402	322	1620	1860	2130	535	302	31	17	7.8	4.1	4.1
MIN	2.6	8.9	11	50	32	40	31	15	7.6	3.6	3.0	2.9
AC-FT	1240	2920	9520	19680	25240	8780	3800	1350	661	355	213	197
CAL YR 1979	TOTAL	20755.2	MEAN	56.9	MAX	1620	MIN	2.4	AC-FT	41170		
WTR YR 1980	TOTAL	37282.9	MEAN	102	MAX	2130	MIN	2.6	AC-FT	73950		

11450000 CLEAR LAKE AT LAKEPORT, CA

LOCATION.--Lat 39°02'21", long 122°54'44", in NE&NE¼ 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, 9.51 ft (2.899 m) Feb. 23; minimum daily mean gage height, 1.49 ft (0.454 m) Oct. 20.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.75	1.63	2.32	4.43	6.75	9.17	7.37	7.46	6.86	6.22	5.25	3.93
2	1.73	1.65	2.33	4.53	6.75	9.10	7.37	7.44	6.82	6.19	5.20	3.89
3	1.72	1.72	2.33	4.59	6.78	8.99	7.38	7.43	6.80	6.15	5.15	3.87
4	1.70	1.75	2.33	4.64	6.79	8.92	7.43	7.40	6.82	6.11	5.11	3.84
5	1.69	1.77	2.33	4.67	6.80	8.94	7.46	7.35	6.82	6.09	5.06	3.81
6	1.67	1.80	2.34	4.70	6.81	8.93	7.50	7.33	6.81	6.06	5.01	3.76
7	1.64	1.81	2.34	4.73	6.82	8.88	7.54	7.32	6.80	6.03	4.97	3.73
8	1.63	1.81	2.34	4.75	6.83	8.80	7.56	7.27	6.78	6.00	4.92	3.71
9	1.63	1.81	2.34	4.77	6.84	8.71	7.56	7.25	6.77	5.97	4.88	3.68
10	1.60	1.81	2.34	4.80	6.84	8.61	7.59	7.22	6.74	5.94	4.84	3.65
11	1.59	1.81	2.34	4.90	6.86	8.49	7.60	7.17	6.71	5.92	4.79	3.62
12	1.58	1.81	2.33	5.35	6.86	8.37	7.61	7.17	6.69	5.88	4.75	3.58
13	1.57	1.80	2.33	6.08	6.87	8.25	7.61	7.15	6.67	5.86	4.70	3.52
14	1.57	1.80	2.33	6.83	6.89	8.14	7.60	7.10	6.65	5.84	4.65	3.52
15	1.56	1.80	2.33	7.21	6.96	8.02	7.61	7.09	6.64	5.82	4.61	3.49
16	1.55	1.91	2.33	7.39	7.11	7.93	7.61	7.09	6.62	5.79	4.56	3.45
17	1.54	2.05	2.33	7.51	7.33	7.80	7.60	7.09	6.60	5.75	4.52	3.43
18	1.53	2.06	2.34	7.57	7.83	7.70	7.58	7.08	6.58	5.71	4.47	3.40
19	1.50	2.09	2.38	7.52	8.47	7.60	7.56	7.08	6.55	5.69	4.43	3.38
20	1.49	2.09	2.41	7.47	8.88	7.54	7.55	7.05	6.51	5.66	4.38	3.34
21	1.52	2.10	2.46	7.39	9.20	7.57	7.57	7.01	6.47	5.63	4.35	3.34
22	1.52	2.14	2.49	7.31	9.42	7.57	7.57	6.99	6.43	5.60	4.32	3.32
23	1.55	2.19	2.62	7.22	9.51	7.56	7.55	6.93	6.42	5.57	4.27	3.31
24	1.57	2.20	3.03	7.13	9.49	7.54	7.55	6.88	6.39	5.54	4.20	3.29
25	1.65	2.22	3.47	7.05	9.42	7.49	7.55	6.85	6.35	5.52	4.20	3.27
26	1.68	2.26	3.66	6.96	9.33	7.42	7.54	6.84	6.33	5.49	4.16	3.25
27	1.67	2.28	3.75	6.86	9.25	7.37	7.53	6.84	6.32	5.45	4.12	3.22
28	1.63	2.30	3.80	6.78	9.29	7.38	7.50	6.84	6.30	5.42	4.08	3.21
29	1.65	2.30	3.86	6.77	9.24	7.38	7.49	6.83	6.27	5.38	4.03	3.20
30	1.64	2.31	4.04	6.77	---	7.38	7.49	6.82	6.25	5.34	3.99	3.19
31	1.63	---	4.26	6.76	---	7.34	---	6.87	---	5.30	3.96	---
MEAN	1.61	1.97	2.72	6.18	7.80	8.09	7.53	7.10	6.59	5.77	4.58	3.51
MAX	1.75	2.31	4.26	7.57	9.51	9.17	7.61	7.46	6.86	6.22	5.25	3.93
MIN	1.49	1.63	2.32	4.43	6.75	7.34	7.37	6.82	6.25	5.30	3.96	3.19

WTR YR 1980 MEAN 5.28 MAX 9.51 MIN 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).--36 years, 348 ft³/s (9.855 m³/s), 252,100 acre-ft/yr (311 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, 5,290 ft³/s (150 m³/s) Feb. 19, gage height, 8.10 ft (2.469 m); minimum daily, 2.6 ft³/s (0.074 m³/s) Dec. 28, 29.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	3.1	3.4	3.1	344	3640	15	374	112	351	536	294
2	100	3.1	3.4	3.1	13	3640	15	413	109	361	489	290
3	89	3.2	3.4	3.0	12	3610	15	421	102	235	448	290
4	71	3.2	3.4	2.9	13	3550	15	396	68	181	454	293
5	62	3.1	3.4	3.0	12	3860	16	372	41	154	498	295
6	62	3.1	3.4	3.0	12	3500	15	397	29	161	505	292
7	62	3.1	3.4	2.9	12	3470	14	446	37	226	490	287
8	62	3.1	3.4	3.1	12	3550	14	394	50	246	469	272
9	62	3.1	3.4	3.4	12	3500	14	308	59	282	437	253
10	62	3.1	3.4	3.4	12	3290	14	240	74	303	428	223
11	62	3.0	3.1	3.8	12	3370	14	176	152	285	436	209
12	60	3.1	3.1	4.5	12	3270	14	148	223	267	473	198
13	56	3.0	2.9	5.1	11	3160	13	151	230	275	492	187
14	51	3.1	3.0	1500	11	3100	86	181	222	277	475	183
15	43	3.0	3.0	2550	11	3060	173	193	200	290	454	175
16	32	3.5	2.9	2700	1300	2960	287	181	222	311	436	170
17	25	3.4	2.8	2680	3210	2900	374	164	237	343	427	164
18	24	3.2	2.7	2680	3830	2840	395	213	237	370	426	155
19	22	3.2	2.8	2610	3970	1540	371	244	237	331	424	150
20	22	3.1	3.0	2560	3580	351	339	193	207	288	410	142
21	22	3.1	2.9	2490	3910	394	302	99	174	273	376	139
22	22	3.3	2.7	2440	3970	412	274	157	175	285	355	139
23	11	3.4	3.7	2390	3870	412	235	216	193	293	355	134
24	3.7	3.4	5.0	2340	3800	1030	265	206	193	282	355	123
25	4.1	3.4	3.5	2320	3780	1550	342	161	193	326	345	113
26	3.7	3.4	3.0	2250	3710	1560	383	106	202	388	336	107
27	3.6	3.4	2.8	2160	3710	717	384	56	214	399	361	101
28	3.4	3.4	2.6	1230	3800	21	382	62	232	416	371	92
29	3.3	3.4	2.6	315	3720	17	359	74	257	404	346	85
30	3.1	3.4	3.5	486	---	16	334	72	271	367	326	81
31	3.1	---	3.1	358	---	15	---	107	---	455	306	---
TOTAL	1217.0	96.4	98.7	36103.3	50671	68305	5473	6921	4952	9425	13039	5636
MEAN	39.3	3.21	3.18	1165	1747	2203	182	223	165	304	421	188
MAX	105	3.5	5.0	2700	3970	3860	395	446	271	455	536	295
MIN	3.1	3.0	2.6	2.9	.11	15	13	56	29	154	306	81
AC-FT	2410	191	196	71610	100500	135500	10860	13730	9820	18690	25860	11180
†	3.59	4.05	7.60	4.68	12.08	1.76	1.71	0.93	0.19	0.12	0	0.14

CAL YR 1979 TOTAL 56888.3 MEAN 156 MAX 741 MIN 2.5 AC-FT 112800
WTR YR 1980 TOTAL 201937.4 MEAN 552 MAX 3970 MIN 2.6 AC-FT 400500

† 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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
OCT 04...	0850	78	320	8.3	21.5	5.0	8.1	140	--	--	14	--
NOV 08...	1040	3.0	329	7.9	12.5	3.0	8.8	140	27	18	14	--
DEC 07...	1025	3.0	--	7.8	9.0	7.0	10.1	--	--	--	--	--
FEB 07...	0830	9.0	307	8.3	10.0	5.0	11.3	130	25	17	13	17
FEB 07...	1040	--	--	--	--	--	--	140	--	--	--	--
MAR 06...	1520	3550	286	7.5	11.5	16	10.5	120	23	15	12	18
APR 10...	1035	23	--	8.1	14.5	--	10.6	--	--	--	--	--
MAY 08...	0955	49	--	8.0	18.5	14	9.0	--	--	--	--	--
JUN 06...	0840	31	303	7.9	18.0	7.0	9.1	130	25	16	12	17
JUL 11...	0925	--	--	8.1	22.5	20	8.4	--	--	--	--	--
AUG 20...	1300	--	--	7.8	--	12	8.0	--	--	--	--	--
SEP 18...	0925	159	299	7.9	20.5	3.0	8.3	130	24	16	12	17

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
OCT 04...	.5	--	9.0	--	--	--	--	.01	.04	.90	.05	.00
NOV 08...	.5	--	8.0	--	--	--	--	.06	.11	.90	.04	.00
DEC 07...	--	--	--	--	--	--	--	.21	.20	.80	.05	.00
FEB 07...	.5	2.2	8.0	--	--	--	--	.22	.25	1.2	.03	.00
FEB 07...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 06...	.5	2.1	7.0	--	--	--	--	.32	.06	1.0	.06	.00
APR 10...	--	--	--	--	--	--	--	.10	.03	--	--	.00
MAY 08...	--	--	--	--	--	--	--	.03	.05	1.2	.09	.00
JUN 06...	.5	2.3	7.0	--	--	--	--	.03	.24	1.4	.14	.00
JUL 11...	--	--	--	--	--	--	--	.00	.03	1.1	.11	.00
AUG 20...	--	--	--	--	--	--	--	.02	.04	.60	.06	.00
SEP 18...	.5	2.3	7.0	145	.20	62.2	.23	.01	.06	.60	.03	.00

SACRAMENTO RIVER BASIN

11451000 CACHE CREEK NEAR LOWER LAKE, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)
OCT												
04...	0	100	1200	0	0	0	10	0	10	.0	0	--
NOV												
08...	--	--	1200	--	--	--	--	--	--	--	--	6.3
DEC												
07...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
07...	--	--	1200	--	--	--	--	--	--	--	--	--
07...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
06...	0	0	1100	0	0	0	0	0	10	.0	0	--
APR												
10...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
08...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
06...	--	--	1500	--	--	--	--	--	--	--	--	--
JUL												
11...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
20...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
18...	0	0	900	0	0	0	60	0	0	.0	20	7.2

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. No regulation or diversion above station.

AVERAGE DISCHARGE.--9 years, 87.3 ft³/s (2.472 m³/s), 63,250 acre-ft/yr (78.0 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) (m ³ /s)	Gage height (ft) (m)
Jan. 13	1345	*5,670 161	9.77 2.978
Feb. 19	0645	3,570 101	8.09 2.466

Minimum daily discharge, 0.30 ft³/s (0.008 m³/s) Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	8.0	39	506	107	381	68	42	21	8.6	1.9	.96
2	.40	12	36	330	98	352	66	38	19	8.8	1.7	.89
3	.40	17	32	241	96	322	64	37	19	9.3	1.6	.80
4	.40	19	29	193	88	293	85	35	21	9.0	1.5	.74
5	.34	16	27	163	79	617	255	34	23	8.9	1.5	.75
6	.31	33	26	144	73	553	162	33	20	8.7	1.5	.72
7	.30	51	25	132	68	442	133	32	18	8.4	1.5	.72
8	.33	37	23	117	64	373	114	32	17	8.0	1.4	.79
9	.38	25	22	114	59	323	105	39	16	7.9	1.4	.79
10	.40	21	20	123	56	288	95	41	16	8.0	1.3	.86
11	.42	16	19	370	55	257	86	36	15	7.7	1.2	.83
12	.44	12	19	2400	52	224	80	37	15	7.3	1.1	.74
13	.46	9.5	18	3690	51	203	75	35	14	6.7	1.0	.66
14	.48	7.6	17	2000	51	223	72	34	14	6.6	.94	.70
15	.53	6.7	17	1170	101	221	70	32	14	6.2	.94	.83
16	.53	117	16	1070	566	189	66	30	14	6.0	1.1	.86
17	.53	204	15	967	1610	173	63	29	13	5.4	1.1	.83
18	.65	82	14	738	2100	161	60	27	13	4.8	1.0	.87
19	1.1	50	20	581	2530	146	59	27	12	4.7	1.1	.88
20	1.3	37	31	472	1420	135	70	26	11	4.4	1.1	.86
21	1.2	31	72	391	1370	126	70	24	11	4.1	1.1	.87
22	1.1	69	55	327	1140	116	61	23	11	3.6	1.0	.86
23	3.6	119	83	277	848	107	59	23	11	3.2	.95	.81
24	3.4	88	835	244	628	99	54	24	11	3.0	.95	.75
25	255	106	596	217	498	96	52	24	11	2.8	.94	.72
26	46	151	337	193	417	91	52	25	10	2.7	.91	.64
27	21	91	212	172	418	84	50	24	10	2.5	.90	.61
28	14	67	152	156	575	79	49	23	9.8	2.4	.87	.60
29	11	52	120	143	440	75	46	22	9.3	2.2	.89	.64
30	9.8	44	524	127	---	71	44	22	8.9	2.1	.94	.63
31	8.8	---	852	115	---	70	---	21	---	2.1	.95	---
TOTAL	385.01	1598.8	4303	17883	15658	6890	2385	931	428.0	176.1	36.28	23.21
MEAN	12.4	53.3	139	577	540	222	79.5	30.0	14.3	5.68	1.17	.77
MAX	255	204	852	3690	2530	617	255	42	23	9.3	1.9	.96
MIN	.30	6.7	14	114	51	70	44	21	8.9	2.1	.87	.60
AC-FT	764	3170	8530	35470	31060	13670	4730	1850	849	349	72	46
†	5.83	7.50	9.65	13.13	16.07	2.62	2.72	0.80	0.34	0.00	0.00	0.00
CAL YR 1979 TOTAL	23811.10		MEAN 65.2	MAX 852	MIN .30	AC-FT 47230						
WTR YR 1980 TOTAL	50697.40		MEAN 139	MAX 3690	MIN .30	AC-FT 100600						

† Precipitation, in inches.

SACRAMENTO RIVER BASIN

11451500 NORTH FORK CACHE CREEK NEAR LOWER LAKE, CA

LOCATION.--Lat 39°01'09", long 122°34'04", in NE¼ sec.31, T.14 N., R.6 W. (unsurveyed), Lake County, 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.

DRAINAGE AREA.--197 mi² (510 km²).

PERIOD OF RECORD.--July 1930 to current year.

REVISED RECORDS.--WSP 831: 1932(M). WSP 1315-A: 1935(M), 1937-38(M).

GAGE.--Water-stage recorder. Datum of gage is 1,034.60 ft (315.346 m) 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 except those for discontinued period, Nov. 8-26, which are poor. 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.

AVERAGE DISCHARGE (unadjusted).--6 years (1975-80), 116 ft³/s (3.285 m³/s), 84,000 acre-ft/yr (104 hm³/yr).

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, 5,600 ft³/s (159 m³/s) Jan. 13, gage height, 8.90 ft (2.713 m); minimum daily, 11 ft³/s (0.312 m³/s) Oct. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	13	21	223	71	1880	52	34	314	310	19	12
2	11	14	21	161	62	1820	50	34	313	310	16	12
3	13	65	20	127	60	1140	50	35	313	310	16	12
4	22	47	19	106	58	562	59	35	313	311	16	12
5	22	23	19	91	56	758	93	35	313	310	16	12
6	22	19	19	78	53	711	74	34	313	310	15	12
7	22	18	18	70	49	643	66	32	313	310	15	12
8	23	17	18	67	47	596	61	122	313	310	15	12
9	23	21	18	64	47	567	59	200	313	310	15	12
10	23	17	18	62	47	556	56	244	313	311	15	12
11	23	15	18	166	47	541	51	294	312	310	14	12
12	23	14	18	2550	43	526	48	302	312	310	14	12
13	23	13	18	3960	43	519	47	307	312	310	14	12
14	24	12	18	1900	44	524	46	305	312	310	14	12
15	24	12	18	916	160	518	45	303	312	308	13	12
16	24	110	19	947	299	508	44	306	312	308	13	12
17	24	70	19	710	974	341	43	311	312	308	13	12
18	25	42	19	515	1730	109	41	311	311	307	13	12
19	16	28	23	382	2860	95	41	364	311	306	13	12
20	13	24	31	288	1240	90	49	608	311	306	13	12
21	13	20	46	232	1850	87	50	531	311	305	12	12
22	13	62	32	193	1150	79	45	331	311	305	12	12
23	15	48	93	165	1030	75	43	315	311	305	12	12
24	14	36	1050	147	826	71	41	315	311	304	12	12
25	45	32	463	133	750	72	40	315	310	250	12	12
26	21	34	229	120	1540	68	39	316	310	194	12	15
27	16	28	145	109	2300	65	38	315	310	194	12	16
28	14	26	106	100	1950	60	38	315	310	194	12	15
29	13	24	88	92	2100	58	37	315	310	194	12	12
30	13	22	377	83	---	55	36	314	310	194	12	12
31	13	---	328	77	---	53	---	315	---	121	12	---
TOTAL	601	926	3349	14834	21486	13747	1482	7913	9352	8745	424	370
MEAN	19.4	30.9	108	479	741	443	49.4	255	312	282	13.7	12.3
MAX	45	110	1050	3960	2860	1880	93	608	314	311	19	16
MIN	11	12	18	62	43	53	36	32	310	121	12	12
AC-FT	1190	1840	6640	29420	42620	27270	2940	15700	18550	17350	841	734

CAL YR 1979 TOTAL 45508 MEAN 125 MAX 1050 MIN 11 AC-FT 90270
WTR YR 1980 TOTAL 83229 MEAN 227 MAX 3960 MIN 11 AC-FT 165100

11451720 BEAR CREEK NEAR RUMSEY, CA

LOCATION.--Lat 38°56'47", long 122°20'48", in NE¼SW¼ sec.30, T.13 N., R.4 W., Colusa County, Hydrologic Unit 18020116, on left bank 0.3 mi (0.5 km) downstream from Brophy Canyon, 1.4 mi (2.3 km) upstream from mouth, and 7.3 mi (11.7 km) northwest of Rumsey.

DRAINAGE AREA.--100 mi² (259 km²).

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

REVISED RECORDS.--WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 750 ft (229 m), from topographic map.

REMARKS.--No regulation or diversion above station.

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

AVERAGE DISCHARGE.--22 years, 49.4 ft³/s (1.399 m³/s), 35,790 acre-ft/yr (44.1 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,720 ft³/s (275 m³/s) Jan. 5, 1965, gage height, 11.93 ft (3.636 m); no flow at times in some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known since 1955, 12.33 ft (3.758 m) Feb. 24, 1958, discharge, 9,350 ft³/s (265 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,820 ft³/s (193 m³/s) Jan. 13, gage height, 10.06 ft (3.066 m); minimum daily, 0.70 ft³/s (0.020 m³/s) on several days during October.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.7	4.6	154	46	204	50	20	11	3.6	1.1	1.1
2	.90	1.8	4.6	92	45	224	46	18	10	3.6	1.0	1.0
3	.90	3.7	4.4	65	46	315	44	17	9.8	3.6	.90	.90
4	.90	9.7	4.1	51	46	204	52	16	10	3.4	.90	.90
5	.90	4.8	4.0	45	40	792	105	15	11	3.3	1.0	.90
6	.90	3.2	3.9	38	38	387	73	15	10	3.1	1.1	1.0
7	.80	2.7	4.0	35	34	254	52	15	9.5	3.1	1.1	.90
8	.80	2.4	4.1	32	32	215	47	14	9.2	3.0	1.4	.90
9	.80	2.2	3.9	35	30	192	45	15	8.5	2.9	1.0	.90
10	.70	2.0	3.8	32	29	179	42	17	8.0	2.8	1.0	1.0
11	.70	1.9	3.8	102	30	162	39	18	7.6	2.7	.90	.90
12	.70	1.8	3.7	2460	28	145	37	19	7.4	2.6	.80	1.0
13	.70	1.7	3.7	2830	27	138	37	20	8.0	2.5	.80	.90
14	.70	1.7	3.7	1010	28	137	36	20	8.3	2.5	.80	.90
15	.70	1.7	3.7	457	62	129	35	17	8.2	2.4	.90	1.1
16	.70	15	3.8	812	618	118	34	15	7.3	2.3	.90	1.2
17	1.1	137	3.8	369	1860	114	33	14	6.7	2.0	1.0	1.1
18	2.1	20	3.8	245	2330	111	31	14	6.2	2.0	1.0	1.2
19	1.8	7.9	5.5	181	2940	100	29	14	5.9	1.9	1.0	1.2
20	2.5	4.8	7.0	153	982	94	31	14	5.8	1.8	1.0	1.2
21	1.9	3.7	16	135	1980	86	37	13	5.4	1.7	.90	1.1
22	1.7	5.0	9.6	119	728	81	35	12	4.9	1.6	.90	1.1
23	1.9	27	112	104	422	75	33	12	4.7	1.5	.80	1.1
24	2.8	14	1620	96	313	70	29	13	4.6	1.4	.90	1.0
25	9.3	9.5	482	89	291	80	27	13	4.3	1.5	.90	1.1
26	7.0	7.0	146	81	239	82	26	14	4.1	1.3	.90	1.1
27	3.2	5.7	69	74	343	69	24	13	4.0	1.2	.90	1.1
28	2.3	5.0	40	68	466	60	22	12	3.8	1.1	.90	1.1
29	1.9	4.8	30	62	239	56	22	11	3.6	1.1	.90	1.1
30	1.7	4.8	709	52	---	53	21	11	3.7	1.1	1.0	1.1
31	1.7	---	366	49	---	51	---	11	---	.90	1.2	---
TOTAL	55.50	314.2	3683.5	10127	14312	4977	1174	462	211.5	69.50	29.80	31.10
MEAN	1.79	10.5	119	327	494	161	39.1	14.9	7.05	2.24	.96	1.04
MAX	9.3	137	1620	2830	2940	792	105	20	11	3.6	1.4	1.2
MIN	.70	1.7	3.7	32	27	51	21	11	3.6	.90	.80	.90
AC-FT	110	623	7310	20090	28390	9870	2330	916	420	138	59	62
CAL YR 1979	TOTAL	13583.40	MEAN	37.2	MAX	1620	MIN	.50	AC-FT	26940		
WTR YR 1980	TOTAL	35447.10	MEAN	96.9	MAX	2940	MIN	.70	AC-FT	70310		

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.--14 years (water years 1961-62, 1966-80), 690 ft³/s (19.54 m³/s), 499,900 acre-ft/yr (616 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 discharge, 17,100 ft³/s (484 m³/s) Feb. 19, gage height, 21.21 ft (6.465 m); minimum daily, 28 ft³/s (0.79 m³/s) Oct. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	30	39	572	698	6010	207	470	389	616	575	304
2	117	31	39	404	288	5710	202	451	415	633	518	290
3	112	39	37	340	254	5440	194	550	424	624	465	286
4	101	94	35	305	243	4570	200	583	419	551	455	276
5	93	66	34	284	229	5840	276	561	418	505	499	265
6	88	46	33	274	214	5240	300	509	393	483	512	259
7	89	42	32	265	197	4800	259	402	389	519	497	250
8	88	40	32	259	183	4200	220	290	407	575	475	240
9	92	38	32	263	176	4550	177	259	416	581	441	231
10	91	37	31	268	170	4360	164	279	425	627	426	225
11	91	36	30	455	165	4340	150	341	458	634	425	220
12	92	35	29	5620	159	4220	231	451	565	621	448	202
13	90	36	29	6720	152	3980	406	490	574	598	486	195
14	89	36	30	4910	150	3720	437	490	578	608	481	199
15	81	37	30	4940	195	3680	402	484	549	606	453	198
16	74	46	30	5400	1580	3540	327	502	544	619	431	183
17	64	384	31	4680	6980	3410	369	743	584	654	415	181
18	57	127	32	4200	10100	3050	426	573	569	695	415	165
19	61	72	38	3830	11100	2460	410	533	588	670	412	161
20	51	55	47	3590	6440	755	381	469	562	627	410	150
21	44	45	105	3400	8970	765	429	402	522	604	386	147
22	43	45	81	3250	6660	734	393	413	500	605	355	157
23	45	116	378	3130	6230	724	429	443	529	627	353	158
24	47	90	3960	3020	5750	864	477	440	529	612	352	148
25	70	71	1650	2930	5610	1580	462	424	527	599	350	138
26	89	59	593	2800	5710	1590	447	410	527	603	334	130
27	46	53	377	2670	6650	1370	499	410	544	604	338	131
28	34	47	299	2120	6920	285	530	410	544	619	378	129
29	30	44	262	631	6400	233	499	402	576	618	352	119
30	28	41	1360	749	---	220	470	360	588	571	333	108
31	30	---	963	589	---	212	---	360	---	579	322	---
TOTAL	2248	1938	10698	72868	98573	92452	10373	13904	15052	18687	13092	5845
MEAN	72.5	64.6	345	2351	3399	2982	346	449	502	603	422	195
MAX	121	384	3960	6720	11100	6010	530	743	588	695	575	304
MIN	28	30	29	259	150	212	150	259	389	483	322	108
AC-FT	4460	3840	21220	144500	195500	183400	20570	27580	29860	37070	25970	11590
CAL YR 1979	TOTAL	141593	MEAN	388	MAX	3960	MIN	21	AC-FT	280800		
WTR YR 1980	TOTAL	355730	MEAN	972	MAX	11100	MIN	28	AC-FT	705600		

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 25...	0945	70	664	8.4	9.2	--	--	190	33	27	69
NOV 08...	1010	40	1000	8.4	10.6	--	--	250	34	39	120
DEC 06...	1215	33	1040	8.6	12.5	--	--	270	36	44	120
JAN 23...	1010	3130	351	8.2	11.1	--	--	140	25	20	17
FEB 15...	1030	195	822	8.4	10.4	1	--	290	34	50	68
MAR 05...	1040	5840	314	8.1	10.5	--	--	130	20	20	15
APR 09...	1000	177	797	8.6	10.0	--	--	300	36	51	57
MAY 06...	1030	509	415	8.6	9.7	--	--	170	27	24	26
JUN 06...	0850	393	356	8.4	10.2	--	--	140	21	20	22
JUL 09...	1015	581	292	8.4	9.6	18	--	120	21	17	14
AUG 13...	1110	486	--	8.5	8.1	19	1.1	--	--	--	--
SEP 11...	0930	220	344	8.3	8.3	20	1.8	140	26	18	18

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH- OSPHATE DISSOL. (MG/L AS P)
OCT 25...	3.5	180	30	85	368	--	.20	.02	.60	.06	.00
NOV 08...	5.5	250	40	160	546	--	.60	.07	.40	.02	.00
DEC 06...	5.0	260	43	160	578	--	.50	.00	.20	.03	.00
JAN 23...	2.1	150	15	12	202	--	.20	.34	1.0	.13	.01
FEB 15...	3.3	280	57	74	469	18	.40	.00	.20	.02	.00
MAR 05...	1.8	130	19	10	188	--	.20	.05	1.0	.42	.02
APR 09...	2.7	290	72	51	477	--	.20	.00	.20	.01	.00
MAY 06...	2.3	170	23	21	229	--	.10	.06	.80	.07	.00
JUN 06...	1.6	140	16	21	200	--	.01	.00	.30	.03	.00
JUL 09...	1.5	120	7.0	12	152	32	.60	.01	.60	.06	.00
AUG 13...	--	--	--	--	--	28	.01	.00	.50	.05	.01
SEP 11...	2.1	150	11	14	191	53	.01	.04	.40	.03	.00

SACRAMENTO RIVER BASIN

11451760 CACHE CREEK AT RUMSEY, CA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 25...	0945	--	--	2600	--	--	--
NOV 08...	1010	--	--	4000	--	--	--
DEC 06...	1215	--	--	4100	--	--	--
JAN 23...	1010	--	--	1300	--	--	--
FEB 15...	1030	0	0	2300	0	0	0
MAR 05...	1040	--	--	900	--	--	--
APR 09...	1000	--	--	1600	--	--	--
MAY 06...	1030	--	--	1300	--	--	--
JUN 06...	0850	--	--	1000	--	--	--
JUL 09...	1015	--	--	900	--	--	--
AUG 13...	1110	0	0	--	0	0	0
SEP 11...	0930	--	--	1400	--	--	--

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 25...	--	--	--	--	--	--	--
NOV 08...	--	--	--	--	--	--	--
DEC 06...	--	--	--	--	--	--	--
JAN 23...	--	--	--	--	--	--	--
FEB 15...	30	0	0	.0	0	2.8	.00
MAR 05...	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--
JUN 06...	--	--	--	--	--	--	--
JUL 09...	--	--	--	--	--	--	.00
AUG 13...	10	0	0	.0	0	6.4	.00
SEP 11...	--	--	--	--	--	--	--

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-ft (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.--78 years, 517 ft³/s (14.64 m³/s), 374,600 acre-ft/yr (462 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, 21,400 ft³/s (606 m³/s) Feb. 19, gage height, 74.05 ft (22.570 m); no flow many days.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	0	7.0	989	622	6250	290	28	17	17	15	17
2	3.5	0	5.5	475	615	6060	272	23	25	30	28	18
3	1.9	0	4.3	330	271	6810	228	27	28	23	28	10
4	.33	0	.75	258	226	5070	205	40	20	28	23	13
5	0	0	.50	220	208	5920	273	41	28	28	25	16
6	0	0	.07	194	191	6130	332	35	25	28	34	14
7	0	0	0	171	176	5230	248	26	20	26	18	11
8	0	0	0	152	163	4830	198	16	25	17	5.9	9.8
9	0	0	0	142	154	4190	171	8.5	24	13	7.0	13
10	0	0	0	130	152	4470	135	13	13	13	11	8.8
11	0	0	0	207	147	4290	100	16	10	18	12	7.7
12	0	0	0	4410	143	4210	92	19	16	21	9.2	4.8
13	0	0	0	4720	139	4060	63	34	20	30	9.4	3.6
14	0	0	0	7100	144	3940	49	31	21	23	14	3.8
15	0	0	0	5280	161	3900	23	31	21	17	15	5.8
16	0	0	0	5050	502	3800	22	30	27	16	11	5.6
17	0	0	0	5200	6730	3680	26	34	19	19	7.6	7.2
18	0	0	0	4080	15400	3340	44	32	13	17	9.7	5.8
19	0	0	0	3580	15800	3080	74	27	28	18	7.1	6.7
20	0	111	0	3320	10900	1430	90	24	35	16	8.1	5.6
21	0	25	7.5	3170	14000	861	74	103	29	13	11	4.8
22	0	19	17	3030	8540	807	36	260	22	15	10	5.4
23	0	16	45	2920	7330	774	31	55	9.5	16	18	9.6
24	0	9.7	1780	2810	6230	737	34	23	9.5	16	21	10
25	0	28	3590	2730	5760	1420	15	20	14	18	19	7.1
26	0	30	1100	2670	5410	1650	26	24	15	26	15	4.1
27	0	23	510	2570	6180	1650	42	19	11	28	11	5.6
28	0	15	322	2510	7620	836	51	26	9.8	23	6.0	4.8
29	0	12	236	1150	6290	384	29	24	8.6	17	5.8	36
30	0	9.5	319	681	---	333	27	18	8.5	19	5.3	63
31	0	---	1530	764	---	306	---	15	---	14	6.5	---
TOTAL	7.33	298.2	9474.62	71013	120204	100448	3300	1122.5	571.9	623	426.6	337.6
MEAN	.24	9.94	306	2291	4145	3240	110	36.2	19.1	20.1	13.8	11.3
MAX	3.5	111	3590	7100	15800	6810	332	260	35	30	34	63
MIN	0	0	0	130	139	306	15	8.5	8.5	13	5.3	3.6
AC-FT	15	591	18790	140900	238400	199200	6550	2230	1130	1240	846	670

CAL YR 1979 TOTAL 43216.24 MEAN 118 MAX 3590 MIN 0 AC-FT 85720
WTR YR 1980 TOTAL 307826.75 MEAN 841 MAX 15800 MIN 0 AC-FT 610600

SACRAMENTO RIVER BASIN

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.

WATER-DISCHARGE RECORDS

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, 190,000 ft³/s (5,380 m³/s) Feb. 22, gage height, 29.96 ft (9.132 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	4690	2220	54300						
2			---	4680	2030	51000						
3			---	4380	1550	46200						
4			---	4110	1100	43300						
5			---	3610	---	40600						
6			---	2330	---	43300						
7			---	1320	---	46100						
8			---	---	---	43600						
9			---	---	---	36400						
10			---	---	---	28900						
11			---	---	---	22200						
12			---	1720	---	15600						
13			---	6900	---	9550						
14			---	34600	---	7890						
15			---	100000	---	7240						
16			---	134000	---	6830						
17			---	154000	4380	6460						
18			---	148000	13100	6150						
19			---	116000	39100	5570						
20			---	89400	112000	4700						
21			---	65800	163000	3050						
22			---	47800	186000	2580						
23			---	38900	176000	2150						
24			---	33400	149000	1950						
25			2640	28100	115000	2120						
26			4300	19800	88500	3020						
27			4110	8900	72900	3020						
28			4100	6240	63000	2460						
29			4100	4800	57300	---						
30			4120	3030	---	---						
31			4140	2550	---	---						
TOTAL			---	---	---	---						
MEAN			---	---	---	---						
MAX			---	---	---	---						
MIN			---	---	---	---						
AC-FT			---	---	---	---						

SACRAMENTO RIVER BASIN

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11453000 YOLO BYPASS NEAR WOODLAND, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1979 to March 1980 (discontinued).

SEDIMENT RECORDS: December 1979 to March 1980 (discontinued).

REMARKS.--Water and sediment discharge computed only above 1,000 ft³/s (28.3 m³/s).

EXTREMES FOR PERIOD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,000 mg/L Jan. 13.

SEDIMENT DISCHARGE: Maximum daily, 124,000 tons (112,000 metric tons) Feb. 21.

TEMPERATURE (DEG. C) OF WATER, DECEMBER 1979 TO MARCH 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	10.0	---	12.0						
2			---	9.0	9.0	11.0						
3			---	10.0	9.0	12.0						
4			---	10.0	9.0	12.0						
5			---	10.0	9.0	12.0						
6			---	10.0	9.0	11.0						
7			---	10.0	9.0	10.0						
8			---	10.0	9.0	10.0						
9			---	---	9.0	11.0						
10			---	---	10.0	11.0						
11			---	8.0	---	12.0						
12			---	---	---	13.0						
13			---	---	---	13.0						
14			---	---	---	---						
15			---	11.0	---	---						
16			---	11.0	---	---						
17			---	11.0	---	---						
18			---	10.0	---	---						
19			---	9.0	---	---						
20			---	10.0	10.0	---						
21			---	8.0	10.0	---						
22			---	9.0	10.0	---						
23			---	9.0	11.0	---						
24			---	10.0	11.0	---						
25			---	10.0	12.0	---						
26			10.0	10.0	13.0	---						
27			9.0	9.0	13.0	---						
28			9.0	8.0	12.0	---						
29			8.0	9.0	11.0	---						
30			9.0	8.0	---	---						
31			10.0	9.0	---	---						
MONTH			---	9.5	---	---						

11453000 YOLO BYPASS NEAR WOODLAND, CA--Continued

SUSPENDED-SEDIMENT DISCHARGE (TONS/DAY), DECEMBER 1979 TO MARCH 1980

OCTOBER				NOVEMBER				DECEMBER			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		
1							---	---	---		
2							---	---	---		
3							---	---	---		
4							---	---	---		
5							---	---	---		
6							---	---	---		
7							---	---	---		
8							---	---	---		
9							---	---	---		
10							---	---	---		
11							---	---	---		
12							---	---	---		
13							---	---	---		
14							---	---	---		
15							---	---	---		
16							---	---	---		
17							---	---	---		
18							---	---	---		
19							---	---	---		
20							---	---	---		
21							---	---	---		
22							---	---	---		
23							---	---	---		
24							---	---	---		
25							2640	1180	8410		
26							4300	650	7550		
27							4110	335	3720		
28							4100	270	2990		
29							4100	245	2710		
30							4120	230	2560		
31							4140	550	6150		
TOTAL							---	---	---		
JANUARY				FEBRUARY				MARCH			
DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		
1	4690	380	4810	2220	93	557	54300	77	11300		
2	4680	286	3610	2030	110	603	51000	85	11700		
3	4380	230	2720	1550	130	544	46200	89	11100		
4	4110	190	2110	1100	90	267	43300	89	10400		
5	3610	176	1720	---	---	---	40600	78	8550		
6	2330	185	1160	---	---	---	43300	84	9820		
7	1320	199	709	---	---	---	46100	80	9960		
8	---	---	---	---	---	---	43600	84	9890		
9	---	---	---	---	---	---	36400	96	9430		
10	---	---	---	---	---	---	28900	94	7330		
11	---	---	---	---	---	---	22200	90	5390		
12	1720	175	813	---	---	---	15600	66	2780		
13	6900	1000	18600	---	---	---	9550	110	2840		
14	34600	987	47000	---	---	---	7890	112	2390		
15	100000	240	64800	---	---	---	7240	111	2170		
16	134000	238	86100	---	---	---	6830	130	2400		
17	154000	236	98100	4380	240	2840	6460	161	2810		
18	148000	256	102000	13100	420	14900	6150	157	2610		
19	116000	230	72000	39100	546	55700	5570	150	2260		
20	89400	180	43400	112000	345	103000	4700	157	1990		
21	65800	180	32000	163000	282	124000	3050	137	1130		
22	47800	140	18100	186000	240	121000	2580	149	1040		
23	38900	130	13700	176000	218	104000	2150	144	836		
24	33400	110	9920	149000	210	84500	1950	147	774		
25	28100	73	5540	115000	190	59000	2120	125	715		
26	19800	50	2670	88500	180	43000	3020	103	840		
27	8900	70	1680	72900	160	31500	3020	99	807		
28	6240	130	2190	63000	128	21800	2460	92	611		
29	4800	172	2230	57300	105	16200	---	---	---		
30	3030	135	1100	---	---	---	---	---	---		
31	2550	99	682	---	---	---	---	---	---		
TOTAL		---		---	---	---		---			

11453000 YOLO BYPASS NEAR WOODLAND, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, DECEMBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM
JAN							
14...	1130	14600	10.0	1180	46500	--	71
21...	1115	65800	8.0	181	32200	62	79
FEB							
22...	0930	186000	10.0	238	120000	28	39

DATE	TIME	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	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM
JAN								
14...		86	92	96	97	98	99	100
21...		89	96	98	99	99	100	--
FEB								
22...		53	69	84	94	98	100	--

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, DECEMBER 1979 TO MARCH 1980

DATE	TIME	TEMPER- ATURE, WATER (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	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
JAN											
14...	1130	10.0	1	14600	92	95	100	--	--	--	--
21...	1115	8.0	1	65800	98	99	100	--	--	--	--
21...	1116	8.0	1	65800	93	94	96	97	98	98	100
21...	1117	8.0	1	65800	97	98	99	100	--	--	--
21...	1118	8.0	1	65800	97	98	99	99	100	--	--
21...	1119	8.0	1	65800	94	96	98	99	100	--	--
21...	1120	8.0	1	65800	92	95	98	99	99	100	--
21...	1121	8.0	1	65800	81	82	90	98	99	99	100
21...	1122	8.0	1	65800	93	95	97	99	100	--	--

SACRAMENTO RIVER BASIN

11453200 DRY CREEK NEAR MIDDLETOWN, CA

LOCATION.--Lat 38°44'07", long 122°38'52", in NW¼NW¼ sec.9, T.10 N., R.7 W., Lake County, Hydrologic Unit 18020117, on right bank 0.3 mi (0.5 km) downstream from Kroll Creek, 2.1 mi (3.4 km) southwest of Middletown, and 2.7 mi (4.3 km) upstream from mouth.

DRAINAGE AREA.--8.35 mi² (21.63 km²).

PERIOD OF RECORD.--May 1959 to September 1972, October 1978 to March 1980 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 1,172.15 ft (357.271 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good.

AVERAGE DISCHARGE.--14 years (1960-72, 1979), 27.1 ft³/s (0.767 m³/s), 19,600 acre-ft/yr (24.2 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,470 ft³/s (98.3 m³/s) Feb. 8, 1960, gage height, 9.90 ft (3.018 m); no flow many days each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,000 ft³/s (28.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 24	0245	1,060 30.0	6.82 2.079
Jan. 13	1500	*2,290 64.9	8.75 2.667
Feb. 17	1800	1,660 47.0	7.89 2.405

Minimum daily, 0.02 ft³/s (<0.001 m³/s) Oct. 4-7.

DISCHARGE, IN CUBIC FEET PER SECOND, OCTOBER 1979 TO MARCH 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.03	1.6	8.6	108	15	77						
2	.03	2.1	7.8	60	14	74						
3	.03	42	6.8	43	14	78						
4	.03	17	6.2	34	13	65						
5	.02	8.0	5.7	28	12	156						
6	.02	7.5	5.3	24	11	117						
7	.02	10	4.9	21	11	83						
8	.03	6.8	4.6	19	10	64						
9	.05	5.4	4.3	19	10	52						
10	.05	4.5	4.2	21	9.6	44						
11	.05	3.8	3.9	306	9.4	38						
12	.05	3.4	3.7	949	9.1	33						
13	.05	3.0	3.6	1040	8.9	30						
14	.08	2.7	3.5	388	9.4	44						
15	.18	2.5	3.3	204	25	36						
16	.15	128	2.9	352	158	30						
17	.11	57	2.8	211	585	27						
18	.14	19	2.7	124	553	24						
19	2.7	12	13	83	568	22						
20	1.6	9.3	74	61	268	20						
21	1.1	7.8	65	48	338	19						
22	.98	30	25	39	285	17						
23	7.1	24	190	33	162	16						
24	8.7	22	562	30	117	14						
25	256	27	205	27	108	14						
26	13	27	81	24	83	13						
27	5.4	17	46	22	135	12						
28	3.4	13	33	20	171	11						
29	2.5	11	27	19	99	10						
30	2.1	9.7	119	17	---	10						
31	1.8	---	323	16	---	9.6						
TOTAL	307.50	534.1	1847.8	4390	3811.4	1259.6						
MEAN	9.92	17.8	59.6	142	131	40.6						
MAX	256	128	562	1040	585	156						
MIN	.02	1.6	2.7	16	8.9	9.6						
AC-FT	610	1060	3670	8710	7560	2500						

CAL YR 1979	TOTAL	7866.65	MEAN	21.6	MAX	562	MIN	0	AC-FT	15600
WTR YR 1980	TOTAL	--	MEAN	--	MAX	--	MIN	--	AC-FT	--

11453600 POPE CREEK NEAR POPE VALLEY, CA

LOCATION.--Lat 38°37'48", long 122°19'52", in SW¼ sec.17, T.9 N., R.4 W., Napa County, Hydrologic Unit 18020117, on left bank 0.2 mi (0.3 km) upstream from Lake Berryessa, 0.7 mi (1.1 km) downstream from Maxwell Creek, and 5.2 mi (8.4 km) east of Pope Valley.

DRAINAGE AREA.--78.3 mi² (202.8 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 450 ft (137 m), from topographic map.

REMARKS.--Flow regulated by Dick Weeks Reservoir, increased to 2,000 acre-ft (2.47 hm³) of usable storage in December 1973, and several smaller reservoirs with additional storage of about 600 acre-ft (740,000 m³).

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

AVERAGE DISCHARGE.--19 years (water years 1961-80), 87.0 ft³/s (2.464 m³/s), 63,030 acre-ft/yr (77.7 hm³/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) Jan. 31, 1963, gage height, 19.79 ft (6.032 m), from rating curve extended above 7,700 ft³/s (218 m³/s); no flow many days in 1960-68, 1971-73, 1976-79.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft³/s (357 m³/s) Feb. 17, gage height, 14.29 ft (4.356 m); minimum daily, 0.10 ft³/s (0.003 m³/s) Oct. 1-7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	1.0	7.4	230	47	281	48	22	15	4.4	.50	.30
2	.10	.90	6.8	114	45	325	46	22	14	5.5	.50	.30
3	.10	2.3	6.2	80	44	463	44	21	14	6.0	.40	.50
4	.10	24	5.6	62	43	279	55	21	15	5.2	.40	.60
5	.10	10	5.2	51	40	794	165	20	15	4.1	.50	.50
6	.10	6.6	4.4	41	39	463	103	20	15	3.8	.50	.50
7	.10	5.6	4.3	36	36	322	78	20	16	3.9	.50	.40
8	.20	7.0	4.0	32	35	258	64	20	16	4.1	.50	.40
9	.20	4.8	3.8	43	34	214	57	22	15	4.0	.50	.40
10	.20	3.9	3.5	43	34	184	54	27	14	6.5	.40	.30
11	.20	3.3	3.2	709	33	161	48	21	13	5.2	.40	.30
12	.20	2.8	3.1	4840	32	141	43	20	13	5.1	.40	.30
13	.20	2.4	3.3	4400	32	130	40	21	14	4.2	.40	.40
14	.20	2.4	2.9	1360	33	138	37	21	14	3.6	5.2	.40
15	.20	2.8	2.8	636	84	146	36	19	13	3.4	3.5	.50
16	.30	4.0	2.8	1430	1290	115	35	17	12	3.1	.90	.60
17	.20	65	2.7	609	4360	104	33	16	10	2.6	.60	.60
18	.30	20	2.6	357	2700	96	32	16	8.5	2.1	.60	.60
19	.70	11	19	236	3580	87	31	15	8.0	1.8	.60	.70
20	.60	7.8	40	177	1510	82	34	15	7.2	1.6	.50	.60
21	.50	6.5	162	142	2060	76	37	15	6.8	1.4	.40	.60
22	.40	8.2	36	118	848	71	34	14	6.8	1.3	.40	.50
23	.40	63	454	99	519	66	32	14	6.3	1.2	.50	.40
24	.50	24	1930	88	376	63	30	14	6.3	1.1	.50	.40
25	160	31	605	80	378	66	28	14	6.1	1.0	.40	.40
26	23	26	187	72	278	63	27	14	6.2	.90	.40	.40
27	7.0	17	81	67	517	60	25	14	5.3	.80	.40	.50
28	3.3	12	49	61	731	56	24	15	5.0	.80	.40	.70
29	1.8	9.7	50	57	366	53	24	14	4.9	.70	.40	.60
30	1.3	8.2	97	52	---	50	23	15	4.7	.60	.40	.40
31	1.1	---	536	48	---	48	---	15	---	.60	.30	---
TOTAL	203.70	393.20	4320.6	16370	20124	5455	1367	554	320.1	90.60	22.30	14.10
MEAN	6.57	13.1	139	528	694	176	45.6	17.9	10.7	2.92	.72	.47
MAX	160	65	1930	4840	4360	794	165	27	16	6.5	5.2	.70
MIN	.10	.90	2.6	32	32	48	23	14	4.7	.60	.30	.30
AC-FT	404	780	8570	32470	39920	10820	2710	1100	635	180	44	28
CAL YR 1979 TOTAL	22446.90			MEAN 61.5	MAX 1930	MIN 0	AC-FT 44520					
WTR YR 1980 TOTAL	49234.60			MEAN 135	MAX 4840	MIN .10	AC-FT 97660					

SACRAMENTO RIVER BASIN

11453900 LAKE BERRYESSA NEAR WINTERS, CA

LOCATION.--Lat 38°30'48", long 122°06'13", in SE&NW¼ 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).

WATER-CONTENTS RECORD

PERIOD OF RECORD.--January 1957 to current year.

REVISED RECORDS.--WSP 1735: 1958-60. WSP 1931: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Water and Power Resources Service).

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 204,500 acre-ft (252 hm³). Releases for irrigation began in May 1959. Records, including extremes, show total contents at 2400 hours.

COOPERATION.--Records furnished by Water and Power Resources Service 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, 1,541,800 acre-ft (1.90 km³) Apr. 11, 12, elevation, 436.84 ft (133.149 m); minimum, 1,020,700 acre-ft (1.26 hm³) Oct. 24, elevation, 407.05 ft (124.069 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 1979 TO SEPTEMBER 1980
INSTANTANEOUS OBSERVATIONS AT 2400

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1034400	1022400	1024300	1083000	1241300	1473300	1535000	1531400	1497300	1453800	1402500	1353000
2	1033600	1022100	1024200	1084800	1241900	1479800	1535400	1530600	1495900	1452100	1400600	1351600
3	1032700	1023200	1024000	1085700	1242600	1483600	1535400	1529900	1494400	1450800	1398800	1350300
4	1031700	1023100	1024000	1086700	1242700	1488200	1536500	1529100	1492900	1449400	1397000	1349000
5	1030700	1022900	1024000	1087500	1243600	1497300	1539100	1528000	1491800	1447700	1395200	1347600
6	1029900	1022700	1023900	1088200	1244300	1502300	1540100	1526400	1490300	1446000	1393300	1345800
7	1029100	1022600	1023700	1088900	1244500	1505900	1540900	1525300	1489000	1444700	1391700	1344500
8	1028300	1022600	1023500	1089200	1244600	1509300	1541200	1524200	1487900	1443100	1390100	1343300
9	1028000	1022400	1023400	1090200	1244800	1512300	1541400	1523200	1486400	1441400	1388400	1341800
10	1027400	1022300	1023200	1091200	1244800	1514400	1541600	1522300	1485100	1439700	1386800	1340600
11	1026600	1022100	1022700	1099700	1245300	1515900	1541800	1521300	1483800	1438300	1385200	1339200
12	1025900	1022000	1022400	1138200	1245500	1518300	1541800	1520400	1482500	1436600	1383400	1337900
13	1025100	1021800	1022100	1172600	1245500	1519100	1541200	1520000	1481000	1435100	1381500	1336500
14	1024700	1021500	1021800	1192800	1246000	1521500	1541200	1519100	1479500	1433800	1379700	1335200
15	1023700	1021300	1021600	1199700	1248100	1522900	1541000	1518000	1478400	1432200	1378100	1334200
16	1023200	1022400	1021500	1213000	1262900	1524000	1540100	1517000	1477200	1430300	1376600	1332900
17	1022300	1023200	1021500	1220400	1309600	1525500	1539300	1516100	1476100	1428700	1375200	1331800
18	1021800	1023500	1021500	1224900	1348100	1526400	1539100	1515500	1474800	1426800	1373600	1330800
19	1021800	1023400	1022400	1227200	1372800	1528300	1538200	1514700	1472900	1425400	1371900	1329500
20	1021600	1023200	1023200	1229600	1390400	1528900	1537800	1513400	1471400	1423700	1370500	1328300
21	1021300	1023100	1025300	1231500	1420600	1528900	1537600	1511700	1469800	1422100	1368900	1327200
22	1021000	1023400	1025800	1232900	1430900	1530600	1537100	1510200	1468100	1420600	1367400	1326300
23	1020800	1023900	1033000	1234100	1437700	1531000	1536700	1508500	1466600	1418800	1365800	1325200
24	1020700	1024300	1056800	1235100	1443300	1531600	1536300	1507000	1464900	1416700	1364300	1324300
25	1024000	1024500	1065400	1236300	1448200	1533500	1535700	1505900	1463100	1414900	1363100	1323400
26	1024000	1024500	1066500	1237500	1451900	1533800	1535500	1504900	1461400	1413100	1361600	1322400
27	1024000	1024300	1067600	1238200	1460500	1533800	1534600	1503300	1460100	1411400	1360000	1321300
28	1023500	1024300	1068100	1238900	1465900	1533800	1534000	1501800	1458400	1409400	1358400	1320400
29	1023100	1024300	1069300	1239600	1469200	1534000	1533300	1500600	1457000	1407600	1356900	1319500
30	1022700	1024300	1072700	1240100	---	1534000	1532300	1499300	1455300	1405900	1355500	1318600
31	1022600	---	1079900	1240300	---	1534200	---	1498000	---	1404300	1354300	---
MAX	1034400	1024500	1079900	1240300	1469200	1534200	1541800	1531400	1497300	1453800	1402500	1353000
MIN	1020700	1021300	1021500	1083000	1241300	1473300	1532300	1498000	1455300	1404300	1354300	1318600
†	407.17	407.28	410.72	420.25	432.98	436.44	436.34	434.52	432.23	429.46	426.70	424.71
‡	-12400	+1700	+55600	+160400	+228900	+65000	-1900	-34300	-42700	-51000	-50000	-35700
††	3799	1577	1204	1105	1236	5004	6070	9037	11361	12439	10661	7531

CAL YR 1979 ‡ -8000
WTR YR 1980 ‡ +283600

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

‡ Change in contents, in acre-feet.

†† Evaporation, in acre-feet.

SACRAMENTO RIVER BASIN

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11453900 LAKE BERRYESSA NEAR WINTERS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--

CHEMICAL ANALYSES: Water years 1977 to current year.

COOPERATION.--Chemical-quality records furnished by Water and Power Resources Service.

AT LAKE CENTER (Lat 38°33'32", long 122°12'24", Las Putas Grant, Napa County,
Hydrologic Unit 18020117)

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)					
MAR , 1980									
07...	1141	3.0	12.0	10.4					
07...	1142	5.0	11.5	10.1					
07...	1145	10	11.4	10.1					
07...	1148	15	11.3	10.0					
07...	1150	20	11.3	10.0					
07...	1152	25	11.1	9.4					
07...	1155	30	11.0	9.4					
07...	1158	35	10.9	9.4					
07...	1200	40	10.8	9.4					
07...	1203	45	10.7	9.3					
07...	1205	50	10.6	9.3					
07...	1208	55	10.6	9.3					
07...	1210	60	10.6	9.4					
07...	1212	65	10.5	9.4					
07...	1215	70	10.5	--					
07...	1217	75	10.5	9.0					
07...	1220	80	10.5	--					
07...	1222	85	10.5	--					
07...	1224	90	10.5	--					
07...	1226	95	10.5	--					
07...	1228	100	10.5	8.6					
07...	1230	125	10.4	8.5					
07...	1233	150	10.4	8.5					
MAY									
19...	1100	1.0	22.9	9.5					
19...	1102	3.0	20.7	9.5					
19...	1104	5.0	20.5	9.1					
19...	1106	10	20.0	9.1					
19...	1108	15	19.4	9.1					
19...	1110	20	18.6	9.1					
19...	1112	25	18.2	8.8					
19...	1114	30	17.5	8.8					
19...	1116	35	15.4	8.6					
19...	1118	40	14.0	8.5					
19...	1120	45	13.6	8.5					
19...	1122	50	13.1	8.5					
19...	1124	55	12.9	9.0					
19...	1125	60	12.7	9.1					
19...	1126	65	12.5	9.1					
19...	1128	70	12.3	--					
19...	1130	75	12.2	8.9					
19...	1132	80	12.1	--					
19...	1133	85	12.1	--					
19...	1135	90	12.0	--					
19...	1136	95	12.0	--					
19...	1138	100	12.0	8.5					
19...	1139	125	11.8	--					
19...	1140	140	11.8	7.2					
DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TUR- BID- ITY (NTU)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
MAR , 1980									
07...	1141	3.0	302	--	12	--	--	--	--
07...	1152	25	302	--	13	--	--	--	--
07...	1205	50	313	--	10	--	--	--	--
07...	1217	75	320	--	10	--	--	--	--
07...	1233	150	320	--	10	--	--	--	--
MAY									
19...	1102	3.0	308	7.9	1.6	16	23	9.0	1.0
19...	1112	25	331	8.1	1.6	--	--	--	--
19...	1122	50	336	8.2	3.5	--	--	--	--
19...	1130	75	336	8.2	5.5	--	--	--	--
19...	1140	140	351	8.2	33	16	25	10	2.0

SACRAMENTO RIVER BASIN

11453900 LAKE BERRYESSA NEAR WINTERS, CA--Continued

AT LAKE CENTER--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKA- LINIT (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC ONE DET TOT (MG/ L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
MAR , 1980									
07...	--	--	--	--	.08	.01	.0	.04	.03
07...	--	--	--	--	.10	.01	.3	.04	.03
07...	--	--	--	--	.13	.01	.1	.03	.03
07...	--	--	--	--	.13	.01	.2	.04	.03
07...	--	--	--	--	.12	<.01	.3	.03	.03
MAY									
19...	140	20	5.0	171	.02	<.01	.2	.01	.01
19...	--	--	--	--	.02	<.01	.2	.01	.01
19...	--	--	--	--	.13	<.01	.2	.03	.03
19...	--	--	--	--	.15	<.01	.3	.03	.03
19...	140	20	6.0	184	.17	.01	.3	.50	.03

AT DAM (Lat 38°30'48", long 122°06'16", Napa County, Hydrologic Unit 18020117)

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
MAR , 1980				
07...	1255	3.0	12.4	14.2
07...	1258	5.0	12.4	14.2
07...	1300	10	12.2	13.7
07...	1302	15	12.2	13.5
07...	1305	20	12.1	12.4
07...	1308	25	12.1	12.0
07...	1310	30	11.8	11.2
07...	1312	35	11.5	10.7
07...	1314	40	11.4	10.8
07...	1316	45	11.4	10.3
07...	1318	50	11.1	10.2
07...	1320	55	10.9	10.2
07...	1322	60	10.8	10.2
07...	1325	65	10.8	10.2
07...	1327	70	10.7	--
07...	1330	75	10.7	10.0
07...	1332	80	10.7	--
07...	1334	85	10.7	--
07...	1336	90	10.7	--
07...	1338	95	10.6	--
07...	1340	100	10.6	9.6
07...	1342	125	10.6	9.6
07...	1343	150	10.6	9.6
07...	1344	175	10.5	9.2
07...	1346	200	10.4	8.6
07...	1348	225	10.4	8.6
MAY				
19...	1210	1.0	24.1	9.9
19...	1214	3.0	22.5	9.9
19...	1216	5.0	22.2	9.8
19...	1218	10	20.0	9.7
19...	1220	15	19.3	9.9
19...	1222	20	18.6	9.7
19...	1224	25	18.1	9.2
19...	1226	30	17.3	9.3
19...	1228	35	16.5	9.0
19...	1230	40	15.4	8.6
19...	1232	45	14.3	8.4
19...	1234	50	13.6	8.3
19...	1236	55	13.1	8.3
19...	1238	60	12.8	8.3
19...	1240	65	12.4	8.5
19...	1242	70	12.3	--
19...	1244	75	12.2	9.1
19...	1246	80	12.2	--
19...	1248	85	12.1	--
19...	1250	90	12.1	--
19...	1251	95	12.1	--
19...	1252	100	12.0	8.6
19...	1254	125	11.9	8.7
19...	1255	150	11.9	8.2
19...	1257	175	11.7	8.2
19...	1258	200	11.5	6.6

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

SACRAMENTO RIVER BASIN

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11453900 LAKE BERRYESSA NEAR WINTERS, CA--Continued

AT DAM--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TUR- BID- ITY (NTU)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
MAR , 1980									
07...	1255	3.0	335	--	4.0	17	26	9.0	1.0
07...	1308	25	335	--	4.0	--	--	--	--
07...	1318	50	335	--	5.0	--	--	--	--
07...	1330	75	335	--	6.0	--	--	--	--
07...	1348	225	335	--	11	--	--	--	--
MAY									
19...	1214	3.0	337	8.0	2.6	17	24	10	1.0
19...	1224	25	332	--	2.1	--	--	--	--
19...	1234	50	351	7.0	2.6	--	--	--	--
19...	1244	75	350	7.0	3.0	--	--	--	--
19...	1258	200	346	7.3	8.0	17	26	10	2.0

DATE	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC ONE DET TOT(MG/ L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
MAR , 1980									
07...	130	21	6.0	167	<.01	<.01	.0	.05	.02
07...	--	--	--	--	<.01	.01	.0	.02	.02
07...	--	--	--	--	.09	<.01	<.0	.03	.02
07...	--	--	--	--	.12	<.01	.0	.02	.02
07...	--	--	--	--	.12	<.01	.0	.03	.02
MAY									
19...	140	22	5.0	173	.01	<.01	.1	.01	.01
19...	--	--	--	--	.01	<.01	.4	.01	.01
19...	--	--	--	--	.10	<.01	.2	.02	.02
19...	--	--	--	--	.13	<.01	.2	.02	.02
19...	140	21	6.0	173	.18	<.01	.3	.03	.03

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

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).--50 years, 517 ft³/s (14.64 m³/s), 374,600 acre-ft/yr (462 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, 1,610 ft³/s (45.6 m³/s) Feb. 19, gage height, 10.19 ft (3.106 m); minimum daily, 22 ft³/s (0.623 m³/s) Mar. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	76	55	58	44	44	106	494	594	698	806	542
2	351	86	60	52	44	76	132	524	592	701	801	542
3	344	80	73	62	43	121	187	529	574	677	745	523
4	340	74	84	70	43	76	242	538	537	639	711	560
5	325	74	88	70	43	79	150	554	549	634	698	580
6	294	67	89	68	50	66	105	615	562	631	687	545
7	278	63	89	66	66	57	141	622	625	653	680	492
8	279	63	89	66	55	52	142	638	622	680	704	487
9	288	63	89	49	46	47	180	618	609	697	669	517
10	296	63	81	53	57	43	217	572	614	655	647	557
11	296	63	78	94	65	40	256	524	640	658	645	583
12	305	63	69	195	65	44	325	480	642	654	680	557
13	305	63	79	114	65	48	358	483	665	632	723	525
14	272	63	80	92	60	47	366	469	620	656	703	471
15	236	63	80	59	62	45	419	458	554	657	654	448
16	207	63	80	64	210	44	445	477	550	678	616	463
17	178	63	80	64	414	49	449	520	546	717	580	455
18	169	63	70	63	397	54	463	534	564	720	598	448
19	161	63	84	35	599	53	468	582	644	690	589	448
20	139	63	84	41	328	60	493	648	671	668	583	443
21	98	62	79	52	448	51	498	643	648	702	601	390
22	76	63	75	50	175	43	466	606	618	750	610	365
23	76	63	78	55	106	47	424	635	626	800	620	365
24	80	63	92	74	77	38	367	610	689	842	557	375
25	75	63	30	66	62	73	365	584	743	823	557	397
26	67	64	47	61	53	98	377	565	797	809	604	394
27	62	65	47	60	54	69	384	570	765	739	595	380
28	62	60	50	60	59	22	403	663	724	742	592	356
29	62	55	68	59	47	102	431	644	702	758	568	340
30	60	55	62	60	---	133	439	616	685	774	554	349
31	62	---	51	46	---	117	---	606	---	783	554	---
TOTAL	6196	1952	2260	2078	3837	1938	9798	17621	18971	21917	19931	13897
MEAN	200	65.1	72.9	67.0	132	62.5	327	568	632	707	643	463
MAX	353	86	92	195	599	133	498	663	797	842	806	583
MIN	60	55	30	35	43	22	105	458	537	631	554	340
AC-FT	12290	3870	4480	4120	7610	3840	19430	34950	37630	43470	39530	27560

CAL YR 1979 TOTAL 113778 MEAN 312 MAX 772 MIN 19 AC-FT 225700 MEAN ‡ 394 AC-FT ‡ 285598
WTR YR 1980 TOTAL 120396 MEAN 329 MAX 842 MIN 22 AC-FT 238800 MEAN ‡ 819 AC-FT ‡ 593424

‡ Adjusted for change in contents and evaporation from Lake Berryessa.

SACRAMENTO RIVER BASIN

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11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1952 to current year.

CHEMICAL ANALYSES: Water years 1952-66, 1973 to current year.

WATER TEMPERATURES: Water years 1966 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1965 to current year.

INSTRUMENTATION.--Temperature recorder since Nov. 19, 1965.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum recorded, 22.0°C May 21, 1967; minimum recorded, 6.5°C on several days in 1967-68, 1973.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 14.0°C on Feb. 26, 27, Mar. 28, 29; minimum recorded, 8.0°C Jan. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (LOW LEVEL) (MG/L)	OXYGEN DEMAND, BIOCHEM UNINHIB 5 DAY (MG/L)	HARD- NESS (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT 25...	1100	74	328	8.0	10.5	4	.8	150	18	26	10
JAN 10...	1440	67	353	8.0	10.6	4	.8	160	20	28	12
APR 10...	0915	224	340	8.1	10.8	--	--	160	20	26	11
JUL 09...	0850	699	312	8.0	10.6	8	.6	150	17	25	9.0

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	VITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)
OCT 25...	1.4	150	19	6.0	183	4	.20	.00	.30	.03	.01
JAN 10...	1.4	160	25	8.0	213	10	.10	.01	.30	.03	.01
APR 10...	1.3	150	24	7.0	206	--	.10	.00	.20	.03	.01
JUL 09...	1.3	140	19	6.0	172	6	.10	.00	.20	.03	.01

DATE	TIME	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BORON, DIS- SOLVED (UG/L AS B)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 25...	1100	--	--	200	--	--	--
JAN 10...	1440	0	0	200	0	0	0
APR 10...	0915	--	--	300	--	--	--
JUL 09...	0850	0	0	200	0	0	0

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	CARBON, ORGANIC TOTAL (MG/L AS C)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)
OCT 25...	--	--	--	--	--	3.1	.00
JAN 10...	10	0	20	.0	0	4.1	.00
APR 10...	--	--	--	--	--	--	--
JUL 09...	20	0	10	.0	0	2.8	.00

SACRAMENTO RIVER BASIN

11454000 PUTAH CREEK NEAR WINTERS, CA--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

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 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	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. 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
JAN												
23...	1325	9.0	162	49	61	68	72	76	79	86	99	100
FEB												
15...	1130	10.0	41	--	--	--	--	--	97	98	100	--
APR												
14...	1105	14.0	38	46	57	72	85	93	97	98	100	--
JUN												
05...	1110	16.5	25	--	--	--	--	--	99	100	--	--
JUL												
28...	1030	22.0	32	--	--	--	--	--	84	84	86	100
AUG												
26...	1045	20.5	33	--	--	--	--	--	93	96	98	100

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	NUMBER OF SAM- PLING POINTS	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	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
OCT												
10...	0955	--	1	10	75	96	99	100	--	--	--	--
10...	0956	--	1	3	16	70	96	100	--	--	--	--
10...	0957	--	1	4	15	65	94	99	100	--	--	--
10...	0958	--	1	3	8	23	71	92	97	99	100	--
10...	0959	--	1	6	21	44	91	98	100	--	--	--
NOV												
19...	1030	--	1	17	73	90	99	100	--	--	--	--
19...	1031	--	1	2	10	65	94	100	--	--	--	--
19...	1032	--	1	0	1	26	98	100	--	--	--	--
19...	1033	--	1	4	11	37	85	98	100	--	--	--
19...	1034	--	1	7	25	59	93	99	100	--	--	--
DEC												
13...	1100	9.0	1	11	74	97	99	100	--	--	--	--
13...	1101	9.0	1	1	8	65	97	100	--	--	--	--
13...	1102	9.0	1	1	3	24	72	98	100	--	--	--
13...	1103	9.0	1	2	10	34	56	63	69	79	96	100
13...	1104	9.0	1	7	35	84	95	98	99	99	100	--
JAN												
23...	1300	9.0	1	0	1	28	74	98	99	99	100	--
23...	1301	9.0	1	--	0	20	71	85	90	95	100	--
23...	1302	9.0	1	--	0	14	93	100	--	--	--	--
23...	1303	9.0	1	0	2	64	96	100	--	--	--	--
23...	1304	9.0	1	61	73	99	100	--	--	--	--	--
FEB												
15...	1150	10.0	1	6	25	91	95	97	100	--	--	--
15...	1151	10.0	1	0	1	38	85	98	99	100	--	--
15...	1152	10.0	1	0	1	43	88	99	100	--	--	--
15...	1153	10.0	1	--	0	4	59	93	98	100	--	--
15...	1154	10.0	1	15	20	67	95	98	99	100	--	--
APR												
14...	1030	14.0	1	0	1	11	63	94	98	100	--	--
14...	1031	14.0	1	0	1	13	55	96	99	100	--	--
14...	1032	14.0	1	0	1	21	85	100	--	--	--	--
14...	1033	14.0	1	2	7	15	67	100	--	--	--	--
14...	1034	14.0	1	0	1	13	80	98	100	--	--	--
JUN												
05...	1055	--	1	0	1	7	93	100	--	--	--	--
05...	1056	--	1	1	3	22	73	99	100	--	--	--
05...	1057	--	1	--	0	12	83	100	--	--	--	--
05...	1058	--	1	1	2	10	54	84	90	94	99	100

SACRAMENTO RIVER BASIN

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PARTICLE-SIZE DISTRIBUTION OF SURFACE BED MATERIAL, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	NUMBER OF SAM- PLING POINTS	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
JUN 05...	1059	--	1	1	3	12	44
JUL 28...	1100	22.0	1	1	4	17	72
28...	1101	22.0	1	1	2	12	48
28...	1102	22.0	1	0	1	15	76
28...	1103	22.0	1	1	2	11	64
28...	1104	22.0	1	2	4	14	72

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
JUN 05...	55	59	63	70	72	100
JUL 28...	99	100	--	--	--	--
28...	97	99	100	--	--	--
28...	98	99	100	--	--	--
28...	90	97	99	100	--	--
28...	93	98	99	100	--	--

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
OCT				
11...	0735	--	29	14
12...	0735	--	29	11
13...	0735	--	32	12
14...	0740	--	21	10
15...	0735	--	37	12
16...	0720	--	26	13
17...	0705	--	33	14
18...	0710	--	33	13
19...	0700	--	28	13
20...	0710	--	32	14
21...	0710	--	28	13
22...	0805	--	31	15
23...	0715	--	28	15
24...	0700	--	25	12
25...	0705	--	29	16
26...	0715	--	20	11
27...	0715	--	17	10
28...	0650	--	17	10
29...	0650	--	20	12
30...	0645	--	25	13
31...	0705	--	28	13
NOV				
01...	0645	--	28	15
02...	0720	--	28	17
03...	0720	--	32	17
04...	0735	--	31	15
05...	0645	--	30	17
06...	0645	--	19	14
07...	0730	--	20	14
08...	0735	--	24	13
09...	0735	--	17	12
10...	0740	--	14	9.0
11...	0735	--	16	10
12...	0730	--	22	9.0
13...	0730	--	23	14
14...	0700	--	18	10
15...	0700	--	24	13
16...	0710	--	20	10
17...	0650	--	19	11
18...	0655	--	29	12

SACRAMENTO RIVER BASIN

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11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
NOV				
19...	0655	--	26	14
19...	1030	--	17	8.0
19...	1100	--	16	8.0
DEC				
14...	0705	7.0	17	11
15...	0715	7.0	18	12
16...	0725	7.0	21	13
17...	0705	7.0	21	11
18...	0720	6.0	18	12
19...	0720	7.0	20	10
20...	0720	8.0	18	11
21...	0715	9.0	14	10
22...	0720	7.0	15	10
23...	0720	7.0	19	11
24...	0715	8.0	20	11
25...	0715	8.0	30	11
26...	0715	7.0	30	19
27...	0725	7.0	83	70
28...	0710	7.0	124	85
29...	0715	7.0	141	110
30...	0710	8.0	116	85
31...	0710	9.0	86	75
JAN				
01...	0715	9.0	84	65
02...	0730	7.0	71	60
03...	0730	8.0	237	140
04...	0730	8.0	102	100
05...	0730	9.0	70	70
06...	0735	9.0	62	60
07...	0730	9.0	56	50
08...	0740	9.0	32	30
09...	0730	10.0	32	33
10...	0710	9.0	22	25
11...	0805	7.0	26	22
12...	0700	10.0	40	29
13...	0710	12.0	72	65
14...	0645	12.0	285	110
15...	0710	11.0	277	120
16...	0710	11.0	627	260
17...	0705	11.0	424	210
18...	0715	10.0	603	290
18...	1015	10.0	565	320
19...	0715	10.0	502	290
20...	0715	10.0	242	260
21...	0720	10.0	252	130
22...	0715	10.0	154	130
23...	0715	10.0	114	90
23...	1310	9.0	153	120
23...	1335	9.0	153	130
24...	0700	7.0	109	85
25...	0710	7.0	109	80
26...	0715	6.0	88	70
27...	0720	7.0	79	55
28...	0700	7.0	94	55
29...	0725	6.0	72	45
30...	0725	6.0	66	38
31...	0720	7.0	61	37
FEB				
01...	0730	7.0	57	33
02...	0740	8.0	71	36
03...	0730	7.0	55	32
04...	0725	8.0	44	32
05...	0730	8.0	44	32
06...	0720	9.0	46	31
07...	0700	8.0	48	30
08...	0655	8.0	44	35
09...	0705	7.0	60	50
10...	0700	8.0	50	40
11...	0655	9.0	45	34
12...	0705	9.0	46	32
13...	0705	9.0	54	32
14...	0650	10.0	58	32
15...	0705	10.0	54	32
15...	1150	10.0	46	29
MAR				
12...	0625	--	94	55
13...	0620	--	72	50
14...	0640	--	71	40
15...	0720	--	62	32
16...	0725	--	56	31

SACRAMENTO RIVER BASIN

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
MAR				
29...	0730	--	55	26
30...	0735	--	50	25
31...	0735	--	60	25
APR				
01...	0730	--	64	26
02...	0735	--	47	24
03...	0715	--	45	21
04...	0715	--	29	20
05...	0705	--	33	18
06...	0710	--	27	18
07...	0705	--	37	16
08...	0640	--	28	17
09...	0650	--	35	18
10...	0635	--	33	19
11...	0650	--	50	24
12...	0705	--	54	24
13...	0655	--	51	23
14...	1010	14.0	38	23
15...	0715	--	46	21
16...	0710	--	46	20
17...	0710	--	30	18
18...	0700	--	25	13
19...	0715	--	25	14
20...	0720	--	23	11
21...	0715	--	22	12
22...	0710	--	21	12
23...	0720	--	20	13
24...	0725	--	25	12
25...	0725	--	27	12
26...	0730	--	34	16
27...	0730	--	26	14
28...	0730	--	27	12
MAY				
01...	0720	--	26	12
01...	1040	16.5	36	11
02...	0705	--	26	7.0
03...	0710	--	21	6.0
04...	0700	--	15	8.0
05...	0705	--	16	8.0
06...	0655	--	16	7.0
07...	0700	--	15	7.0
08...	0700	--	17	8.0
09...	0710	--	23	6.0
10...	0705	--	25	9.0
11...	0705	--	31	13
12...	0710	--	28	11
13...	0650	--	33	13
14...	0700	--	37	17
15...	0700	--	28	14
16...	0710	--	35	16
17...	0715	--	23	12
18...	0650	--	22	12
19...	0705	--	23	11
20...	0720	--	20	11
21...	0715	--	19	10
22...	0720	--	22	12
23...	0720	--	21	12
24...	0720	--	28	13
25...	0720	--	27	12
26...	0720	--	30	12
27...	0725	--	35	14
28...	0710	--	38	14
29...	0700	--	40	14
30...	0710	--	33	11
31...	0720	--	38	15
JUN				
01...	0710	--	26	13
02...	0710	--	19	13
03...	0710	--	22	12
04...	0720	--	20	12
05...	0720	--	22	12
05...	1125	--	34	12
10...	0730	--	40	14
11...	0715	--	36	13
12...	0715	--	48	17
13...	0720	--	48	17
14...	0715	--	40	13
15...	0720	--	39	16
16...	0640	--	25	13
17...	0715	--	24	12

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
JUN				
18...	0720	--	18	10
19...	0715	--	24	13
20...	0725	--	22	13
21...	0730	--	26	14
22...	0725	--	27	14
23...	0720	--	32	16
24...	0715	--	31	12
25...	0715	--	31	12
25...	0915	19.0	36	14
26...	0705	--	35	13
27...	0700	--	38	17
28...	0700	--	35	14
29...	0705	--	30	16
30...	0700	--	24	13
JUL				
01...	0700	--	24	15
02...	0700	--	20	11
03...	0700	--	25	12
04...	0655	--	24	11
05...	0700	--	19	9.0
06...	0705	--	24	11
07...	0700	--	27	10
08...	0705	--	35	10
09...	0700	--	36	10
10...	0710	--	33	14
11...	0715	--	34	11
12...	0720	--	35	12
13...	0725	--	38	13
14...	0725	--	34	11
15...	0710	--	20	10
16...	0730	--	21	10
17...	0735	--	26	12
18...	0730	--	40	10
19...	0730	--	22	8.0
20...	0735	--	17	8.0
21...	0735	20.0	21	8.0
22...	0735	20.0	26	10
23...	0700	20.0	25	6.0
24...	0700	20.0	26	9.0
25...	0700	22.0	25	9.0
26...	0655	22.0	28	9.0
27...	0650	23.0	33	12
28...	0655	22.0	33	12
28...	1040	22.0	30	12
28...	1045	22.0	32	8.0
29...	0650	22.0	28	10
30...	0645	22.0	16	8.0
31...	0650	22.0	20	8.0
AUG				
01...	0650	23.0	19	8.0
02...	0655	22.0	20	7.0
03...	0700	21.0	17	6.0
04...	0715	21.0	14	6.0
05...	0700	19.0	22	9.0
06...	0705	19.0	21	6.0
07...	0705	19.0	30	11
08...	0725	19.5	25	9.0
09...	0725	19.0	27	10
10...	0730	19.0	30	6.0
11...	0730	19.0	29	9.0
12...	0730	20.0	31	9.0
13...	0730	18.0	20	8.0
14...	0725	18.0	16	6.0
15...	0740	19.0	21	9.0
16...	0735	19.0	21	9.0
17...	0735	18.0	19	7.0
18...	0735	18.0	18	9.0
19...	0735	18.0	23	10
20...	0735	19.0	24	12
21...	0735	18.0	30	19
22...	0725	18.0	28	12
23...	0710	18.0	33	12
24...	0715	18.0	29	11
25...	0745	18.0	33	11
26...	0735	18.0	54	13
26...	1100	20.5	33	11
26...	1110	20.5	28	10
27...	0715	18.0	38	14
28...	0735	18.0	27	12
29...	0740	18.0	21	10

SACRAMENTO RIVER BASIN

11455420 SACRAMENTO RIVER AT RIO VISTA, CA--Continued

PERIODIC DETERMINATIONS OF SUSPENDED-SEDIMENT
CONCENTRATION AND TURBIDITY, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	TUR- BID- ITY (NTU)
AUG				
30...	0745	18.0	20	8.0
31...	0750	16.0	21	8.0
SEP				
01...	0750	18.0	28	9.0
02...	0750	18.0	25	6.0
05...	1010	21.0	21	4.0
06...	0745	16.0	27	9.0
07...	0740	18.0	28	8.0
08...	0745	18.0	29	8.0
09...	0740	18.0	30	6.0
10...	0735	16.0	27	12
11...	0730	18.0	21	11
12...	0700	16.0	18	9.0
13...	0705	18.0	18	10
14...	0715	16.0	17	8.0
15...	0725	16.0	16	7.0
16...	0725	16.0	19	6.0
17...	0710	16.0	18	7.0
18...	0700	16.0	20	7.0
19...	0710	16.0	28	8.0
20...	0740	16.0	27	8.0
21...	0700	16.0	31	7.0
22...	0650	18.0	30	14
23...	0700	18.0	35	12
24...	0645	18.0	34	12
25...	0650	18.0	23	7.0
26...	0655	16.0	20	9.0
27...	0715	16.0	17	7.0
28...	0720	16.0	20	8.0
29...	0735	16.0	29	8.0
30...	0715	16.0	22	7.0

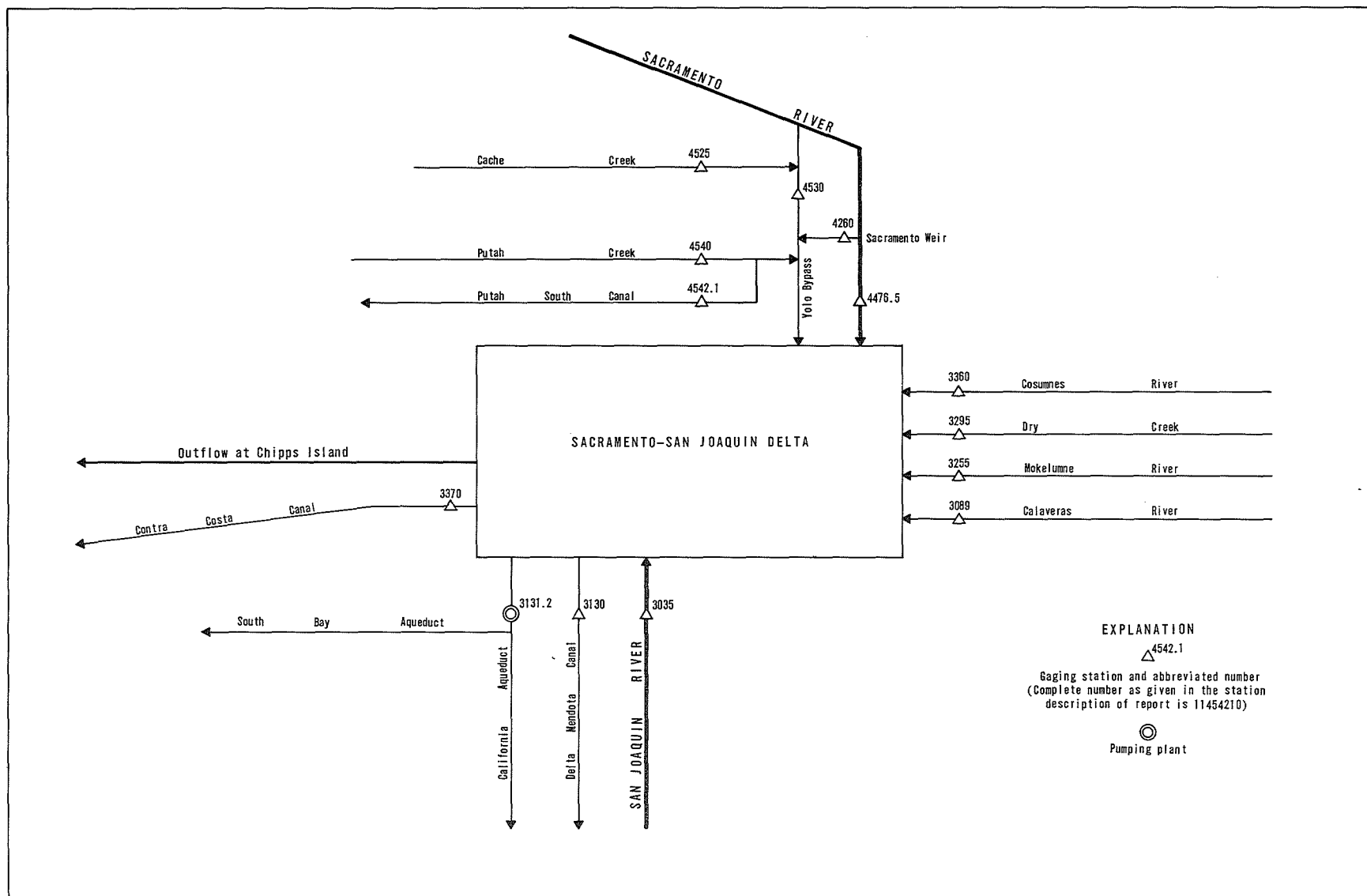


FIGURE 12. — Schematic diagram showing principal inflows and diversions, Sacramento-San Joaquin.

SACRAMENTO-SAN JOAQUIN DELTA, INFLOWS AND DIVERSIONS

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 Water and Power Resources Service, California Aqueduct by California Department of Water Resources.

SUMMARY OF PRINCIPAL INFLOWS AND DIVERSIONS IN THE
SACRAMENTO-SAN JOAQUIN DELTA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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													
171.6	137.5	152.9	803.6	1080	1555	609.9	609.5	315.7	208.0	121.1	226.2	5991	
11308900 CALAVERAS RIVER BELOW NEW HOGAN DAM													
4.48	2.21	2.55	96.78	43.71	22.18	5.18	11.56	14.51	15.45	16.69	12.51	247.8	
11325500 MOKELUMNE RIVER AT WOODBRIDGE													
33.90	34.25	22.63	150.5	137.0	140.3	50.94	65.33	68.02	33.95	15.27	20.65	772.7	
11329500 DRY CREEK NEAR GALT													
0	0	1.71	56.71	68.25	23.14	5.98	2.16	0.58	0.26	0.05	0.04	158.9	
11336000 COSUMNES RIVER AT MCCONNELL													
1.22	2.88	8.71	185.0	170.8	97.52	43.06	33.22	11.99	4.39	0	0	558.8	
11426000 SACRAMENTO WEIR SPILL													
0	0	0	369.6	173.2	4.06	0	0	0	0	0	0	546.9	
11447650 SACRAMENTO RIVER AT FREEPORT													
773.4	904.5	1249	3605	3024	3403	1344	977.3	1060	1090	917.2	945.3	19290	
114530000 YOLO BYPASS NEAR WOODLAND ^{1/}													
--	--	54.57	2120	2472	1083	--	--	--	--	--	--	5730	
11454000 PUTAH CREEK NEAR WINTERS													
12.29	3.87	4.48	4.12	7.61	3.84	19.43	34.95	37.63	43.47	39.53	27.56	238.8	
Total	996.9	1085	1497	7391	7177	6332	2078	1734	1508	1396	1110	1232	33535

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													
240.1	61.31	0	0	158.4	199.0	228.6	179.6	170.4	280.8	279.4	205.9	2004	
11313120 CALIFORNIA AQUEDUCT (DELTA PUMPING PLANT)													
223.9	281.8	360.3	387.0	188.3	70.72	87.08	95.31	178.2	130.3	275.6	237.8	2516	
11337000 CONTRA COSTA CANAL													
9.33	6.66	4.87	3.62	3.12	3.35	4.43	8.38	9.85	10.63	12.08	10.78	87.10	
11454210 PUTAH SOUTH CANAL													
10.49	2.03	2.35	1.76	1.81	3.01	17.66	32.20	34.53	38.98	34.66	25.00	204.5	
Total	483.8	351.8	367.5	392.4	351.6	276.1	337.8	315.5	393.0	460.7	601.7	479.5	4812

1. Flow not computed below 1000 ft³/s.

NOTE.--Minor inflow streams and diversions are not included.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low- or flood-flow analyses, depending on the type of data collected.

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum discharge at crest-stage stations.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. Most of these measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream where continuous records are available, will give a picture of the low-flow potentiality of the stream. The column headed "Period of record" shows the water years in which measurements were made at the same or practically the same site.

Discharge measurements made at low-flow partial-record stations during water year 1980

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) south- west of Delta, and 25 mi (40 km) north of Redding.	17.3	1975-80	2-19-80	1,190
					3-3-80	195
					6-2-80	18.0
					7-30-80	a 8.2
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	1979-80	4-23-80	11.8
					5-13-80	17.5
					6-24-80	24.4
					7-23-80	16.6
					8-27-80	a 11.8
					9-24-80	a 13.8
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	1979-80	4-23-80	7.98
					5-13-80	11.4
					6-24-80	15.1
					7-23-80	10.7
					8-27-80	a 6.73
					9-24-80	a 5.54
*11433430	Buckeye Canyon Creek tributary near Green- wood, CA	(Revised) 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 Green- wood, and 3.5 mi (5.6 km) northeast of Cool.	0.08	1972-80	10-18-79	0
					11-15-79	0
					11-27-79	.01
					1-14-80	1.66
					1-16-80	1.00
					2-5-80	.02
					4-7-80	a .03
*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	1972-80	10-18-79	0
					11-15-79	0
					1-14-80	7.34
					1-16-80	2.55
					2-6-80	.05
					4-7-80	a .05
*11433450	Browns Bar Canyon Creek near Cool, CA	Lat 38°54'52", long 120°58'42", in SE¼SW¼ sec.4, T.12 N., R.9 E., El Dorado County, Hydrologic Unit 18020128, 2.7 mi (4.3 km) northeast of Cool and 3.8 mi (6.1 km) northwest of Greenwood.	0.75	1972-80	10-18-79	0
					11-15-79	.002
					11-27-79	.28
					1-14-80	10.9
					1-16-80	13.1
					2-6-80	.30
4-17-80	a .27					
*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	1972-80	11-15-79	.05
					11-27-79	.20
					1-14-78	8.88
					1-16-80	3.01
					2-6-80	.08
4-17-80	a .05					

* Also a crest-stage partial-record station.
a Base flow.

DISCHARGE AT PARTIAL-RECORD STATIONS

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for the current water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been obtained.

Annual maximum discharge at crest-stage partial-record stations during water year 1980

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Discharge (ft ³ /s)
Eagle Lake basin							
10359270	Aspen Creek near Westwood, CA	Lat 40°42'47", long 121°04'36", in NE¼NE¼ sec.21, T.33 N., R.8 E., Lassen County, Hydrologic Unit 18080003, in Lassen National Forest, at culvert on Forest Service Road 34N28, 3.7 mi (6.0 km) northwest of Harvey Valley Ranger Station, and 27.5 mi (44.2 km) north of Westwood.	4.70	1970-73†, 1974-80d	1-12-80	(a)	b 3
10359290	Pine Creek tributary near Susanville, CA	Lat 40°43'44", long 120°52'44", in NW¼NW¼ sec.17, T.33 N., R.10 E., Lassen County, Hydrologic Unit 18080002, in Lassen National Forest, at culvert on Forest Service Road 35N5, 28 mi (45 km) north of Susanville.	4.70 (low flow) 16.8 (extreme flood flow)	1971-73†, 1974-80d	1-12-80	4.74	66
Sacramento River basin							
11352900	Beaver Creek near Hat Creek, CA	Lat 40°49'47", long 121°14'54", in NE¼NE¼ sec.12, T.34 N., R.6 E., Lassen County, Hydrologic Unit 18020003, in Lassen National Forest, at culvert on Forest Service Road 35N10, 13.6 mi (21.9 km) east of Hat Creek, and 15 mi (24 km) south of Pittville.	23.2	1970-73c, 1974-80d	1-13-80	3.60	146
11355400	Bunchgrass Creek near Manzanita Lake, CA	Lat 40°39'10", long 121°37'36", in NE¼SW¼ sec.3, T.32 N., R.3 E., Shasta County, Hydrologic Unit 18020118, in Lassen National Forest, at culvert on Forest Service Road 32N46, 8.7 mi (14.0 km) northwest of town of Manzanita Lake.	0.62	1970-73†, 1974-80d	1-13-80	6.34	92
11365500	Squaw Creek above Shasta Lake, CA	Lat 40°51'25", long 122°05'08", in SE¼ sec.29, T.35 N., R.2 W., Shasta County, Hydrologic Unit 18020003, 1.3 mi (2.1 km) upstream from Salt Creek, 2 mi (3 km) upstream from Shasta Lake, and 10 mi (16 km) west of town of Montgomery Creek.	64.0	1944-66c, 1969-80	2-17-80	18.55	10600
11376100	South Fork Bailey Creek near Manzanita Lake, CA	Lat 40°28'45", long 121°35'46", unsurveyed, Shasta County, Hydrologic Unit 18020118, in Lassen National Forest, at culvert on Forest Service Road 31N12F, 4.4 mi (7.1 km) southwest of town of Manzanita Lake, and 5.2 mi (8.4 km) southeast of Viola.	3.67	1970-73†, 1974-80d	1-13-80	6.92	41
11380500	Elder Creek at Gerber, CA	Lat 40°03'05", long 122°09'53", in Saucos Grant, Tehama County, Hydrologic Unit 18020103, on right bank 1.0 mi (1.6 km) west of Gerber and 3.5 mi (5.6 km) upstream from mouth.	136	1949-69†, 1970, 1972-76, 1977-79†, 1980d	1-13-80	10.40	5000

See footnotes at end of table.

DISCHARGE AT PARTIAL-RECORD STATIONS

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Annual maximum discharge at crest-stage partial-record stations during water year 1980--Continued

		Annual maximum					
Station No.	Station name	Location	Drain- age area (mi ²)	Period of record	Date	Gage height (feet)	Discharge (ft ³ /s)
Sacramento River basin--Continued							
11381810	Snake Creek near Paskenta, CA	Lat 39°59'38", long 122°47'25", in SE¼NW¼ sec.29, T.25 N., R.8 W., Tehama County, Hydrologic Unit 18020114, in Mendocino National Forest, at culvert on Forest Service Road 23N01, 14.5 mi (23.3 km) northwest of Paskenta.	2.45	1972-73†, 1974-80d	1-13-80	80.21	265
11382950	North Fork Calf Creek near Butte Meadows, CA	Lat 40°09'44", long 121°31'58", in SW¼SW¼ sec.28, T.27 N., R.4 E., Tehama County, Hydrologic Unit 18020119, in Lassen National Forest, at culvert on Forest Service Road 27N12, 1.8 mi (2.9 km) upstream from Deer Creek, 5.6 mi (9.0 km) north of Butte Meadows, and 11.2 mi (18.0 km) south of town of Mill Creek.	1.26	1970-73†, 1974-80d	1-12-80	13.67	20
11384400	South Fork Stony Creek near Stony- ford, CA	Lat 39°17'46", long 122°45'07", in NW¼SW¼ sec.27, T.17 N., R.8 W., Colusa County, Hydrologic Unit 18020115, in Mendocino National Forest, at culvert on Forest Service Road 18N1, 12.5 mi (20.1 km) southwest of Stonyford.	2.52	1970-73†, 1974-80d	1-13-80	27.48	478
11386200	South Fork Elk Creek near Elk Creek, CA	Lat 39°34'12", long 122°40'37", in SW¼SW¼ sec.20, T.19 N., R.7 W., Glenn County, Hydrologic Unit 18020115, in Mendocino National Forest, at culvert on Forest Service Road 20N1, 7.8 mi (12.6 km) southwest of town of Elk Creek.	2.56	1970-73†, 1974-80d	1-13-80	21.70	150
11397900	Benner Creek near Chester, CA	Lat 40°23'02", long 121°16'24", in SE¼SE¼ sec.11, T.29 N., R.6 E., Plumas County, Hydrologic Unit 18020121, in Lassen National Forest, at culvert on Forest Service Road 29N12, 5.6 mi (9.0 km) northwest of Chester.	7.67	1970-73†, 1974-80d	1-12-80	5.11	118
*11433430	Buckeye Canyon Creek tribu- tary near Green- wood, CA	(Revised) 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, 1974-80	1-13-80	1.88	14
*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, 1974-80	1-13-80	1.20	43
*11433450	Browns Bar Canyon Creek near Cool, CA	(Revised) Lat 38°54'38", long 120°58'41", in SE¼SW¼ 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, 1974-80	1-13-80	2.74	118
*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) revised, northeast of Cool.	--	1972-73e, 1974-80	1-13-80	1.81	26

* Also a low-flow partial-record station.

† Data for water years prior to 1973 published in Floods from Small Drainage areas, Compilation, October 1958 to September 1973.

a Unknown.

b Estimated.

c Operated as a continuous-record gaging station.

d Discontinued.

e Published as miscellaneous measurement.

GROUND-WATER LEVELS

Siskiyou County

Dorris area

SITE NUMBER 415428121534001 LOCAL NUMBER 047N001E20D01M

4 MI SOUTH OF DORRIS. CABLETOOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 16 IN, DEPTH 240 FT, CASED TO 240 FT, PERFORATED 60-240 FT. ALTITUDE OF LSD 4240 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1971 TO PRESENT.

HIGHEST WATER LEVEL 21.6 FEET BELOW LAND SURFACE DATUM MAR 30, 1972.

LOWEST WATER LEVEL 36.0 FEET BELOW LAND SURFACE DATUM OCT 31, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1979	36.0	MAR 26, 1980	29.70

MacDoel area

SITE NUMBER 415339121574901 LOCAL NUMBER 047N001W27B01M

4.8 MILES NORTHEAST OF MACDOEL. CABLETOOL UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAMETER 2 IN, DEPTH 40 FT, CASED TO 40 FT, PERFORATED 30-40 FT. ALTITUDE OF LSD 4233 FT. MEASUREMENTS FURNISHED BY DWR. 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 31, 1979	10.0	MAR 26, 1980	8.00

Mt. Hebron area

SITE NUMBER 414641122001201 LOCAL NUMBER 045N001W06A01M

1.2 MI SOUTH OF MT. HEBRON. CABLETOOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 16 IN, DEPTH 40 FT, CASED TO 40 FT, ALTITUDE OF 4257 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1971 TO PRESENT.

HIGHEST WATER LEVEL 24.7 FEET BELOW LAND SURFACE DATUM OCT 28, 1971.

LOWEST WATER LEVEL 53.0 FEET BELOW LAND SURFACE DATUM OCT 31, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1979	53.0	MAR 26, 1980	36.50

Grenada area

SITE NUMBER 413823122311401 LOCAL NUMBER 044N006W27B01M

.8 MI SOUTH OF GRENADA. HYDRAULIC ROTARY DOMESTIC WATER TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 6 IN, DEPTH 110 FT, CASED TO 110 FT, PERFORATED 50-110 FT. ALTITUDE OF LSD 2560 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1975 TO CURRENT YEAR.

HIGHEST WATER LEVEL 11.2 FEET BELOW LAND SURFACE DATUM NOV 04, 1975.

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
NOV 01, 1979	15.6	MAR 27, 1980	14.10

GROUND-WATER LEVELS

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Siskiyou County--Continued

Greenview area

SITE NUMBER 413348122495001 LOCAL NUMBER 043N009W24F01M

4 MI'S EAST OF GREENVIEW. CABLETOOL. IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 16 IN, DEPTH 204 FT, CASSED TO 204 FT, PERFORATED 18-200 FT. ALTITUDE OF LSD 2735 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1972 TO PRESENT.

HIGHEST WATER LEVEL 1.8 FEET BELOW LAND SURFACE DATUM APR 10, 1974.

LOWEST WATER LEVEL 16.0 FEET BELOW LAND SURFACE DATUM OCT 19, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1979	15.4	MAR 27, 1980	9.20

Edgewood area

SITE NUMBER 412818122261801 LOCAL NUMBER 042N005W20J01M

1.6 MI NORTHWEST OF EDGEWOOD. UNUSED WATER-TABLE WELL IN ALUVIUM-VOLCANIC. DIAM 8 IN, DEPTH 40 FT, CASSED TO 40 FT. ALTITUDE OF LSD 2882 FT. MEASUREMENTS FURNISHED BY DWR. 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
NOV 01, 1979	7.1	MAR 27, 1980	9.10

Fort Bidwell area

SITE NUMBER 415254120082201 LOCAL NUMBER 046N016E04Q01M

2 MI NORTH OF FORT BIDWELL. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 14 IN, DEPTH 200 FT, CASSED TO 200 FT. ALTITUDE OF LSD 4600 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 67.0 FEET BELOW LAND SURFACE DATUM APR 24, 1973.

LOWEST WATER LEVEL 84.9 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1979	84.9	APR 02, 1980	80.00

Modoc County

Davis Creek area

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, CASSED TO 222 FT. ALTITUDE OF LSD 4798 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1957 TO PRESENT.

HIGHEST WATER LEVEL 45.1 FEET BELOW LAND SURFACE DATUM MAR 15, 1972.

LOWEST WATER LEVEL 64.3 FEET BELOW LAND SURFACE DATUM OCT 10, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 31, 1980	54.00

GROUND-WATER LEVELS

Modoc County--Continued

Lake City area

SITE NUMBER 413714120110601 LOCAL NUMBER 043N016E06R02M

2 MI SOUTHEAST OF LAKE CITY. CABLETOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 12 IN, DEPTH 300 FT, CASED TO 300 FT, PERFORATED 50-300 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 44.8 FEET BELOW LAND SURFACE DATUM MAR 16, 1977.

LOWEST WATER LEVEL 72.0 FEET BELOW LAND SURFACE DATUM SEP 17, 1976.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1979	65.9	APR 02, 1980	50.20

Cedarville area

SITE NUMBER 413300120101401 LOCAL NUMBER 043N016E32K01M

1.6 MI NORTH OF CEDARVILLE. HYD. ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 8 IN, DEPTH 290 FT, CASED TO 290 FT, PERFORATED 140-160 FT. ALTITUDE OF LSD 4645 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1971 TO PRESENT.

HIGHEST WATER LEVEL 94.0 FEET BELOW LAND SURFACE DATUM MAR 16, 1977.

LOWEST WATER LEVEL 124.5 FEET BELOW LAND SURFACE DATUM NOV 01, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 01, 1979	124.5	APR 02, 1980	116.30

Alturas area

SITE NUMBER 412516120434601 LOCAL NUMBER 041N011E05L03M

9.2 MI SOUTHWEST OF ALTURAS. CABLETOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 8 IN, DEPTH 47 FT, CASED TO 47 FT. ALTITUDE OF LSD 4320 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1965 TO CURRENT YEAR.

HIGHEST WATER LEVEL 7.6 FEET BELOW LAND SURFACE DATUM MAR 28, 1979.

LOWEST WATER LEVEL 8.2 FEET BELOW LAND SURFACE DATUM OCT 09, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 12, 1979	8.20	APR 01, 1980	7.80

SITE NUMBER 412318120342001 LOCAL NUMBER 041N012E15Q01M

6.8 MI SOUTH OF ALTURAS. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 16 IN, DEPTH 300 FT, CASED TO 12 FT. ALTITUDE OF LSD 4400 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1978 TO CURRENT YEAR.

HIGHEST WATER LEVEL 37.20 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 40.90 FEET BELOW LAND SURFACE DATUM OCT 03, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1979	40.90	APR 01, 1980	37.20

GROUND-WATER LEVELS

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Modoc County--ContinuedEagleville area

SITE NUMBER 411722120061501 LOCAL NUMBER 040N016E36G02M

2 MI SOUTH OF EAGLEVILLE. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAMETER 14 IN. DEPTH 400 FT, CASED TO 400 FT, PERFORATED 63-400 FT. ALTITUDE OF LSD 4625 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 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
NOV 01, 1979	105.0	APR 02, 1980	79.00

Shasta CountySusanville area

SITE NUMBER 402334120353401 LOCAL NUMBER 029N012E11B01M

1 MI SOUTHEAST OF SUSANVILLE. UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 10 IN. DEPTH 120 FT CASED TO 120 FT, PERFORATED 105-120 FT. ALTITUDE OF LSD 4125 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 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 17, 1979	12.1	APR 01, 1980	7.80

McArthur area

SITE NUMBER 410342121281001 LOCAL NUMBER 037N004E11A01M

4 MI WEST OF MCARTHUR. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 6 IN. DEPTH 185, CASED TO 185 FT, PERFORATED 74-94 FT. ALTITUDE OF LSD 3310 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1959 TO CURRENT YEAR.

HIGHEST WATER LEVEL 26.5 FEET BELOW LAND SURFACE DATUM MAY 09, 1978.

LOWEST WATER LEVEL 43.0 FEET BELOW LAND SURFACE DATUM OCT 12, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30, 1979	40.0	APR 03, 1980	26.50

Redding area

SITE NUMBER 403242122185001 LOCAL NUMBER 031N004W16H01M

4 MILES SOUTHEAST OF REDDING. UNUSED WATER-TABLE WELL IN ALLUVIUM. DIAM 5 IN. DEPTH 140 FT, CASED TO 140 FT, PERFORATIONS 70-140 FT. ALTITUDE OF LSD 512 FT. MEASUREMENTS FURNISHED BY DWR. 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 24, 1979	119.6	APR 17, 1980	108.50	JUN 18, 1980	113.90	AUG 18, 1980	123.50
FEB 14, 1980	109.80	MAY 20	112.80	JUL 17	120.10	SEP 18	121.50
MAR 27	107.20						

GROUND-WATER LEVELS

Shasta County--Continued

Olinda area

SITE NUMBER 402318122233001 LOCAL NUMBER 029N005W11A02M

4 MI SOUTH OF OLINDA. CABLETOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM. DIAM 10 IN, DEPTH 360 FT, CASED TO 360 FT, PERFORATED 110-150 FT. ALTITUDE 518 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 44.9 FEET BELOW LAND SURFACE DATUM MAR 05, 1959.

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 22, 1979	66.5	MAR 31, 1980	56.00

Lassen County

Bieber area

SITE NUMBER 410754120043001 LOCAL NUMBER 038N008E17K01M

3.2 MI EAST OF BIEBER. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 6 IN, DEPTH 180, CASE 0 TO 180 FT, PERFORATED 150-180 FT. ALTITUDE LSD 4150 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS 0 AVAILABLE 1957 TO CURRENT YEAR. 0

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 24, 1979	21.7	APR 03, 1980	9.80

Ravendale area

SITE NUMBER 405156120275201 LOCAL NUMBER 035N013E26J02M

1.8 MI NORTHWEST OF RAVENDALE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM UNKNOWN, DEPTH UNKNOWN, ALTITUDE OF LSD 5296 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1967 TO CURRENT YEAR.

HIGHEST WATER LEVEL 13.90 FEET BELOW LAND SURFACE DATUM APR 02, 1980.

LOWEST WATER LEVEL 49.7 FEET BELOW LAND SURFACE DATUM OCT 17, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1979	49.7	APR 02, 1980	13.90

Standish area

SITE NUMBER 402106120231201 LOCAL NUMBER 029N014E22Q01M

.7 MILES EAST OF STANDISH. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DEPTH 91 FT. ALTITUDE OF LSD 4023 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1957 TO CURRENT YEAR.

HIGHEST WATER LEVEL 3.5 FEET BELOW LAND SURFACE DATUM APR 12, 1958.

LOWEST WATER LEVEL 40.7 FEET BELOW LAND SURFACE DATUM OCT 17, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 17, 1979	40.7	APR 07, 1980	13.20

Tehama County
Red Bluff area

SITE NUMBER 400757122122201 LOCAL NUMBER 026N003W04K01M

3.2 MI SOUTHEAST OF RED BLUFF. UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 12 IN, DEPTH 149 FT, CASED TO 149 FT. ALT OF LSD 300 FT. MEASUREMENTS FURNISHED BY DWR. 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
OCT 25, 1979	70.2

Tehama area

SITE NUMBER 400225122134901 LOCAL NUMBER 025N003W08E01M

4.5 MI WEST OF TEHAMA. CABLETOOL IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 14 IN 0-144 FT. DIAM 12 IN 144-420 FT, DEPTH 420 FT, CASED TO 420 FT, PERFORATED 55-134, 149-420. ALTITUDE OF LSD 420 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 8.70 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 25, 1979	60.7	MAR 17, 1980	8.70

Corning area

SITE NUMBER 395556122100201 LOCAL NUMBER 024N003W14K01M

.4 MI NORTH OF CORNING. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 7 IN, DEPTH 124 FT, CASED TO 124 FT, PERFORATED 118-124 FT. ALTITUDE OF LSD 297 FT. MEASUREMENTS FURNISHED BY DWR. 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 25, 1979	68.2	MAR 19, 1980	56.90

Glenn County
Artois area

SITE NUMBER 393843122055501 LOCAL NUMBER 021N002W28M01M

5.6 MILES NORTHEAST OF ARTOIS. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM. 12 IN, DEPTH 175 FT, CASED TO 175 FT, PERFORATED 16-151 FT. ALTITUDE OF LSD 151 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1948 TO CURRENT YEAR.

HIGHEST WATER LEVEL 12. FEET BELOW LAND SURFACE DATUM MAR 05, 1958.

LOWEST WATER LEVEL 40.2 FEET BELOW LAND SURFACE DATUM NOV 02, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
OCT 30, 1979	30.3

GROUND-WATER LEVELS

Glenn County--Continued

Willows area

SITE NUMBER 393111122155901 LOCAL NUMBER 019N004W12E01M

3.6 MILES WEST OF WILLOWS. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 6 IN, DEPTH 162 FT, CASED TO 162 FT, PERFORATED 150-162 FT. ALTITUDE OF LSD 174. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1964 TO CURRENT YEAR.

HIGHEST WATER LEVEL 42.90 FEET BELOW LAND SURFACE DATUM SEP 17, 1980.

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 23, 1979	53.5	APR 17, 1980	47.00	JUN 07, 1980	45.80	AUG 19, 1980	45.70
FEB 14, 1980	50.60	MAY 02	46.70	JUL 06	45.60	SEP 17	42.90
MAR 17	46.90						

Butte City area

SITE NUMBER 392730121593001 LOCAL NUMBER 019N001W32G01M

.5 MILE SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 1333 FT, CASED TO 1333 FT, SCREENED 1328-1333 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO PRESENT. 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
NOV 26, 1979	5.31	FEB 01, 1980	3.67	APR 01, 1980	2.52	JUL 01, 1980	2.63
DEC 12	4.63	20	0.70	MAY 01	2.10	AUG 01	3.22
JAN 01, 1980	3.75	MAR 01	2.26	JUN 01	2.24	SEP 01	3.93

SITE NUMBER 392730121593002 LOCAL NUMBER 019N001W32G02M

.5 MILE SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 968 FT, CASED TO 968 FT, SCREENED 963-968 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO PRESENT. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 4.72 FEET BELOW LAND SURFACE DATUM FEB 20, 1980.

LOWEST WATER LEVEL 11.80 FEET BELOW LAND SURFACE DATUM SEP 10, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15, 1979	10.79	FEB 01, 1980	9.09	APR 01, 1980	7.15	JUL 09, 1980	9.83
DEC 12	10.36	20	4.72	MAY 01	7.33	AUG 01	10.76
JAN 01, 1980	9.00	MAR 01	6.95	JUN 19	8.93	SEP 10	11.80

SITE NUMBER 392730121593003 LOCAL NUMBER 019N001W32G03M

.5 MILE SOUTH OF BUTTE CITY. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAM 3 IN, DEPTH 595 FT, CASED TO 595 FT, SCREENED 590-595 FT. ALTITUDE OF LSD 87.40 FT. RECORDS AVAILABLE 1979 TO PRESENT. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 9.33 FEET BELOW LAND SURFACE DATUM MAR 06, 1980.

LOWEST WATER LEVEL 22.33 FEET BELOW LAND SURFACE DATUM AUG 23, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 15, 1979	17.81	FEB 01, 1980	12.66	MAY 01, 1980	15.27	AUG 01, 1980	21.74
DEC 12	16.81	MAR 06	9.33	JUN 01	17.20	23	22.33
JAN 01, 1980	15.62	APR 01	10.83	JUL 01	19.73	SEP 01	21.80

GROUND-WATER LEVELS

437

Butte County

Nord area

SITE NUMBER 395026122562001 LOCAL NUMBER 023N001W14R01M

4 MILES NORTH OF NORD. STOCK WATER - TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 12 IN, DEPTH 157 FT, CASED TO 157 FT. ALTITUDE OF LSD 189 FT. MEASUREMENTS FURNISHED BY DWR. 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 29, 1979	42.8	MAR 25, 1980	30.20

Durham area

SITE NUMBER 393646121471601 LOCAL NUMBER 020N002E06Q01M

2 MI SOUTH OF DURHAM. HYDRAULIC ROTARY IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 14 IN, DEPTH 383 FT, CASED TO 383 FT, PERFORATED 10-44 FT. ALTITUDE OF LSD 135 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 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 30, 1979	19.7	MAR 24, 1980	10.50

Biggs area

SITE NUMBER 392451121451101 LOCAL NUMBER 018N002E16F01M

2 MILES WEST OF BIGGS. STOCK WATER - TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 14 IN, DEPTH 60 FT, CASED TO 60 FT, PERFORATED 20-60 FT. ALTITUDE OF LSD 80 FT. MEASUREMENTS FURNISHED BY DWR. 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
MAR 21, 1980	6.30	APR 24, 1980	2.6

Sierraville area

SITE NUMBER 393448120221001 LOCAL NUMBER 020N014E13Q02M

.4 MI NORTHWEST OF SIERRAVILLE. DOMESTIC WATER-TABLE WELL IN ALLUVIUM. DIAM 6 IN, DEPTH 31 FT, CASED TO 31 FT. ALTITUDE OF LSD 4986 FT. MEASUREMENTS FURNISHED BY DWR. 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	DATE	WATER LEVEL
OCT 29, 1979	6.0	MAR 21, 1980	6.3	APR 24, 1980	2.40

GROUND-WATER LEVELS

Lake County
Lakeport area

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 1,445 FT. BEGINNING 1963 MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1963 TO CURRENT YEAR. DWR BASIN 5-014.

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
NOV 06, 1979	44.1	APR 01, 1980	12.1

Finley area

SITE NUMBER 385952122523301 LOCAL NUMBER 013N009W05R05M

NEAR FINLEY. DRILLED IRRIGATION WATER-TABLE WELL. DIAM 8 IN, DEPTH 185 FT, PERFORATIONS 72-165 FT ALTITUDE OF LSD 1355 FT. BEGINNING 1977 MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. RECORDS AVAILABLE 1977 TO CURRENT YEAR. DWR BASIN 5-015.

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	DATE	WATER LEVEL
NOV 07, 1979	35.3	APR 01, 1980	12.1

Kelseyville area

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 1,358 FT. RECORDS AVAILABLE 1979 TO CURRENT YEAR. MEASUREMENTS FURNISHED BY CALIFORNIA DEPARTMENT OF WATER RESOURCES. DWR BASIN 5-015.

HIGHEST WATER LEVEL 4.8 FEET BELOW LAND SURFACE DATUM APR 01, 1980.

LOWEST WATER LEVEL 32.5 FEET BELOW LAND SURFACE DATUM NOV 07, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 07, 1979	32.5	APR 01, 1980	4.8

Colusa County
Arbuckle area

SITE NUMBER 390327122054201 LOCAL NUMBER 014N002W16N02M

4 MI NORTHWEST OF ARBUCKLE. CABLETOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 8 IN, DEPTH 136 FT, CASED TO 136 FT, PERFORATED 124-136 FT. ALTITUDE OF LSD 120 FT. MEASUREMENTS FURNISHED BY DWR. 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 23, 1979	67.5	MAR 18, 1980	57.50

GROUND-WATER LEVELS

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Sutter County

Sutter area

SITE NUMBER 390830121443801 LOCAL NUMBER 015N002E22D01M

2.4 MILES SOUTHEAST OF SUTTER. HYDRAULIC ROTARY DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 14 IN FROM 0-68 FT, 8 IN FROM 68-280 FT, DEPTH 280 FT, CASED TO 280 FT, PERFORATED 140-280 FT. ALTITUDE OF LSD 46 FT. MEASUREMENTS FURNISHED BY DWR. 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 15, 1979	7.80	MAR 27, 1980	6.80

Nicolaus area

SITE NUMBER 385501121361901 LOCAL NUMBER 012N003E02G01M

1.7 MILE NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAMETER 3 IN, DEPTH 1081 FT, CASED TO 1081 FT, SCREENED 1066-1071 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 18.97 FEET BELOW LAND SURFACE DATUM MAY 03, 1980.

LOWEST WATER LEVEL 29.66 FEET BELOW LAND SURFACE DATUM SEP 04, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 28, 1980	20.04	MAY 03, 1980	18.97	JUL 01, 1980	24.15	SEP 01, 1980	29.63
MAY 02	19.03	JUN 01	22.15	AUG 01	27.34	04	29.66

SITE NUMBER 385501121361902 LOCAL NUMBER 012N003E02G02M

1.7 MILE NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAMETER 3 IN, DEPTH 721 FT, CASED TO 711 FT, SCREENED 706-711 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 14.67 FEET BELOW LAND SURFACE DATUM MAR 28, 1980.

LOWEST WATER LEVEL 23.42 FEET BELOW LAND SURFACE DATUM AUG 30, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 28, 1980	14.67	JUN 01, 1980	18.08	AUG 01, 1980	22.23	SEP 28, 1980	22.72
MAY 02	15.26	JUL 01	19.65	30	23.42		

SITE NUMBER 385501121361903 LOCAL NUMBER 012N003E02G03M

1.7 MILES NORTHWEST OF NICOLAUS. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM. DIAMETER 3 IN, DEPTH 321 FT, SCREENED 306-311 FT. ALTITUDE OF LSD 32.54 FT. RECORDS AVAILABLE 1980. RECORDER INSTALLED 1980.

HIGHEST WATER LEVEL 6.00 FEET BELOW LAND SURFACE DATUM MAR 28, 1980.

LOWEST WATER LEVEL 10.18 FEET BELOW LAND SURFACE DATUM SEP 30, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
MAR 28, 1980	6.00	JUN 01, 1980	8.57	AUG 01, 1980	9.23	SEP 30, 1980	10.18
MAY 02	8.07	JUL 01	8.78	SEP 01	9.56		

GROUND-WATER LEVELS

Yuba County

Wheatland area

SITE NUMBER 390151121273501 LOCAL NUMBER 014N005E30Q01M

2.8 MI NORTHEAST OF WHEATLAND. UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC.
DIAM 16 IN, DEPTH 220 FT, CASED TO 220 FT. ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED
BY DWR. RECORDS AVAILABLE 1947 TO CURRENT YEAR.

HIGHEST WATER LEVEL 25.2 FEET BELOW LAND SURFACE DATUM MAY 08, 1948.

LOWEST WATER LEVEL 125.40 FEET BELOW LAND SURFACE DATUM JUL 31, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31, 1979	105.1	JAN 30, 1980	98.5	APR 29, 1980	106.20	JUL 31, 1980	125.40
NOV 30	102.7	FEB 28	96.7	MAY 29	109.70	AUG 30	125.00
DEC 30	100.5	MAR 28	95.0	JUN 29	119.90	SEP 30	116.20

Nevada County

Truckee area

SITE NUMBER 391914120122501 LOCAL NUMBER 017N016E16L01M

0.2 MI SOUTHWEST OF TRUCKEE. CABLETOOL, 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.
MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1961 TO CURRENT YEAR.

HIGHEST WATER LEVEL 10.2 FEET BELOW LAND SURFACE DATUM MAY 21, 1979.

LOWEST WATER LEVEL 16.20 FEET BELOW LAND SURFACE DATUM MAY 21, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 16, 1979	11.8	MAY 21, 1980	16.20

Yolo County

Zamora area

SITE NUMBER 385020121503601 LOCAL NUMBER 012N001E34Q01M

4 MILES NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
DIAM 3 IN, DEPTH 2125 FT, CASED TO 2125 FT, SCREENED 2120-2125 FT. ALTITUDE OF LSD
24.27 FT. RECORDS AVAILABLE 1979 TO PRESENT. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.45 FEET ABOVE LAND SURFACE DATUM FEB 27, 1980.

LOWEST WATER LEVEL 0.46 FEET BELOW LAND SURFACE DATUM APR 19, 1980.

WATER LEVELS IN FEET ABOVE OR BELOW(-) LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1979	0.17	FEB 01, 1980	0.26	APR 19, 1980	-0.46	JUL 01, 1980	0.38
NOV 01	0.04	FEB 27	2.45	MAY 01	0.07	AUG 01	0.49
DEC 06	-0.06	MAR 01	1.79	JUN 01	0.29	SEP 01	-0.05
JAN 01, 1980	0.12	APR 01	0.41				

SITE NUMBER 385020121503602 LOCAL NUMBER 012N001E34Q02M

4 MILES NORTHEAST OF ZAMORA. HYDRAULIC ROTARY OBSERVATION WATER-TABLE WELL IN ALLUVIUM.
DIAM 3 IN, DEPTH 1401 FT, CASED TO 1401 FT, SCREENED TO 1396-1401 FT. ALTITUDE OF LSD
24.27 FT. RECORDS AVAILABLE 1979 TO PRESENT. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 2.99 FEET BELOW LAND SURFACE DATUM JUL 24,25, 1980.

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 05, 1979	4.81	FEB 01, 1980	5.28	JUN 01, 1980	3.36	JUL 25, 1980	2.99
NOV 01	5.16	MAR 01	4.10	JUL 01	3.18	AUG 01	3.07
DEC 01	5.52	APR 01	4.52	24	2.99	SEP 01	3.17
JAN 01, 1980	5.30	MAY 01	3.82				

GROUND-WATER LEVELS

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Yolo County--Continued

Zamora area--Continued

SITE NUMBER 385020121503603 LOCAL NUMBER 012N001E34Q03M

4 MILES 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 PRESENT. RECORDER INSTALLED 1979.

HIGHEST WATER LEVEL 9.52 FEET BELOW LAND SURFACE DATUM MAY 09, 1980.

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 05, 1979	19.27	FEB 01, 1980	14.98	APR 09, 1980	10.74	JUL 01, 1980	12.05
NOV 09	19.30	MAR 01	11.86	MAY 09	9.52	AUG 01	14.07
DEC 06	18.23	APR 01	11.12	JUN 01	10.34	SEP 01	15.98
JAN 01, 1980	16.62						

Woodland area

SITE NUMBER 384129121455101 LOCAL NUMBER 010N002E29A01M

1.2 MI NORTHWEST OF WOODLAND. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 8 IN, DEPTH 120 FT. ALTITUDE OF LSD 55 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1977 TO CURRENT YEAR.

HIGHEST WATER LEVEL 32.2 FEET BELOW LAND SURFACE DATUM MAR 31, 1980.

LOWEST WATER LEVEL 45.9 FEET BELOW LAND SURFACE DATUM SEP 26, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
MAR 31, 1980	32.2

SITE NUMBER 383949121450201 LOCAL NUMBER 010N002E33R01M

.8 MI SOUTHEAST OF WOODLAND. IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 12 IN, DEPTH 216 FT. ALTITUDE LF LSD 52 FT. MEASUREMENTS FURNISHED BY COUNTY. 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, 1979	48.7	MAR 11, 1980	36.2

Davis area

SITE NUMBER 383248121505501 LOCAL NUMBER 008N001E15B01M

6.4 MILES WEST OF DAVIS. STOCK WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 10 IN, DEPTH 117 FT. ALTITUDE OF LSD 83 FT. MEASUREMENTS FURNISHED BY DWR. 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 30, 1979	28.1	JAN 28, 1980	27.7	APR 30, 1980	21.20	JUL 30, 1980	20.50
NOV 28	28.4	FEB 27	21.9	MAY 28	21.00	AUG 29	21.30
DEC 19	28.8	MAR 31	21.6	JUN 30	20.30	SEP 30	22.90

GROUND-WATER LEVELS

Placer County

Pleasant Grove area

SITE NUMBER 385054121232301 LOCAL NUMBER 012N005E35E02M

5.6 MI NORTHEAST OF PLEASANT GROVE. IRRIGATION WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 12 IN, DEPTH 352 FT. ALTITUDE OF LSD 90 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1949 TO CURRENT YEAR.

HIGHEST WATER LEVEL 28.7 FEET BELOW LAND SURFACE DATUM APR 06, 1950.

LOWEST WATER LEVEL 99.6 FEET BELOW LAND SURFACE DATUM OCT 26, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 1979	99.6	APR 02, 1980	90.5

Sacramento County

Florin area

SITE NUMBER 383143121200001 LOCAL NUMBER 008N006E21N02M

4 MI NORTHEAST OF FLORIN. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAMETER 10 IN, DEPTH 175 FT. ALTITUDE OF LSD 65 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1962 TO CURRENT YEAR.

HIGHEST WATER LEVEL 61.6 FEET BELOW LAND SURFACE DATUM MAR 15, 1963.

LOWEST WATER LEVEL 81.6 FEET BELOW LAND SURFACE DATUM OCT 19, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 19, 1979	81.6	APR 04, 1980	77.1

Elk Grove area

SITE NUMBER 382627121172801 LOCAL NUMBER 007N006E23P01M

4.8 MI NORTHEAST OF ELK GROVE. CABLETOOL DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAMETER 12 IN 0-42 FT, 8 IN 42-144 FT, DEPTH 144 FT, CASED TO 144 FT. ALTITUDE OF LSD 77 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1968 TO CURRENT YEAR.

HIGHEST WATER LEVEL 77.3 FEET BELOW LAND SURFACE DATUM MAR 25, 1969.

LOWEST WATER LEVEL 105.2 FEET BELOW LAND SURFACE DATUM AUG 30, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 1979	100.4	JAN 29, 1980	96.6	APR 29, 1980	94.90	JUL 28, 1980	101.90
NOV 26	98.6	FEB 26	95.7	MAY 29	98.10	AUG 28	101.80
DEC 18	98.0	MAR 28	94.4	JUN 27	101.80	SEP 29	101.00

Clay area

SITE NUMBER 382039121131901 LOCAL NUMBER 006N007E28E01M

3.2 MI WEST OF CLAY. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 14 IN, DEPTH 225 FT. ALTITUDE OF LSD 75 FT. MEASUREMENTS FURNISHED BY DWR. RECORDS AVAILABLE 1952 TO CURRENT YEAR.

HIGHEST WATER LEVEL 34.4 FEET BELOW LAND SURFACE DATUM FEB 11, 1953.

LOWEST WATER LEVEL 121.40 FEET BELOW LAND SURFACE DATUM AUG 28, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 11, 1979	117.20	FEB 26, 1980	107.50	MAY 29, 1980	114.70	SEP 29, 1980	120.20
NOV 26	112.70	MAR 24	105.50	JUN 27	117.60		
DEC 18	111.00	28	106.20	JUL 28	120.50		
JAN 29, 1980	108.40	APR 29	110.80	AUG 28	121.40		

Solano County

Dixon area

SITE NUMBER 382419121513301 LOCAL NUMBER 007N001E33R01M

4 MI SOUTHWEST OF DIXON. UNUSED WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 6 IN, DEPTH 86 FT. ALTITUDE OF LSD 60 FT. MEASUREMENTS FURNISHED BY DWR, USGS, USBR. 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 26, 1979	9.0	JAN 28, 1980	3.5	APR 30, 1980	4.60	JUL 31, 1980	6.50
NOV 29	10.3	FEB 26	0.8	MAY 28	5.10	AUG 28	7.50
DEC 20	10.7	MAR 28	3.5	JUN 25	5.50	SEP 30	8.40

Elmira area

SITE NUMBER 382103121470901 LOCAL NUMBER 006N002E19J01M

6 MI EAST OF ELMIRA. DOMESTIC WATER-TABLE WELL IN ALLUVIUM-VOLCANIC. DIAM 5 IN, DEPTH 182 FT. ALTITUDE OF LSD 23 FT. MEASUREMENTS FURNISHED BY DWR. 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 10, 1979	22.2	MAR 31, 1980	10.5

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Siskiyou County

STATION	NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
412818122261801		40	042N005W20J01M	--	80-07-10	1200	--	300	6.9	16.0
413628122503601		65	043N009W02601M	--	80-07-10	0920	--	515	6.9	19.5
414007122311601		160	044N006W15C01M	--	80-07-09	1400	--	440	7.3	19.5
414942122000001		125	046N001W17G02M	--	80-07-09	0955	--	440	8.2	11.0

[illegible][illegible]

Modoc County

STATION	NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
413300120101401		290	043N016E32K01M	--	80-08-14	1120	--	265	8.4	19.5
414513120250801	--		045N013E12L01M	--	80-08-12	1340	--	360	7.5	20.5

Shasta County

STATION	NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
402716122145601	52		030N003W18F02M	--	80-05-30	0935	--	260	6.4	15.5
410125121260901	225		037N005E19P02M	--	80-08-11	0850	--	380	7.1	16.0

[illegible]

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Lassen County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)
405155120273601	209	035N013E25M01M	--	80-08-13	0815	--	940	7.3	13.0
410516121114001	60	037N007E02D01M	--	80-08-11	1330	--	235	.7	18.0
410754120043001	180	038N008E17K01M	--	80-08-11	1500	--	230	7.4	15.5

Tehama County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)
395600122102901	170	024N003W14M01M	--	80-06-02	0835	--	235	7.8	19.5
400608122051601	164	026N002W15M01M	--	80-05-29	1315	--	240	7.1	20.5

Glenn County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENTIFIER	GEO-LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	SPECIFIC CONDUCTANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPERATURE, WATER (DEG C)
392545122073401	240	018N002W07F01M	--	80-08-05	1045	--	600	8.0	20.0
392730121593001	--	019N001W32B01M	--	79-11-16	--	--	936	--	21.5
	--		--	80-04-18	1235	--	886	--	19.0
392730121593002	--	019N001W32B02M	--	79-11-16	--	--	627	--	20.5
	--		--	80-04-18	1545	--	571	--	19.0
392730121593003	--	019N001W32B03M	--	79-11-16	--	--	372	--	19.5
	--		--	80-04-18	1305	--	344	--	18.5

DATE OF SAMPLE	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM DIS-SOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM DIS-SOLVED (MG/L AS K)	POTASSIUM DIS-SOLVED (MG/L AS K)	ALKALINITY (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE DIS-SOLVED (MG/L AS Cl)
80-08-05	--	--	--	--	--	--	--	--	--	--	--	--
79-11-16	49	0	15	2.8	160	89	9.9	160	3.5	92	3.4	230
80-04-18	49	0	15	2.8	170	88	11	--	2.6	86	.6	240
79-11-16	41	0	12	2.6	110	88	7.5	110	3.2	120	3.6	110
80-04-18	38	0	11	2.5	120	86	8.5	--	2.5	110	.3	130
79-11-16	81	0	25	4.4	62	67	3.0	66	3.7	170	12	22
80-04-18	51	0	16	2.7	58	69	3.5	--	3.8	150	1.8	22

DATE OF SAMPLE	FLUORIDE, 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)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)
80-08-05	--	--	--	--	--	--	--	--	--	--	--	--
79-11-16	.3	55	501	526	.68	.12	1.300	--	--	--	240	--
80-04-18	.3	53	544	537	.74	.02	--	20	2	300	260	1
79-11-16	.2	26	336	340	.46	.02	--	--	--	--	180	--
80-04-18	.2	27	359	360	.49	.02	--	--	--	--	200	--
79-11-16	.2	44	278	276	.38	.03	.030	--	--	--	150	--
80-04-18	.2	41	266	236	.36	.02	--	--	--	--	150	--

QUALITY OF GROUND WATER

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Glenn County--Continued

DATE OF SAMPLE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)
80-08-05	--	--	--	--	--	--	--	--	--
79-11-16	--	--	--	--	--	--	--	--	--
80-04-18	0	0	260	0	.1	23	0	0	<3
79-11-16	--	--	--	--	--	--	--	--	--
80-04-18	--	--	<10	--	--	--	--	--	--
79-11-16	--	--	--	--	--	--	--	--	--
80-04-18	--	--	<10	--	--	--	--	--	--

Butte County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
392448121424501	327	018N002E14K01M	--	80-06-11	1125	--	309	7.5	19.5

DATE OF SAMPLE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
80-06-11	131	--	21	19	15	20	.6	--	1.7	143	--	7.0

Colusa County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
385706122024301	462	013N002W26A01M	--	80-06-26	1230	--	750	7.4	20.5
391341122005601	240	016N001W19F03M	--	80-06-27	0830	--	385	8.3	18.0

DATE OF SAMPLE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
80-06-26	280	--	46	40	46	--	1.2	--	--	235	--	86
80-06-27	--	--	--	--	--	--	--	--	--	--	--	--

Yolo County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT- I- FIER	GEO- LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)
385020121503601	2120	012N001E34Q01M	--	80-04-16	1520	2125	2546	--	21.0
385020121503602	1396	012N001E34Q02M	--	80-04-16	1300	1401	756	--	20.0
385020121503603	--	012N001E34Q03M	--	80-04-16	1700	947	620	7.9	19.5

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

QUALITY OF GROUND WATER

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WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Yolo County--Continued

DATE OF SAMPLE	HARD-NESS (MG/L AS CAC03)	HARD-NESS, NONCAR-BONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
80-04-16	45	0	12	3.6	460	95	30	--	3.1	140	2.0	630
80-04-16	9	0	2.5	.6	160	96	24	--	3.4	200	.2	110
80-04-16	79	0	22	5.8	120	75	5.9	--	4.9	290	22	16

DATE OF SAMPLE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+N03 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)
80-04-16	.4	1.8	1250	1210	1.70	.02	--	30	1	400	11000	0
80-04-16	.7	1.0	428	400	.58	.03	--	--	--	--	1100	--
80-04-16	.1	43	426	409	.58	.02	--	--	--	--	810	--

DATE OF SAMPLE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY, DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
80-04-16	0	0	30	0	.0	55	0	0	890
80-04-16	--	--	<10	--	--	--	--	--	--
80-04-16	--	--	<10	--	--	--	--	--	--

Sutter County

STATION NUMBER	DEPTH OF WELL, TOTAL (FEET)	LOCAL IDENT-I-FIER	GEO-LOGIC UNIT	DATE OF SAMPLE	TIME	SAMP-LING DEPTH (FT)	SPE-CIFIC CON-DUCT-ANCE (MICRO-MHOS)	PH FIELD (UNITS)	TEMPER-ATURE, WATER (DEG C)
385501121361901	--	012N003E02G01M	--	80-04-17	1410	--	775	--	22.0
385501121361902	--	012N003E02G02M	--	80-04-17	1340	--	905	--	22.5
385501121361903	--	012N003E02G03M	--	80-04-17	1145	--	3144	--	21.0

DATE OF SAMPLE	HARD-NESS (MG/L AS CAC03)	HARD-NESS, NONCAR-BONATE (MG/L CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	SODIUM+ POTAS-SIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY (MG/L AS CAC03)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
80-04-17	38	0	9.9	3.3	160	89	11	--	4.6	140	4.7	170
80-04-17	52	0	14	4.2	190	87	11	--	5.4	150	1.3	210
80-04-17	250	100	75	16	570	82	16	--	13	150	.6	960

DATE OF SAMPLE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	NITRO-GEN, NO2+N03 DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC, DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BORON, DIS-SOLVED (UG/L AS B)	CADMIUM, DIS-SOLVED (UG/L AS CD)
80-04-17	.2	56	491	494	.67	.02	--	20	3	200	1000	<1
80-04-17	.2	43	553	560	.75	.03	--	--	--	--	1300	--
80-04-17	.2	36	1880	1760	2.56	.02	--	--	--	--	3100	--

DATE OF SAMPLE	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MERCURY, DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, DIS-SOLVED (UG/L AS ZN)
80-04-17	0	0	140	0	.1	21	0	0	<3
80-04-17	--	--	10	--	--	--	--	--	--
80-04-17	--	--	40	--	--	--	--	--	--

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

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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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